

# ***Impacts of the Natural Gas, Oil and Petrochemical Industry on the US Economy in 2018***

May 2020

Prepared for

**American Petroleum  
Institute**



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# Impacts of the Natural Gas, Oil and Petrochemical Industry on the US Economy in 2018

## Executive Summary

This report explores the economic impact of the natural gas, oil and petrochemical industry in the United States. These impacts are the result of three channels: direct impacts from the employment and production within the natural gas, oil and petrochemical industry; indirect impacts through the industry's purchases of intermediate and capital goods from a variety of other US industries; and induced impacts from the personal purchases of employees and business owners both within the natural gas, oil and petrochemical industry and its supply chain, as well as from the personal spending by shareholders out of the dividends received from natural gas, oil and petrochemical companies.<sup>1</sup>

The American Petroleum Institute engaged PwC to quantify the economic impacts of the US natural gas, oil and petrochemical industry in terms of employment, labor income, and value added at the national, state, and Congressional District level.<sup>2</sup> This report provides PwC's economic impact estimates for 2018.

The report's findings show that the US natural gas, oil and petrochemical industry has a widespread economic impact throughout all sectors of the economy. Combining the industry's **operational impact** (due to purchases of intermediate inputs and payments of labor compensation and dividends) and its **capital investment impact** (due to its investment in new structures and equipment), the industry's total impact amounted to 12.3 million full-time and part-time jobs and accounted for 6.1 percent of total US employment in 2018 (see **Table E-1**, below).

**Table E-1.– Total Operational and Capital Investment Impacts of the Natural Gas, Oil and Petrochemical Industry on the US Economy, 2018**

	Direct Impacts	Indirect and Induced Impacts		Total Impacts	Percent of US Total
		Operational Impacts	Capital Investment Impacts		
<b>Employment (millions)*</b>	2.9	6.9	2.5	12.3	6.1%
<b>Labor Income (\$billions)**</b>	\$331.4	\$432.8	\$165.8	\$930.0	7.4%
<b>Value Added (\$billions)</b>	\$883.5	\$696.4	\$249.2	\$1,829.1	8.9%

Source: PwC calculations using the IMPLAN modeling system (2018 database).

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

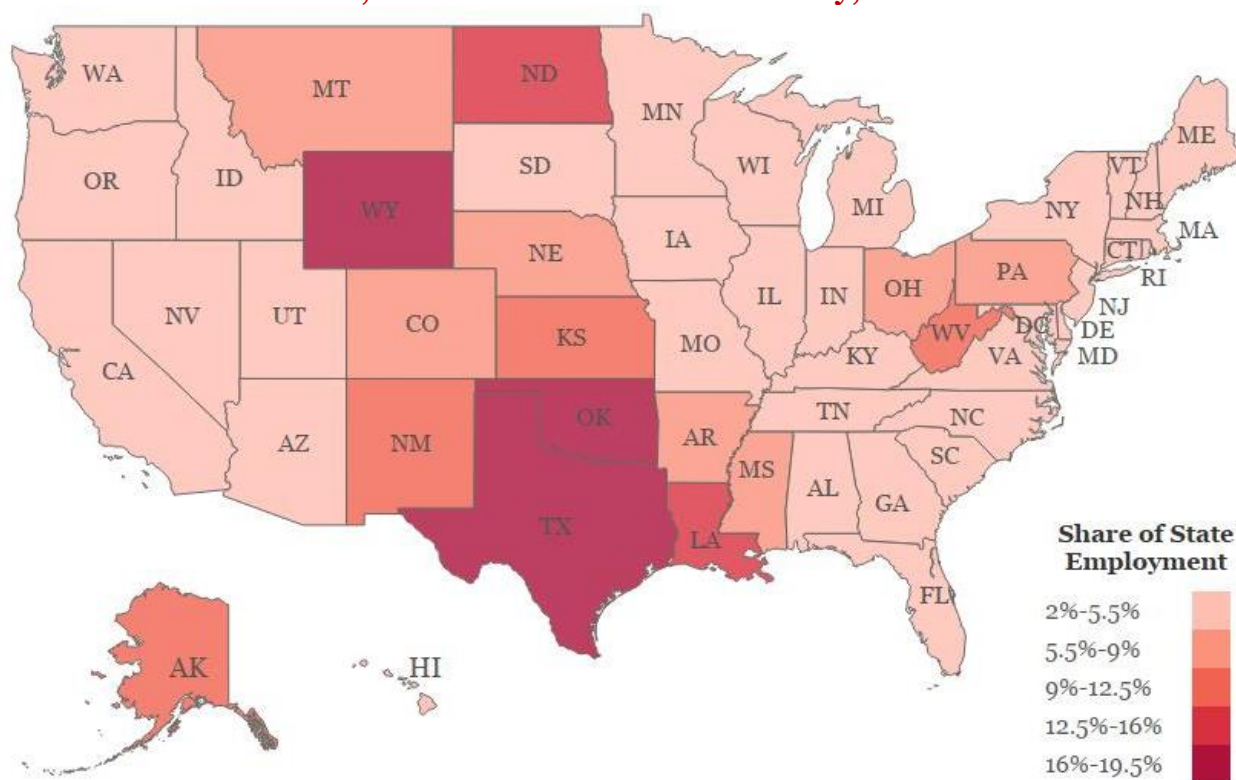
<sup>1</sup> These economic impacts represent the entire *backward linkages* of the US natural gas, oil and petrochemical industry to its suppliers. They do not capture *forward linkages* (i.e., the economic impact on production in sectors that use natural gas, oil and petrochemical products as an input).

<sup>2</sup> Value added refers to the additional value created at a particular stage of production. It is a measure of the overall importance of an industry and represents the industry's portion of US gross domestic product ("GDP"). Value added consists of: employee compensation, proprietors' income, income to capital owners from property, and indirect business taxes (including excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses).

At the national level, each direct job in the natural gas, oil and petrochemical industry supported an additional 3.3 jobs elsewhere in the US economy in 2018 (for a multiplier of 4.3). Counting direct, indirect, and induced impacts, the industry's total impact on labor income (including proprietors' income) was \$930.0 billion, or 7.4 percent of national labor income in 2018. The industry's total impact on US GDP was \$1.8 trillion, accounting for 8.9 percent of the national total in 2018.

The economic impact of the natural gas, oil and petrochemical industry can be seen across the United States. In 34 states the industry directly and indirectly supported at least 100,000 jobs in 2018. Texas alone had 3.2 million jobs supported by the industry, and California had over 1 million jobs attributable to the industry. The share of employment supported by the natural gas, oil and petrochemical industry (including direct, indirect and induced impacts) in each state ranges from 2.2 percent in the District of Columbia to 19.2 percent in Oklahoma (see **Figure E-1**, below).

**Figure E-1. Share of Employment Directly and Indirectly Supported by the Natural Gas, Oil and Petrochemical Industry, 2018**



Source: PwC calculations.

At the congressional district level, the number of jobs directly provided by the natural gas, oil and petrochemical industry was at least 1,000 in all but two districts and exceeded 5,000 in 157 congressional districts in 2018. Including direct, indirect, and induced effects, the industry supported more than 10,000 jobs in 424 congressional districts in 2018.

These results were calculated using the IMPLAN model, an input-output model based on government data.

# Impacts of the Natural Gas, Oil and Petrochemical Industry on the US Economy in 2018

## I. Introduction

The American Petroleum Institute engaged PwC to quantify the economic impacts of the US natural gas, oil and petrochemical industry on the national economy in terms of employment, labor income, and value added.<sup>3</sup> This report presents PwC's economic impact estimates for 2018.<sup>4</sup>

In describing the economic impact of the US natural gas, oil and petrochemical industry through its employment and purchases of goods and services, this report considers three separate channels -- the direct impact, the indirect impact, and the induced impact -- that in aggregate provide a measure of the total economic impact of the US natural gas, oil and petrochemical industry.

- **Direct impact** is measured as the jobs, labor income, and value added *within* the natural gas, oil and petrochemical industry.
- **Indirect impact** is measured as the jobs, labor income, and value added occurring *throughout the supply chain* of the natural gas, oil and petrochemical industry attributable to its operating and capital expenditures.<sup>5</sup>
- **Induced impact** is measured as the jobs, labor income, and value added resulting from *household spending* of labor and proprietor's income earned either directly or indirectly from the natural gas, oil and petrochemical industry's spending and from the personal spending by shareholders out of the dividends received from natural gas, oil and petrochemical companies.

For the indirect and induced impacts, this study separately quantifies the US natural gas, oil and petrochemical industry's **operational impact** (due to purchases of intermediate inputs and payments of labor compensation and dividends) and **capital investment impact** (due to its investment in new structures and equipment).<sup>6</sup>

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<sup>3</sup> Value added refers to the additional value created at a particular stage of production. It is a measure of the overall importance of an industry and represents the industry's share of gross domestic product ("GDP"). Value added consists of: employee compensation, proprietors' income, income to capital owners from property, and indirect business taxes (including excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses).

<sup>4</sup> PwC has prepared several prior economic impact studies for the American Petroleum Institute, with the most recent being *The Economic Impacts of the Natural Gas, Oil and Petrochemical Industry on the US Economy in 2017* (December 2019).

<sup>5</sup> Operating expenditures are the costs on non-capital inputs (such as materials, rent, and utilities) for a company to run its business operations on a daily basis. Capital expenditures are the amounts that companies use to purchase major physical goods or services that will have a productive life of more than one year.

<sup>6</sup> These economic impacts represent all of the *backward linkages* of the US natural gas, oil and petrochemical industry to its suppliers. They do not capture *forward linkages* (i.e., the economic impact on production in sectors that use natural gas, oil and petrochemical products as an input).

Together these effects result in the natural gas, oil and petrochemical industry having a widespread economic impact throughout all sectors of the US economy.

The main data source for the industry's **direct** jobs, labor income and value added is the *State Annual Personal Income and Employment* data set published by the US Bureau of Economic Analysis ("BEA"). For the industry's **indirect** and **induced** economic impacts, we have developed the estimates using customized input-output models for each study area built based on the IMPLAN input-output modeling system.<sup>7</sup>

The rest of this report is organized as follows. **Section II** defines the natural gas, oil and petrochemical industry for this study. **Section III** presents PwC's estimates of the industry's economic impacts at the national, state and Congressional District level in 2018. **Section IV** presents a composite measure of the industry's total "spend" based on its direct labor income, capital expenditures, and dividend payments. Detailed results by sector, by state and by Congressional District and an overview of the methodology are provided in the appendices.

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<sup>7</sup> The IMPLAN input-output economic modeling system is supported by the IMPLAN Group LLC. Its users include academia, federal, state, and local governments, and the private sector.

## II. Industry Definition

The US natural gas, oil and petrochemical industry encompasses multiple activities that span separate industry classifications in government economic data. Oil and natural gas exploration and production is included in the mining sector; oil refining and petrochemical manufacturing is part of the manufacturing sector; pipeline operations are included in the transportation sector; natural gas distribution is in the utilities sector; and oil marketing is considered part of the wholesale and retail trade sector. For this study, PwC has defined the natural gas, oil and petrochemical industry to include all of these activities.

**Table 1**, below, shows the composition of the industry as defined by PwC, followed by detailed descriptions based on the *North American Industry Classification System* (“NAICS”).

**Table 1.– Composition of the US Natural Gas, Oil and Petrochemical Industry**

NAICS	IMPLAN Sector	Description
<b>211</b>	20	Oil and gas extraction (including NGL extraction)
<b>213111</b>	35	Drilling oil and gas wells
<b>213112</b>	36	Support activities for oil and gas operations
<b>2212</b>	48, 528*	Natural gas distribution (private and public)
<b>23712</b>	56*	Oil and gas pipeline and related structures construction
<b>32411</b>	154	Petroleum refineries
<b>32412</b>	155, 156	Asphalt paving, roofing and saturated materials manufacturing
<b>324191</b>	157	Petroleum lubricating oil and grease manufacturing
<b>32511</b>	159	Petrochemical manufacturing
<b>325199</b>	163*	All other basic organic chemical manufacturing
<b>325211</b>	164	Plastic material and resin manufacturing
<b>32531</b>	167-169	Fertilizer manufacturing
<b>4247</b>	399	Petroleum and petroleum products merchant wholesalers
<b>44711, 44719</b>	408	Gasoline stations
<b>45431</b>	413*	Fuel dealers
<b>486</b>	419	Pipeline transportation

\*IMPLAN sectors 528, 56, 163, and 413 include additional NAICS activities outside the US natural gas, oil and petrochemical industry. Modeling of the economic impacts includes only the portion of these sectors that include the natural gas, oil and petrochemical industry’s NAICS segments.

**NAICS 211. Oil and gas extraction.** Establishments in this subsector operate and/or develop oil and gas field properties. Such activities may include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells; operating separators, emulsion breakers, desilting equipment, and field gathering lines for crude petroleum and natural gas; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property. This subsector includes the production of crude petroleum, the mining and extraction of oil from oil shale and oil sands, and the production of natural gas, sulfur recovery from natural gas, and recovery of hydrocarbon liquids. Establishments in this subsector include those that operate oil and gas wells on their own account or for others on a contract or fee basis.

**NAICS 213111. Drilling oil and gas wells.** This subsector comprises establishments primarily engaged in drilling oil and gas wells for others on a contract or fee basis. This industry includes contractors that specialize in spudding, drilling, re-drilling, and directional drilling.



**NAICS 213112. Support activities for oil and gas operations.** This subsector comprises establishments primarily engaged in performing support activities on a contract or fee basis for oil and gas operations (except site preparation and related construction activities). Services included are exploration (except geophysical surveying and mapping); excavating slush pits and cellars, well surveying; running, cutting, and pulling casings, tubes, and rods; cementing wells, shooting wells; perforating well casings; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

**NAICS 2212. Natural gas distribution.** This subsector comprises: (1) establishments primarily engaged in operating gas distribution systems (e.g., mains, meters); (2) establishments known as gas marketers that buy gas from the well and sell it to a distribution system; (3) establishments known as gas brokers or agents that arrange the sale of gas over gas distribution systems operated by others; and (4) establishments primarily engaged in transmitting and distributing gas to final consumers. Both privately and publicly owned establishments are included in this study.

**NAICS 23712. Oil and gas pipeline and related structures construction.** This subsector comprises establishments primarily engaged in the construction of oil and gas lines, mains, refineries, and storage tanks. The work performed may include new work, reconstruction, rehabilitation, and repairs. Specialty trade contractors are included in this group if they are engaged in activities primarily related to oil and gas pipeline and related structures construction. All structures (including buildings) that are integral parts of oil and gas networks (e.g., storage tanks, pumping stations, and refineries) are included in this subsector.

**NAICS 32411. Petroleum refineries.** This subsector comprises establishments primarily engaged in refining crude petroleum into refined petroleum. Petroleum refining involves one or more of the following activities: (1) fractionation; (2) straight distillation of crude oil; and (3) cracking.

**NAICS 32412. Asphalt paving, roofing, and saturated materials manufacturing.** This subsector comprises establishments primarily engaged in (1) manufacturing asphalt and tar paving mixtures and blocks and roofing cements and coatings from purchased asphaltic materials and/or (2) saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials. These are primarily petroleum-based products.

**NAICS 324191. Petroleum lubricating oil and grease manufacturing.** This subsector comprises establishments primarily engaged in blending or compounding refined petroleum to make lubricating oils and greases and/or re-refining used petroleum lubricating oils.

**NAICS 32511. Petrochemical manufacturing.** This subsector comprises establishments primarily engaged in converting feedstocks derived from petroleum, or from petroleum and natural gas liquids, into petrochemicals. Some important processes used in petrochemical manufacturing include steam cracking and steam reforming.

**NAICS 325199. All other basic organic chemical manufacturing.** This subsector comprises establishments primarily engaged in manufacturing basic organic chemical products (except aromatic petrochemicals, industrial gases, synthetic organic dyes and pigments, gum and wood chemicals, cyclic crudes and intermediates, and ethyl alcohol).

**NAICS 325211. Plastic material and resin manufacturing.** This subsector comprises establishments primarily engaged in (1) manufacturing resins, plastics materials, and



nonvulcanizable thermoplastic elastomers and mixing and blending resins on a custom basis and/or (2) manufacturing noncustomized synthetic resins.

**NAICS 32531. Fertilizer manufacturing.** This subsector comprises establishments primarily engaged in one or more of the following: (1) manufacturing nitrogenous or phosphatic fertilizer materials; (2) manufacturing fertilizers from sewage or animal waste; (3) manufacturing nitrogenous or phosphatic materials and mixing with other ingredients into fertilizers; and (4) mixing ingredients made elsewhere into fertilizers.

**NAICS 4247. Petroleum and petroleum products merchant wholesalers.** This subsector comprises establishments with bulk liquid storage facilities primarily engaged in the merchant wholesale distribution of crude petroleum and petroleum products, including liquefied petroleum gas.

**NAICS 44711. Gasoline stations with convenience stores.** This subsector comprises establishments engaged in retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) in combination with convenience store or food mart items. These establishments can either be in a convenience store (i.e., food mart) setting or a gasoline station setting. These establishments may also provide automotive repair services.

**NAICS 44719. Other gasoline stations.** This subsector comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/or providing food services

**NAICS 45431. Fuel dealers.** This subsector comprises establishments primarily engaged in retailing heating oil, liquefied petroleum (LP) gas, and other fuels via direct selling.

**NAICS 486. Pipeline transportation.** Establishments in this subsector use transmission pipelines to transport products, such as crude oil, natural gas, refined petroleum products, and slurry. It also includes the storage of natural gas because the storage is usually done by the pipeline establishment and because a pipeline is inherently a network in which all the nodes are interdependent.

### ***III. Economic Impact of the Natural Gas, Oil and Petrochemical Industry***

This section presents the estimated economic impact of the natural gas, oil and petrochemical industry at the national, state and Congressional District level.

The total economic impact we have measured includes the **direct impact** (the jobs, labor income, and value added *within* the natural gas, oil and petrochemical industry), the **indirect impact** (the jobs, labor income, and value added occurring *throughout the supply chain* of the natural gas, oil and petrochemical industry), and the **induced impact** (the jobs, labor income, and value added resulting from *household spending* of labor and proprietor's income earned either directly or indirectly from the natural gas, oil and petrochemical industry's spending and from dividends received from natural gas, oil and petrochemical companies).

To quantify these linkages, we rely on the IMPLAN model, an input-output (I-O) model based on government data. For this analysis, we have separately quantified the indirect and induced impacts of the natural gas, oil and petrochemical industry's **operational** and **capital spending**. Operating expenditures are the costs on non-capital inputs (such as materials, rent, and utilities) for a company to run its business operations on a daily basis. Capital expenditures are the amounts that companies use to invest in major physical goods or services that have a productive life of more than one year.

#### ***A. National Results***

The economic activity of the industry can be measured using three separate metrics: employment, labor income, and value added, as defined below.

- **Employment:** The number of payroll and self-employed jobs (including part-time jobs), averaged over the year.
- **Labor income:** The wages, salaries and benefits paid to employees and proprietors' income for the self-employed.
- **Value added:** The total output of each sector less the associated value of intermediate inputs. The sum of the value added across all sectors in the economy is GDP.<sup>8</sup> An industry's value added represents its contribution to GDP.

**Table 2**, below, shows the direct impact of the US natural gas, oil and petrochemical industry on the US economy in terms of employment, labor income (including wages, salaries and benefits as well as proprietors' income), and value added. In 2018, the natural gas, oil and petrochemical industry directly provided 2.9 million jobs for American workers, paid \$331.4 billion in wages, salaries and fringe benefits and proprietors' income, and generated \$883.5 billion in GDP. The industry's direct national impact on the US jobs, labor income and value added ranged from 1.4 percent to 4.3 percent in 2018 (see **Appendix A** for a breakout of the industry's direct impact by detailed subsector).

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<sup>8</sup> Value added differs from gross output (or sales) because it excludes the value of intermediate goods that are embedded in the final sales of each industry.

**Table 2. Direct Impact of the Natural Gas, Oil and Petrochemical Industry on the US Economy, 2018**

	Employment <sup>(1)</sup> (millions of jobs)	Labor Income <sup>(2)</sup> (\$ Billion)	Value Added (\$ Billion)
The US Natural Gas, Oil and Petrochemical Industry's Direct Impact	2.9	\$331.4	\$883.5
As a percent of the US economy	1.4%	2.6%	4.3%

Source: Estimates based on 2018 employment data from the US Bureau of Economic Analysis and supplemented by data from the US Bureau of Labor Statistics and US Census Bureau and 2018 input-output relationships from the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

As shown in **Table 3**, below, the US natural gas, oil and petrochemical industry's total economic impact (including direct, indirect and induced impacts from both operational and capital spending) ranged between 6.1 percent and 8.9 percent of all US jobs, labor income, and value added in 2018.

**Table 3.– Total Impact of the Natural Gas, Oil and Petrochemical Industry on the US Economy, 2018**

Item	Amount	Percent of US Total
<b>Operational Impact</b>		
Employment (millions of jobs)*	9.8	4.9%
Labor Income (\$ billions)**	\$764.2	6.1%
Value Added (\$ billions)	\$1,579.8	7.7%
<b>Capital Investment Impact</b>		
Employment (millions of jobs)*	2.5	1.2%
Labor Income (\$ billions)**	\$165.8	1.3%
Value Added (\$ billions)	\$249.2	1.2%
<b>Total Impact</b>		
Employment (millions of jobs)*	12.3	6.1%
Labor Income (\$ billions)**	\$930.0	7.4%
Value Added (\$ billions)	\$1,829.1	8.9%

Source: PwC calculations using the IMPLAN modeling system (2018 database).

Note: Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

### Employment

PwC estimates that the US natural gas, oil and petrochemical industry's *operations* directly or indirectly supported 9.8 million full-time and part-time jobs in the national economy in 2018. Further, the industry's *capital investment* supported an additional 2.5 million jobs in the national economy. Combining the operational and capital investment impacts, the natural gas, oil and petrochemical industry's total employment impact on the national economy amounted to 12.3 million full-time and part-time jobs in 2018, accounting for 6.1 percent of total US employment.

### Labor Income

The associated labor income (including wages and salaries and benefits as well as proprietors' income) from jobs directly or indirectly supported by the natural gas, oil and petrochemical industry through its operations, capital investment, and household spending out of dividend payments is estimated to be \$930.0 billion, or 7.4 percent of total US labor income in 2018.

### Value Added

Value added refers to the additional value created at a particular stage of production. The sum of value added across all industries in a country or region is, by definition, equivalent to its Gross Domestic Product (GDP). Value added consists of: employee compensation, proprietors' income, income to capital owners from property, and indirect business taxes (i.e., those borne by consumers rather than producers).

PwC estimates that the US natural gas, oil and petrochemical industry's *operations* directly or indirectly generated \$1.6 trillion of value added in the national economy in 2018, and its *capital investment* added an additional \$249.2 billion of value added. Combining both operational and capital investment impacts, the industry's total value added impact at the national level was \$1.8 trillion, accounting for 8.9 percent of US GDP in 2018.

The indirect and induced economic activity occurs across a broad range of other industries. For employment, 54.1 percent of the indirect and induced impact attributable to the industry's operational expenditures is in the services sector. Another 12.4 percent is in the finance, insurance, real estate, rental and leasing sector. The indirect and induced impact on employment attributable to the industry's capital expenditures is mostly concentrated in services, construction, and manufacturing (see **Table 4a**, below).

For labor income, 51.6 percent of the indirect and induced impact attributable to the industry's operational expenditures is in the services sector, and another 12.9 percent is in the finance, insurance, real estate, rental and leasing sector. The indirect and induced impact to labor income attributable to the industry's capital expenditures is mostly concentrated in services, construction, and manufacturing (see **Table 4b**, below).

For value added, the services sector accounted for 38.7 percent of the indirect and induced impact attributable to the industry's operational expenditures. Finance, real estate, rental and leasing accounted for another 24.7 percent. The indirect and induced impact to value added attributable to the industry's capital expenditures is mostly concentrated in services and manufacturing (see **Table 4c**, below).

**Table 4a. Distribution of Indirect and Induced Activity Generated by the US Natural Gas, Oil and Petrochemical Industry, 2018: *Employment***

Industry Impacted	Indirect and Induced Impacts	
	Operational	Capital
<b>Total (in thousands)</b>	<b>7,015</b>	<b>2,506</b>
Agriculture, forestry and fishing	1.8%	1.0%
Mining	0.3%	0.2%
Utilities	0.7%	0.3%
Construction	3.8%	18.4%
Manufacturing	5.1%	10.6%
Wholesale and retail trade	11.2%	11.2%
Transportation and warehousing	7.0%	4.4%
Information	1.7%	1.7%
Finance, insurance, real estate, rental and leasing	12.4%	10.0%
Services	54.1%	41.8%
Other	1.9%	0.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Source: PwC calculations using the IMPLAN modeling system (2018 database) and data from US Census Bureau. Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

**Table 4b. Distribution of Indirect and Induced Activity Generated by the US Natural Gas, Oil and Petrochemical Industry, 2018: *Labor Income***

Industry Impacted	Indirect and Induced Impacts	
	Operational	Capital
<b>Total (\$billions)</b>	<b>\$438.5</b>	<b>\$165.9</b>
Agriculture, forestry and fishing	0.9%	0.5%
Mining	0.3%	0.2%
Utilities	1.5%	0.6%
Construction	3.9%	17.9%
Manufacturing	6.2%	13.9%
Wholesale and retail trade	9.7%	10.2%
Transportation and warehousing	6.6%	4.1%
Information	3.8%	3.8%
Finance, insurance, real estate, rental and leasing	12.9%	9.9%
Services	51.6%	38.6%
Other	2.5%	0.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Source: PwC calculations using the IMPLAN modeling system (2018 database) and data from US Census Bureau. Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**Table 4c. Distribution of Indirect and Induced Activity Generated by the US Natural Gas, Oil and Petrochemical Industry, 2018: Value Added**

Industry Impacted	Indirect and Induced Impacts	
	Operational	Capital
<b>Total (\$billions)</b>	<b>\$708.6</b>	<b>\$249.4</b>
Agriculture, forestry and fishing	0.9%	0.4%
Mining	0.5%	0.4%
Utilities	3.0%	1.3%
Construction	2.3%	10.5%
Manufacturing	7.0%	15.5%
Wholesale and retail trade	10.3%	11.7%
Transportation and warehousing	5.1%	3.4%
Information	5.4%	6.0%
Finance, insurance, real estate, rental and leasing	24.7%	19.0%
Services	38.7%	31.4%
Other	2.0%	0.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Source: PwC calculations using the IMPLAN modeling system (2018 database) and data from US Census Bureau.

## *B. State Results*

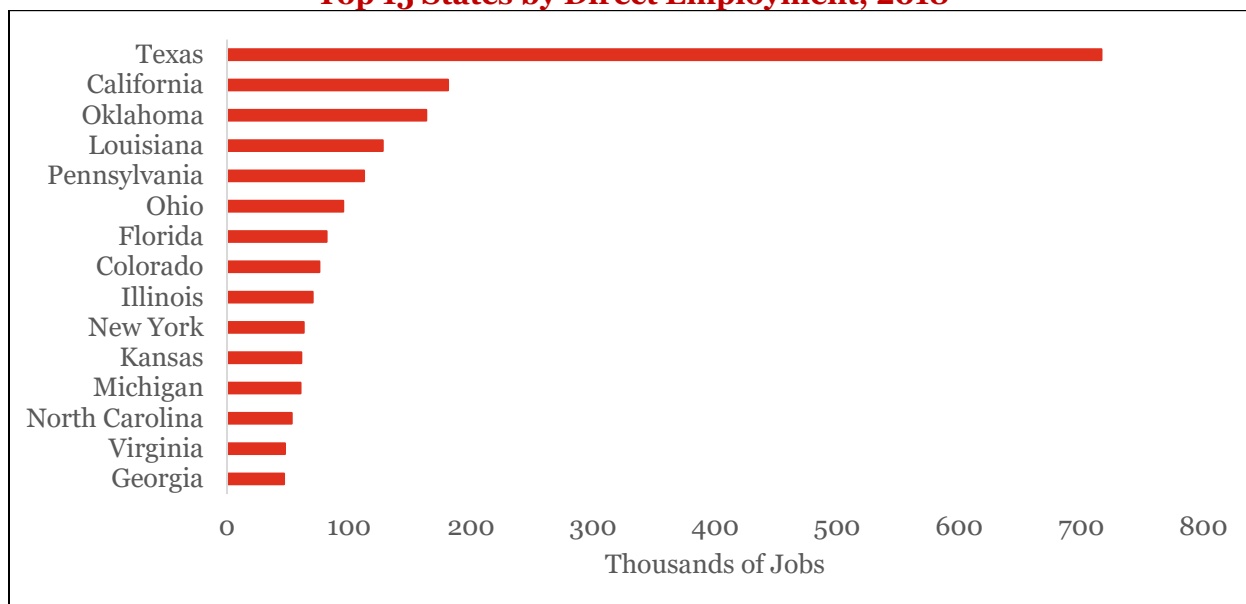
The economic impact of the natural gas, oil and petrochemical industry at the state level reflects the indirect and induced effects attributable to direct activity within each state's borders, as well as indirect and induced activity within a state that is attributable to direct activity in other states.<sup>9</sup>

The economic impact of the natural gas, oil and petrochemical industry varies from state to state, depending on factors such as each state's population, natural resources, industry mix, wage structure, spending and saving patterns, and connections to other economies. In terms of direct impact of the natural gas, oil and petrochemical industry, **Figures 1, 2, and 3**, below, present employment, labor income, and value added for the top 15 states ranked by direct impacts (details for all states are available in **Appendix B**).

The figures indicate that Texas ranks substantially above all other states in terms of direct impacts of the natural gas, oil and petrochemical industry, with about 717,000 jobs, \$128.4 billion of labor income, and \$294.9 billion of value added contributed in 2018. Other states with exceptionally large direct impacts include California, Oklahoma, Louisiana, and Pennsylvania, each with more than 100,000 jobs directly attributable to the natural gas, oil and petrochemical industry. These states have vast natural gas and oil deposits on and off shore that have led to substantial upstream and downstream operations. The share of total state employment can be seen below in **Figure 7**.

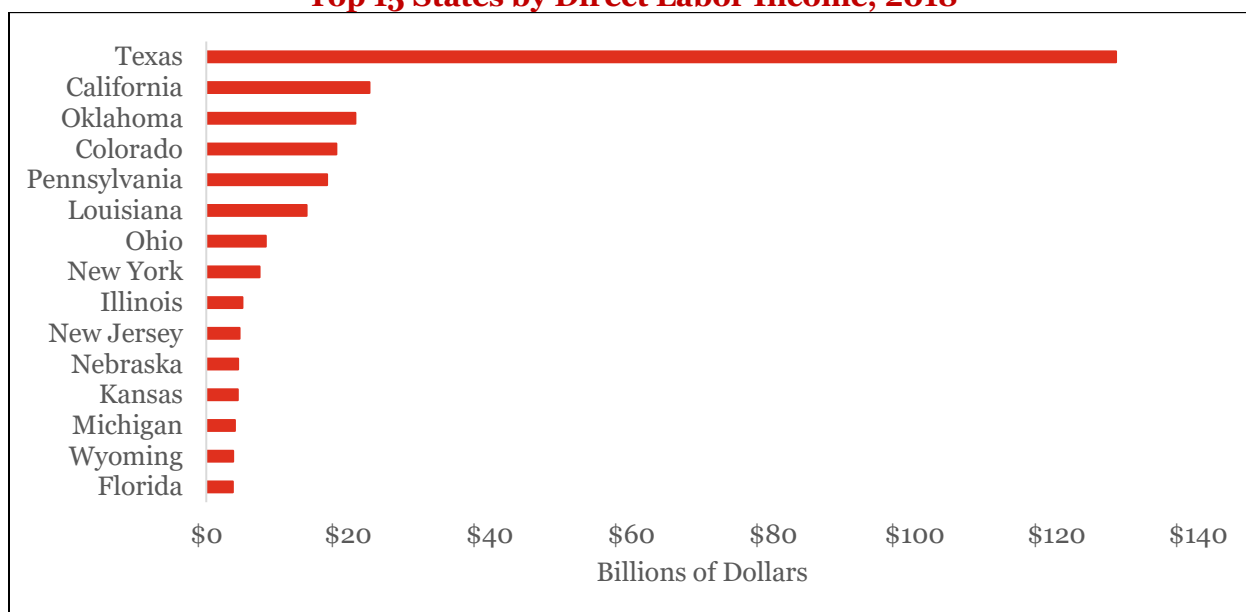
<sup>9</sup> We have allocated the indirect and induced effects by industry attributable to direct activity in other states based on the overall level of economic activity of that industry in each state.

**Figure 1. The Natural Gas, Oil and Petrochemical Industry's Direct Impact: Top 15 States by Direct Employment, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

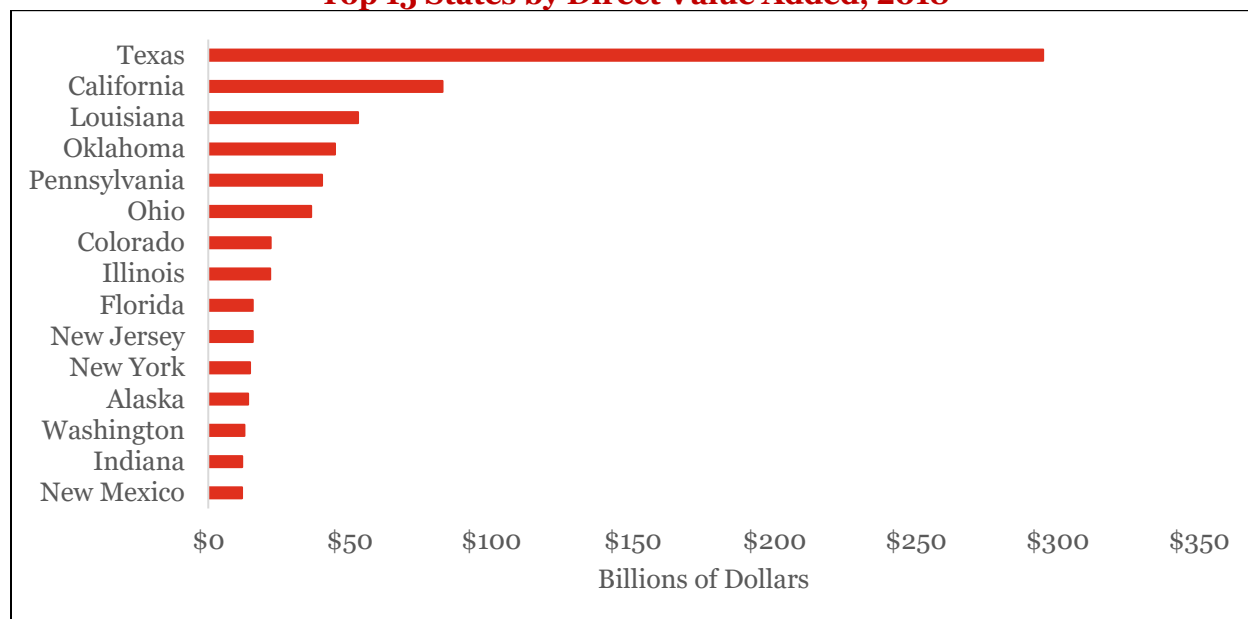
**Figure 2. The Natural Gas, Oil and Petrochemical Industry's Direct Impact: Top 15 States by Direct Labor Income, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.



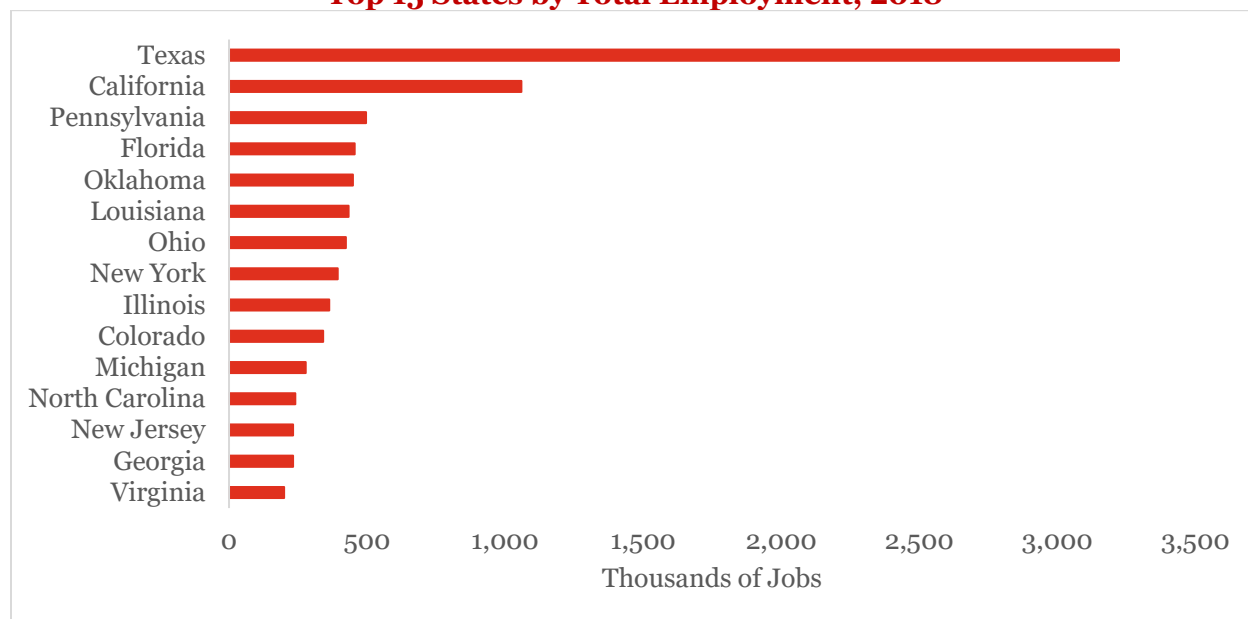
**Figure 3. The Natural Gas, Oil and Petrochemical Industry's Direct Impact: Top 15 States by Direct Value Added, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

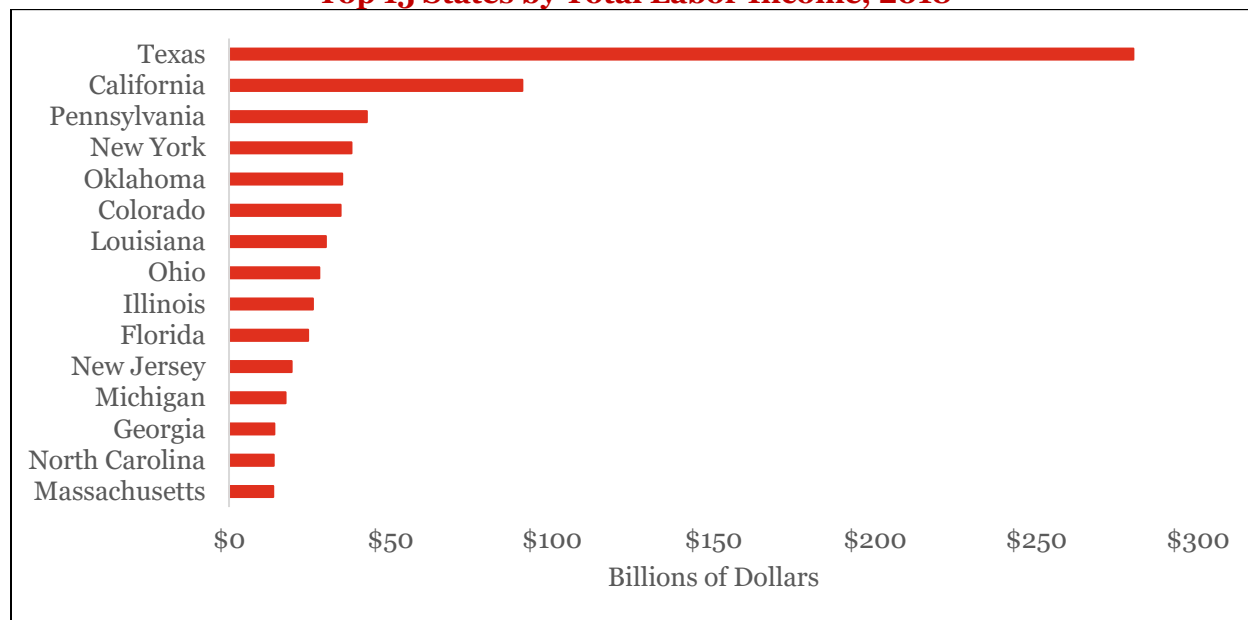
**Figures 4** through **9**, below, present the total impact of the natural gas, oil and petrochemical industry by state, including direct, indirect, and induced impacts. Looking at the top 15 states in terms of total employment attributable to the natural gas, oil and petrochemical industry, **Figure 4**, below, indicates that Texas ranks highest by this measure as well, followed by California and Pennsylvania. These states also rank high in terms of labor income and value added attributable to the natural gas, oil and petrochemical industry (see **Figures 5** and **6**, below). These states have the highest amounts of activities directly or indirectly attributable to the natural gas, oil and petrochemical industry in part because they also are among the largest economies in the country.

**Figure 4. The Natural Gas, Oil and Petrochemical Industry's Total Impact: Top 15 States by Total Employment, 2018**



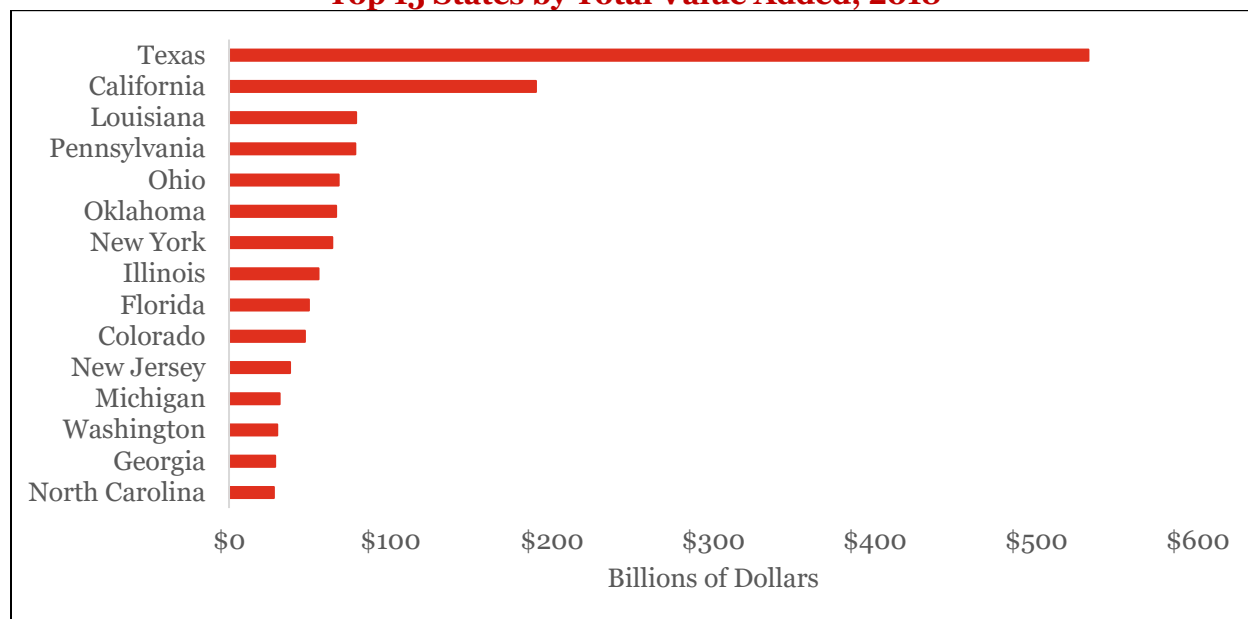
Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

**Figure 5. The Natural Gas, Oil and Petrochemical Industry's Total Impact: Top 15 States by Total Labor Income, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

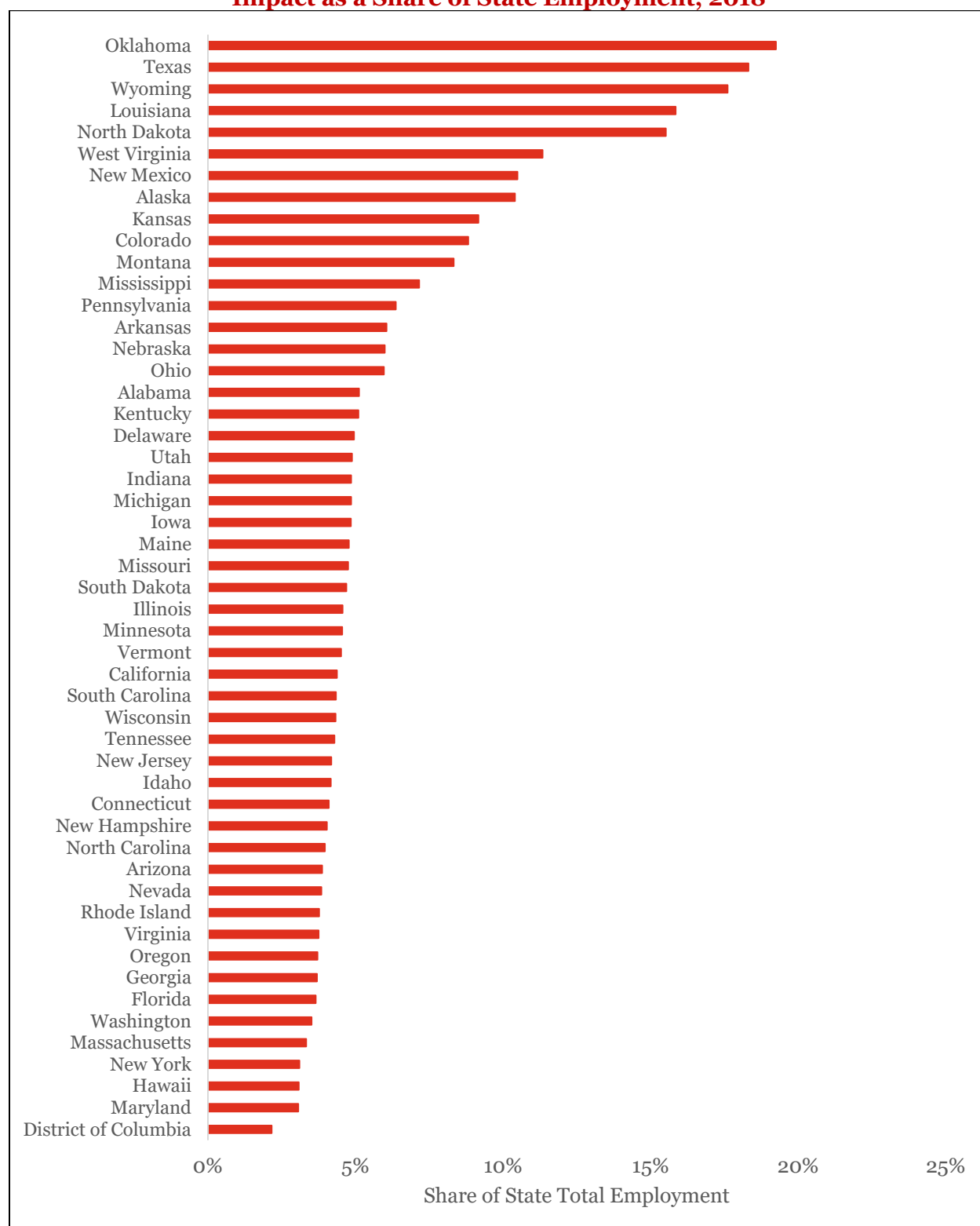
**Figure 6. The Natural Gas, Oil and Petrochemical Industry's Total Impact: Top 15 States by Total Value Added, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

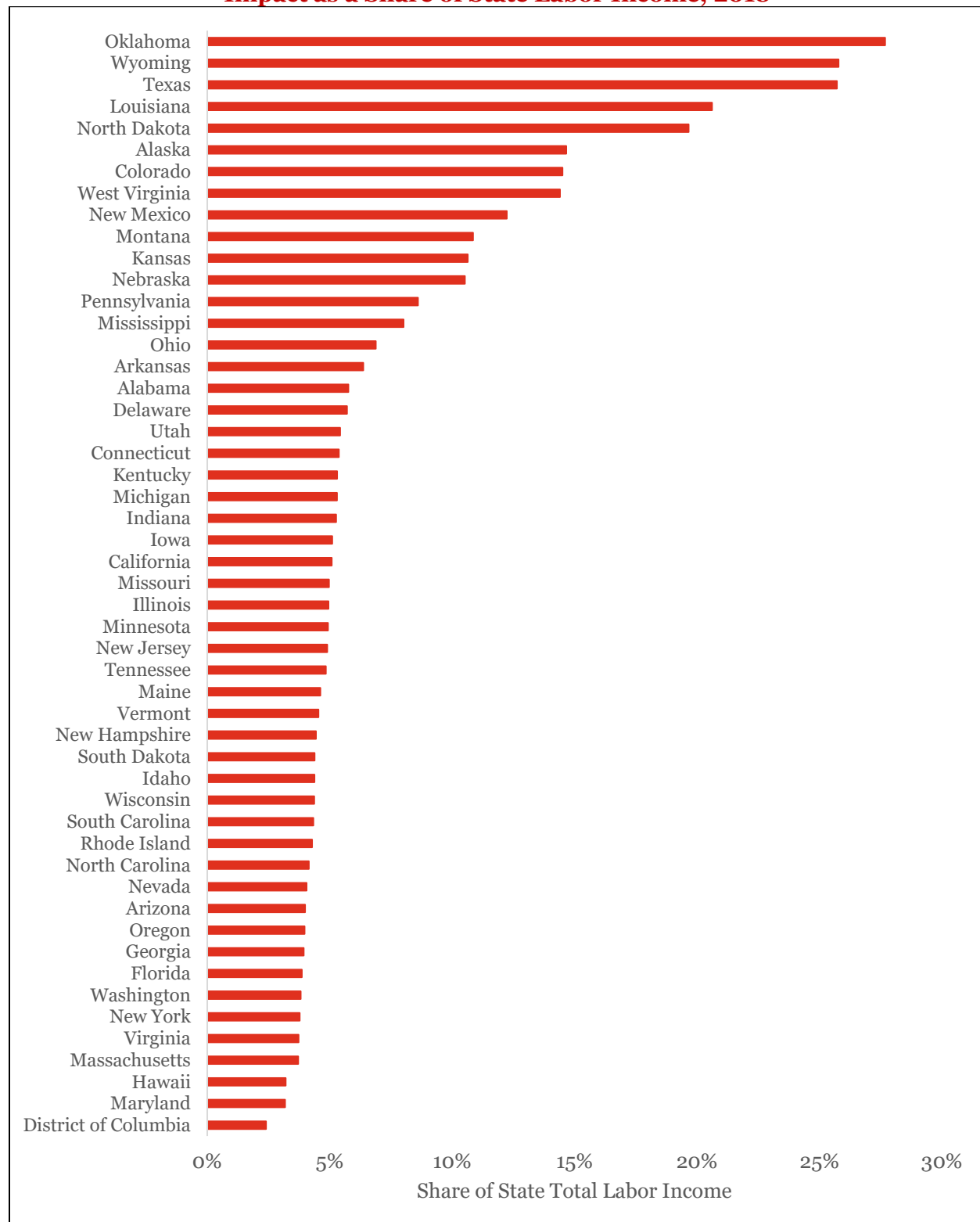
Looking at all states in terms of the share of state employment directly or indirectly attributable to the natural gas, oil and petrochemical industry, **Figure 7**, below, indicates that Oklahoma ranks highest, followed by Texas, Wyoming, Louisiana, and North Dakota. In each of these states, the natural gas, oil and petrochemical industry directly and indirectly contributed more than 15 percent of state employment in 2018. These states, along with Alaska, also rank high in terms of the share of state labor income and value added directly and indirectly attributable to the natural gas, oil and petrochemical industry (see **Figures 8 and 9**, below). These states, which have large natural gas and oil deposits, produce much of the country's domestic energy and petrochemical supply. States with a relatively small share of economic activity attributable to the natural gas, oil and petrochemical industry include the District of Columbia and Maryland.

**Figure 7. The Natural Gas, Oil and Petrochemical Industry's Total Employment Impact as a Share of State Employment, 2018**



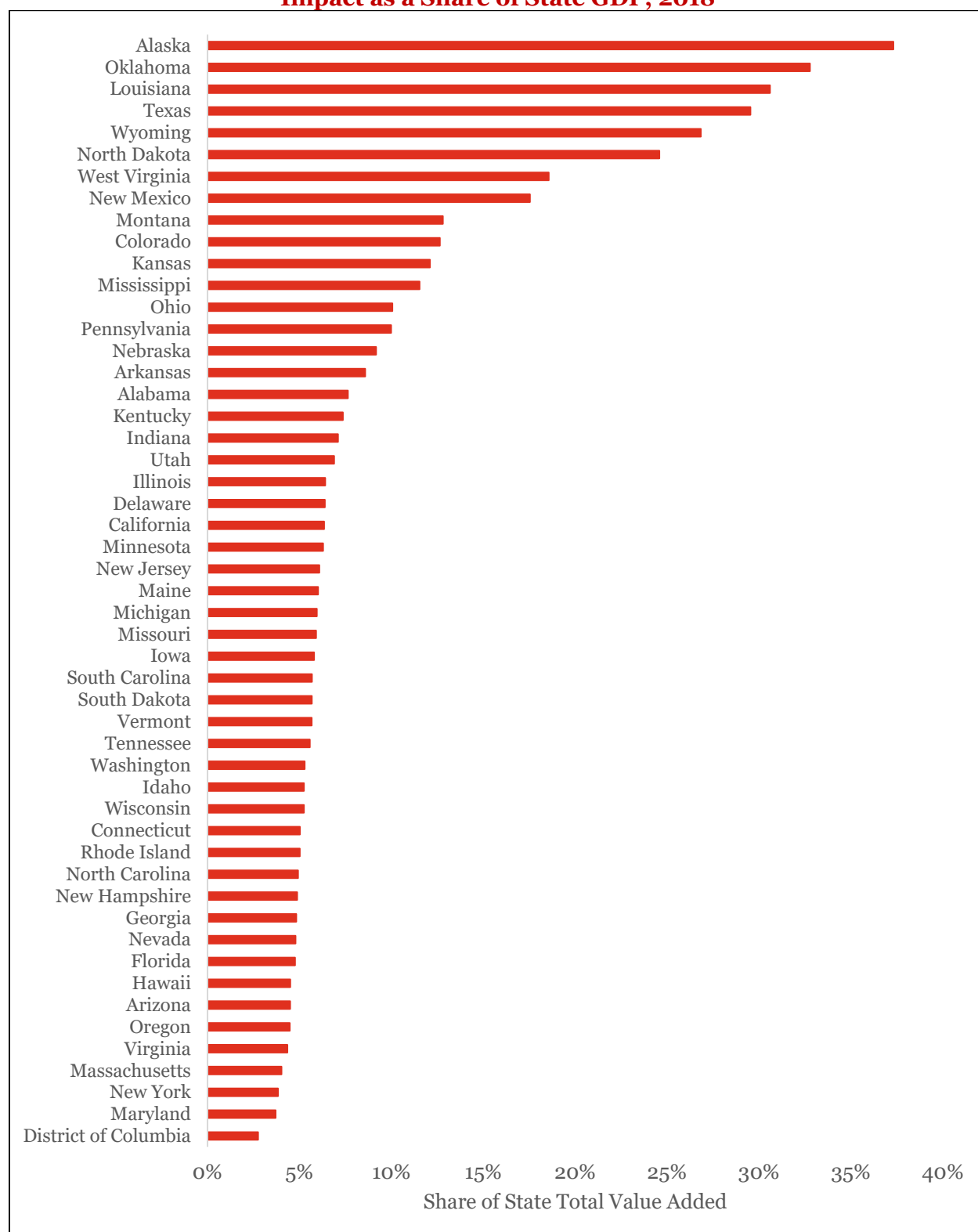
Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

**Figure 8. The Natural Gas, Oil and Petrochemical Industry's Total Labor Income Impact as a Share of State Labor Income, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

**Figure 9. The Natural Gas, Oil and Petrochemical Industry's Total Value Added Impact as a Share of State GDP, 2018**



Source: PwC calculations based on the IMPLAN model. See Appendix B for underlying figures.

### *C. Congressional District Results*

The economic impact of the natural gas, oil and petrochemical industry at the congressional district level reflects the indirect and induced effects attributable to direct activity within each congressional district's borders, as well as indirect and induced activity within a congressional district that is attributable to direct activity in other congressional districts.<sup>10</sup>

The natural gas, oil and petrochemical industry's activity varies considerably across congressional districts. The number of jobs directly attributable to the natural gas, oil and petrochemical industry was at least 1,000 in all but two districts and exceeded 5,000 in 157 congressional districts in 2018. Direct employment is especially pronounced in a number of districts in Texas, Oklahoma, and Louisiana with significant oil and gas extraction activities.

**Table 5**, below, presents employment, labor income, and value added for the top 15 congressional districts ranked by direct employment. Nine of the top 15 districts in terms of the natural gas, oil and petrochemical industry's direct employment are in Texas, home to the two of America's largest oil fields (the Permian basin and the Eagle Ford). Leading all districts in direct employment is Texas's 11<sup>th</sup> Congressional District, which encompasses 29 counties in west central Texas, including the top crude oil producing county of Midland. Oklahoma's 3<sup>rd</sup> Congressional District is home to the Anadarko basin. Oklahoma's 5<sup>th</sup> Congressional District covers almost all of Oklahoma County, which encompasses the Oklahoma Oil Field, one of the largest in the world. North Dakota's At-Large District covers the majority of the Bakken region, another key oil-producing basin in the country. Louisiana's 3<sup>rd</sup> Congressional District covers the southwestern and south-central portion of the state. Many of the nation's largest oil fields are found in the federal Outer Continental Shelf (OCS) off the Louisiana coast, with a large share of federal OCS production in the Gulf of Mexico coming onshore in Louisiana.

Direct employment in the top 15 congressional districts for the natural gas, oil and petrochemical industry was 355,000 in 2018, or about 12.4 percent of direct employment nationwide in the natural gas, oil and petrochemical industry.

In terms of total impacts (including indirect, indirect, and induced impacts), the natural gas, oil and petrochemical industry supported more than 10,000 jobs in 424 congressional districts in 2018.

**Table 6**, below, presents employment, labor income, and value added for the top 15 congressional districts ranked by total employment impact, reflecting the natural gas, oil and petrochemical industry's direct, indirect, and induced impacts. Many of the same congressional districts that rank high in terms of direct employment also rank high in terms of total employment directly and indirectly attributable to the natural gas, oil and petrochemical industry. Total industry-supported employment in the top 15 congressional districts was about 1.9 million in 2018, or 15.7 percent of total industry-supported employment nationwide.

Details for all congressional districts are available in **Appendix C**.

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<sup>10</sup> We have allocated the indirect and induced effects by industry attributable to direct activity in other congressional districts within a state based on the overall level of economic activity of that industry in each congressional district in the state.



**Table 5. The Natural Gas, Oil and Petrochemical Industry's Direct Impact, 2018:  
Top 15 Congressional Districts, Ranked by Employment**

Rank	CD	Employment <sup>(1)</sup>		Labor Income <sup>(2)</sup>		Value Added	
		Amount (Jobs)	Share of US <sup>(3)</sup>	Amount (\$ Million)	Share of US <sup>(3)</sup>	Amount (\$ Million)	Share of US <sup>(3)</sup>
1	TX-11	90,100	3.16%	\$13,188	3.98%	\$25,596	2.90%
2	OK-3	47,070	1.65%	\$2,999	0.90%	\$7,207	0.82%
3	TX-7	46,960	1.65%	\$16,609	5.01%	\$35,785	4.05%
4	OK-5	44,230	1.55%	\$5,364	1.62%	\$14,732	1.67%
5	TX-13	42,130	1.48%	\$3,370	1.02%	\$9,941	1.13%
6	ND-1 (At-Large)	37,300	1.31%	\$3,477	1.05%	\$9,188	1.04%
7	LA-3	33,480	1.17%	\$3,395	1.02%	\$12,423	1.41%
8	OK-1	30,730	1.08%	\$10,354	3.12%	\$17,368	1.97%
9	TX-1	30,630	1.07%	\$3,612	1.09%	\$7,524	0.85%
10	TX-2	29,960	1.05%	\$11,736	3.54%	\$22,858	2.59%
11	TX-19	29,570	1.04%	\$2,276	0.69%	\$5,642	0.64%
12	TX-12	28,770	1.01%	\$3,056	0.92%	\$6,638	0.75%
13	WY-1 (At-Large)	28,700	1.01%	\$3,793	1.14%	\$7,007	0.79%
14	TX-18	28,260	0.99%	\$10,352	3.12%	\$19,616	2.22%
15	TX-27	28,130	0.99%	\$3,324	1.00%	\$11,956	1.35%

Source: PwC calculations based on the IMPLAN model.

(1) Employment is defined as the number of direct, indirect, and induced payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Share of US refers to the share of the US natural gas, oil and petrochemical industry's direct impact at the national level.

**Table 6. The Natural Gas, Oil and Petrochemical Industry's Total Impact, 2018:  
Top 15 Congressional Districts, Ranked by Employment**

Rank	CD	Employment <sup>(1)</sup>		Labor Income <sup>(2)</sup>		Value Added	
		Amount (Jobs)	Share of US <sup>(3)</sup>	Amount (\$ Million)	Share of US <sup>(3)</sup>	Amount (\$ Million)	Share of US <sup>(3)</sup>
1	TX-11	211,830	1.72%	\$19,000	2.04%	\$35,451	1.94%
2	TX-7	188,200	1.53%	\$27,736	2.98%	\$51,693	2.83%
3	TX-24	143,580	1.17%	\$12,530	1.35%	\$20,900	1.14%
4	TX-2	143,010	1.16%	\$20,163	2.17%	\$35,367	1.93%
5	TX-18	132,090	1.08%	\$18,632	2.00%	\$32,055	1.75%
6	OK-1	122,270	1.00%	\$15,023	1.62%	\$24,740	1.35%
7	OK-5	120,630	0.98%	\$9,744	1.05%	\$21,373	1.17%
8	TX-32	119,330	0.97%	\$12,559	1.35%	\$21,410	1.17%
9	TX-13	116,540	0.95%	\$7,014	0.75%	\$15,990	0.87%
10	TX-21	115,310	0.94%	\$10,421	1.12%	\$14,580	0.80%
11	TX-12	108,500	0.88%	\$7,332	0.79%	\$13,456	0.74%
12	TX-14	107,960	0.88%	\$9,763	1.05%	\$36,371	1.99%
13	OK-3	101,310	0.82%	\$5,331	0.57%	\$11,073	0.61%
14	TX-27	100,460	0.82%	\$6,737	0.72%	\$17,449	0.95%
15	LA-3	99,990	0.81%	\$6,709	0.72%	\$17,687	0.97%

Source: PwC calculations based on the IMPLAN model.

(1) Employment is defined as the number of direct, indirect, and induced payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Share of US refers to the share of the natural gas, oil and petrochemical industry's total impact at the national level.

## IV. Wages, Capital Spending, and Dividends from the Natural Gas, Oil and Petrochemical Industry

As shown in the previous section, the US natural gas, oil and petrochemical industry's direct labor income in 2018 is estimated to be \$331.4 billion.

Based on data from the US Census Bureau's *Annual Capital Expenditure Survey*, the industry's capital expenditures are estimated to be \$232.7 billion in 2018.<sup>11</sup>

Total dividends paid by the industry were obtained from S&P's *Capital IQ*® database for US-headquartered companies in the natural gas, oil and petrochemical industry.<sup>12</sup> Excluding distributions from Master Limited Partnerships and other pass-through entities,<sup>13</sup> PwC estimates that the industry paid out a total of \$65.8 billion in dividends in 2018, including dividends paid to individuals, retirement plans, foreign shareholders, and other businesses.

One measure of the industry's total "spend" is the sum of the industry's labor income, capital expenditures, and dividend payments. Using this measure, the industry's total "spend" amounted to \$629.9 billion in 2018, as shown in **Table 7**, below.

**Table 7. The Natural Gas, Oil and Petrochemical Industry's Total Spend in 2018 (Billions of dollars)**

Labor Income	Capital Spending	Dividend Payout	Total Spend
\$331.4	\$232.7	\$65.8	\$629.9

Sources: PwC calculations based on the IMPLAN model, the US Census Bureau's *Annual Capital Expenditure Survey*, and S&P's *Capital IQ*® database.

<sup>11</sup> The Census Bureau defines capital expenditures to include "all capitalized costs" incurred during the year for structures and equipment "chargeable to asset accounts, and for which depreciation and amortization accounts are ordinarily maintained."

<sup>12</sup> The measure of dividends used includes cash dividends from all classes of common stock, cash paid in lieu of fractional shares, liquidation payments to shareholders and other cash distributions to shareholders. It does not include the dollar value of stock dividends or dividends paid or accrued on preferred stock.

<sup>13</sup> Distributions from pass-through entities are included as proprietors' income in PwC's estimate of direct labor income.

## ***Appendix A: Direct Impact by Detailed Sector***

**Table A-1. Direct Impact of the Natural Gas, Oil and Petrochemical Industry on the US Economy by Subsector, 2018**

NAICS	Subsector Description	Employment <sup>(1)</sup> (000's)	Labor Income <sup>(2)</sup> (\$ Billion)	Value Added (\$ Billion)
211	Oil and gas extraction (including NGL extraction)	674	98.6	236.8
213111	Drilling oil and gas wells	78	7.8	10.1
213112	Support activities for oil and gas operations	319	29.2	37.7
2212	Natural gas distribution	124	20.8	51.5
23712	Oil and gas pipeline and related structures construction	176	17.7	19.2
32411	Petroleum refineries	75	20.7	152.3
32412	Asphalt paving, roofing and saturated materials manufacturing	29	5.1	10.6
324191	Petroleum lubricating oil and grease manufacturing	12	2.1	6.9
32511	Petrochemical manufacturing	28	5.0	46.2
325199	All other basic organic chemical manufacturing	42	5.8	13.4
325211	Plastic material and resin manufacturing	62	8.8	16.4
32531	Fertilizer manufacturing	24	2.8	8.3
4247	Petroleum and petroleum products merchant wholesalers	106	10.9	159.0
44711, 44719	Gasoline stations	974	38.6	61.6
45431	Fuel dealers	77	4.7	7.6
486	Pipeline transportation	56	52.8	46.0
	<b>Total US Natural Gas, Oil and Petrochemical Industry</b>	<b>2,853</b>	<b>\$331.4</b>	<b>\$883.5</b>

Source: Estimates based on 2018 employment data from the US Bureau of Economic Analysis and supplemented by data from the US Bureau of Labor Statistics and US Census Bureau and 2018 input-output relationships from the IMPLAN modeling system.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

## ***Appendix B: Detailed Results by State***

**Table B-1. The Natural Gas, Oil and Petrochemical Industry's Economic Impact by State, 2018**

(Thousands of jobs; Billions of dollars)

	Employment		Labor Income		Value Added	
	Direct	Total	Direct	Total	Direct	Total
<b>US Total</b>	<b>2,853</b>	<b>12,283</b>	<b>\$331.4</b>	<b>\$930.0</b>	<b>\$883.5</b>	<b>\$1,829.1</b>
Alabama	36	136	\$2.4	\$7.7	\$8.3	\$16.8
Alaska	16	46	\$2.6	\$4.4	\$14.1	\$16.9
Arizona	31	149	\$1.5	\$8.5	\$4.3	\$15.6
Arkansas	30	101	\$1.4	\$5.0	\$5.2	\$11.0
California	181	1,053	\$23.0	\$90.4	\$82.8	\$189.1
Colorado	76	340	\$18.4	\$34.5	\$22.0	\$47.1
Connecticut	16	95	\$3.1	\$9.4	\$4.2	\$13.8
Delaware	6	29	\$0.6	\$2.1	\$1.8	\$4.6
District of Columbia	2	20	\$0.4	\$2.5	\$1.0	\$3.9
Florida	82	453	\$3.7	\$24.4	\$15.7	\$49.3
Georgia	47	230	\$2.9	\$14.0	\$9.9	\$28.5
Hawaii	5	28	\$0.3	\$1.8	\$1.8	\$4.2
Idaho	11	43	\$0.5	\$2.2	\$1.5	\$4.0
Illinois	70	361	\$5.1	\$25.9	\$21.9	\$55.2
Indiana	44	192	\$2.7	\$11.6	\$12.0	\$26.0
Iowa	30	99	\$1.5	\$5.5	\$4.1	\$10.8
Kansas	61	176	\$4.5	\$11.2	\$9.7	\$20.2
Kentucky	35	129	\$1.7	\$6.8	\$7.3	\$15.2
Louisiana	128	432	\$14.2	\$29.9	\$52.9	\$78.3
Maine	12	40	\$0.5	\$2.0	\$1.7	\$3.9
Maryland	20	114	\$1.3	\$8.1	\$4.8	\$15.2
Massachusetts	28	162	\$2.2	\$13.7	\$6.0	\$22.9
Michigan	60	274	\$4.0	\$17.3	\$10.7	\$31.1
Minnesota	40	171	\$2.4	\$11.4	\$9.5	\$23.0
Mississippi	37	113	\$2.2	\$5.5	\$7.4	\$13.0
Missouri	45	178	\$2.4	\$10.1	\$6.6	\$18.7
Montana	16	57	\$1.5	\$3.4	\$3.4	\$6.4
Nebraska	16	80	\$4.5	\$7.9	\$5.8	\$11.4
Nevada	15	70	\$0.8	\$4.0	\$2.8	\$8.1
New Hampshire	9	36	\$0.5	\$2.4	\$1.3	\$4.1
New Jersey	42	230	\$4.7	\$19.2	\$15.7	\$37.4
New Mexico	46	117	\$3.5	\$6.8	\$11.9	\$17.5
New York	63	392	\$7.5	\$37.8	\$14.8	\$63.6
North Carolina	53	239	\$2.8	\$13.8	\$9.2	\$27.7
North Dakota	37	90	\$3.5	\$6.5	\$9.2	\$13.8
Ohio	95	420	\$8.4	\$27.8	\$36.3	\$67.4
Oklahoma	163	449	\$21.0	\$35.0	\$44.8	\$66.8
Oregon	19	96	\$1.1	\$6.0	\$3.1	\$10.7
Pennsylvania	112	497	\$17.1	\$42.7	\$40.2	\$78.6
Rhode Island	5	24	\$0.4	\$1.6	\$1.1	\$3.0
South Carolina	30	123	\$1.4	\$6.2	\$5.3	\$13.2
South Dakota	10	29	\$0.4	\$1.3	\$1.2	\$2.9
Tennessee	40	176	\$2.7	\$11.2	\$7.3	\$20.2
Texas	717	3,184	\$128.4	\$277.8	\$294.9	\$529.0
Utah	22	100	\$1.5	\$5.8	\$5.0	\$12.1
Vermont	6	20	\$0.3	\$1.0	\$0.8	\$1.9
Virginia	48	199	\$2.5	\$12.5	\$7.4	\$23.1
Washington	29	159	\$2.2	\$12.3	\$12.8	\$29.8
West Virginia	44	102	\$3.5	\$6.6	\$9.3	\$14.3
Wisconsin	39	161	\$1.8	\$9.1	\$5.8	\$17.4
Wyoming	29	71	\$3.8	\$5.7	\$7.0	\$10.5

Source: PwC calculations based on the IMPLAN model.

Note: Details may not add to totals due to rounding.

**Table B-2. The Natural Gas, Oil and Petrochemical Industry's Total Economic Impact as a Share of State Total, 2018**  
(Percentage of State Total)

	Industry Supported Total Employment / State Total Employment	Industry Supported Total Labor Income / State Total Labor Income	Industry Supported Total Value Added / State Total GDP
Alabama	5.1%	5.7%	7.6%
Alaska	9.9%	13.9%	30.9%
Arizona	3.9%	4.0%	4.5%
Arkansas	6.0%	6.4%	8.6%
California	4.3%	5.1%	6.3%
Colorado	8.8%	14.5%	12.7%
Connecticut	4.1%	5.3%	5.0%
Delaware	4.9%	5.6%	6.3%
District of Columbia	2.2%	2.4%	2.7%
Florida	3.6%	3.8%	4.7%
Georgia	3.7%	3.9%	4.8%
Hawaii	3.1%	3.2%	4.5%
Idaho	4.1%	4.4%	5.2%
Illinois	4.5%	4.9%	6.4%
Indiana	4.8%	5.2%	7.1%
Iowa	4.8%	5.0%	5.7%
Kansas	9.1%	10.5%	12.0%
Kentucky	5.1%	5.3%	7.3%
Louisiana	15.8%	20.6%	30.4%
Maine	4.7%	4.6%	6.0%
Maryland	3.0%	3.2%	3.7%
Massachusetts	3.3%	3.7%	4.0%
Michigan	4.8%	5.2%	5.9%
Minnesota	4.5%	4.9%	6.2%
Mississippi	7.0%	7.9%	11.3%
Missouri	4.7%	4.9%	5.9%
Montana	8.3%	10.8%	12.7%
Nebraska	6.0%	10.5%	9.2%
Nevada	3.8%	4.0%	4.8%
New Hampshire	4.0%	4.4%	4.8%
New Jersey	4.1%	4.8%	6.0%
New Mexico	10.5%	12.2%	17.5%
New York	3.1%	3.8%	3.8%
North Carolina	3.9%	4.1%	4.9%
North Dakota	15.5%	19.6%	24.5%
Ohio	5.9%	6.8%	10.0%
Oklahoma	19.2%	27.7%	33.0%
Oregon	3.7%	4.0%	4.5%
Pennsylvania	6.4%	8.6%	10.0%
Rhode Island	3.8%	4.3%	5.0%
South Carolina	4.3%	4.3%	5.6%
South Dakota	4.7%	4.3%	5.6%
Tennessee	4.3%	4.8%	5.5%
Texas	18.1%	25.5%	29.3%
Utah	4.8%	5.4%	6.8%
Vermont	4.5%	4.5%	5.7%
Virginia	3.7%	3.7%	4.3%
Washington	3.5%	3.8%	5.3%
West Virginia	11.3%	14.4%	18.5%
Wisconsin	4.3%	4.3%	5.2%
Wyoming	17.5%	25.7%	26.9%

Source: PwC calculations based on the IMPLAN model.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Alabama, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>36,000</b>			<b>36,000</b>	<b>1.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		19,430	26,730	<b>46,160</b>	
Wholesale and retail trade		4,180	7,730	<b>11,910</b>	
Manufacturing		6,690	3,140	<b>9,830</b>	
Finance, insurance, real estate, rental and leasing		4,190	5,470	<b>9,660</b>	
Construction		8,670	430	<b>9,100</b>	
Transportation and warehousing		5,360	1,560	<b>6,920</b>	
Government		1,450	720	<b>2,170</b>	
Agriculture		1,200	860	<b>2,060</b>	
Information		560	550	<b>1,110</b>	
Utilities		590	330	<b>920</b>	
Mining		250	30	<b>280</b>	
<b>Total Impact on Employment</b>	<b>36,000</b>	<b>52,580</b>	<b>47,540</b>	<b>136,120</b>	<b>5.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,435</b>			<b>\$2,435</b>	<b>1.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,039	\$1,141	<b>\$2,179</b>	
Wholesale and retail trade		\$505	\$198	<b>\$703</b>	
Manufacturing		\$273	\$290	<b>\$564</b>	
Finance, insurance, real estate, rental and leasing		\$231	\$251	<b>\$482</b>	
Construction		\$442	\$22	<b>\$464</b>	
Transportation and warehousing		\$308	\$86	<b>\$394</b>	
Government		\$105	\$54	<b>\$159</b>	
Agriculture		\$88	\$48	<b>\$136</b>	
Information		\$42	\$40	<b>\$82</b>	
Utilities		\$39	\$38	<b>\$77</b>	
Mining		\$20	\$3	<b>\$23</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,435</b>	<b>\$3,092</b>	<b>\$2,171</b>	<b>\$7,698</b>	<b>5.7%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$8,300</b>			<b>\$8,300</b>	<b>3.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,259	\$1,384	<b>\$2,644</b>	
Finance, insurance, real estate, rental and leasing		\$722	\$1,046	<b>\$1,768</b>	
Manufacturing		\$868	\$340	<b>\$1,208</b>	
Wholesale and retail trade		\$473	\$471	<b>\$945</b>	
Transportation and warehousing		\$382	\$100	<b>\$482</b>	
Utilities		\$252	\$139	<b>\$391</b>	
Construction		\$339	\$28	<b>\$367</b>	
Government		\$158	\$85	<b>\$243</b>	
Information		\$111	\$107	<b>\$218</b>	
Mining		\$104	\$17	<b>\$121</b>	
Agriculture		\$43	\$45	<b>\$88</b>	
<b>Total Impact on Value Added</b>	<b>\$8,300</b>	<b>\$4,712</b>	<b>\$3,764</b>	<b>\$16,776</b>	<b>7.6%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Alaska, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>15,780</b>			<b>15,780</b>	<b>3.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		5,170	11,030	<b>16,200</b>	
Wholesale and retail trade		740	2,850	<b>3,590</b>	
Finance, insurance, real estate, rental and leasing		1,590	1,800	<b>3,390</b>	
Construction		2,470	140	<b>2,610</b>	
Transportation and warehousing		910	660	<b>1,570</b>	
Government		240	450	<b>690</b>	
Manufacturing		220	360	<b>580</b>	
Information		190	260	<b>450</b>	
Mining		230	40	<b>270</b>	
Utilities		150	100	<b>250</b>	
Agriculture		20	150	<b>170</b>	
<b>Total Impact on Employment</b>	<b>15,780</b>	<b>11,920</b>	<b>17,830</b>	<b>45,530</b>	<b>9.9%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,590</b>			<b>\$2,590</b>	<b>8.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$347	\$606	<b>\$954</b>	
Construction		\$202	\$12	<b>\$214</b>	
Finance, insurance, real estate, rental and leasing		\$94	\$83	<b>\$177</b>	
Wholesale and retail trade		\$43	\$111	<b>\$153</b>	
Transportation and warehousing		\$68	\$49	<b>\$118</b>	
Government		\$25	\$45	<b>\$71</b>	
Information		\$16	\$21	<b>\$36</b>	
Manufacturing		\$10	\$21	<b>\$31</b>	
Utilities		\$17	\$12	<b>\$29</b>	
Mining		\$20	\$3	<b>\$24</b>	
Agriculture		\$2	\$7	<b>\$9</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,590</b>	<b>\$844</b>	<b>\$970</b>	<b>\$4,405</b>	<b>13.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$14,074</b>			<b>\$14,074</b>	<b>25.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$418	\$712	<b>\$1,130</b>	
Finance, insurance, real estate, rental and leasing		\$265	\$485	<b>\$750</b>	
Wholesale and retail trade		\$74	\$159	<b>\$232</b>	
Construction		\$145	\$15	<b>\$159</b>	
Transportation and warehousing		\$89	\$69	<b>\$158</b>	
Mining		\$110	\$17	<b>\$127</b>	
Government		\$31	\$56	<b>\$87</b>	
Information		\$35	\$48	<b>\$83</b>	
Utilities		\$47	\$32	<b>\$80</b>	
Manufacturing		\$17	\$28	<b>\$45</b>	
Agriculture		\$2	\$12	<b>\$13</b>	
<b>Total Impact on Value Added</b>	<b>\$14,074</b>	<b>\$1,231</b>	<b>\$1,634</b>	<b>\$16,938</b>	<b>30.9%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Arizona, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>31,460</b>			<b>31,460</b>	<b>0.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		23,000	36,050	<b>59,050</b>	
Finance, insurance, real estate, rental and leasing		6,300	9,070	<b>15,370</b>	
Wholesale and retail trade		3,370	8,950	<b>12,320</b>	
Construction		10,500	530	<b>11,030</b>	
Transportation and warehousing		4,750	2,580	<b>7,330</b>	
Manufacturing		4,730	2,070	<b>6,800</b>	
Information		900	980	<b>1,880</b>	
Agriculture		540	700	<b>1,240</b>	
Government		490	710	<b>1,200</b>	
Utilities		410	330	<b>740</b>	
Mining		550	90	<b>640</b>	
<b>Total Impact on Employment</b>	<b>31,460</b>	<b>55,530</b>	<b>62,070</b>	<b>149,050</b>	<b>3.9%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,504</b>			<b>\$1,504</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,418	\$1,782	<b>\$3,201</b>	
Finance, insurance, real estate, rental and leasing		\$421	\$497	<b>\$918</b>	
Wholesale and retail trade		\$288	\$425	<b>\$713</b>	
Construction		\$596	\$30	<b>\$626</b>	
Manufacturing		\$433	\$140	<b>\$573</b>	
Transportation and warehousing		\$250	\$134	<b>\$384</b>	
Information		\$107	\$105	<b>\$213</b>	
Utilities		\$65	\$50	<b>\$114</b>	
Government		\$43	\$58	<b>\$101</b>	
Mining		\$63	\$12	<b>\$75</b>	
Agriculture		\$26	\$45	<b>\$71</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,504</b>	<b>\$3,711</b>	<b>\$3,277</b>	<b>\$8,493</b>	<b>4.0%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,255</b>			<b>\$4,255</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,720	\$2,186	<b>\$3,905</b>	
Finance, insurance, real estate, rental and leasing		\$1,028	\$1,711	<b>\$2,739</b>	
Wholesale and retail trade		\$464	\$722	<b>\$1,185</b>	
Manufacturing		\$717	\$240	<b>\$957</b>	
Construction		\$588	\$46	<b>\$634</b>	
Transportation and warehousing		\$333	\$205	<b>\$538</b>	
Information		\$231	\$231	<b>\$462</b>	
Utilities		\$219	\$170	<b>\$389</b>	
Mining		\$281	\$51	<b>\$331</b>	
Government		\$59	\$83	<b>\$142</b>	
Agriculture		\$27	\$49	<b>\$76</b>	
<b>Total Impact on Value Added</b>	<b>\$4,255</b>	<b>\$5,667</b>	<b>\$5,694</b>	<b>\$15,615</b>	<b>4.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Arkansas, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>30,270</b>			<b>30,270</b>	<b>1.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		15,020	18,670	<b>33,690</b>	
Wholesale and retail trade		2,740	5,090	<b>7,830</b>	
Finance, insurance, real estate, rental and leasing		3,430	3,510	<b>6,940</b>	
Manufacturing		3,710	2,330	<b>6,040</b>	
Construction		5,450	280	<b>5,730</b>	
Transportation and warehousing		3,940	1,300	<b>5,240</b>	
Agriculture		1,010	920	<b>1,930</b>	
Government		920	490	<b>1,410</b>	
Information		370	310	<b>680</b>	
Utilities		390	170	<b>560</b>	
Mining		190	20	<b>210</b>	
<b>Total Impact on Employment</b>	<b>30,270</b>	<b>37,170</b>	<b>33,080</b>	<b>100,520</b>	<b>6.0%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,439</b>			<b>\$1,439</b>	<b>1.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$874	\$811	<b>\$1,684</b>	
Wholesale and retail trade		\$175	\$193	<b>\$368</b>	
Manufacturing		\$231	\$131	<b>\$362</b>	
Transportation and warehousing		\$221	\$73	<b>\$294</b>	
Finance, insurance, real estate, rental and leasing		\$146	\$126	<b>\$272</b>	
Construction		\$254	\$13	<b>\$267</b>	
Agriculture		\$55	\$46	<b>\$101</b>	
Government		\$56	\$31	<b>\$87</b>	
Utilities		\$45	\$19	<b>\$64</b>	
Information		\$26	\$20	<b>\$46</b>	
Mining		\$8	\$1	<b>\$9</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,439</b>	<b>\$2,090</b>	<b>\$1,464</b>	<b>\$4,994</b>	<b>6.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,195</b>			<b>\$5,195</b>	<b>4.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,066	\$977	<b>\$2,042</b>	
Finance, insurance, real estate, rental and leasing		\$508	\$625	<b>\$1,133</b>	
Manufacturing		\$447	\$239	<b>\$686</b>	
Wholesale and retail trade		\$337	\$348	<b>\$685</b>	
Transportation and warehousing		\$278	\$87	<b>\$364</b>	
Construction		\$230	\$17	<b>\$248</b>	
Utilities		\$162	\$71	<b>\$234</b>	
Information		\$82	\$69	<b>\$151</b>	
Government		\$74	\$43	<b>\$116</b>	
Agriculture		\$57	\$50	<b>\$107</b>	
Mining		\$24	\$3	<b>\$27</b>	
<b>Total Impact on Value Added</b>	<b>\$5,195</b>	<b>\$3,264</b>	<b>\$2,529</b>	<b>\$10,988</b>	<b>8.6%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in California, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>181,070</b>			<b>181,070</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		169,720	279,660	<b>449,380</b>	
Finance, insurance, real estate, rental and leasing		33,580	56,860	<b>90,440</b>	
Wholesale and retail trade		25,750	64,530	<b>90,280</b>	
Construction		72,210	3,600	<b>75,810</b>	
Transportation and warehousing		44,240	21,670	<b>65,910</b>	
Manufacturing		35,150	20,200	<b>55,350</b>	
Information		7,730	9,990	<b>17,720</b>	
Agriculture		5,690	8,080	<b>13,770</b>	
Government		4,300	5,660	<b>9,960</b>	
Utilities		1,590	1,070	<b>2,660</b>	
Mining		860	90	<b>950</b>	
<b>Total Impact on Employment</b>	<b>181,070</b>	<b>400,820</b>	<b>471,420</b>	<b>1,053,310</b>	<b>4.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$23,043</b>			<b>\$23,043</b>	<b>1.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$14,704	\$16,131	<b>\$30,834</b>	
Finance, insurance, real estate, rental and leasing		\$3,138	\$4,488	<b>\$7,627</b>	
Wholesale and retail trade		\$2,339	\$3,489	<b>\$5,828</b>	
Manufacturing		\$3,907	\$1,743	<b>\$5,649</b>	
Construction		\$5,316	\$261	<b>\$5,577</b>	
Information		\$2,385	\$2,715	<b>\$5,099</b>	
Transportation and warehousing		\$2,887	\$1,299	<b>\$4,186</b>	
Government		\$496	\$621	<b>\$1,116</b>	
Agriculture		\$337	\$539	<b>\$876</b>	
Utilities		\$297	\$195	<b>\$492</b>	
Mining		\$57	\$7	<b>\$64</b>	
<b>Total Impact on Labor Income</b>	<b>\$23,043</b>	<b>\$35,861</b>	<b>\$31,487</b>	<b>\$90,391</b>	<b>5.1%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$82,758</b>			<b>\$82,758</b>	<b>2.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$17,805	\$19,525	<b>\$37,330</b>	
Finance, insurance, real estate, rental and leasing		\$7,725	\$15,967	<b>\$23,692</b>	
Information		\$5,446	\$6,266	<b>\$11,712</b>	
Manufacturing		\$6,204	\$3,447	<b>\$9,652</b>	
Wholesale and retail trade		\$3,600	\$5,963	<b>\$9,563</b>	
Construction		\$5,022	\$378	<b>\$5,400</b>	
Transportation and warehousing		\$3,321	\$1,618	<b>\$4,939</b>	
Government		\$637	\$824	<b>\$1,461</b>	
Utilities		\$776	\$517	<b>\$1,293</b>	
Agriculture		\$422	\$711	<b>\$1,133</b>	
Mining		\$111	\$13	<b>\$124</b>	
<b>Total Impact on Value Added</b>	<b>\$82,758</b>	<b>\$51,068</b>	<b>\$55,229</b>	<b>\$189,056</b>	<b>6.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Colorado, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>75,650</b>			<b>75,650</b>	<b>2.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		48,720	95,530	<b>144,250</b>	
Finance, insurance, real estate, rental and leasing		14,570	25,350	<b>39,920</b>	
Wholesale and retail trade		5,920	24,390	<b>30,310</b>	
Construction		15,870	1,630	<b>17,500</b>	
Transportation and warehousing		5,100	5,660	<b>10,760</b>	
Manufacturing		5,240	3,260	<b>8,500</b>	
Information		2,030	3,500	<b>5,530</b>	
Government		1,210	3,020	<b>4,230</b>	
Agriculture		400	1,570	<b>1,970</b>	
Utilities		580	510	<b>1,090</b>	
Mining		<u>520</u>	<u>80</u>	<u>600</u>	
<b>Total Impact on Employment</b>	<b>75,650</b>	<b>100,160</b>	<b>164,480</b>	<b>340,290</b>	<b>8.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$18,372</b>			<b>\$18,372</b>	<b>7.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,127	\$4,862	<b>\$8,989</b>	
Finance, insurance, real estate, rental and leasing		\$885	\$1,256	<b>\$2,140</b>	
Wholesale and retail trade		\$499	\$1,070	<b>\$1,569</b>	
Construction		\$1,041	\$106	<b>\$1,147</b>	
Manufacturing		\$444	\$205	<b>\$649</b>	
Transportation and warehousing		\$295	\$294	<b>\$589</b>	
Information		\$187	\$270	<b>\$457</b>	
Government		\$97	\$229	<b>\$326</b>	
Utilities		\$74	\$64	<b>\$138</b>	
Agriculture		\$16	\$63	<b>\$79</b>	
Mining		<u>\$46</u>	<u>\$5</u>	<u>\$52</u>	
<b>Total Impact on Labor Income</b>	<b>\$18,372</b>	<b>\$7,710</b>	<b>\$8,426</b>	<b>\$34,507</b>	<b>14.5%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$22,014</b>			<b>\$22,014</b>	<b>5.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,895	\$5,883	<b>\$10,778</b>	
Finance, insurance, real estate, rental and leasing		\$1,907	\$4,397	<b>\$6,304</b>	
Wholesale and retail trade		\$818	\$1,737	<b>\$2,555</b>	
Information		\$546	\$827	<b>\$1,373</b>	
Construction		\$962	\$149	<b>\$1,111</b>	
Manufacturing		\$706	\$385	<b>\$1,091</b>	
Transportation and warehousing		\$391	\$423	<b>\$814</b>	
Utilities		\$244	\$213	<b>\$457</b>	
Government		\$122	\$290	<b>\$412</b>	
Mining		\$101	\$16	<b>\$117</b>	
Agriculture		<u>\$18</u>	<u>\$78</u>	<u>\$96</u>	
<b>Total Impact on Value Added</b>	<b>\$22,014</b>	<b>\$10,711</b>	<b>\$14,398</b>	<b>\$47,123</b>	<b>12.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Connecticut, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>16,190</b>			<b>16,190</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		10,570	29,570	<b>40,140</b>	
Finance, insurance, real estate, rental and leasing		3,090	7,230	<b>10,320</b>	
Wholesale and retail trade		2,230	6,820	<b>9,050</b>	
Construction		5,690	410	<b>6,100</b>	
Manufacturing		4,570	1,480	<b>6,050</b>	
Transportation and warehousing		2,240	1,550	<b>3,790</b>	
Information		540	770	<b>1,310</b>	
Government		250	570	<b>820</b>	
Agriculture		260	190	<b>450</b>	
Utilities		170	160	<b>330</b>	
Mining		60	10	<b>70</b>	
<b>Total Impact on Employment</b>	<b>16,190</b>	<b>29,660</b>	<b>48,760</b>	<b>94,620</b>	<b>4.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,115</b>			<b>\$3,115</b>	<b>1.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$947	\$1,792	<b>\$2,739</b>	
Finance, insurance, real estate, rental and leasing		\$442	\$743	<b>\$1,185</b>	
Manufacturing		\$501	\$160	<b>\$661</b>	
Wholesale and retail trade		\$230	\$379	<b>\$609</b>	
Construction		\$445	\$32	<b>\$477</b>	
Transportation and warehousing		\$143	\$93	<b>\$236</b>	
Information		\$85	\$108	<b>\$193</b>	
Government		\$27	\$54	<b>\$82</b>	
Utilities		\$26	\$23	<b>\$49</b>	
Agriculture		\$7	\$5	<b>\$12</b>	
Mining		\$2	***	<b>\$2</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,115</b>	<b>\$2,855</b>	<b>\$3,390</b>	<b>\$9,360</b>	<b>5.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,162</b>			<b>\$4,162</b>	<b>1.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,132	\$2,119	<b>\$3,251</b>	
Finance, insurance, real estate, rental and leasing		\$820	\$1,992	<b>\$2,812</b>	
Wholesale and retail trade		\$440	\$641	<b>\$1,081</b>	
Manufacturing		\$670	\$233	<b>\$903</b>	
Information		\$263	\$319	<b>\$582</b>	
Construction		\$299	\$35	<b>\$334</b>	
Transportation and warehousing		\$153	\$105	<b>\$258</b>	
Utilities		\$114	\$104	<b>\$218</b>	
Government		\$43	\$88	<b>\$132</b>	
Agriculture		\$9	\$8	<b>\$16</b>	
Mining		\$9	\$2	<b>\$11</b>	
<b>Total Impact on Value Added</b>	<b>\$4,162</b>	<b>\$3,952</b>	<b>\$5,646</b>	<b>\$13,760</b>	<b>5.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\* Less than \$0.5 million.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Delaware, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>6,440</b>			<b>6,440</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		4,440	7,030	11,470	
Finance, insurance, real estate, rental and leasing		960	1,820	2,780	
Wholesale and retail trade		890	1,820	2,710	
Construction		2,010	100	2,110	
Transportation and warehousing		1,400	390	1,790	
Manufacturing		500	420	920	
Government		250	150	400	
Information		110	120	230	
Agriculture		130	80	210	
Utilities		100	50	150	
Mining		**	**	**	
<b>Total Impact on Employment</b>	<b>6,440</b>	<b>10,780</b>	<b>11,980</b>	<b>29,200</b>	<b>4.9%</b>
<b>Labor Income*** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$553</b>			<b>\$553</b>	<b>1.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$335	\$391	\$726	
Finance, insurance, real estate, rental and leasing		\$94	\$135	\$229	
Construction		\$133	\$7	\$140	
Wholesale and retail trade		\$61	\$73	\$135	
Transportation and warehousing		\$90	\$23	\$113	
Manufacturing		\$44	\$28	\$72	
Agriculture		\$25	\$11	\$37	
Government		\$19	\$12	\$32	
Utilities		\$15	\$7	\$22	
Information		\$9	\$9	\$18	
Mining		****	****	****	
<b>Total Impact on Labor Income</b>	<b>\$553</b>	<b>\$827</b>	<b>\$697</b>	<b>\$2,077</b>	<b>5.6%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,833</b>			<b>\$1,833</b>	<b>2.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Finance, insurance, real estate, rental and leasing		\$444	\$696	\$1,140	
Services		\$421	\$466	\$886	
Wholesale and retail trade		\$97	\$102	\$199	
Construction		\$145	\$10	\$155	
Manufacturing		\$78	\$51	\$129	
Transportation and warehousing		\$101	\$24	\$125	
Utilities		\$44	\$20	\$64	
Information		\$22	\$23	\$45	
Government		\$25	\$16	\$41	
Agriculture		\$17	\$9	\$26	
Mining		****	****	****	
<b>Total Impact on Value Added</b>	<b>\$1,833</b>	<b>\$1,394</b>	<b>\$1,416</b>	<b>\$4,643</b>	<b>6.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs. \*\* Less than 5.

\*\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in District of Columbia, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>2,350</b>			<b>2,350</b>	<b>0.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		4,680	7,840	12,520	
Finance, insurance, real estate, rental and leasing		610	830	1,440	
Construction		900	40	940	
Wholesale and retail trade		350	560	910	
Transportation and warehousing		310	290	600	
Information		260	260	520	
Government		100	230	330	
Manufacturing		40	50	90	
Utilities		20	20	40	
Agriculture		**	**	**	
Mining		**	**	**	
<b>Total Impact on Employment</b>	<b>2,350</b>	<b>7,270</b>	<b>10,130</b>	<b>19,750</b>	<b>2.2%</b>
<b>Labor Income*** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$376</b>			<b>\$376</b>	<b>0.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$741	\$799	\$1,540	
Finance, insurance, real estate, rental and leasing		\$84	\$105	\$188	
Information		\$57	\$55	\$111	
Wholesale and retail trade		\$50	\$37	\$87	
Government		\$26	\$44	\$70	
Construction		\$61	\$2	\$64	
Transportation and warehousing		\$28	\$28	\$55	
Manufacturing		\$3	\$3	\$7	
Utilities		\$3	\$2	\$5	
Agriculture		****	****	****	
Mining		****	****	****	
<b>Total Impact on Labor Income</b>	<b>\$376</b>	<b>\$1,053</b>	<b>\$1,075</b>	<b>\$2,503</b>	<b>2.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$959</b>			<b>\$959</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$910	\$962	\$1,871	
Finance, insurance, real estate, rental and leasing		\$165	\$283	\$448	
Information		\$135	\$134	\$269	
Government		\$37	\$67	\$104	
Wholesale and retail trade		\$31	\$53	\$84	
Construction		\$49	\$4	\$53	
Transportation and warehousing		\$14	\$12	\$26	
Utilities		\$13	\$11	\$23	
Manufacturing		\$6	\$6	\$12	
Agriculture		****	****	****	
Mining		****	****	****	
<b>Total Impact on Value Added</b>	<b>\$959</b>	<b>\$1,360</b>	<b>\$1,532</b>	<b>\$3,851</b>	<b>2.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs. \*\* Less than 5.

\*\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Florida, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>81,590</b>			<b>81,590</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		71,940	119,300	<b>191,240</b>	
Finance, insurance, real estate, rental and leasing		16,950	28,860	<b>45,810</b>	
Wholesale and retail trade		13,590	30,600	<b>44,190</b>	
Construction		34,180	1,770	<b>35,950</b>	
Transportation and warehousing		12,830	8,320	<b>21,150</b>	
Manufacturing		11,210	5,430	<b>16,640</b>	
Information		2,620	3,030	<b>5,650</b>	
Agriculture		2,380	2,080	<b>4,460</b>	
Government		1,740	1,940	<b>3,680</b>	
Utilities		1,060	730	<b>1,790</b>	
Mining		820	40	<b>860</b>	
<b>Total Impact on Employment</b>	<b>81,590</b>	<b>169,320</b>	<b>202,110</b>	<b>453,010</b>	<b>3.6%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,742</b>			<b>\$3,742</b>	<b>0.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,510	\$5,667	<b>\$10,176</b>	
Wholesale and retail trade		\$1,077	\$1,378	<b>\$2,455</b>	
Finance, insurance, real estate, rental and leasing		\$1,002	\$1,381	<b>\$2,383</b>	
Construction		\$1,830	\$93	<b>\$1,924</b>	
Manufacturing		\$825	\$324	<b>\$1,149</b>	
Transportation and warehousing		\$670	\$417	<b>\$1,087</b>	
Information		\$359	\$366	<b>\$725</b>	
Government		\$147	\$158	<b>\$305</b>	
Utilities		\$137	\$91	<b>\$228</b>	
Agriculture		\$77	\$79	<b>\$156</b>	
Mining		\$43	\$3	<b>\$46</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,742</b>	<b>\$10,677</b>	<b>\$9,957</b>	<b>\$24,376</b>	<b>3.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$15,745</b>			<b>\$15,745</b>	<b>1.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$5,559	\$7,047	<b>\$12,606</b>	
Finance, insurance, real estate, rental and leasing		\$2,554	\$5,037	<b>\$7,591</b>	
Wholesale and retail trade		\$1,967	\$2,357	<b>\$4,324</b>	
Construction		\$1,916	\$147	<b>\$2,063</b>	
Manufacturing		\$1,321	\$642	<b>\$1,963</b>	
Information		\$786	\$845	<b>\$1,631</b>	
Transportation and warehousing		\$882	\$616	<b>\$1,499</b>	
Utilities		\$613	\$415	<b>\$1,028</b>	
Government		\$191	\$213	<b>\$404</b>	
Agriculture		\$107	\$112	<b>\$219</b>	
Mining		\$168	\$10	<b>\$178</b>	
<b>Total Impact on Value Added</b>	<b>\$15,745</b>	<b>\$16,064</b>	<b>\$17,443</b>	<b>\$49,251</b>	<b>4.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Georgia, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>46,750</b>			<b>46,750</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		33,720	56,160	<b>89,880</b>	
Wholesale and retail trade		6,790	14,430	<b>21,220</b>	
Finance, insurance, real estate, rental and leasing		7,060	11,030	<b>18,090</b>	
Construction		16,100	780	<b>16,880</b>	
Manufacturing		9,140	5,730	<b>14,870</b>	
Transportation and warehousing		9,140	4,830	<b>13,970</b>	
Information		1,680	2,010	<b>3,690</b>	
Agriculture		990	1,060	<b>2,050</b>	
Government		790	1,170	<b>1,960</b>	
Utilities		480	360	<b>840</b>	
Mining		260	30	<b>290</b>	
<b>Total Impact on Employment</b>	<b>46,750</b>	<b>86,130</b>	<b>97,600</b>	<b>230,480</b>	<b>3.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,883</b>			<b>\$2,883</b>	<b>0.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,204	\$2,617	<b>\$4,820</b>	
Wholesale and retail trade		\$579	\$668	<b>\$1,246</b>	
Finance, insurance, real estate, rental and leasing		\$520	\$648	<b>\$1,167</b>	
Manufacturing		\$663	\$397	<b>\$1,060</b>	
Construction		\$898	\$43	<b>\$941</b>	
Transportation and warehousing		\$494	\$278	<b>\$772</b>	
Information		\$299	\$366	<b>\$665</b>	
Government		\$70	\$96	<b>\$166</b>	
Utilities		\$69	\$50	<b>\$119</b>	
Agriculture		\$38	\$49	<b>\$87</b>	
Mining		\$28	\$4	<b>\$32</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,883</b>	<b>\$5,861</b>	<b>\$5,215</b>	<b>\$13,959</b>	<b>3.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,882</b>			<b>\$9,882</b>	<b>1.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,673	\$3,157	<b>\$5,830</b>	
Finance, insurance, real estate, rental and leasing		\$1,694	\$2,624	<b>\$4,318</b>	
Manufacturing		\$1,241	\$855	<b>\$2,096</b>	
Wholesale and retail trade		\$975	\$1,107	<b>\$2,082</b>	
Information		\$633	\$761	<b>\$1,393</b>	
Transportation and warehousing		\$645	\$410	<b>\$1,055</b>	
Construction		\$916	\$65	<b>\$981</b>	
Utilities		\$248	\$184	<b>\$431</b>	
Government		\$91	\$129	<b>\$220</b>	
Agriculture		\$46	\$65	<b>\$111</b>	
Mining		\$55	\$8	<b>\$64</b>	
<b>Total Impact on Value Added</b>	<b>\$9,882</b>	<b>\$9,216</b>	<b>\$9,366</b>	<b>\$28,464</b>	<b>4.8%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Hawaii, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>4,620</b>			<b>4,620</b>	<b>0.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		4,630	8,200	<b>12,830</b>	
Construction		2,530	100	<b>2,630</b>	
Wholesale and retail trade		610	1,960	<b>2,570</b>	
Finance, insurance, real estate, rental and leasing		870	1,390	<b>2,260</b>	
Transportation and warehousing		940	600	<b>1,540</b>	
Manufacturing		240	390	<b>630</b>	
Agriculture		210	260	<b>470</b>	
Government		150	220	<b>370</b>	
Information		120	170	<b>290</b>	
Utilities		100	80	<b>180</b>	
Mining		20	**	<b>20</b>	
<b>Total Impact on Employment</b>	<b>4,620</b>	<b>10,420</b>	<b>13,370</b>	<b>28,410</b>	<b>3.1%</b>
<b>Labor Income*** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$348</b>			<b>\$348</b>	<b>0.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$285	\$435	<b>\$721</b>	
Construction		\$203	\$8	<b>\$211</b>	
Finance, insurance, real estate, rental and leasing		\$54	\$71	<b>\$125</b>	
Wholesale and retail trade		\$35	\$85	<b>\$120</b>	
Transportation and warehousing		\$57	\$39	<b>\$97</b>	
Government		\$17	\$22	<b>\$39</b>	
Manufacturing		\$15	\$18	<b>\$33</b>	
Information		\$13	\$18	<b>\$31</b>	
Utilities		\$13	\$10	<b>\$23</b>	
Agriculture		\$6	\$8	<b>\$14</b>	
Mining		\$2	****	<b>\$2</b>	
<b>Total Impact on Labor Income</b>	<b>\$348</b>	<b>\$700</b>	<b>\$715</b>	<b>\$1,763</b>	<b>3.2%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,843</b>			<b>\$1,843</b>	<b>2.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$359	\$562	<b>\$922</b>	
Finance, insurance, real estate, rental and leasing		\$182	\$396	<b>\$578</b>	
Construction		\$209	\$12	<b>\$222</b>	
Wholesale and retail trade		\$56	\$142	<b>\$199</b>	
Transportation and warehousing		\$89	\$74	<b>\$164</b>	
Utilities		\$41	\$32	<b>\$74</b>	
Information		\$28	\$37	<b>\$65</b>	
Government		\$23	\$33	<b>\$56</b>	
Manufacturing		\$20	\$26	<b>\$47</b>	
Agriculture		\$6	\$8	<b>\$14</b>	
Mining		\$4	****	<b>\$4</b>	
<b>Total Impact on Value Added</b>	<b>\$1,843</b>	<b>\$1,019</b>	<b>\$1,324</b>	<b>\$4,186</b>	<b>4.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs. \*\* Less than 5.

\*\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Idaho, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>10,820</b>			<b>10,820</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		5,940	8,730	<b>14,670</b>	
Wholesale and retail trade		1,320	2,520	<b>3,840</b>	
Construction		3,430	170	<b>3,600</b>	
Finance, insurance, real estate, rental and leasing		1,520	2,010	<b>3,530</b>	
Manufacturing		1,550	990	<b>2,540</b>	
Transportation and warehousing		1,070	510	<b>1,580</b>	
Agriculture		400	710	<b>1,110</b>	
Government		210	220	<b>430</b>	
Information		210	210	<b>420</b>	
Mining		280	20	<b>300</b>	
Utilities		110	70	<b>180</b>	
<b>Total Impact on Employment</b>	<b>10,820</b>	<b>16,040</b>	<b>16,150</b>	<b>43,010</b>	<b>4.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$523</b>			<b>\$523</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$298	\$368	<b>\$666</b>	
Manufacturing		\$128	\$75	<b>\$204</b>	
Wholesale and retail trade		\$91	\$108	<b>\$199</b>	
Construction		\$171	\$8	<b>\$179</b>	
Finance, insurance, real estate, rental and leasing		\$65	\$75	<b>\$140</b>	
Transportation and warehousing		\$58	\$28	<b>\$86</b>	
Agriculture		\$21	\$49	<b>\$70</b>	
Government		\$14	\$15	<b>\$29</b>	
Information		\$14	\$13	<b>\$27</b>	
Mining		\$19	\$1	<b>\$20</b>	
Utilities		\$12	\$7	<b>\$19</b>	
<b>Total Impact on Labor Income</b>	<b>\$523</b>	<b>\$891</b>	<b>\$748</b>	<b>\$2,161</b>	<b>4.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,459</b>			<b>\$1,459</b>	<b>1.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$360	\$444	<b>\$805</b>	
Finance, insurance, real estate, rental and leasing		\$198	\$328	<b>\$526</b>	
Wholesale and retail trade		\$157	\$166	<b>\$322</b>	
Manufacturing		\$189	\$106	<b>\$295</b>	
Construction		\$199	\$13	<b>\$212</b>	
Transportation and warehousing		\$77	\$38	<b>\$115</b>	
Agriculture		\$26	\$67	<b>\$93</b>	
Utilities		\$45	\$26	<b>\$72</b>	
Information		\$33	\$31	<b>\$63</b>	
Government		\$18	\$20	<b>\$38</b>	
Mining		\$19	\$2	<b>\$20</b>	
<b>Total Impact on Value Added</b>	<b>\$1,459</b>	<b>\$1,322</b>	<b>\$1,239</b>	<b>\$4,021</b>	<b>5.2%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Illinois, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>70,150</b>			<b>70,150</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		55,840	89,610	<b>145,450</b>	
Wholesale and retail trade		10,530	21,110	<b>31,640</b>	
Finance, insurance, real estate, rental and leasing		11,800	18,480	<b>30,280</b>	
Transportation and warehousing		16,370	8,070	<b>24,440</b>	
Manufacturing		16,360	7,400	<b>23,760</b>	
Construction		21,900	1,030	<b>22,930</b>	
Information		1,940	2,250	<b>4,190</b>	
Government		1,860	1,750	<b>3,610</b>	
Agriculture		1,270	1,200	<b>2,470</b>	
Utilities		1,000	520	<b>1,520</b>	
Mining		380	50	<b>430</b>	
<b>Total Impact on Employment</b>	<b>70,150</b>	<b>139,250</b>	<b>151,460</b>	<b>360,860</b>	<b>4.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,096</b>			<b>\$5,096</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,738	\$5,078	<b>\$9,816</b>	
Finance, insurance, real estate, rental and leasing		\$1,100	\$1,453	<b>\$2,553</b>	
Manufacturing		\$1,481	\$651	<b>\$2,132</b>	
Wholesale and retail trade		\$966	\$1,069	<b>\$2,035</b>	
Transportation and warehousing		\$1,031	\$462	<b>\$1,493</b>	
Construction		\$1,420	\$66	<b>\$1,486</b>	
Information		\$254	\$270	<b>\$524</b>	
Government		\$167	\$156	<b>\$323</b>	
Utilities		\$168	\$85	<b>\$253</b>	
Agriculture		\$57	\$55	<b>\$112</b>	
Mining		\$33	\$5	<b>\$38</b>	
<b>Total Impact on Labor Income</b>	<b>\$5,096</b>	<b>\$11,414</b>	<b>\$9,350</b>	<b>\$25,860</b>	<b>4.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$21,869</b>			<b>\$21,869</b>	<b>2.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$5,717	\$6,229	<b>\$11,946</b>	
Finance, insurance, real estate, rental and leasing		\$2,981	\$4,953	<b>\$7,934</b>	
Manufacturing		\$2,407	\$1,234	<b>\$3,641</b>	
Wholesale and retail trade		\$1,673	\$1,873	<b>\$3,547</b>	
Transportation and warehousing		\$1,286	\$606	<b>\$1,892</b>	
Construction		\$1,350	\$98	<b>\$1,448</b>	
Information		\$658	\$723	<b>\$1,381</b>	
Utilities		\$533	\$275	<b>\$808</b>	
Government		\$206	\$199	<b>\$405</b>	
Agriculture		\$115	\$119	<b>\$234</b>	
Mining		\$80	\$12	<b>\$92</b>	
<b>Total Impact on Value Added</b>	<b>\$21,869</b>	<b>\$17,007</b>	<b>\$16,321</b>	<b>\$55,197</b>	<b>6.4%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Indiana, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>43,600</b>			<b>43,600</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		25,420	41,630	<b>67,050</b>	
Manufacturing		14,010	5,710	<b>19,720</b>	
Wholesale and retail trade		5,620	10,640	<b>16,260</b>	
Construction		12,680	580	<b>13,260</b>	
Finance, insurance, real estate, rental and leasing		5,340	7,020	<b>12,360</b>	
Transportation and warehousing		9,160	3,150	<b>12,310</b>	
Government		1,400	920	<b>2,320</b>	
Agriculture		1,090	1,030	<b>2,120</b>	
Information		720	760	<b>1,480</b>	
Utilities		570	280	<b>850</b>	
Mining		260	40	<b>300</b>	
<b>Total Impact on Employment</b>	<b>43,600</b>	<b>76,250</b>	<b>71,740</b>	<b>191,590</b>	<b>4.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,746</b>			<b>\$2,746</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,493	\$2,000	<b>\$3,493</b>	
Manufacturing		\$1,120	\$448	<b>\$1,568</b>	
Finance, insurance, real estate, rental and leasing		\$390	\$512	<b>\$902</b>	
Wholesale and retail trade		\$409	\$454	<b>\$864</b>	
Construction		\$739	\$33	<b>\$772</b>	
Transportation and warehousing		\$548	\$175	<b>\$723</b>	
Government		\$87	\$58	<b>\$145</b>	
Information		\$62	\$62	<b>\$124</b>	
Utilities		\$77	\$38	<b>\$115</b>	
Agriculture		\$42	\$37	<b>\$79</b>	
Mining		\$23	\$4	<b>\$26</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,746</b>	<b>\$4,990</b>	<b>\$3,820</b>	<b>\$11,557</b>	<b>5.2%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$11,998</b>			<b>\$11,998</b>	<b>3.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,859	\$2,434	<b>\$4,292</b>	
Manufacturing		\$1,937	\$1,059	<b>\$2,996</b>	
Finance, insurance, real estate, rental and leasing		\$981	\$1,632	<b>\$2,613</b>	
Wholesale and retail trade		\$669	\$730	<b>\$1,400</b>	
Transportation and warehousing		\$685	\$216	<b>\$901</b>	
Construction		\$619	\$44	<b>\$663</b>	
Utilities		\$282	\$139	<b>\$420</b>	
Information		\$131	\$138	<b>\$269</b>	
Government		\$115	\$80	<b>\$194</b>	
Agriculture		\$72	\$70	<b>\$142</b>	
Mining		\$55	\$9	<b>\$63</b>	
<b>Total Impact on Value Added</b>	<b>\$11,998</b>	<b>\$7,404</b>	<b>\$6,550</b>	<b>\$25,951</b>	<b>7.1%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Iowa, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>29,550</b>			<b>29,550</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		10,460	18,190	<b>28,650</b>	
Manufacturing		6,130	2,720	<b>8,850</b>	
Wholesale and retail trade		2,520	5,440	<b>7,960</b>	
Finance, insurance, real estate, rental and leasing		3,160	4,130	<b>7,290</b>	
Construction		5,960	280	<b>6,240</b>	
Transportation and warehousing		4,170	1,310	<b>5,480</b>	
Agriculture		590	1,520	<b>2,110</b>	
Government		1,240	460	<b>1,700</b>	
Information		520	470	<b>990</b>	
Utilities		300	140	<b>440</b>	
Mining		180	20	<b>200</b>	
<b>Total Impact on Employment</b>	<b>29,550</b>	<b>35,230</b>	<b>34,700</b>	<b>99,480</b>	<b>4.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,502</b>			<b>\$1,502</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$575	\$790	<b>\$1,364</b>	
Manufacturing		\$546	\$198	<b>\$744</b>	
Finance, insurance, real estate, rental and leasing		\$197	\$237	<b>\$434</b>	
Wholesale and retail trade		\$179	\$213	<b>\$392</b>	
Construction		\$351	\$17	<b>\$367</b>	
Transportation and warehousing		\$245	\$77	<b>\$323</b>	
Government		\$83	\$33	<b>\$116</b>	
Agriculture		\$32	\$71	<b>\$103</b>	
Information		\$43	\$37	<b>\$80</b>	
Utilities		\$40	\$19	<b>\$59</b>	
Mining		\$13	\$1	<b>\$14</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,502</b>	<b>\$2,305</b>	<b>\$1,692</b>	<b>\$5,499</b>	<b>5.0%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,087</b>			<b>\$4,087</b>	<b>2.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Finance, insurance, real estate, rental and leasing		\$672	\$979	<b>\$1,650</b>	
Services		\$698	\$937	<b>\$1,635</b>	
Manufacturing		\$918	\$372	<b>\$1,289</b>	
Wholesale and retail trade		\$307	\$336	<b>\$643</b>	
Transportation and warehousing		\$309	\$96	<b>\$406</b>	
Construction		\$273	\$21	<b>\$294</b>	
Utilities		\$146	\$69	<b>\$215</b>	
Agriculture		\$62	\$151	<b>\$213</b>	
Information		\$104	\$93	<b>\$196</b>	
Government		\$107	\$45	<b>\$152</b>	
Mining		\$23	\$3	<b>\$26</b>	
<b>Total Impact on Value Added</b>	<b>\$4,087</b>	<b>\$3,619</b>	<b>\$3,102</b>	<b>\$10,808</b>	<b>5.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Kansas, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>60,830</b>			<b>60,830</b>	<b>3.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		28,560	31,100	<b>59,660</b>	
Finance, insurance, real estate, rental and leasing		7,050	7,340	<b>14,390</b>	
Wholesale and retail trade		4,430	9,010	<b>13,440</b>	
Construction		7,410	470	<b>7,880</b>	
Transportation and warehousing		5,600	1,830	<b>7,430</b>	
Manufacturing		4,170	1,980	<b>6,150</b>	
Government		1,390	1,040	<b>2,430</b>	
Agriculture		540	1,210	<b>1,750</b>	
Information		750	690	<b>1,440</b>	
Utilities		470	160	<b>630</b>	
Mining		350	30	<b>380</b>	
<b>Total Impact on Employment</b>	<b>60,830</b>	<b>60,700</b>	<b>54,860</b>	<b>176,390</b>	<b>9.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,460</b>			<b>\$4,460</b>	<b>4.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,858	\$1,421	<b>\$3,279</b>	
Finance, insurance, real estate, rental and leasing		\$579	\$385	<b>\$964</b>	
Wholesale and retail trade		\$305	\$332	<b>\$638</b>	
Transportation and warehousing		\$347	\$101	<b>\$448</b>	
Construction		\$415	\$26	<b>\$441</b>	
Manufacturing		\$291	\$129	<b>\$421</b>	
Information		\$91	\$88	<b>\$179</b>	
Government		\$90	\$67	<b>\$157</b>	
Agriculture		\$34	\$61	<b>\$95</b>	
Utilities		\$67	\$23	<b>\$90</b>	
Mining		\$14	\$1	<b>\$16</b>	
<b>Total Impact on Labor Income</b>	<b>\$4,460</b>	<b>\$4,092</b>	<b>\$2,636</b>	<b>\$11,188</b>	<b>10.5%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,666</b>			<b>\$9,666</b>	<b>5.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,343	\$1,714	<b>\$4,057</b>	
Finance, insurance, real estate, rental and leasing		\$1,282	\$1,318	<b>\$2,600</b>	
Wholesale and retail trade		\$542	\$595	<b>\$1,137</b>	
Manufacturing		\$473	\$236	<b>\$709</b>	
Transportation and warehousing		\$470	\$133	<b>\$603</b>	
Construction		\$392	\$36	<b>\$427</b>	
Information		\$177	\$171	<b>\$348</b>	
Utilities		\$235	\$82	<b>\$317</b>	
Government		\$117	\$90	<b>\$207</b>	
Agriculture		\$43	\$84	<b>\$127</b>	
Mining		\$16	\$2	<b>\$17</b>	
<b>Total Impact on Value Added</b>	<b>\$9,666</b>	<b>\$6,089</b>	<b>\$4,461</b>	<b>\$20,217</b>	<b>12.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Kentucky, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>34,790</b>			<b>34,790</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		17,890	25,050	<b>42,940</b>	
Wholesale and retail trade		3,780	7,020	<b>10,800</b>	
Manufacturing		6,080	2,900	<b>8,980</b>	
Finance, insurance, real estate, rental and leasing		3,980	4,630	<b>8,610</b>	
Construction		7,790	360	<b>8,150</b>	
Transportation and warehousing		5,920	2,100	<b>8,020</b>	
Agriculture		1,310	1,340	<b>2,650</b>	
Government		1,110	660	<b>1,770</b>	
Information		550	510	<b>1,060</b>	
Utilities		430	180	<b>610</b>	
Mining		370	60	<b>430</b>	
<b>Total Impact on Employment</b>	<b>34,790</b>	<b>49,220</b>	<b>44,810</b>	<b>128,820</b>	<b>5.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,724</b>			<b>\$1,724</b>	<b>1.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$971	\$1,143	<b>\$2,115</b>	
Manufacturing		\$448	\$205	<b>\$653</b>	
Wholesale and retail trade		\$244	\$267	<b>\$511</b>	
Transportation and warehousing		\$369	\$135	<b>\$504</b>	
Finance, insurance, real estate, rental and leasing		\$229	\$239	<b>\$468</b>	
Construction		\$414	\$19	<b>\$433</b>	
Government		\$79	\$48	<b>\$128</b>	
Information		\$44	\$39	<b>\$83</b>	
Utilities		\$54	\$22	<b>\$76</b>	
Agriculture		\$36	\$38	<b>\$74</b>	
Mining		\$19	\$3	<b>\$22</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,724</b>	<b>\$2,908</b>	<b>\$2,159</b>	<b>\$6,791</b>	<b>5.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$7,264</b>			<b>\$7,264</b>	<b>3.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,168	\$1,346	<b>\$2,514</b>	
Finance, insurance, real estate, rental and leasing		\$647	\$920	<b>\$1,566</b>	
Manufacturing		\$734	\$431	<b>\$1,165</b>	
Wholesale and retail trade		\$440	\$436	<b>\$876</b>	
Transportation and warehousing		\$428	\$153	<b>\$580</b>	
Construction		\$396	\$27	<b>\$422</b>	
Utilities		\$207	\$87	<b>\$294</b>	
Information		\$98	\$92	<b>\$190</b>	
Government		\$103	\$66	<b>\$169</b>	
Agriculture		\$47	\$56	<b>\$103</b>	
Mining		\$60	\$10	<b>\$70</b>	
<b>Total Impact on Value Added</b>	<b>\$7,264</b>	<b>\$4,328</b>	<b>\$3,624</b>	<b>\$15,215</b>	<b>7.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Louisiana, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>127,580</b>			<b>127,580</b>	<b>4.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		69,860	86,450	<b>156,310</b>	
Wholesale and retail trade		13,950	23,400	<b>37,350</b>	
Finance, insurance, real estate, rental and leasing		16,110	16,800	<b>32,910</b>	
Construction		30,110	1,360	<b>31,470</b>	
Transportation and warehousing		17,870	4,270	<b>22,140</b>	
Manufacturing		5,720	2,130	<b>7,850</b>	
Government		4,430	2,370	<b>6,800</b>	
Agriculture		2,510	1,210	<b>3,720</b>	
Information		1,570	1,530	<b>3,100</b>	
Utilities		1,800	460	<b>2,260</b>	
Mining		550	30	<b>580</b>	
<b>Total Impact on Employment</b>	<b>127,580</b>	<b>164,480</b>	<b>140,000</b>	<b>432,070</b>	<b>15.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$14,163</b>			<b>\$14,163</b>	<b>9.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,906	\$3,767	<b>\$7,673</b>	
Construction		\$1,788	\$81	<b>\$1,869</b>	
Wholesale and retail trade		\$923	\$854	<b>\$1,777</b>	
Finance, insurance, real estate, rental and leasing		\$781	\$621	<b>\$1,402</b>	
Transportation and warehousing		\$1,098	\$229	<b>\$1,327</b>	
Manufacturing		\$477	\$136	<b>\$613</b>	
Government		\$307	\$166	<b>\$473</b>	
Utilities		\$204	\$52	<b>\$256</b>	
Information		\$107	\$101	<b>\$208</b>	
Agriculture		\$78	\$44	<b>\$122</b>	
Mining		\$25	\$1	<b>\$26</b>	
<b>Total Impact on Labor Income</b>	<b>\$14,163</b>	<b>\$9,694</b>	<b>\$6,051</b>	<b>\$29,908</b>	<b>20.6%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$52,902</b>			<b>\$52,902</b>	<b>20.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,937	\$4,812	<b>\$9,749</b>	
Finance, insurance, real estate, rental and leasing		\$2,387	\$2,994	<b>\$5,380</b>	
Wholesale and retail trade		\$1,777	\$1,487	<b>\$3,263</b>	
Transportation and warehousing		\$1,478	\$309	<b>\$1,787</b>	
Construction		\$1,368	\$103	<b>\$1,471</b>	
Utilities		\$955	\$243	<b>\$1,198</b>	
Manufacturing		\$877	\$294	<b>\$1,171</b>	
Government		\$382	\$209	<b>\$591</b>	
Information		\$279	\$284	<b>\$563</b>	
Agriculture		\$98	\$56	<b>\$154</b>	
Mining		\$104	\$6	<b>\$110</b>	
<b>Total Impact on Value Added</b>	<b>\$52,902</b>	<b>\$14,641</b>	<b>\$10,797</b>	<b>\$78,340</b>	<b>30.4%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Maine, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>12,310</b>			<b>12,310</b>	<b>1.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		5,050	8,730	<b>13,780</b>	
Wholesale and retail trade		880	2,230	<b>3,110</b>	
Construction		2,810	140	<b>2,950</b>	
Finance, insurance, real estate, rental and leasing		1,160	1,490	<b>2,650</b>	
Manufacturing		1,230	730	<b>1,960</b>	
Transportation and warehousing		1,440	420	<b>1,860</b>	
Agriculture		220	340	<b>560</b>	
Information		230	180	<b>410</b>	
Government		210	200	<b>410</b>	
Utilities		90	50	<b>140</b>	
Mining		80	10	<b>90</b>	
<b>Total Impact on Employment</b>	<b>12,310</b>	<b>13,400</b>	<b>14,520</b>	<b>40,230</b>	<b>4.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$528</b>			<b>\$528</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$279	\$409	<b>\$688</b>	
Construction		\$140	\$7	<b>\$148</b>	
Wholesale and retail trade		\$57	\$88	<b>\$145</b>	
Finance, insurance, real estate, rental and leasing		\$62	\$73	<b>\$135</b>	
Manufacturing		\$78	\$46	<b>\$123</b>	
Transportation and warehousing		\$73	\$22	<b>\$95</b>	
Government		\$16	\$15	<b>\$31</b>	
Information		\$14	\$11	<b>\$26</b>	
Agriculture		\$6	\$14	<b>\$20</b>	
Utilities		\$9	\$5	<b>\$14</b>	
Mining		\$1	***	<b>\$2</b>	
<b>Total Impact on Labor Income</b>	<b>\$528</b>	<b>\$737</b>	<b>\$689</b>	<b>\$1,954</b>	<b>4.6%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,672</b>			<b>\$1,672</b>	<b>2.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$341	\$503	<b>\$844</b>	
Finance, insurance, real estate, rental and leasing		\$207	\$321	<b>\$527</b>	
Wholesale and retail trade		\$91	\$146	<b>\$237</b>	
Manufacturing		\$119	\$77	<b>\$196</b>	
Transportation and warehousing		\$87	\$26	<b>\$113</b>	
Construction		\$87	\$8	<b>\$95</b>	
Utilities		\$44	\$22	<b>\$66</b>	
Information		\$30	\$25	<b>\$55</b>	
Government		\$20	\$19	<b>\$39</b>	
Agriculture		\$7	\$16	<b>\$23</b>	
Mining		\$2	***	<b>\$3</b>	
<b>Total Impact on Value Added</b>	<b>\$1,672</b>	<b>\$1,034</b>	<b>\$1,162</b>	<b>\$3,868</b>	<b>6.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Maryland, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>20,100</b>			<b>20,100</b>	<b>0.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		17,090	31,510	<b>48,600</b>	
Construction		11,370	480	<b>11,850</b>	
Wholesale and retail trade		3,370	6,940	<b>10,310</b>	
Finance, insurance, real estate, rental and leasing		3,390	5,970	<b>9,360</b>	
Transportation and warehousing		3,650	2,310	<b>5,960</b>	
Manufacturing		3,190	1,560	<b>4,750</b>	
Information		650	750	<b>1,400</b>	
Government		310	670	<b>980</b>	
Agriculture		170	320	<b>490</b>	
Utilities		240	220	<b>460</b>	
Mining		70	10	<b>80</b>	
<b>Total Impact on Employment</b>	<b>20,100</b>	<b>43,510</b>	<b>50,730</b>	<b>114,340</b>	<b>3.0%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,290</b>			<b>\$1,290</b>	<b>0.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,375	\$1,774	<b>\$3,148</b>	
Finance, insurance, real estate, rental and leasing		\$454	\$530	<b>\$984</b>	
Construction		\$730	\$31	<b>\$761</b>	
Wholesale and retail trade		\$242	\$326	<b>\$568</b>	
Manufacturing		\$333	\$123	<b>\$456</b>	
Transportation and warehousing		\$210	\$120	<b>\$330</b>	
Information		\$164	\$163	<b>\$326</b>	
Government		\$46	\$82	<b>\$128</b>	
Utilities		\$48	\$40	<b>\$88</b>	
Agriculture		\$8	\$13	<b>\$21</b>	
Mining		\$4	\$1	<b>\$5</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,290</b>	<b>\$3,613</b>	<b>\$3,203</b>	<b>\$8,106</b>	<b>3.2%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,780</b>			<b>\$4,780</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,667	\$2,164	<b>\$3,831</b>	
Finance, insurance, real estate, rental and leasing		\$866	\$1,778	<b>\$2,643</b>	
Wholesale and retail trade		\$401	\$528	<b>\$929</b>	
Manufacturing		\$564	\$290	<b>\$854</b>	
Information		\$304	\$317	<b>\$621</b>	
Construction		\$570	\$42	<b>\$612</b>	
Transportation and warehousing		\$245	\$139	<b>\$384</b>	
Utilities		\$152	\$129	<b>\$281</b>	
Government		\$78	\$143	<b>\$221</b>	
Agriculture		\$10	\$18	<b>\$28</b>	
Mining		\$15	\$2	<b>\$17</b>	
<b>Total Impact on Value Added</b>	<b>\$4,780</b>	<b>\$4,870</b>	<b>\$5,551</b>	<b>\$15,201</b>	<b>3.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Massachusetts, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>27,810</b>			<b>27,810</b>	<b>0.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		22,980	48,370	<b>71,350</b>	
Finance, insurance, real estate, rental and leasing		5,260	8,980	<b>14,240</b>	
Wholesale and retail trade		4,240	9,780	<b>14,020</b>	
Construction		12,130	580	<b>12,710</b>	
Manufacturing		6,650	3,000	<b>9,650</b>	
Transportation and warehousing		3,770	2,660	<b>6,430</b>	
Information		1,580	1,630	<b>3,210</b>	
Government		400	640	<b>1,040</b>	
Agriculture		290	320	<b>610</b>	
Utilities		310	260	<b>570</b>	
Mining		90	10	<b>100</b>	
<b>Total Impact on Employment</b>	<b>27,810</b>	<b>57,720</b>	<b>76,230</b>	<b>161,760</b>	<b>3.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,223</b>			<b>\$2,223</b>	<b>0.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,367	\$3,175	<b>\$5,542</b>	
Finance, insurance, real estate, rental and leasing		\$731	\$984	<b>\$1,715</b>	
Wholesale and retail trade		\$470	\$566	<b>\$1,036</b>	
Construction		\$966	\$46	<b>\$1,012</b>	
Manufacturing		\$732	\$270	<b>\$1,002</b>	
Information		\$274	\$255	<b>\$529</b>	
Transportation and warehousing		\$226	\$144	<b>\$370</b>	
Government		\$46	\$66	<b>\$112</b>	
Utilities		\$46	\$37	<b>\$82</b>	
Agriculture		\$8	\$15	<b>\$23</b>	
Mining		\$5	\$1	<b>\$6</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,223</b>	<b>\$5,872</b>	<b>\$5,557</b>	<b>\$13,653</b>	<b>3.7%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$6,035</b>			<b>\$6,035</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,839	\$3,791	<b>\$6,630</b>	
Finance, insurance, real estate, rental and leasing		\$1,446	\$2,702	<b>\$4,148</b>	
Manufacturing		\$1,157	\$525	<b>\$1,682</b>	
Wholesale and retail trade		\$650	\$835	<b>\$1,485</b>	
Information		\$652	\$603	<b>\$1,255</b>	
Construction		\$683	\$56	<b>\$739</b>	
Transportation and warehousing		\$266	\$174	<b>\$440</b>	
Utilities		\$131	\$107	<b>\$238</b>	
Government		\$82	\$121	<b>\$203</b>	
Agriculture		\$9	\$15	<b>\$24</b>	
Mining		\$17	\$2	<b>\$19</b>	
<b>Total Impact on Value Added</b>	<b>\$6,035</b>	<b>\$7,931</b>	<b>\$8,933</b>	<b>\$22,898</b>	<b>4.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Michigan, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>60,180</b>			<b>60,180</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		43,400	64,360	<b>107,760</b>	
Wholesale and retail trade		8,960	15,580	<b>24,540</b>	
Manufacturing		17,650	6,600	<b>24,250</b>	
Finance, insurance, real estate, rental and leasing		8,740	12,650	<b>21,390</b>	
Construction		14,960	840	<b>15,800</b>	
Transportation and warehousing		7,680	3,530	<b>11,210</b>	
Information		1,350	1,460	<b>2,810</b>	
Government		1,180	1,320	<b>2,500</b>	
Agriculture		1,190	1,280	<b>2,470</b>	
Utilities		790	430	<b>1,220</b>	
Mining		240	30	<b>270</b>	
<b>Total Impact on Employment</b>	<b>60,180</b>	<b>106,130</b>	<b>108,090</b>	<b>274,400</b>	<b>4.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,034</b>			<b>\$4,034</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,119	\$3,212	<b>\$6,331</b>	
Manufacturing		\$1,495	\$523	<b>\$2,018</b>	
Wholesale and retail trade		\$698	\$688	<b>\$1,386</b>	
Finance, insurance, real estate, rental and leasing		\$541	\$664	<b>\$1,205</b>	
Construction		\$913	\$51	<b>\$964</b>	
Transportation and warehousing		\$457	\$205	<b>\$661</b>	
Information		\$133	\$133	<b>\$266</b>	
Utilities		\$139	\$73	<b>\$212</b>	
Government		\$96	\$104	<b>\$200</b>	
Agriculture		\$23	\$20	<b>\$43</b>	
Mining		\$15	\$2	<b>\$17</b>	
<b>Total Impact on Labor Income</b>	<b>\$4,034</b>	<b>\$7,628</b>	<b>\$5,676</b>	<b>\$17,338</b>	<b>5.2%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$10,675</b>			<b>\$10,675</b>	<b>2.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,655	\$3,806	<b>\$7,461</b>	
Finance, insurance, real estate, rental and leasing		\$1,530	\$2,591	<b>\$4,122</b>	
Manufacturing		\$2,240	\$857	<b>\$3,097</b>	
Wholesale and retail trade		\$1,185	\$1,113	<b>\$2,298</b>	
Construction		\$873	\$73	<b>\$946</b>	
Transportation and warehousing		\$556	\$270	<b>\$826</b>	
Utilities		\$396	\$213	<b>\$610</b>	
Information		\$299	\$306	<b>\$605</b>	
Government		\$125	\$140	<b>\$265</b>	
Agriculture		\$44	\$52	<b>\$97</b>	
Mining		\$66	\$11	<b>\$77</b>	
<b>Total Impact on Value Added</b>	<b>\$10,675</b>	<b>\$10,970</b>	<b>\$9,434</b>	<b>\$31,078</b>	<b>5.9%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Minnesota, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>39,920</b>			<b>39,920</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		22,210	40,900	<b>63,110</b>	
Wholesale and retail trade		4,420	10,020	<b>14,440</b>	
Finance, insurance, real estate, rental and leasing		5,320	8,300	<b>13,620</b>	
Manufacturing		8,960	3,940	<b>12,900</b>	
Construction		10,980	520	<b>11,500</b>	
Transportation and warehousing		5,720	2,600	<b>8,320</b>	
Information		1,030	1,100	<b>2,130</b>	
Agriculture		690	1,370	<b>2,060</b>	
Government		910	910	<b>1,820</b>	
Utilities		630	310	<b>940</b>	
Mining		280	40	<b>320</b>	
<b>Total Impact on Employment</b>	<b>39,920</b>	<b>61,140</b>	<b>70,010</b>	<b>171,070</b>	<b>4.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,423</b>			<b>\$2,423</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,772	\$2,264	<b>\$4,036</b>	
Manufacturing		\$746	\$300	<b>\$1,047</b>	
Finance, insurance, real estate, rental and leasing		\$437	\$598	<b>\$1,035</b>	
Wholesale and retail trade		\$426	\$514	<b>\$940</b>	
Construction		\$759	\$35	<b>\$795</b>	
Transportation and warehousing		\$378	\$164	<b>\$543</b>	
Information		\$116	\$113	<b>\$229</b>	
Government		\$70	\$69	<b>\$138</b>	
Utilities		\$91	\$45	<b>\$135</b>	
Agriculture		\$15	\$22	<b>\$36</b>	
Mining		\$25	\$4	<b>\$29</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,423</b>	<b>\$4,835</b>	<b>\$4,127</b>	<b>\$11,385</b>	<b>4.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,486</b>			<b>\$9,486</b>	<b>2.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,106	\$2,667	<b>\$4,772</b>	
Finance, insurance, real estate, rental and leasing		\$1,106	\$1,872	<b>\$2,978</b>	
Manufacturing		\$1,143	\$496	<b>\$1,639</b>	
Wholesale and retail trade		\$610	\$784	<b>\$1,394</b>	
Transportation and warehousing		\$472	\$216	<b>\$688</b>	
Construction		\$632	\$47	<b>\$679</b>	
Information		\$277	\$274	<b>\$551</b>	
Utilities		\$260	\$130	<b>\$390</b>	
Government		\$91	\$93	<b>\$184</b>	
Agriculture		\$51	\$98	<b>\$150</b>	
Mining		\$84	\$14	<b>\$98</b>	
<b>Total Impact on Value Added</b>	<b>\$9,486</b>	<b>\$6,832</b>	<b>\$6,691</b>	<b>\$23,010</b>	<b>6.2%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Mississippi, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>36,500</b>			<b>36,500</b>	<b>2.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		16,660	19,180	<b>35,840</b>	
Wholesale and retail trade		2,890	5,470	<b>8,360</b>	
Construction		7,240	300	<b>7,540</b>	
Finance, insurance, real estate, rental and leasing		3,780	3,510	<b>7,290</b>	
Transportation and warehousing		5,680	1,250	<b>6,930</b>	
Manufacturing		3,700	1,810	<b>5,510</b>	
Government		1,150	590	<b>1,740</b>	
Agriculture		520	760	<b>1,280</b>	
Utilities		570	200	<b>770</b>	
Information		390	300	<b>690</b>	
Mining		150	10	<b>160</b>	
<b>Total Impact on Employment</b>	<b>36,500</b>	<b>42,720</b>	<b>33,380</b>	<b>112,590</b>	<b>7.0%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,179</b>			<b>\$2,179</b>	<b>3.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$722	\$729	<b>\$1,451</b>	
Wholesale and retail trade		\$153	\$184	<b>\$336</b>	
Transportation and warehousing		\$277	\$58	<b>\$335</b>	
Construction		\$320	\$13	<b>\$333</b>	
Manufacturing		\$237	\$95	<b>\$332</b>	
Finance, insurance, real estate, rental and leasing		\$157	\$113	<b>\$271</b>	
Government		\$69	\$36	<b>\$105</b>	
Utilities		\$61	\$21	<b>\$82</b>	
Agriculture		\$22	\$30	<b>\$52</b>	
Information		\$23	\$18	<b>\$41</b>	
Mining		\$5	\$1	<b>\$6</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,179</b>	<b>\$2,046</b>	<b>\$1,299</b>	<b>\$5,523</b>	<b>7.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$7,378</b>			<b>\$7,378</b>	<b>6.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$920	\$927	<b>\$1,847</b>	
Finance, insurance, real estate, rental and leasing		\$573	\$659	<b>\$1,232</b>	
Wholesale and retail trade		\$294	\$318	<b>\$612</b>	
Manufacturing		\$404	\$165	<b>\$569</b>	
Transportation and warehousing		\$367	\$75	<b>\$442</b>	
Construction		\$298	\$17	<b>\$315</b>	
Utilities		\$212	\$76	<b>\$288</b>	
Government		\$87	\$48	<b>\$135</b>	
Information		\$62	\$50	<b>\$112</b>	
Agriculture		\$25	\$41	<b>\$66</b>	
Mining		\$11	\$1	<b>\$12</b>	
<b>Total Impact on Value Added</b>	<b>\$7,378</b>	<b>\$3,253</b>	<b>\$2,378</b>	<b>\$13,009</b>	<b>11.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Missouri, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>45,210</b>			<b>45,210</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		24,640	40,310	<b>64,950</b>	
Wholesale and retail trade		5,510	10,290	<b>15,800</b>	
Finance, insurance, real estate, rental and leasing		6,120	8,340	<b>14,460</b>	
Construction		10,210	560	<b>10,770</b>	
Manufacturing		6,800	3,380	<b>10,180</b>	
Transportation and warehousing		6,110	2,470	<b>8,580</b>	
Agriculture		1,310	1,600	<b>2,910</b>	
Government		1,450	960	<b>2,410</b>	
Information		1,010	1,050	<b>2,060</b>	
Utilities		570	280	<b>850</b>	
Mining		260	30	<b>290</b>	
<b>Total Impact on Employment</b>	<b>45,210</b>	<b>63,990</b>	<b>69,280</b>	<b>178,480</b>	<b>4.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,367</b>			<b>\$2,367</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,674	\$1,963	<b>\$3,636</b>	
Finance, insurance, real estate, rental and leasing		\$423	\$479	<b>\$903</b>	
Wholesale and retail trade		\$418	\$428	<b>\$847</b>	
Manufacturing		\$492	\$241	<b>\$733</b>	
Construction		\$584	\$32	<b>\$616</b>	
Transportation and warehousing		\$344	\$135	<b>\$479</b>	
Information		\$105	\$99	<b>\$204</b>	
Government		\$101	\$68	<b>\$169</b>	
Utilities		\$67	\$33	<b>\$100</b>	
Agriculture		\$41	\$38	<b>\$78</b>	
Mining		\$9	\$1	<b>\$10</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,367</b>	<b>\$4,259</b>	<b>\$3,517</b>	<b>\$10,143</b>	<b>4.9%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$6,557</b>			<b>\$6,557</b>	<b>2.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,036	\$2,376	<b>\$4,412</b>	
Finance, insurance, real estate, rental and leasing		\$1,173	\$1,624	<b>\$2,797</b>	
Wholesale and retail trade		\$671	\$700	<b>\$1,371</b>	
Manufacturing		\$782	\$460	<b>\$1,242</b>	
Transportation and warehousing		\$454	\$183	<b>\$637</b>	
Information		\$262	\$251	<b>\$513</b>	
Construction		\$405	\$39	<b>\$444</b>	
Utilities		\$226	\$112	<b>\$338</b>	
Government		\$125	\$88	<b>\$212</b>	
Agriculture		\$61	\$64	<b>\$125</b>	
Mining		\$50	\$7	<b>\$57</b>	
<b>Total Impact on Value Added</b>	<b>\$6,557</b>	<b>\$6,245</b>	<b>\$5,904</b>	<b>\$18,706</b>	<b>5.9%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Montana, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>15,960</b>			<b>15,960</b>	<b>2.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		8,280	11,870	<b>20,150</b>	
Wholesale and retail trade		1,500	3,390	<b>4,890</b>	
Finance, insurance, real estate, rental and leasing		2,150	2,610	<b>4,760</b>	
Construction		4,370	220	<b>4,590</b>	
Transportation and warehousing		2,170	530	<b>2,700</b>	
Manufacturing		610	380	<b>990</b>	
Agriculture		310	600	<b>910</b>	
Government		460	310	<b>770</b>	
Information		260	270	<b>530</b>	
Utilities		230	80	<b>310</b>	
Mining		260	40	<b>300</b>	
<b>Total Impact on Employment</b>	<b>15,960</b>	<b>20,590</b>	<b>20,320</b>	<b>56,870</b>	<b>8.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,482</b>			<b>\$1,482</b>	<b>4.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$405	\$500	<b>\$905</b>	
Construction		\$235	\$12	<b>\$247</b>	
Wholesale and retail trade		\$85	\$127	<b>\$212</b>	
Finance, insurance, real estate, rental and leasing		\$107	\$98	<b>\$205</b>	
Transportation and warehousing		\$135	\$30	<b>\$166</b>	
Government		\$30	\$21	<b>\$51</b>	
Manufacturing		\$33	\$17	<b>\$50</b>	
Utilities		\$25	\$9	<b>\$34</b>	
Information		\$17	\$17	<b>\$34</b>	
Mining		\$24	\$4	<b>\$28</b>	
Agriculture		\$8	\$11	<b>\$19</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,482</b>	<b>\$1,105</b>	<b>\$845</b>	<b>\$3,432</b>	<b>10.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,430</b>			<b>\$3,430</b>	<b>6.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$468	\$577	<b>\$1,044</b>	
Finance, insurance, real estate, rental and leasing		\$299	\$415	<b>\$714</b>	
Wholesale and retail trade		\$133	\$167	<b>\$300</b>	
Transportation and warehousing		\$194	\$46	<b>\$240</b>	
Construction		\$218	\$16	<b>\$233</b>	
Utilities		\$78	\$29	<b>\$106</b>	
Mining		\$68	\$11	<b>\$79</b>	
Manufacturing		\$52	\$27	<b>\$78</b>	
Information		\$38	\$39	<b>\$77</b>	
Government		\$38	\$27	<b>\$66</b>	
Agriculture		\$14	\$30	<b>\$44</b>	
<b>Total Impact on Value Added</b>	<b>\$3,430</b>	<b>\$1,599</b>	<b>\$1,383</b>	<b>\$6,412</b>	<b>12.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Nebraska, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>15,680</b>			<b>15,680</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		8,010	23,810	<b>31,820</b>	
Wholesale and retail trade		1,470	7,020	<b>8,490</b>	
Finance, insurance, real estate, rental and leasing		2,140	5,730	<b>7,870</b>	
Construction		3,870	390	<b>4,260</b>	
Transportation and warehousing		2,200	1,460	<b>3,660</b>	
Manufacturing		2,010	1,570	<b>3,580</b>	
Agriculture		400	1,020	<b>1,420</b>	
Government		580	660	<b>1,240</b>	
Information		390	650	<b>1,040</b>	
Utilities		210	180	<b>390</b>	
Mining		90	10	<b>100</b>	
<b>Total Impact on Employment</b>	<b>15,680</b>	<b>21,350</b>	<b>42,500</b>	<b>79,530</b>	<b>6.0%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,506</b>			<b>\$4,506</b>	<b>6.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$495	\$1,086	<b>\$1,581</b>	
Finance, insurance, real estate, rental and leasing		\$134	\$282	<b>\$416</b>	
Wholesale and retail trade		\$107	\$252	<b>\$359</b>	
Manufacturing		\$138	\$98	<b>\$236</b>	
Transportation and warehousing		\$130	\$85	<b>\$216</b>	
Construction		\$189	\$19	<b>\$208</b>	
Agriculture		\$47	\$106	<b>\$153</b>	
Government		\$41	\$46	<b>\$87</b>	
Information		\$35	\$51	<b>\$86</b>	
Utilities		\$31	\$26	<b>\$57</b>	
Mining		\$5	\$1	<b>\$6</b>	
<b>Total Impact on Labor Income</b>	<b>\$4,506</b>	<b>\$1,352</b>	<b>\$2,052</b>	<b>\$7,910</b>	<b>10.5%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,793</b>			<b>\$5,793</b>	<b>4.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$611	\$1,369	<b>\$1,980</b>	
Finance, insurance, real estate, rental and leasing		\$382	\$1,043	<b>\$1,425</b>	
Wholesale and retail trade		\$195	\$435	<b>\$630</b>	
Manufacturing		\$223	\$186	<b>\$409</b>	
Transportation and warehousing		\$217	\$137	<b>\$355</b>	
Utilities		\$116	\$99	<b>\$216</b>	
Information		\$82	\$126	<b>\$208</b>	
Agriculture		\$54	\$131	<b>\$185</b>	
Construction		\$102	\$21	<b>\$123</b>	
Government		\$52	\$59	<b>\$111</b>	
Mining		\$11	\$2	<b>\$13</b>	
<b>Total Impact on Value Added</b>	<b>\$5,793</b>	<b>\$2,046</b>	<b>\$3,609</b>	<b>\$11,448</b>	<b>9.2%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Nevada, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>14,880</b>			<b>14,880</b>	<b>0.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		10,990	18,220	<b>29,210</b>	
Finance, insurance, real estate, rental and leasing		2,330	4,130	<b>6,460</b>	
Construction		5,570	250	<b>5,820</b>	
Wholesale and retail trade		1,420	4,040	<b>5,460</b>	
Transportation and warehousing		2,790	1,480	<b>4,270</b>	
Manufacturing		1,490	760	<b>2,250</b>	
Information		300	350	<b>650</b>	
Mining		530	90	<b>620</b>	
Government		200	280	<b>480</b>	
Utilities		120	80	<b>200</b>	
Agriculture		60	110	<b>170</b>	
<b>Total Impact on Employment</b>	<b>14,880</b>	<b>25,810</b>	<b>29,790</b>	<b>70,490</b>	<b>3.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$839</b>			<b>\$839</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$704	\$945	<b>\$1,649</b>	
Construction		\$349	\$16	<b>\$365</b>	
Wholesale and retail trade		\$109	\$183	<b>\$291</b>	
Finance, insurance, real estate, rental and leasing		\$101	\$133	<b>\$233</b>	
Transportation and warehousing		\$140	\$71	<b>\$210</b>	
Manufacturing		\$110	\$46	<b>\$156</b>	
Information		\$42	\$44	<b>\$85</b>	
Mining		\$61	\$11	<b>\$72</b>	
Government		\$21	\$27	<b>\$48</b>	
Utilities		\$17	\$10	<b>\$27</b>	
Agriculture		\$2	\$3	<b>\$4</b>	
<b>Total Impact on Labor Income</b>	<b>\$839</b>	<b>\$1,654</b>	<b>\$1,488</b>	<b>\$3,982</b>	<b>4.0%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,763</b>			<b>\$2,763</b>	<b>1.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$899	\$1,282	<b>\$2,181</b>	
Finance, insurance, real estate, rental and leasing		\$418	\$728	<b>\$1,146</b>	
Wholesale and retail trade		\$161	\$306	<b>\$468</b>	
Transportation and warehousing		\$196	\$126	<b>\$322</b>	
Construction		\$297	\$23	<b>\$321</b>	
Manufacturing		\$172	\$80	<b>\$252</b>	
Information		\$117	\$120	<b>\$237</b>	
Mining		\$158	\$29	<b>\$187</b>	
Utilities		\$65	\$41	<b>\$105</b>	
Government		\$27	\$36	<b>\$63</b>	
Agriculture		\$2	\$5	<b>\$7</b>	
<b>Total Impact on Value Added</b>	<b>\$2,763</b>	<b>\$2,512</b>	<b>\$2,776</b>	<b>\$8,052</b>	<b>4.8%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Hampshire, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>8,790</b>			<b>8,790</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		4,580	8,350	12,930	
Wholesale and retail trade		990	2,420	3,410	
Manufacturing		2,510	690	3,200	
Construction		2,560	140	2,700	
Finance, insurance, real estate, rental and leasing		1,000	1,650	2,650	
Transportation and warehousing		730	340	1,070	
Information		260	240	500	
Government		90	150	240	
Agriculture		100	110	210	
Utilities		60	50	110	
Mining		40	10	50	
<b>Total Impact on Employment</b>	<b>8,790</b>	<b>12,920</b>	<b>14,150</b>	<b>35,870</b>	<b>4.0%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$528</b>			<b>\$528</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$350	\$479	\$829	
Manufacturing		\$244	\$50	\$294	
Wholesale and retail trade		\$104	\$127	\$231	
Finance, insurance, real estate, rental and leasing		\$83	\$115	\$198	
Construction		\$183	\$10	\$192	
Information		\$36	\$32	\$68	
Transportation and warehousing		\$35	\$18	\$53	
Government		\$7	\$11	\$19	
Utilities		\$8	\$6	\$14	
Agriculture		\$2	\$2	\$5	
Mining		\$2	***	\$2	
<b>Total Impact on Labor Income</b>	<b>\$528</b>	<b>\$1,055</b>	<b>\$850</b>	<b>\$2,433</b>	<b>4.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,321</b>			<b>\$1,321</b>	<b>1.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$417	\$572	\$988	
Finance, insurance, real estate, rental and leasing		\$222	\$440	\$661	
Manufacturing		\$337	\$78	\$415	
Wholesale and retail trade		\$138	\$172	\$310	
Information		\$72	\$65	\$137	
Construction		\$79	\$8	\$87	
Transportation and warehousing		\$52	\$24	\$75	
Utilities		\$31	\$25	\$56	
Government		\$13	\$20	\$33	
Agriculture		\$3	\$4	\$6	
Mining		\$2	***	\$3	
<b>Total Impact on Value Added</b>	<b>\$1,321</b>	<b>\$1,365</b>	<b>\$1,407</b>	<b>\$4,093</b>	<b>4.8%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\* Less than \$0.5 million.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Jersey, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>42,260</b>			<b>42,260</b>	<b>0.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		33,950	58,860	<b>92,810</b>	
Finance, insurance, real estate, rental and leasing		8,470	15,080	<b>23,550</b>	
Wholesale and retail trade		7,540	15,500	<b>23,040</b>	
Transportation and warehousing		10,390	5,290	<b>15,680</b>	
Construction		14,470	780	<b>15,250</b>	
Manufacturing		5,860	3,810	<b>9,670</b>	
Information		1,360	1,680	<b>3,040</b>	
Government		1,110	1,200	<b>2,310</b>	
Agriculture		1,130	370	<b>1,500</b>	
Utilities		510	310	<b>820</b>	
Mining		120	10	<b>130</b>	
<b>Total Impact on Employment</b>	<b>42,260</b>	<b>84,920</b>	<b>102,890</b>	<b>230,080</b>	<b>4.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$4,688</b>			<b>\$4,688</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,050	\$3,708	<b>\$6,759</b>	
Finance, insurance, real estate, rental and leasing		\$775	\$1,061	<b>\$1,836</b>	
Wholesale and retail trade		\$748	\$943	<b>\$1,692</b>	
Construction		\$1,113	\$59	<b>\$1,172</b>	
Manufacturing		\$625	\$423	<b>\$1,048</b>	
Transportation and warehousing		\$703	\$338	<b>\$1,040</b>	
Information		\$227	\$259	<b>\$486</b>	
Government		\$114	\$121	<b>\$235</b>	
Utilities		\$81	\$48	<b>\$128</b>	
Agriculture		\$28	\$13	<b>\$41</b>	
Mining		\$28	\$3	<b>\$31</b>	
<b>Total Impact on Labor Income</b>	<b>\$4,688</b>	<b>\$7,492</b>	<b>\$6,977</b>	<b>\$19,157</b>	<b>4.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$15,732</b>			<b>\$15,732</b>	<b>2.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,696	\$4,389	<b>\$8,085</b>	
Finance, insurance, real estate, rental and leasing		\$1,641	\$3,522	<b>\$5,163</b>	
Wholesale and retail trade		\$1,155	\$1,484	<b>\$2,639</b>	
Manufacturing		\$848	\$704	<b>\$1,552</b>	
Transportation and warehousing		\$816	\$421	<b>\$1,238</b>	
Information		\$523	\$590	<b>\$1,113</b>	
Construction		\$999	\$81	<b>\$1,080</b>	
Utilities		\$293	\$176	<b>\$469</b>	
Government		\$139	\$152	<b>\$291</b>	
Agriculture		\$35	\$17	<b>\$52</b>	
Mining		\$29	\$3	<b>\$32</b>	
<b>Total Impact on Value Added</b>	<b>\$15,732</b>	<b>\$10,173</b>	<b>\$11,539</b>	<b>\$37,444</b>	<b>6.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Mexico, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>46,450</b>			<b>46,450</b>	<b>4.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		15,720	22,570	<b>38,290</b>	
Finance, insurance, real estate, rental and leasing		5,120	3,890	<b>9,010</b>	
Wholesale and retail trade		2,440	5,870	<b>8,310</b>	
Construction		6,240	330	<b>6,570</b>	
Transportation and warehousing		2,260	890	<b>3,150</b>	
Manufacturing		1,040	550	<b>1,590</b>	
Government		600	700	<b>1,300</b>	
Agriculture		270	640	<b>910</b>	
Information		360	380	<b>740</b>	
Utilities		260	140	<b>400</b>	
Mining		260	30	<b>290</b>	
<b>Total Impact on Employment</b>	<b>46,450</b>	<b>34,570</b>	<b>36,000</b>	<b>117,020</b>	<b>10.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,464</b>			<b>\$3,464</b>	<b>6.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$809	\$924	<b>\$1,733</b>	
Finance, insurance, real estate, rental and leasing		\$247	\$149	<b>\$396</b>	
Wholesale and retail trade		\$131	\$203	<b>\$334</b>	
Construction		\$313	\$17	<b>\$330</b>	
Transportation and warehousing		\$136	\$50	<b>\$186</b>	
Government		\$45	\$52	<b>\$97</b>	
Manufacturing		\$42	\$23	<b>\$65</b>	
Information		\$24	\$25	<b>\$49</b>	
Utilities		\$26	\$14	<b>\$40</b>	
Agriculture		\$9	\$26	<b>\$35</b>	
Mining		\$23	\$3	<b>\$26</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,464</b>	<b>\$1,805</b>	<b>\$1,485</b>	<b>\$6,753</b>	<b>12.2%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$11,934</b>			<b>\$11,934</b>	<b>11.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,040	\$1,129	<b>\$2,168</b>	
Finance, insurance, real estate, rental and leasing		\$685	\$858	<b>\$1,543</b>	
Wholesale and retail trade		\$218	\$315	<b>\$533</b>	
Construction		\$273	\$23	<b>\$296</b>	
Transportation and warehousing		\$196	\$69	<b>\$265</b>	
Government		\$92	\$108	<b>\$199</b>	
Manufacturing		\$105	\$45	<b>\$150</b>	
Information		\$62	\$73	<b>\$136</b>	
Utilities		\$87	\$46	<b>\$133</b>	
Mining		\$104	\$13	<b>\$117</b>	
Agriculture		\$10	\$31	<b>\$41</b>	
<b>Total Impact on Value Added</b>	<b>\$11,934</b>	<b>\$2,871</b>	<b>\$2,711</b>	<b>\$17,516</b>	<b>17.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New York, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>62,870</b>			<b>62,870</b>	<b>0.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		50,360	123,090	<b>173,450</b>	
Finance, insurance, real estate, rental and leasing		14,560	27,520	<b>42,080</b>	
Wholesale and retail trade		8,530	25,600	<b>34,130</b>	
Construction		29,250	1,300	<b>30,550</b>	
Manufacturing		11,240	6,500	<b>17,740</b>	
Transportation and warehousing		8,220	7,540	<b>15,760</b>	
Information		3,470	4,390	<b>7,860</b>	
Government		960	2,130	<b>3,090</b>	
Agriculture		1,050	1,030	<b>2,080</b>	
Utilities		810	760	<b>1,570</b>	
Mining		380	50	<b>430</b>	
<b>Total Impact on Employment</b>	<b>62,870</b>	<b>128,840</b>	<b>199,910</b>	<b>391,630</b>	<b>3.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$7,529</b>			<b>\$7,529</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$5,317	\$8,100	<b>\$13,417</b>	
Finance, insurance, real estate, rental and leasing		\$2,932	\$4,005	<b>\$6,937</b>	
Wholesale and retail trade		\$843	\$1,485	<b>\$2,328</b>	
Construction		\$2,168	\$94	<b>\$2,263</b>	
Information		\$936	\$1,058	<b>\$1,994</b>	
Manufacturing		\$1,010	\$514	<b>\$1,525</b>	
Transportation and warehousing		\$505	\$506	<b>\$1,012</b>	
Government		\$137	\$255	<b>\$391</b>	
Utilities		\$138	\$122	<b>\$259</b>	
Agriculture		\$32	\$36	<b>\$68</b>	
Mining		\$28	\$4	<b>\$32</b>	
<b>Total Impact on Labor Income</b>	<b>\$7,529</b>	<b>\$14,045</b>	<b>\$16,179</b>	<b>\$37,753</b>	<b>3.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$14,784</b>			<b>\$14,784</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Finance, insurance, real estate, rental and leasing		\$6,072	\$10,555	<b>\$16,627</b>	
Services		\$6,625	\$9,861	<b>\$16,486</b>	
Information		\$2,271	\$2,627	<b>\$4,898</b>	
Wholesale and retail trade		\$1,285	\$2,456	<b>\$3,741</b>	
Manufacturing		\$1,560	\$986	<b>\$2,546</b>	
Construction		\$1,829	\$137	<b>\$1,966</b>	
Transportation and warehousing		\$575	\$537	<b>\$1,112</b>	
Utilities		\$445	\$399	<b>\$844</b>	
Government		\$169	\$323	<b>\$491</b>	
Agriculture		\$43	\$54	<b>\$97</b>	
Mining		\$41	\$6	<b>\$47</b>	
<b>Total Impact on Value Added</b>	<b>\$14,784</b>	<b>\$20,915</b>	<b>\$27,941</b>	<b>\$63,639</b>	<b>3.8%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in North Carolina, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>53,040</b>			<b>53,040</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		33,410	53,810	<b>87,220</b>	
Wholesale and retail trade		7,820	14,810	<b>22,630</b>	
Construction		18,030	860	<b>18,890</b>	
Finance, insurance, real estate, rental and leasing		7,340	10,750	<b>18,090</b>	
Manufacturing		11,700	6,330	<b>18,030</b>	
Transportation and warehousing		7,750	3,340	<b>11,090</b>	
Information		1,530	1,590	<b>3,120</b>	
Government		1,330	1,350	<b>2,680</b>	
Agriculture		1,390	1,270	<b>2,660</b>	
Utilities		600	340	<b>940</b>	
Mining		300	30	<b>330</b>	
<b>Total Impact on Employment</b>	<b>53,040</b>	<b>91,200</b>	<b>94,470</b>	<b>238,720</b>	<b>3.9%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,753</b>			<b>\$2,753</b>	<b>0.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,154	\$2,550	<b>\$4,703</b>	
Manufacturing		\$965	\$428	<b>\$1,393</b>	
Wholesale and retail trade		\$608	\$622	<b>\$1,230</b>	
Finance, insurance, real estate, rental and leasing		\$546	\$673	<b>\$1,219</b>	
Construction		\$978	\$46	<b>\$1,024</b>	
Transportation and warehousing		\$415	\$178	<b>\$593</b>	
Information		\$174	\$166	<b>\$340</b>	
Government		\$107	\$106	<b>\$213</b>	
Agriculture		\$66	\$97	<b>\$163</b>	
Utilities		\$78	\$43	<b>\$121</b>	
Mining		\$18	\$2	<b>\$20</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,753</b>	<b>\$6,108</b>	<b>\$4,910</b>	<b>\$13,771</b>	<b>4.1%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,245</b>			<b>\$9,245</b>	<b>1.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,670	\$3,079	<b>\$5,749</b>	
Finance, insurance, real estate, rental and leasing		\$1,696	\$2,552	<b>\$4,248</b>	
Manufacturing		\$1,827	\$1,331	<b>\$3,158</b>	
Wholesale and retail trade		\$963	\$982	<b>\$1,945</b>	
Construction		\$770	\$60	<b>\$830</b>	
Information		\$396	\$381	<b>\$777</b>	
Transportation and warehousing		\$505	\$236	<b>\$741</b>	
Utilities		\$295	\$167	<b>\$462</b>	
Government		\$144	\$149	<b>\$293</b>	
Agriculture		\$67	\$101	<b>\$168</b>	
Mining		\$36	\$4	<b>\$39</b>	
<b>Total Impact on Value Added</b>	<b>\$9,245</b>	<b>\$9,369</b>	<b>\$9,042</b>	<b>\$27,655</b>	<b>4.9%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in North Dakota, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>37,300</b>			<b>37,300</b>	<b>6.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		11,190	15,550	<b>26,740</b>	
Finance, insurance, real estate, rental and leasing		4,790	3,590	<b>8,380</b>	
Wholesale and retail trade		1,910	5,110	<b>7,020</b>	
Construction		3,760	220	<b>3,980</b>	
Transportation and warehousing		1,590	760	<b>2,350</b>	
Manufacturing		910	360	<b>1,270</b>	
Government		380	550	<b>930</b>	
Agriculture		220	540	<b>760</b>	
Information		370	370	<b>740</b>	
Utilities		240	130	<b>370</b>	
Mining		180	20	<b>200</b>	
<b>Total Impact on Employment</b>	<b>37,300</b>	<b>25,560</b>	<b>27,220</b>	<b>90,070</b>	<b>15.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,477</b>			<b>\$3,477</b>	<b>10.5%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$698	\$725	<b>\$1,424</b>	
Finance, insurance, real estate, rental and leasing		\$300	\$175	<b>\$475</b>	
Wholesale and retail trade		\$150	\$198	<b>\$348</b>	
Construction		\$258	\$15	<b>\$274</b>	
Transportation and warehousing		\$118	\$55	<b>\$173</b>	
Manufacturing		\$61	\$23	<b>\$84</b>	
Information		\$33	\$33	<b>\$66</b>	
Government		\$26	\$37	<b>\$63</b>	
Utilities		\$33	\$18	<b>\$50</b>	
Mining		\$15	\$2	<b>\$17</b>	
Agriculture		\$4	\$8	<b>\$12</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,477</b>	<b>\$1,697</b>	<b>\$1,289</b>	<b>\$6,463</b>	<b>19.6%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,188</b>			<b>\$9,188</b>	<b>16.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$818	\$834	<b>\$1,651</b>	
Finance, insurance, real estate, rental and leasing		\$668	\$586	<b>\$1,254</b>	
Wholesale and retail trade		\$249	\$287	<b>\$536</b>	
Construction		\$253	\$22	<b>\$275</b>	
Transportation and warehousing		\$156	\$71	<b>\$227</b>	
Manufacturing		\$118	\$41	<b>\$158</b>	
Information		\$71	\$72	<b>\$142</b>	
Utilities		\$84	\$46	<b>\$130</b>	
Government		\$31	\$44	<b>\$75</b>	
Agriculture		\$22	\$50	<b>\$71</b>	
Mining		\$46	\$5	<b>\$50</b>	
<b>Total Impact on Value Added</b>	<b>\$9,188</b>	<b>\$2,514</b>	<b>\$2,056</b>	<b>\$13,757</b>	<b>24.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Ohio, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>95,250</b>			<b>95,250</b>	<b>1.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		62,020	99,220	<b>161,240</b>	
Wholesale and retail trade		13,520	24,170	<b>37,690</b>	
Finance, insurance, real estate, rental and leasing		12,710	19,140	<b>31,850</b>	
Manufacturing		21,300	8,150	<b>29,450</b>	
Construction		24,890	1,250	<b>26,140</b>	
Transportation and warehousing		16,100	6,160	<b>22,260</b>	
Agriculture		3,570	1,640	<b>5,210</b>	
Government		2,750	2,160	<b>4,910</b>	
Information		1,940	2,160	<b>4,100</b>	
Utilities		1,070	460	<b>1,530</b>	
Mining		420	40	<b>460</b>	
<b>Total Impact on Employment</b>	<b>95,250</b>	<b>160,290</b>	<b>164,560</b>	<b>420,090</b>	<b>5.9%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$8,398</b>			<b>\$8,398</b>	<b>2.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,224	\$4,889	<b>\$9,113</b>	
Manufacturing		\$1,672	\$592	<b>\$2,264</b>	
Wholesale and retail trade		\$1,037	\$1,040	<b>\$2,077</b>	
Finance, insurance, real estate, rental and leasing		\$808	\$994	<b>\$1,802</b>	
Construction		\$1,560	\$78	<b>\$1,638</b>	
Transportation and warehousing		\$1,038	\$371	<b>\$1,409</b>	
Government		\$215	\$170	<b>\$385</b>	
Information		\$182	\$188	<b>\$369</b>	
Utilities		\$142	\$60	<b>\$202</b>	
Mining		\$70	\$9	<b>\$79</b>	
Agriculture		\$53	\$22	<b>\$75</b>	
<b>Total Impact on Labor Income</b>	<b>\$8,398</b>	<b>\$11,001</b>	<b>\$8,412</b>	<b>\$27,812</b>	<b>6.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$36,332</b>			<b>\$36,332</b>	<b>5.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$5,125	\$5,877	<b>\$11,001</b>	
Finance, insurance, real estate, rental and leasing		\$2,794	\$4,329	<b>\$7,123</b>	
Manufacturing		\$2,678	\$1,183	<b>\$3,861</b>	
Wholesale and retail trade		\$1,745	\$1,801	<b>\$3,547</b>	
Transportation and warehousing		\$1,236	\$427	<b>\$1,663</b>	
Construction		\$1,264	\$103	<b>\$1,366</b>	
Information		\$452	\$485	<b>\$938</b>	
Utilities		\$559	\$240	<b>\$799</b>	
Government		\$286	\$233	<b>\$520</b>	
Agriculture		\$126	\$62	<b>\$188</b>	
Mining		\$96	\$11	<b>\$107</b>	
<b>Total Impact on Value Added</b>	<b>\$36,332</b>	<b>\$16,362</b>	<b>\$14,751</b>	<b>\$67,445</b>	<b>10.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Oklahoma, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>163,300</b>			<b>163,300</b>	<b>7.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		60,270	92,730	<b>153,000</b>	
Finance, insurance, real estate, rental and leasing		20,740	21,160	<b>41,900</b>	
Wholesale and retail trade		8,980	28,220	<b>37,200</b>	
Construction		14,130	1,530	<b>15,660</b>	
Transportation and warehousing		9,250	4,540	<b>13,790</b>	
Manufacturing		6,190	2,190	<b>8,380</b>	
Government		2,710	3,450	<b>6,160</b>	
Information		1,710	1,900	<b>3,610</b>	
Agriculture		490	2,100	<b>2,590</b>	
Utilities		1,420	610	<b>2,030</b>	
Mining		880	90	<b>970</b>	
<b>Total Impact on Employment</b>	<b>163,300</b>	<b>126,770</b>	<b>158,500</b>	<b>448,580</b>	<b>19.2%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$21,042</b>			<b>\$21,042</b>	<b>16.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,311	\$4,069	<b>\$7,380</b>	
Finance, insurance, real estate, rental and leasing		\$906	\$713	<b>\$1,619</b>	
Wholesale and retail trade		\$586	\$967	<b>\$1,553</b>	
Construction		\$736	\$80	<b>\$816</b>	
Transportation and warehousing		\$533	\$245	<b>\$778</b>	
Manufacturing		\$454	\$129	<b>\$583</b>	
Government		\$179	\$226	<b>\$405</b>	
Information		\$179	\$169	<b>\$348</b>	
Utilities		\$160	\$69	<b>\$229</b>	
Mining		\$161	\$21	<b>\$182</b>	
Agriculture		\$12	\$47	<b>\$58</b>	
<b>Total Impact on Labor Income</b>	<b>\$21,042</b>	<b>\$7,216</b>	<b>\$6,736</b>	<b>\$34,994</b>	<b>27.7%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$44,764</b>			<b>\$44,764</b>	<b>22.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,078	\$4,919	<b>\$8,997</b>	
Finance, insurance, real estate, rental and leasing		\$2,397	\$3,237	<b>\$5,634</b>	
Wholesale and retail trade		\$1,032	\$1,571	<b>\$2,602</b>	
Transportation and warehousing		\$721	\$290	<b>\$1,012</b>	
Manufacturing		\$689	\$233	<b>\$923</b>	
Construction		\$620	\$99	<b>\$719</b>	
Information		\$333	\$352	<b>\$686</b>	
Utilities		\$461	\$198	<b>\$659</b>	
Government		\$248	\$315	<b>\$563</b>	
Mining		\$128	\$11	<b>\$139</b>	
Agriculture		\$17	\$78	<b>\$95</b>	
<b>Total Impact on Value Added</b>	<b>\$44,764</b>	<b>\$10,725</b>	<b>\$11,303</b>	<b>\$66,792</b>	<b>33.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Oregon, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>19,130</b>			<b>19,130</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		13,250	23,260	<b>36,510</b>	
Wholesale and retail trade		2,710	6,050	<b>8,760</b>	
Manufacturing		5,090	2,500	<b>7,590</b>	
Construction		6,770	330	<b>7,100</b>	
Finance, insurance, real estate, rental and leasing		2,790	4,230	<b>7,020</b>	
Transportation and warehousing		2,610	1,440	<b>4,050</b>	
Agriculture		1,570	1,220	<b>2,790</b>	
Information		640	670	<b>1,310</b>	
Government		340	430	<b>770</b>	
Utilities		190	130	<b>320</b>	
Mining		190	20	<b>210</b>	
<b>Total Impact on Employment</b>	<b>19,130</b>	<b>36,130</b>	<b>40,290</b>	<b>95,560</b>	<b>3.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,109</b>			<b>\$1,109</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Manufacturing		\$940	\$1,225	<b>\$2,165</b>	
Wholesale and retail trade		\$458	\$170	<b>\$629</b>	
Construction		\$219	\$283	<b>\$502</b>	
Finance, insurance, real estate, rental and leasing		\$460	\$22	<b>\$482</b>	
Transportation and warehousing		\$201	\$235	<b>\$436</b>	
Information		\$163	\$88	<b>\$252</b>	
Agriculture		\$83	\$76	<b>\$159</b>	
Government		\$54	\$50	<b>\$104</b>	
Utilities		\$34	\$42	<b>\$76</b>	
Mining		\$29	\$19	<b>\$49</b>	
Manufacturing		\$8	\$1	<b>\$9</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,109</b>	<b>\$2,650</b>	<b>\$2,211</b>	<b>\$5,970</b>	<b>4.0%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,147</b>			<b>\$3,147</b>	<b>1.3%</b>
<b>Indirect /Induced Impacts on Other Industries</b>					
Services		\$1,126	\$1,472	<b>\$2,598</b>	
Finance, insurance, real estate, rental and leasing		\$559	\$1,037	<b>\$1,596</b>	
Manufacturing		\$840	\$301	<b>\$1,141</b>	
Wholesale and retail trade		\$322	\$395	<b>\$717</b>	
Construction		\$377	\$30	<b>\$407</b>	
Information		\$177	\$166	<b>\$342</b>	
Transportation and warehousing		\$208	\$122	<b>\$331</b>	
Utilities		\$105	\$69	<b>\$174</b>	
Agriculture		\$64	\$63	<b>\$128</b>	
Government		\$47	\$60	<b>\$107</b>	
Mining		\$15	\$2	<b>\$17</b>	
<b>Total Impact on Value Added</b>	<b>\$3,147</b>	<b>\$3,840</b>	<b>\$3,717</b>	<b>\$10,705</b>	<b>4.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Pennsylvania, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>112,330</b>			<b>112,330</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		61,940	138,730	<b>200,670</b>	
Wholesale and retail trade		11,130	32,570	<b>43,700</b>	
Finance, insurance, real estate, rental and leasing		14,990	26,640	<b>41,630</b>	
Construction		30,120	1,630	<b>31,750</b>	
Manufacturing		17,270	8,090	<b>25,360</b>	
Transportation and warehousing		15,840	9,210	<b>25,050</b>	
Government		2,630	2,800	<b>5,430</b>	
Information		1,960	2,860	<b>4,820</b>	
Agriculture		1,380	1,770	<b>3,150</b>	
Utilities		1,110	730	<b>1,840</b>	
Mining		730	110	<b>840</b>	
<b>Total Impact on Employment</b>	<b>112,330</b>	<b>159,090</b>	<b>225,140</b>	<b>496,560</b>	<b>6.4%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$17,055</b>			<b>\$17,055</b>	<b>3.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$4,912	\$7,611	<b>\$12,524</b>	
Finance, insurance, real estate, rental and leasing		\$1,036	\$1,506	<b>\$2,541</b>	
Wholesale and retail trade		\$937	\$1,438	<b>\$2,375</b>	
Construction		\$2,064	\$111	<b>\$2,174</b>	
Manufacturing		\$1,401	\$604	<b>\$2,005</b>	
Information		\$790	\$883	<b>\$1,673</b>	
Transportation and warehousing		\$967	\$509	<b>\$1,476</b>	
Government		\$226	\$237	<b>\$463</b>	
Utilities		\$166	\$106	<b>\$272</b>	
Agriculture		\$40	\$49	<b>\$88</b>	
Mining		\$32	\$5	<b>\$37</b>	
<b>Total Impact on Labor Income</b>	<b>\$17,055</b>	<b>\$12,569</b>	<b>\$13,060</b>	<b>\$42,684</b>	<b>8.6%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$40,171</b>			<b>\$40,171</b>	<b>5.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$5,867	\$8,888	<b>\$14,755</b>	
Finance, insurance, real estate, rental and leasing		\$2,700	\$5,605	<b>\$8,305</b>	
Wholesale and retail trade		\$1,443	\$2,220	<b>\$3,663</b>	
Manufacturing		\$2,202	\$1,183	<b>\$3,385</b>	
Information		\$1,273	\$1,627	<b>\$2,900</b>	
Construction		\$1,753	\$153	<b>\$1,906</b>	
Transportation and warehousing		\$1,093	\$581	<b>\$1,674</b>	
Utilities		\$557	\$361	<b>\$918</b>	
Government		\$294	\$315	<b>\$609</b>	
Mining		\$150	\$23	<b>\$174</b>	
Agriculture		\$52	\$78	<b>\$130</b>	
<b>Total Impact on Value Added</b>	<b>\$40,171</b>	<b>\$17,384</b>	<b>\$21,035</b>	<b>\$78,590</b>	<b>10.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Rhode Island, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>4,840</b>			<b>4,840</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		3,500	6,980	<b>10,480</b>	
Finance, insurance, real estate, rental and leasing		830	1,340	<b>2,170</b>	
Wholesale and retail trade		630	1,410	<b>2,040</b>	
Construction		1,640	80	<b>1,720</b>	
Manufacturing		1,090	500	<b>1,590</b>	
Transportation and warehousing		540	310	<b>850</b>	
Information		120	130	<b>250</b>	
Government		80	120	<b>200</b>	
Utilities		60	40	<b>100</b>	
Agriculture		20	50	<b>70</b>	
Mining		20	**	<b>20</b>	
<b>Total Impact on Employment</b>	<b>4,840</b>	<b>8,540</b>	<b>10,970</b>	<b>24,350</b>	<b>3.8%</b>
<b>Labor Income*** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$413</b>			<b>\$413</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$247	\$360	<b>\$607</b>	
Finance, insurance, real estate, rental and leasing		\$66	\$85	<b>\$151</b>	
Wholesale and retail trade		\$58	\$70	<b>\$129</b>	
Manufacturing		\$83	\$33	<b>\$116</b>	
Construction		\$105	\$5	<b>\$110</b>	
Transportation and warehousing		\$30	\$15	<b>\$45</b>	
Information		\$12	\$12	<b>\$24</b>	
Government		\$8	\$11	<b>\$19</b>	
Utilities		\$4	\$3	<b>\$7</b>	
Agriculture		\$1	\$2	<b>\$3</b>	
Mining		\$1	****	<b>\$1</b>	
<b>Total Impact on Labor Income</b>	<b>\$413</b>	<b>\$614</b>	<b>\$597</b>	<b>\$1,624</b>	<b>4.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,115</b>			<b>\$1,115</b>	<b>1.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$297	\$442	<b>\$739</b>	
Finance, insurance, real estate, rental and leasing		\$175	\$337	<b>\$511</b>	
Wholesale and retail trade		\$95	\$113	<b>\$207</b>	
Manufacturing		\$127	\$54	<b>\$181</b>	
Construction		\$89	\$7	<b>\$96</b>	
Information		\$28	\$29	<b>\$57</b>	
Transportation and warehousing		\$33	\$18	<b>\$51</b>	
Utilities		\$25	\$17	<b>\$42</b>	
Government		\$12	\$17	<b>\$29</b>	
Agriculture		\$1	\$2	<b>\$3</b>	
Mining		\$2	****	<b>\$3</b>	
<b>Total Impact on Value Added</b>	<b>\$1,115</b>	<b>\$883</b>	<b>\$1,037</b>	<b>\$3,035</b>	<b>5.0%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs. \*\* Less than 5.

\*\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in South Carolina, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>30,410</b>			<b>30,410</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		17,280	25,630	<b>42,910</b>	
Wholesale and retail trade		3,860	6,990	<b>10,850</b>	
Manufacturing		6,420	2,880	<b>9,300</b>	
Finance, insurance, real estate, rental and leasing		3,770	5,120	<b>8,890</b>	
Construction		7,760	390	<b>8,150</b>	
Transportation and warehousing		4,720	1,590	<b>6,310</b>	
Government		1,520	630	<b>2,150</b>	
Agriculture		1,080	550	<b>1,630</b>	
Information		560	590	<b>1,150</b>	
Utilities		400	260	<b>660</b>	
Mining		90	10	<b>100</b>	
<b>Total Impact on Employment</b>	<b>30,410</b>	<b>47,460</b>	<b>44,640</b>	<b>122,510</b>	<b>4.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,396</b>			<b>\$1,396</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$943	\$1,070	<b>\$2,013</b>	
Manufacturing		\$491	\$197	<b>\$688</b>	
Wholesale and retail trade		\$254	\$268	<b>\$522</b>	
Finance, insurance, real estate, rental and leasing		\$213	\$245	<b>\$458</b>	
Construction		\$408	\$21	<b>\$429</b>	
Transportation and warehousing		\$241	\$78	<b>\$319</b>	
Government		\$109	\$48	<b>\$157</b>	
Information		\$64	\$60	<b>\$123</b>	
Utilities		\$50	\$31	<b>\$81</b>	
Agriculture		\$16	\$10	<b>\$26</b>	
Mining		\$6	\$1	<b>\$7</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,396</b>	<b>\$2,794</b>	<b>\$2,029</b>	<b>\$6,219</b>	<b>4.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,325</b>			<b>\$5,325</b>	<b>2.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,150	\$1,324	<b>\$2,473</b>	
Finance, insurance, real estate, rental and leasing		\$596	\$952	<b>\$1,549</b>	
Manufacturing		\$921	\$365	<b>\$1,285</b>	
Wholesale and retail trade		\$452	\$432	<b>\$884</b>	
Construction		\$429	\$32	<b>\$460</b>	
Transportation and warehousing		\$290	\$95	<b>\$386</b>	
Utilities		\$166	\$105	<b>\$271</b>	
Information		\$120	\$122	<b>\$243</b>	
Government		\$144	\$67	<b>\$210</b>	
Agriculture		\$27	\$19	<b>\$46</b>	
Mining		\$17	\$3	<b>\$20</b>	
<b>Total Impact on Value Added</b>	<b>\$5,325</b>	<b>\$4,312</b>	<b>\$3,515</b>	<b>\$13,152</b>	<b>5.6%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in South Dakota, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>10,010</b>			<b>10,010</b>	<b>1.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		3,060	5,180	<b>8,240</b>	
Finance, insurance, real estate, rental and leasing		1,060	1,320	<b>2,380</b>	
Wholesale and retail trade		620	1,510	<b>2,130</b>	
Construction		1,810	80	<b>1,890</b>	
Manufacturing		1,090	550	<b>1,640</b>	
Transportation and warehousing		620	260	<b>880</b>	
Agriculture		170	520	<b>690</b>	
Government		140	140	<b>280</b>	
Information		120	110	<b>230</b>	
Utilities		80	40	<b>120</b>	
Mining		50	10	<b>60</b>	
<b>Total Impact on Employment</b>	<b>10,010</b>	<b>8,830</b>	<b>9,730</b>	<b>28,560</b>	<b>4.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$357</b>			<b>\$357</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$164	\$245	<b>\$409</b>	
Finance, insurance, real estate, rental and leasing		\$61	\$71	<b>\$132</b>	
Wholesale and retail trade		\$42	\$62	<b>\$104</b>	
Manufacturing		\$70	\$33	<b>\$103</b>	
Construction		\$98	\$4	<b>\$102</b>	
Transportation and warehousing		\$33	\$16	<b>\$48</b>	
Agriculture		\$12	\$28	<b>\$40</b>	
Government		\$9	\$9	<b>\$18</b>	
Information		\$9	\$8	<b>\$18</b>	
Utilities		\$9	\$5	<b>\$13</b>	
Mining		\$4	\$1	<b>\$4</b>	
<b>Total Impact on Labor Income</b>	<b>\$357</b>	<b>\$510</b>	<b>\$481</b>	<b>\$1,348</b>	<b>4.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,223</b>			<b>\$1,223</b>	<b>2.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Finance, insurance, real estate, rental and leasing		\$239	\$289	<b>\$529</b>	
Services		\$204	\$291	<b>\$494</b>	
Wholesale and retail trade		\$75	\$101	<b>\$176</b>	
Manufacturing		\$110	\$53	<b>\$163</b>	
Agriculture		\$23	\$62	<b>\$86</b>	
Construction		\$71	\$6	<b>\$77</b>	
Transportation and warehousing		\$40	\$19	<b>\$59</b>	
Utilities		\$32	\$18	<b>\$50</b>	
Information		\$22	\$21	<b>\$44</b>	
Government		\$11	\$11	<b>\$22</b>	
Mining		\$6	\$1	<b>\$7</b>	
<b>Total Impact on Value Added</b>	<b>\$1,223</b>	<b>\$835</b>	<b>\$872</b>	<b>\$2,929</b>	<b>5.6%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Tennessee, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>39,860</b>			<b>39,860</b>	<b>1.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		23,670	40,830	<b>64,500</b>	
Wholesale and retail trade		4,580	10,800	<b>15,380</b>	
Manufacturing		8,740	4,210	<b>12,950</b>	
Finance, insurance, real estate, rental and leasing		5,100	7,830	<b>12,930</b>	
Construction		11,630	590	<b>12,220</b>	
Transportation and warehousing		7,450	3,360	<b>10,810</b>	
Agriculture		1,100	1,140	<b>2,240</b>	
Information		870	1,020	<b>1,890</b>	
Government		880	840	<b>1,720</b>	
Utilities		590	380	<b>970</b>	
Mining		220	30	<b>250</b>	
<b>Total Impact on Employment</b>	<b>39,860</b>	<b>64,830</b>	<b>71,020</b>	<b>175,710</b>	<b>4.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,731</b>			<b>\$2,731</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,521	\$2,377	<b>\$3,898</b>	
Manufacturing		\$666	\$309	<b>\$975</b>	
Wholesale and retail trade		\$362	\$509	<b>\$870</b>	
Finance, insurance, real estate, rental and leasing		\$354	\$479	<b>\$833</b>	
Construction		\$766	\$38	<b>\$804</b>	
Transportation and warehousing		\$458	\$207	<b>\$665</b>	
Information		\$89	\$98	<b>\$186</b>	
Utilities		\$76	\$47	<b>\$123</b>	
Government		\$62	\$59	<b>\$121</b>	
Agriculture		\$12	\$7	<b>\$19</b>	
Mining		\$14	\$2	<b>\$16</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,731</b>	<b>\$4,378</b>	<b>\$4,132</b>	<b>\$11,241</b>	<b>4.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$7,324</b>			<b>\$7,324</b>	<b>2.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,884	\$2,740	<b>\$4,624</b>	
Finance, insurance, real estate, rental and leasing		\$926	\$1,649	<b>\$2,575</b>	
Manufacturing		\$1,089	\$602	<b>\$1,691</b>	
Wholesale and retail trade		\$645	\$836	<b>\$1,482</b>	
Transportation and warehousing		\$565	\$262	<b>\$827</b>	
Construction		\$550	\$43	<b>\$593</b>	
Information		\$220	\$245	<b>\$465</b>	
Utilities		\$194	\$123	<b>\$316</b>	
Government		\$79	\$77	<b>\$156</b>	
Agriculture		\$25	\$26	<b>\$51</b>	
Mining		\$41	\$7	<b>\$47</b>	
<b>Total Impact on Value Added</b>	<b>\$7,324</b>	<b>\$6,217</b>	<b>\$6,610</b>	<b>\$20,151</b>	<b>5.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Texas, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>716,540</b>			<b>716,540</b>	<b>4.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		489,180	817,740	1,306,920	
Finance, insurance, real estate, rental and leasing		140,140	203,010	343,150	
Wholesale and retail trade		63,730	198,200	261,930	
Manufacturing		79,820	59,980	139,800	
Transportation and warehousing		79,300	59,780	139,080	
Construction		106,760	11,510	118,270	
Agriculture		5,110	43,690	48,800	
Information		18,160	29,080	47,240	
Government		16,430	24,410	40,840	
Utilities		8,710	5,530	14,240	
Mining		6,380	1,200	7,580	
<b>Total Impact on Employment</b>	<b>716,540</b>	<b>1,013,710</b>	<b>1,454,120</b>	<b>3,184,380</b>	<b>18.1%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$128,423</b>			<b>\$128,423</b>	<b>11.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$37,756	\$40,747	\$78,503	
Finance, insurance, real estate, rental and leasing		\$8,756	\$10,655	\$19,411	
Wholesale and retail trade		\$5,183	\$8,867	\$14,049	
Manufacturing		\$6,799	\$4,045	\$10,844	
Construction		\$7,292	\$786	\$8,077	
Transportation and warehousing		\$4,743	\$3,157	\$7,900	
Information		\$1,682	\$2,576	\$4,258	
Government		\$1,242	\$1,823	\$3,064	
Utilities		\$1,182	\$745	\$1,927	
Agriculture		\$116	\$768	\$885	
Mining		\$359	\$60	\$419	
<b>Total Impact on Labor Income</b>	<b>\$128,423</b>	<b>\$75,110</b>	<b>\$74,227</b>	<b>\$277,760</b>	<b>25.5%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$294,930</b>			<b>\$294,930</b>	<b>16.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$45,821	\$49,016	\$94,837	
Finance, insurance, real estate, rental and leasing		\$19,449	\$34,079	\$53,527	
Wholesale and retail trade		\$9,708	\$15,254	\$24,962	
Manufacturing		\$12,004	\$8,188	\$20,191	
Information		\$4,002	\$6,282	\$10,284	
Transportation and warehousing		\$6,020	\$4,041	\$10,060	
Construction		\$6,551	\$1,041	\$7,592	
Utilities		\$3,699	\$2,341	\$6,040	
Government		\$1,574	\$2,322	\$3,896	
Agriculture		\$154	\$1,196	\$1,350	
Mining		\$1,118	\$181	\$1,299	
<b>Total Impact on Value Added</b>	<b>\$294,930</b>	<b>\$110,099</b>	<b>\$123,940</b>	<b>\$528,969</b>	<b>29.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Utah, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>21,870</b>			<b>21,870</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		16,400	20,710	<b>37,110</b>	
Finance, insurance, real estate, rental and leasing		4,420	5,970	<b>10,390</b>	
Wholesale and retail trade		2,110	5,900	<b>8,010</b>	
Construction		7,450	370	<b>7,820</b>	
Transportation and warehousing		3,970	1,490	<b>5,460</b>	
Manufacturing		3,180	1,810	<b>4,990</b>	
Information		790	860	<b>1,650</b>	
Government		590	570	<b>1,160</b>	
Agriculture		180	400	<b>580</b>	
Mining		320	40	<b>360</b>	
Utilities		230	110	<b>340</b>	
<b>Total Impact on Employment</b>	<b>21,870</b>	<b>39,650</b>	<b>38,230</b>	<b>99,750</b>	<b>4.8%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,456</b>			<b>\$1,456</b>	<b>1.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$983	\$915	<b>\$1,899</b>	
Finance, insurance, real estate, rental and leasing		\$233	\$265	<b>\$498</b>	
Construction		\$444	\$22	<b>\$466</b>	
Wholesale and retail trade		\$171	\$282	<b>\$453</b>	
Transportation and warehousing		\$256	\$95	<b>\$350</b>	
Manufacturing		\$228	\$113	<b>\$341</b>	
Information		\$89	\$88	<b>\$176</b>	
Government		\$43	\$40	<b>\$83</b>	
Utilities		\$29	\$14	<b>\$42</b>	
Mining		\$15	\$2	<b>\$17</b>	
Agriculture		\$4	\$10	<b>\$14</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,456</b>	<b>\$2,494</b>	<b>\$1,846</b>	<b>\$5,796</b>	<b>5.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,016</b>			<b>\$5,016</b>	<b>2.8%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,200	\$1,164	<b>\$2,364</b>	
Finance, insurance, real estate, rental and leasing		\$700	\$1,018	<b>\$1,718</b>	
Wholesale and retail trade		\$258	\$444	<b>\$702</b>	
Manufacturing		\$379	\$195	<b>\$574</b>	
Construction		\$494	\$34	<b>\$529</b>	
Transportation and warehousing		\$321	\$125	<b>\$446</b>	
Information		\$195	\$195	<b>\$390</b>	
Utilities		\$98	\$47	<b>\$146</b>	
Mining		\$99	\$15	<b>\$115</b>	
Government		\$58	\$57	<b>\$114</b>	
Agriculture		\$5	\$18	<b>\$23</b>	
<b>Total Impact on Value Added</b>	<b>\$5,016</b>	<b>\$3,808</b>	<b>\$3,312</b>	<b>\$12,136</b>	<b>6.8%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Vermont, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>6,090</b>			<b>6,090</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		2,390	4,640	<b>7,030</b>	
Construction		1,450	70	<b>1,520</b>	
Wholesale and retail trade		360	1,000	<b>1,360</b>	
Finance, insurance, real estate, rental and leasing		510	670	<b>1,180</b>	
Manufacturing		730	430	<b>1,160</b>	
Transportation and warehousing		470	170	<b>640</b>	
Agriculture		120	180	<b>300</b>	
Information		130	110	<b>240</b>	
Government		70	100	<b>170</b>	
Utilities		50	30	<b>80</b>	
Mining		40	10	<b>50</b>	
<b>Total Impact on Employment</b>	<b>6,090</b>	<b>6,330</b>	<b>7,400</b>	<b>19,820</b>	<b>4.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$266</b>			<b>\$266</b>	<b>1.2%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$139	\$218	<b>\$357</b>	
Manufacturing		\$56	\$27	<b>\$83</b>	
Construction		\$76	\$4	<b>\$80</b>	
Wholesale and retail trade		\$23	\$44	<b>\$67</b>	
Finance, insurance, real estate, rental and leasing		\$27	\$33	<b>\$60</b>	
Transportation and warehousing		\$22	\$9	<b>\$31</b>	
Information		\$11	\$9	<b>\$20</b>	
Government		\$6	\$8	<b>\$14</b>	
Utilities		\$7	\$4	<b>\$11</b>	
Agriculture		\$3	\$5	<b>\$8</b>	
Mining		\$2	***	<b>\$2</b>	
<b>Total Impact on Labor Income</b>	<b>\$266</b>	<b>\$372</b>	<b>\$360</b>	<b>\$998</b>	<b>4.5%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$764</b>			<b>\$764</b>	<b>2.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$170	\$268	<b>\$438</b>	
Finance, insurance, real estate, rental and leasing		\$100	\$166	<b>\$266</b>	
Manufacturing		\$75	\$36	<b>\$111</b>	
Wholesale and retail trade		\$37	\$69	<b>\$107</b>	
Information		\$24	\$19	<b>\$43</b>	
Construction		\$37	\$4	<b>\$41</b>	
Transportation and warehousing		\$25	\$10	<b>\$35</b>	
Utilities		\$20	\$14	<b>\$34</b>	
Government		\$7	\$9	<b>\$17</b>	
Mining		\$12	\$2	<b>\$14</b>	
Agriculture		\$3	\$7	<b>\$11</b>	
<b>Total Impact on Value Added</b>	<b>\$764</b>	<b>\$510</b>	<b>\$605</b>	<b>\$1,879</b>	<b>5.7%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\* Less than \$0.5 million.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Virginia, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>47,550</b>			<b>47,550</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		29,390	46,290	<b>75,680</b>	
Construction		16,620	690	<b>17,310</b>	
Wholesale and retail trade		5,040	10,810	<b>15,850</b>	
Finance, insurance, real estate, rental and leasing		5,710	9,130	<b>14,840</b>	
Transportation and warehousing		6,810	3,330	<b>10,140</b>	
Manufacturing		6,330	3,240	<b>9,570</b>	
Information		1,260	1,350	<b>2,610</b>	
Government		1,210	1,280	<b>2,490</b>	
Agriculture		1,060	850	<b>1,910</b>	
Utilities		370	230	<b>600</b>	
Mining		240	40	<b>280</b>	
<b>Total Impact on Employment</b>	<b>47,550</b>	<b>74,040</b>	<b>77,240</b>	<b>198,830</b>	<b>3.7%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,526</b>			<b>\$2,526</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,637	\$2,592	<b>\$5,229</b>	
Construction		\$970	\$39	<b>\$1,009</b>	
Finance, insurance, real estate, rental and leasing		\$407	\$550	<b>\$957</b>	
Wholesale and retail trade		\$393	\$452	<b>\$845</b>	
Manufacturing		\$494	\$205	<b>\$699</b>	
Transportation and warehousing		\$394	\$204	<b>\$598</b>	
Information		\$136	\$129	<b>\$266</b>	
Government		\$125	\$128	<b>\$253</b>	
Utilities		\$55	\$33	<b>\$88</b>	
Agriculture		\$17	\$12	<b>\$30</b>	
Mining		\$14	\$2	<b>\$17</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,526</b>	<b>\$5,641</b>	<b>\$4,348</b>	<b>\$12,515</b>	<b>3.7%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$7,382</b>			<b>\$7,382</b>	<b>1.4%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$3,144	\$3,114	<b>\$6,258</b>	
Finance, insurance, real estate, rental and leasing		\$1,147	\$2,262	<b>\$3,410</b>	
Manufacturing		\$803	\$684	<b>\$1,486</b>	
Wholesale and retail trade		\$649	\$749	<b>\$1,398</b>	
Construction		\$851	\$58	<b>\$908</b>	
Transportation and warehousing		\$465	\$231	<b>\$696</b>	
Information		\$328	\$338	<b>\$666</b>	
Utilities		\$240	\$149	<b>\$389</b>	
Government		\$164	\$177	<b>\$341</b>	
Agriculture		\$30	\$32	<b>\$62</b>	
Mining		\$51	\$9	<b>\$60</b>	
<b>Total Impact on Value Added</b>	<b>\$7,382</b>	<b>\$7,870</b>	<b>\$7,803</b>	<b>\$23,055</b>	<b>4.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.



**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Washington, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>28,660</b>			<b>28,660</b>	<b>0.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		21,920	38,290	<b>60,210</b>	
Construction		14,390	590	<b>14,980</b>	
Wholesale and retail trade		4,530	10,240	<b>14,770</b>	
Finance, insurance, real estate, rental and leasing		4,400	7,630	<b>12,030</b>	
Transportation and warehousing		6,200	2,860	<b>9,060</b>	
Manufacturing		5,840	3,090	<b>8,930</b>	
Information		1,970	1,960	<b>3,930</b>	
Agriculture		1,500	1,770	<b>3,270</b>	
Government		980	1,010	<b>1,990</b>	
Utilities		510	280	<b>790</b>	
Mining		290	30	<b>320</b>	
<b>Total Impact on Employment</b>	<b>28,660</b>	<b>62,510</b>	<b>67,760</b>	<b>158,930</b>	<b>3.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$2,219</b>			<b>\$2,219</b>	<b>0.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,831	\$2,218	<b>\$4,049</b>	
Wholesale and retail trade		\$442	\$767	<b>\$1,209</b>	
Construction		\$1,075	\$43	<b>\$1,118</b>	
Information		\$575	\$509	<b>\$1,085</b>	
Finance, insurance, real estate, rental and leasing		\$308	\$451	<b>\$759</b>	
Manufacturing		\$507	\$203	<b>\$710</b>	
Transportation and warehousing		\$472	\$210	<b>\$682</b>	
Government		\$96	\$97	<b>\$192</b>	
Agriculture		\$74	\$99	<b>\$173</b>	
Utilities		\$78	\$42	<b>\$119</b>	
Mining		\$26	\$3	<b>\$29</b>	
<b>Total Impact on Labor Income</b>	<b>\$2,219</b>	<b>\$5,483</b>	<b>\$4,642</b>	<b>\$12,344</b>	<b>3.8%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$12,753</b>			<b>\$12,753</b>	<b>2.3%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$2,388	\$2,859	<b>\$5,247</b>	
Finance, insurance, real estate, rental and leasing		\$908	\$2,055	<b>\$2,963</b>	
Information		\$1,406	\$1,242	<b>\$2,648</b>	
Wholesale and retail trade		\$773	\$1,296	<b>\$2,069</b>	
Manufacturing		\$862	\$344	<b>\$1,206</b>	
Construction		\$1,034	\$64	<b>\$1,098</b>	
Transportation and warehousing		\$582	\$264	<b>\$846</b>	
Utilities		\$300	\$163	<b>\$463</b>	
Government		\$127	\$134	<b>\$261</b>	
Agriculture		\$80	\$116	<b>\$196</b>	
Mining		\$30	\$4	<b>\$34</b>	
<b>Total Impact on Value Added</b>	<b>\$12,753</b>	<b>\$8,489</b>	<b>\$8,540</b>	<b>\$29,781</b>	<b>5.3%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in West Virginia, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>44,000</b>			<b>44,000</b>	<b>4.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		13,170	18,280	<b>31,450</b>	
Wholesale and retail trade		3,120	4,770	<b>7,890</b>	
Finance, insurance, real estate, rental and leasing		3,020	2,490	<b>5,510</b>	
Transportation and warehousing		3,010	770	<b>3,780</b>	
Construction		3,250	210	<b>3,460</b>	
Manufacturing		1,500	560	<b>2,060</b>	
Agriculture		940	470	<b>1,410</b>	
Government		630	480	<b>1,110</b>	
Information		390	310	<b>700</b>	
Mining		570	80	<b>650</b>	
Utilities		290	120	<b>410</b>	
<b>Total Impact on Employment</b>	<b>44,000</b>	<b>29,890</b>	<b>28,550</b>	<b>102,430</b>	<b>11.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$3,529</b>			<b>\$3,529</b>	<b>7.6%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$816	\$835	<b>\$1,651</b>	
Wholesale and retail trade		\$180	\$163	<b>\$343</b>	
Finance, insurance, real estate, rental and leasing		\$162	\$100	<b>\$263</b>	
Construction		\$216	\$14	<b>\$230</b>	
Transportation and warehousing		\$185	\$43	<b>\$228</b>	
Manufacturing		\$107	\$37	<b>\$144</b>	
Government		\$41	\$31	<b>\$72</b>	
Mining		\$57	\$10	<b>\$67</b>	
Information		\$30	\$22	<b>\$52</b>	
Utilities		\$37	\$15	<b>\$52</b>	
Agriculture		\$5	***	<b>\$6</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,529</b>	<b>\$1,836</b>	<b>\$1,271</b>	<b>\$6,636</b>	<b>14.4%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$9,349</b>			<b>\$9,349</b>	<b>12.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$970	\$975	<b>\$1,945</b>	
Finance, insurance, real estate, rental and leasing		\$514	\$577	<b>\$1,092</b>	
Wholesale and retail trade		\$309	\$265	<b>\$574</b>	
Transportation and warehousing		\$232	\$51	<b>\$283</b>	
Construction		\$254	\$22	<b>\$277</b>	
Manufacturing		\$168	\$71	<b>\$239</b>	
Mining		\$165	\$28	<b>\$193</b>	
Utilities		\$117	\$48	<b>\$165</b>	
Information		\$61	\$47	<b>\$107</b>	
Government		\$55	\$43	<b>\$98</b>	
Agriculture		\$9	\$5	<b>\$15</b>	
<b>Total Impact on Value Added</b>	<b>\$9,349</b>	<b>\$2,854</b>	<b>\$2,133</b>	<b>\$14,336</b>	<b>18.5%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income. \*\*\* Less than \$0.5 million.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Wisconsin, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact</b>	<b>39,470</b>			<b>39,470</b>	<b>1.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		18,510	33,820	<b>52,330</b>	
Manufacturing		13,390	5,610	<b>19,000</b>	
Wholesale and retail trade		4,760	9,040	<b>13,800</b>	
Finance, insurance, real estate, rental and leasing		4,450	6,460	<b>10,910</b>	
Construction		9,800	450	<b>10,250</b>	
Transportation and warehousing		5,300	2,160	<b>7,460</b>	
Agriculture		1,630	1,460	<b>3,090</b>	
Information		950	940	<b>1,890</b>	
Government		810	740	<b>1,550</b>	
Utilities		340	200	<b>540</b>	
Mining		210	30	<b>240</b>	
<b>Total Impact on Employment</b>	<b>39,470</b>	<b>60,170</b>	<b>60,900</b>	<b>160,540</b>	<b>4.3%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$1,789</b>			<b>\$1,789</b>	<b>0.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,177	\$1,656	<b>\$2,833</b>	
Manufacturing		\$1,009	\$402	<b>\$1,411</b>	
Wholesale and retail trade		\$359	\$392	<b>\$751</b>	
Finance, insurance, real estate, rental and leasing		\$281	\$374	<b>\$655</b>	
Construction		\$624	\$28	<b>\$652</b>	
Transportation and warehousing		\$312	\$125	<b>\$437</b>	
Information		\$104	\$94	<b>\$198</b>	
Government		\$61	\$55	<b>\$116</b>	
Agriculture		\$56	\$50	<b>\$106</b>	
Utilities		\$56	\$31	<b>\$87</b>	
Mining		\$15	\$2	<b>\$18</b>	
<b>Total Impact on Labor Income</b>	<b>\$1,789</b>	<b>\$4,054</b>	<b>\$3,209</b>	<b>\$9,053</b>	<b>4.3%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact</b>	<b>\$5,837</b>			<b>\$5,837</b>	<b>1.7%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$1,443	\$1,992	<b>\$3,435</b>	
Finance, insurance, real estate, rental and leasing		\$889	\$1,518	<b>\$2,406</b>	
Manufacturing		\$1,582	\$679	<b>\$2,261</b>	
Wholesale and retail trade		\$597	\$626	<b>\$1,223</b>	
Construction		\$523	\$39	<b>\$562</b>	
Transportation and warehousing		\$386	\$163	<b>\$549</b>	
Information		\$242	\$225	<b>\$467</b>	
Utilities		\$192	\$109	<b>\$301</b>	
Agriculture		\$87	\$87	<b>\$174</b>	
Government		\$78	\$74	<b>\$152</b>	
Mining		\$59	\$10	<b>\$68</b>	
<b>Total Impact on Value Added</b>	<b>\$5,837</b>	<b>\$6,078</b>	<b>\$5,520</b>	<b>\$17,435</b>	<b>5.2%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

**The Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Wyoming, 2018**

Sector Description	Direct	Indirect	Induced	Total	As a % of State Total
<b>Employment*</b>					
<b>Industry Direct Impact on Employment</b>	<b>28,690</b>			<b>28,690</b>	<b>7.1%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		8,700	11,090	<b>19,790</b>	
Finance, insurance, real estate, rental and leasing		3,670	3,690	<b>7,360</b>	
Wholesale and retail trade		1,660	3,480	<b>5,140</b>	
Construction		3,410	230	<b>3,640</b>	
Transportation and warehousing		2,420	550	<b>2,970</b>	
Government		470	450	<b>920</b>	
Agriculture		340	370	<b>710</b>	
Manufacturing		450	150	<b>600</b>	
Information		260	240	<b>500</b>	
Mining		410	50	<b>460</b>	
Utilities		190	80	<b>270</b>	
<b>Total Impact on Employment</b>	<b>28,690</b>	<b>22,000</b>	<b>20,380</b>	<b>71,070</b>	<b>17.5%</b>
<b>Labor Income** (\$ Millions)</b>					
<b>Industry Direct Impact on Labor Income</b>	<b>\$3,793</b>			<b>\$3,793</b>	<b>17.0%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$420	\$436	<b>\$856</b>	
Finance, insurance, real estate, rental and leasing		\$129	\$102	<b>\$231</b>	
Wholesale and retail trade		\$105	\$112	<b>\$218</b>	
Construction		\$188	\$13	<b>\$201</b>	
Transportation and warehousing		\$156	\$35	<b>\$191</b>	
Government		\$35	\$33	<b>\$68</b>	
Mining		\$52	\$8	<b>\$59</b>	
Manufacturing		\$35	\$8	<b>\$42</b>	
Utilities		\$25	\$10	<b>\$35</b>	
Information		\$16	\$14	<b>\$31</b>	
Agriculture		\$7	\$7	<b>\$13</b>	
<b>Total Impact on Labor Income</b>	<b>\$3,793</b>	<b>\$1,169</b>	<b>\$778</b>	<b>\$5,740</b>	<b>25.7%</b>
<b>Value Added (\$ Millions)</b>					
<b>Industry Direct Impact on Value Added</b>	<b>\$7,007</b>			<b>\$7,007</b>	<b>17.9%</b>
<b>Indirect/Induced Impacts on Other Industries</b>					
Services		\$536	\$541	<b>\$1,077</b>	
Finance, insurance, real estate, rental and leasing		\$397	\$501	<b>\$898</b>	
Wholesale and retail trade		\$182	\$193	<b>\$375</b>	
Transportation and warehousing		\$253	\$54	<b>\$307</b>	
Construction		\$242	\$22	<b>\$264</b>	
Mining		\$181	\$26	<b>\$207</b>	
Utilities		\$83	\$34	<b>\$117</b>	
Government		\$42	\$41	<b>\$83</b>	
Manufacturing		\$60	\$14	<b>\$75</b>	
Information		\$39	\$33	<b>\$72</b>	
Agriculture		\$10	\$17	<b>\$27</b>	
<b>Total Impact on Value Added</b>	<b>\$7,007</b>	<b>\$2,025</b>	<b>\$1,477</b>	<b>\$10,509</b>	<b>26.9%</b>

Source: PwC calculations based on the IMPLAN modeling system (2018 database). Details may not add to totals due to rounding.

\* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

\*\* Labor income is defined as wages and salaries and benefits as well as proprietors' income.

## ***Appendix C: Detailed Results by Congressional District***

**Table C-1. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Alabama, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Alabama</b>	<b>36,000</b>	<b>136,120</b>	<b>5.1%</b>	<b>\$2,435</b>	<b>\$7,698</b>	<b>5.7%</b>	<b>\$8,300</b>	<b>\$16,776</b>	<b>7.6%</b>
<b>AL-1</b>	6,570	25,540	6.6%	\$624	\$1,520	8.6%	\$1,732	\$3,166	10.8%
<b>AL-2</b>	4,690	16,620	4.8%	\$232	\$795	4.9%	\$805	\$1,736	6.1%
<b>AL-3</b>	4,920	16,900	4.8%	\$207	\$733	4.8%	\$625	\$1,490	6.0%
<b>AL-4</b>	5,540	18,440	5.4%	\$317	\$904	6.2%	\$1,314	\$2,274	9.3%
<b>AL-5</b>	4,690	19,180	4.5%	\$343	\$1,164	4.8%	\$1,347	\$2,599	7.0%
<b>AL-6</b>	3,930	17,400	4.3%	\$264	\$1,126	4.9%	\$726	\$2,125	5.7%
<b>AL-7</b>	5,650	22,030	5.1%	\$447	\$1,456	6.0%	\$1,750	\$3,386	8.4%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-2. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Alaska, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Alaska</b>	<b>15,780</b>	<b>45,530</b>	<b>9.9%</b>	<b>\$2,590</b>	<b>\$4,405</b>	<b>13.9%</b>	<b>\$14,074</b>	<b>\$16,938</b>	<b>30.9%</b>
<b>AK-1 (At-Large)</b>	15,780	45,530	9.9%	\$2,590	\$4,405	13.9%	\$14,074	\$16,938	30.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-3. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Arizona, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Arizona</b>	<b>31,460</b>	<b>149,050</b>	<b>3.9%</b>	<b>\$1,504</b>	<b>\$8,493</b>	<b>4.0%</b>	<b>\$4,255</b>	<b>\$15,615</b>	<b>4.5%</b>
<b>AZ-1</b>	5,060	15,670	4.3%	\$176	\$712	3.9%	\$456	\$1,515	4.6%
<b>AZ-2</b>	2,490	13,680	3.5%	\$126	\$703	3.5%	\$272	\$1,217	3.8%
<b>AZ-3</b>	3,960	14,660	4.7%	\$179	\$766	4.5%	\$481	\$1,422	5.2%
<b>AZ-4</b>	4,520	14,230	4.7%	\$192	\$629	4.6%	\$645	\$1,407	6.1%
<b>AZ-5</b>	2,050	11,080	3.3%	\$108	\$658	3.5%	\$289	\$1,176	3.8%
<b>AZ-6</b>	4,840	27,890	3.9%	\$216	\$1,711	4.2%	\$482	\$2,789	4.4%
<b>AZ-7</b>	3,620	22,880	3.7%	\$245	\$1,517	4.1%	\$829	\$2,858	4.7%
<b>AZ-8</b>	1,610	7,690	3.2%	\$90	\$428	3.4%	\$190	\$757	3.6%
<b>AZ-9</b>	3,310	21,270	3.6%	\$171	\$1,369	3.9%	\$611	\$2,474	4.4%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-4. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Arkansas, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Arkansas</b>	<b>30,270</b>	<b>100,520</b>	<b>6.0%</b>	<b>\$1,439</b>	<b>\$4,994</b>	<b>6.4%</b>	<b>\$5,195</b>	<b>\$10,988</b>	<b>8.6%</b>
<b>AR-1</b>	7,850	22,690	6.2%	\$273	\$917	6.0%	\$1,160	\$2,306	8.9%
<b>AR-2</b>	6,510	23,660	5.1%	\$302	\$1,277	5.3%	\$970	\$2,551	6.5%
<b>AR-3</b>	5,650	23,700	5.1%	\$274	\$1,325	5.5%	\$838	\$2,429	6.6%
<b>AR-4</b>	10,260	30,460	8.3%	\$591	\$1,474	9.5%	\$2,227	\$3,702	14.1%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-5. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in California, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>California</b>	<b>181,070</b>	<b>1,053,310</b>	<b>4.3%</b>	<b>\$23,043</b>	<b>\$90,391</b>	<b>5.1%</b>	<b>\$82,758</b>	<b>\$189,056</b>	<b>6.3%</b>
<b>CA-1</b>	4,180	16,810	4.4%	\$265	\$927	4.7%	\$1,272	\$2,349	7.1%
<b>CA-2</b>	3,870	20,520	4.2%	\$352	\$1,540	4.9%	\$1,286	\$3,079	6.0%
<b>CA-3</b>	4,190	18,900	4.4%	\$452	\$1,335	4.8%	\$1,709	\$3,187	6.7%
<b>CA-4</b>	3,620	18,820	4.4%	\$303	\$1,187	5.0%	\$1,202	\$2,574	6.5%
<b>CA-5</b>	5,000	27,290	7.0%	\$752	\$2,195	8.8%	\$3,788	\$5,997	14.0%
<b>CA-6</b>	2,550	15,890	3.5%	\$213	\$1,093	3.6%	\$1,010	\$2,317	5.1%
<b>CA-7</b>	1,920	13,190	3.4%	\$180	\$945	3.4%	\$784	\$1,931	4.6%
<b>CA-8</b>	3,920	13,580	4.7%	\$282	\$791	5.0%	\$741	\$1,588	5.9%
<b>CA-9</b>	2,990	14,410	4.6%	\$335	\$987	5.5%	\$1,266	\$2,326	7.7%
<b>CA-10</b>	2,480	13,570	4.2%	\$183	\$808	4.5%	\$1,344	\$2,318	7.9%
<b>CA-11</b>	11,720	59,810	11.4%	\$2,462	\$5,863	15.5%	\$11,008	\$16,171	23.3%
<b>CA-12</b>	1,920	28,540	3.0%	\$404	\$4,820	3.9%	\$614	\$7,241	3.7%
<b>CA-13</b>	2,360	18,730	3.9%	\$482	\$1,860	4.9%	\$1,014	\$3,106	5.1%
<b>CA-14</b>	2,250	18,400	3.4%	\$321	\$2,586	4.0%	\$659	\$4,746	3.9%
<b>CA-15</b>	2,850	18,770	4.0%	\$411	\$1,809	4.6%	\$1,153	\$3,262	5.1%
<b>CA-16</b>	3,360	16,000	4.7%	\$351	\$1,042	5.7%	\$1,372	\$2,441	8.4%
<b>CA-17</b>	2,130	23,360	3.4%	\$252	\$3,882	3.6%	\$940	\$6,964	3.8%
<b>CA-18</b>	2,710	22,580	3.4%	\$256	\$3,211	3.9%	\$657	\$5,649	4.0%
<b>CA-19</b>	1,930	13,640	3.3%	\$224	\$1,492	3.8%	\$520	\$2,547	3.8%
<b>CA-20</b>	2,380	14,280	3.7%	\$286	\$1,044	4.3%	\$933	\$2,080	5.6%
<b>CA-21</b>	7,420	23,170	6.4%	\$1,097	\$1,983	9.4%	\$4,228	\$5,658	15.7%
<b>CA-22</b>	2,810	16,290	4.3%	\$383	\$1,103	5.4%	\$1,351	\$2,482	7.6%
<b>CA-23</b>	8,840	28,760	8.5%	\$1,377	\$2,506	12.5%	\$4,730	\$6,481	19.4%
<b>CA-24</b>	4,590	24,570	4.7%	\$669	\$1,931	6.2%	\$2,282	\$4,228	8.4%
<b>CA-25</b>	2,050	11,560	3.8%	\$238	\$870	4.5%	\$570	\$1,575	4.9%
<b>CA-26</b>	2,370	15,140	4.1%	\$350	\$1,184	5.1%	\$1,103	\$2,390	6.3%
<b>CA-27</b>	2,220	17,010	3.4%	\$290	\$1,353	4.1%	\$725	\$2,411	4.5%
<b>CA-28</b>	1,790	18,440	3.0%	\$210	\$1,573	3.6%	\$537	\$2,727	3.8%
<b>CA-29</b>	1,100	8,420	3.1%	\$127	\$648	3.6%	\$357	\$1,220	4.0%
<b>CA-30</b>	2,580	21,820	3.3%	\$341	\$1,883	4.1%	\$816	\$3,288	4.3%
<b>CA-31</b>	2,240	13,590	4.2%	\$200	\$799	4.7%	\$596	\$1,513	5.5%
<b>CA-32</b>	2,300	14,820	4.1%	\$323	\$1,189	5.0%	\$974	\$2,376	5.9%
<b>CA-33</b>	5,490	43,100	4.9%	\$970	\$3,962	6.1%	\$5,541	\$10,160	9.1%
<b>CA-34</b>	5,420	27,570	4.9%	\$761	\$2,502	6.5%	\$2,176	\$4,785	7.7%

(continued on next page)



**Table C-5. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in California, 2018, continued**

<b>CA-35</b>	3,440	20,230	4.4%	\$311	\$1,297	4.8%	\$1,148	\$2,045	6.0%
<b>CA-36</b>	2,360	11,580	3.9%	\$192	\$622	4.3%	\$448	\$1,133	4.8%
<b>CA-37</b>	2,200	19,150	3.2%	\$189	\$1,677	3.8%	\$613	\$3,071	4.1%
<b>CA-38</b>	2,100	13,880	4.0%	\$301	\$1,101	4.9%	\$973	\$2,265	5.9%
<b>CA-39</b>	3,490	20,500	4.5%	\$312	\$1,537	5.1%	\$1,120	\$3,002	5.9%
<b>CA-40</b>	<b>2,640</b>	<b>17,380</b>	<b>4.1%</b>	<b>\$351</b>	<b>\$1,367</b>	<b>4.9%</b>	<b>\$1,409</b>	<b>\$2,989</b>	<b>6.3%</b>
<b>CA-41</b>	2,140	13,450	4.3%	\$181	\$755	4.6%	\$639	\$1,491	5.7%
<b>CA-42</b>	3,050	15,600	4.2%	\$225	\$867	4.5%	\$687	\$1,677	5.3%
<b>CA-43</b>	1,920	16,550	3.8%	\$261	\$1,339	4.4%	\$1,162	\$2,895	5.6%
<b>CA-44</b>	5,910	27,410	10.2%	\$987	\$2,427	13.0%	\$5,290	\$7,540	21.7%
<b>CA-45</b>	2,640	22,220	3.6%	\$268	\$1,854	4.1%	\$841	\$3,291	4.4%
<b>CA-46</b>	2,470	18,060	3.9%	\$293	\$1,443	4.7%	\$775	\$2,524	5.0%
<b>CA-47</b>	4,250	18,120	4.7%	\$314	\$1,306	5.1%	\$984	\$2,587	5.9%
<b>CA-48</b>	3,400	23,410	4.0%	\$313	\$1,836	4.6%	\$1,003	\$3,345	5.0%
<b>CA-49</b>	4,940	27,540	4.6%	\$735	\$2,299	5.3%	\$1,915	\$4,432	5.9%
<b>CA-50</b>	3,130	13,740	4.1%	\$359	\$971	4.8%	\$882	\$1,895	5.3%
<b>CA-51</b>	2,280	11,490	3.5%	\$227	\$774	3.9%	\$748	\$1,668	4.8%
<b>CA-52</b>	5,620	32,250	4.6%	\$741	\$2,612	5.2%	\$1,912	\$4,865	5.7%
<b>CA-53</b>	3,560	19,430	4.1%	\$382	\$1,402	4.6%	\$950	\$2,575	4.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-6. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Colorado, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Colorado</b>	<b>75,650</b>	<b>340,290</b>	<b>8.8%</b>	<b>\$18,372</b>	<b>\$34,507</b>	<b>14.5%</b>	<b>\$22,014</b>	<b>\$47,123</b>	<b>12.7%</b>
<b>CO-1</b>	17,040	88,050	10.9%	\$11,813	\$16,968	26.8%	\$10,220	\$18,204	18.8%
<b>CO-2</b>	7,700	43,180	6.6%	\$769	\$2,870	7.5%	\$1,474	\$4,742	7.8%
<b>CO-3</b>	14,590	48,320	10.4%	\$1,363	\$2,812	13.6%	\$2,359	\$4,698	14.1%
<b>CO-4</b>	17,590	61,810	11.5%	\$2,185	\$4,729	15.6%	\$3,074	\$7,099	14.7%
<b>CO-5</b>	5,630	28,070	5.9%	\$339	\$1,500	5.7%	\$703	\$2,546	6.3%
<b>CO-6</b>	6,910	36,480	7.9%	\$1,124	\$3,136	10.4%	\$2,063	\$5,160	10.7%
<b>CO-7</b>	6,170	34,390	7.4%	\$779	\$2,491	8.6%	\$2,122	\$4,675	10.5%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-7. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Connecticut, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Connecticut</b>	<b>16,190</b>	<b>94,620</b>	<b>4.1%</b>	<b>\$3,115</b>	<b>\$9,360</b>	<b>5.3%</b>	<b>\$4,162</b>	<b>\$13,760</b>	<b>5.0%</b>
<b>CT-1</b>	2,710	18,930	3.4%	\$215	\$1,547	3.6%	\$542	\$2,708	3.9%
<b>CT-2</b>	3,540	15,960	4.1%	\$474	\$1,262	5.2%	\$584	\$1,843	4.3%
<b>CT-3</b>	3,490	21,630	4.8%	\$1,043	\$2,265	7.2%	\$1,314	\$3,238	6.5%
<b>CT-4</b>	3,210	19,900	4.0%	\$955	\$2,787	5.9%	\$882	\$3,473	5.1%
<b>CT-5</b>	3,230	18,190	4.3%	\$428	\$1,500	5.2%	\$839	\$2,498	5.5%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-8. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Delaware, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Delaware</b>	<b>6,440</b>	<b>29,200</b>	<b>4.9%</b>	<b>\$553</b>	<b>\$2,077</b>	<b>5.6%</b>	<b>\$1,833</b>	<b>\$4,643</b>	<b>6.3%</b>
<b>DE-1 (At-Large)</b>	6,440	29,200	4.9%	\$553	\$2,077	5.6%	\$1,833	\$4,643	6.3%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-9. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in the District of Columbia, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>District of Columbia</b>	<b>2,350</b>	<b>19,750</b>	<b>2.2%</b>	<b>\$376</b>	<b>\$2,503</b>	<b>2.4%</b>	<b>\$959</b>	<b>\$3,851</b>	<b>2.7%</b>
<b>DC-1 (At-Large)</b>	2,350	19,750	2.2%	\$376	\$2,503	2.4%	\$959	\$3,851	2.7%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-10. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Florida, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Florida</b>	<b>81,590</b>	<b>453,010</b>	<b>3.6%</b>	<b>\$3,742</b>	<b>\$24,376</b>	<b>3.8%</b>	<b>\$15,745</b>	<b>\$49,251</b>	<b>4.7%</b>
<b>FL-1</b>	5,050	18,880	4.2%	\$214	\$873	3.8%	\$808	\$1,936	5.3%
<b>FL-2</b>	4,840	17,720	4.7%	\$196	\$764	4.6%	\$777	\$1,733	6.4%
<b>FL-3</b>	4,730	17,070	4.9%	\$162	\$690	4.4%	\$603	\$1,519	5.8%
<b>FL-4</b>	5,020	23,720	4.0%	\$200	\$1,391	4.1%	\$724	\$2,633	4.8%
<b>FL-5</b>	4,440	17,330	4.4%	\$194	\$952	4.4%	\$810	\$2,090	5.8%
<b>FL-6</b>	5,390	17,050	5.0%	\$79	\$592	4.3%	\$263	\$1,098	4.8%
<b>FL-7</b>	1,820	17,060	3.0%	\$70	\$995	3.3%	\$230	\$1,683	3.4%
<b>FL-8</b>	2,700	14,460	3.6%	\$124	\$776	3.8%	\$559	\$1,583	4.9%
<b>FL-9</b>	2,630	12,870	3.7%	\$131	\$632	3.9%	\$598	\$1,442	5.3%
<b>FL-10</b>	2,520	22,250	3.0%	\$112	\$1,259	3.4%	\$481	\$2,288	3.8%
<b>FL-11</b>	2,590	11,590	3.7%	\$88	\$467	3.7%	\$235	\$906	4.1%
<b>FL-12</b>	1,650	10,430	3.1%	\$62	\$496	3.2%	\$153	\$859	3.4%
<b>FL-13</b>	1,720	14,340	3.1%	\$64	\$824	3.4%	\$281	\$1,500	3.8%
<b>FL-14</b>	3,430	23,150	3.4%	\$258	\$1,553	3.9%	\$1,175	\$3,298	4.9%
<b>FL-15</b>	4,770	22,070	5.5%	\$395	\$1,348	6.5%	\$1,731	\$3,357	9.4%
<b>FL-16</b>	3,710	18,570	4.2%	\$116	\$933	4.4%	\$375	\$1,661	4.8%
<b>FL-17</b>	3,090	13,380	4.5%	\$191	\$685	5.3%	\$730	\$1,569	7.1%
<b>FL-18</b>	2,950	16,600	3.8%	\$119	\$829	4.0%	\$384	\$1,537	4.5%
<b>FL-19</b>	2,700	17,700	3.5%	\$90	\$943	3.6%	\$326	\$1,609	4.0%
<b>FL-20</b>	2,130	16,200	3.3%	\$115	\$957	3.7%	\$472	\$1,832	4.3%
<b>FL-21</b>	1,250	11,210	3.0%	\$61	\$608	3.3%	\$208	\$1,072	3.6%
<b>FL-22</b>	1,760	19,840	3.1%	\$102	\$1,203	3.5%	\$509	\$2,185	4.0%
<b>FL-23</b>	1,710	14,770	2.9%	\$83	\$822	3.2%	\$399	\$1,616	3.7%
<b>FL-24</b>	1,780	14,530	3.0%	\$108	\$790	3.4%	\$641	\$1,762	4.5%
<b>FL-25</b>	4,130	22,590	3.9%	\$265	\$1,382	4.3%	\$1,528	\$3,350	6.2%
<b>FL-26</b>	1,660	9,600	3.0%	\$74	\$487	3.1%	\$356	\$1,056	4.0%
<b>FL-27</b>	1,400	18,060	2.8%	\$68	\$1,121	3.3%	\$391	\$2,076	3.8%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-11. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Georgia, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Georgia</b>	<b>46,750</b>	<b>230,480</b>	<b>3.7%</b>	<b>\$2,883</b>	<b>\$13,959</b>	<b>3.9%</b>	<b>\$9,882</b>	<b>\$28,464</b>	<b>4.8%</b>
<b>GA-1</b>	4,720	16,920	4.1%	\$235	\$823	3.8%	\$1,046	\$2,057	5.8%
<b>GA-2</b>	3,460	14,260	3.7%	\$147	\$676	3.6%	\$989	\$1,920	6.2%
<b>GA-3</b>	3,180	14,020	3.9%	\$147	\$634	4.1%	\$550	\$1,377	5.3%
<b>GA-4</b>	2,060	10,300	3.5%	\$119	\$551	3.8%	\$218	\$950	3.9%
<b>GA-5</b>	3,460	24,620	3.2%	\$380	\$2,260	3.7%	\$1,068	\$4,395	4.1%
<b>GA-6</b>	2,810	24,250	3.2%	\$351	\$2,184	3.8%	\$801	\$3,652	4.0%
<b>GA-7</b>	3,090	18,670	3.7%	\$259	\$1,277	4.3%	\$592	\$2,194	4.6%
<b>GA-8</b>	3,380	12,770	3.6%	\$124	\$512	3.3%	\$533	\$1,226	4.8%
<b>GA-9</b>	3,860	17,790	4.1%	\$182	\$858	4.3%	\$1,138	\$2,253	6.9%
<b>GA-10</b>	3,220	13,920	3.9%	\$133	\$599	3.9%	\$565	\$1,370	5.4%
<b>GA-11</b>	3,340	20,670	3.6%	\$272	\$1,452	4.2%	\$718	\$2,606	4.6%
<b>GA-12</b>	4,140	15,340	4.0%	\$160	\$682	3.6%	\$748	\$1,639	5.4%
<b>GA-13</b>	3,100	14,680	3.8%	\$218	\$856	4.1%	\$555	\$1,709	4.7%
<b>GA-14</b>	2,920	12,270	4.0%	\$155	\$593	4.2%	\$361	\$1,117	4.8%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-12. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Hawaii, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Hawaii</b>	<b>4,620</b>	<b>28,410</b>	<b>3.1%</b>	<b>\$348</b>	<b>\$1,763</b>	<b>3.2%</b>	<b>\$1,843</b>	<b>\$4,186</b>	<b>4.5%</b>
<b>HI-1</b>	1,720	14,960	2.8%	\$161	\$1,027	3.1%	\$854	\$2,242	4.0%
<b>HI-2</b>	2,900	13,450	3.3%	\$187	\$735	3.4%	\$989	\$1,944	5.1%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-13. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Idaho, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Idaho</b>	<b>10,820</b>	<b>43,010</b>	<b>4.1%</b>	<b>\$523</b>	<b>\$2,161</b>	<b>4.4%</b>	<b>\$1,459</b>	<b>\$4,021</b>	<b>5.2%</b>
<b>ID-1</b>	4,190	18,250	3.7%	\$186	\$870	3.9%	\$576	\$1,675	4.7%
<b>ID-2</b>	6,630	24,760	4.5%	\$337	\$1,292	4.7%	\$883	\$2,346	5.7%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-14. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Illinois, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Illinois</b>	<b>70,150</b>	<b>360,860</b>	<b>4.5%</b>	<b>\$5,096</b>	<b>\$25,860</b>	<b>4.9%</b>	<b>\$21,869</b>	<b>\$55,197</b>	<b>6.4%</b>
<b>IL-1</b>	1,440	8,960	3.3%	\$113	\$594	3.6%	\$345	\$1,159	4.2%
<b>IL-2</b>	2,280	11,000	3.9%	\$135	\$695	3.9%	\$510	\$1,436	4.9%
<b>IL-3</b>	2,610	16,660	4.5%	\$297	\$1,262	5.2%	\$1,610	\$3,153	7.8%
<b>IL-4</b>	2,700	11,340	4.5%	\$171	\$802	4.8%	\$568	\$1,605	5.7%
<b>IL-5</b>	1,780	19,320	3.4%	\$182	\$1,532	3.8%	\$663	\$2,816	4.3%
<b>IL-6</b>	2,560	20,140	4.2%	\$279	\$1,606	5.0%	\$877	\$2,912	5.7%
<b>IL-7</b>	6,930	46,690	4.0%	\$372	\$4,453	4.5%	\$1,281	\$7,492	4.9%
<b>IL-8</b>	2,070	18,960	3.6%	\$201	\$1,566	4.1%	\$792	\$2,927	4.8%
<b>IL-9</b>	2,440	17,270	3.5%	\$109	\$1,272	3.8%	\$476	\$2,282	4.3%
<b>IL-10</b>	4,320	20,390	4.6%	\$167	\$1,583	4.3%	\$590	\$2,868	4.6%
<b>IL-11</b>	3,280	22,350	5.5%	\$412	\$1,683	6.6%	\$2,358	\$4,333	10.2%
<b>IL-12</b>	5,140	18,900	5.4%	\$308	\$1,011	5.7%	\$1,442	\$2,600	8.9%
<b>IL-13</b>	4,010	17,220	4.4%	\$228	\$951	4.6%	\$1,333	\$2,596	7.2%
<b>IL-14</b>	4,040	23,420	4.9%	\$390	\$1,617	5.6%	\$1,989	\$3,956	8.2%
<b>IL-15</b>	9,240	28,140	7.9%	\$726	\$1,611	9.7%	\$3,083	\$4,573	15.5%
<b>IL-16</b>	6,680	24,530	6.9%	\$518	\$1,461	7.9%	\$2,386	\$3,981	12.0%
<b>IL-17</b>	4,280	18,730	5.0%	\$286	\$1,207	5.5%	\$822	\$2,351	6.5%
<b>IL-18</b>	4,340	16,830	4.5%	\$203	\$952	4.5%	\$746	\$2,156	5.5%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-15 Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Indiana, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Indiana</b>	<b>43,600</b>	<b>191,590</b>	<b>4.8%</b>	<b>\$2,746</b>	<b>\$11,557</b>	<b>5.2%</b>	<b>\$11,998</b>	<b>\$25,951</b>	<b>7.1%</b>
<b>IN-1</b>	5,770	28,370	7.5%	\$596	\$1,849	9.4%	\$5,002	\$6,980	19.7%
<b>IN-2</b>	3,960	19,290	4.4%	\$208	\$1,125	4.7%	\$728	\$2,083	5.7%
<b>IN-3</b>	4,870	21,390	4.6%	\$232	\$1,139	4.8%	\$915	\$2,341	6.0%
<b>IN-4</b>	5,290	18,980	4.7%	\$203	\$919	4.7%	\$628	\$1,828	5.4%
<b>IN-5</b>	3,730	21,230	3.8%	\$211	\$1,467	4.2%	\$598	\$2,477	4.5%
<b>IN-6</b>	5,140	18,340	4.7%	\$192	\$887	4.8%	\$533	\$1,684	5.4%
<b>IN-7</b>	3,670	19,850	3.8%	\$317	\$1,659	4.2%	\$1,013	\$3,169	4.6%
<b>IN-8</b>	7,870	29,580	6.5%	\$655	\$1,787	7.8%	\$2,252	\$4,095	10.3%
<b>IN-9</b>	3,300	14,570	4.1%	\$131	\$724	4.3%	\$329	\$1,295	4.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-16. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Iowa, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Iowa</b>	<b>29,550</b>	<b>99,480</b>	<b>4.8%</b>	<b>\$1,502</b>	<b>\$5,499</b>	<b>5.0%</b>	<b>\$4,087</b>	<b>\$10,808</b>	<b>5.7%</b>
<b>IA-1</b>	6,770	23,210	4.9%	\$306	\$1,273	5.2%	\$867	\$2,474	5.9%
<b>IA-2</b>	7,390	24,970	4.7%	\$326	\$1,262	4.8%	\$950	\$2,521	5.6%
<b>IA-3</b>	6,660	24,480	4.3%	\$375	\$1,517	4.5%	\$974	\$2,950	4.9%
<b>IA-4</b>	8,740	26,820	5.2%	\$495	\$1,447	5.7%	\$1,296	\$2,862	6.7%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.



**Table C-17. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Kansas, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Kansas</b>	<b>60,830</b>	<b>176,390</b>	<b>9.1%</b>	<b>\$4,460</b>	<b>\$11,188</b>	<b>10.5%</b>	<b>\$9,666</b>	<b>\$20,217</b>	<b>12.0%</b>
<b>KS-1</b>	22,360	54,460	11.1%	\$1,767	\$3,280	14.0%	\$3,484	\$5,911	16.3%
<b>KS-2</b>	9,300	31,470	7.7%	\$687	\$1,872	9.3%	\$1,611	\$3,541	10.9%
<b>KS-3</b>	6,620	36,740	6.3%	\$435	\$2,804	7.3%	\$1,001	\$4,542	7.7%
<b>KS-4</b>	22,550	53,720	11.7%	\$1,571	\$3,231	13.1%	\$3,570	\$6,223	15.4%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-18. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Kentucky, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Kentucky</b>	<b>34,790</b>	<b>128,820</b>	<b>5.1%</b>	<b>\$1,724</b>	<b>\$6,791</b>	<b>5.3%</b>	<b>\$7,264</b>	<b>\$15,215</b>	<b>7.3%</b>
<b>KY-1</b>	8,170	24,480	5.9%	\$409	\$1,206	6.0%	\$1,548	\$2,828	8.7%
<b>KY-2</b>	6,330	22,000	5.3%	\$296	\$1,068	5.6%	\$1,154	\$2,403	7.5%
<b>KY-3</b>	2,950	19,330	3.6%	\$196	\$1,337	4.1%	\$587	\$2,344	4.5%
<b>KY-4</b>	6,050	25,220	5.6%	\$375	\$1,461	6.3%	\$1,688	\$3,362	9.0%
<b>KY-5</b>	6,730	19,430	6.7%	\$285	\$818	7.0%	\$1,717	\$2,581	13.4%
<b>KY-6</b>	4,560	18,360	4.1%	\$163	\$901	4.1%	\$570	\$1,696	4.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-19. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Louisiana, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Louisiana</b>	<b>127,580</b>	<b>432,070</b>	<b>15.8%</b>	<b>\$14,163</b>	<b>\$29,908</b>	<b>20.6%</b>	<b>\$52,902</b>	<b>\$78,340</b>	<b>30.4%</b>
<b>LA-1</b>	16,910	70,770	14.1%	\$3,423	\$6,198	22.9%	\$8,421	\$12,877	28.1%
<b>LA-2</b>	19,820	81,000	15.3%	\$3,064	\$6,707	21.0%	\$16,566	\$22,474	36.4%
<b>LA-3</b>	33,480	99,990	21.3%	\$3,395	\$6,709	26.8%	\$12,423	\$17,687	38.7%
<b>LA-4</b>	26,210	66,520	16.9%	\$1,535	\$3,333	17.6%	\$4,436	\$7,567	23.4%
<b>LA-5</b>	12,690	40,390	11.1%	\$664	\$1,924	11.8%	\$2,132	\$4,246	16.0%
<b>LA-6</b>	18,470	73,390	15.4%	\$2,082	\$5,037	19.2%	\$8,925	\$13,488	29.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-20. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Maine, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Maine</b>	<b>12,310</b>	<b>40,230</b>	<b>4.7%</b>	<b>\$528</b>	<b>\$1,954</b>	<b>4.6%</b>	<b>\$1,672</b>	<b>\$3,868</b>	<b>6.0%</b>
<b>ME-1</b>	5,370	21,080	4.4%	\$265	\$1,131	4.4%	\$781	\$2,088	5.4%
<b>ME-2</b>	6,940	19,150	5.1%	\$262	\$822	4.8%	\$891	\$1,780	6.8%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-21. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Maryland, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Maryland</b>	<b>20,100</b>	<b>114,340</b>	<b>3.0%</b>	<b>\$1,290</b>	<b>\$8,106</b>	<b>3.2%</b>	<b>\$4,780</b>	<b>\$15,201</b>	<b>3.7%</b>
<b>MD-1</b>	3,550	15,630	3.7%	\$172	\$815	3.7%	\$851	\$1,874	5.2%
<b>MD-2</b>	2,450	14,450	3.2%	\$162	\$1,070	3.5%	\$688	\$2,119	4.1%
<b>MD-3</b>	2,250	17,570	2.7%	\$149	\$1,398	3.0%	\$561	\$2,459	3.3%
<b>MD-4</b>	1,790	10,710	2.7%	\$99	\$634	2.5%	\$302	\$1,119	2.7%
<b>MD-5</b>	2,800	13,150	3.2%	\$193	\$754	3.1%	\$899	\$1,785	4.2%
<b>MD-6</b>	3,310	14,490	3.5%	\$223	\$1,087	3.6%	\$681	\$1,963	4.1%
<b>MD-7</b>	1,900	13,000	2.9%	\$121	\$996	3.2%	\$427	\$1,768	3.6%
<b>MD-8</b>	2,040	15,340	2.7%	\$171	\$1,353	3.0%	\$373	\$2,114	3.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-22. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Massachusetts, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Massachusetts</b>	<b>27,810</b>	<b>161,760</b>	<b>3.3%</b>	<b>\$2,223</b>	<b>\$13,653</b>	<b>3.7%</b>	<b>\$6,035</b>	<b>\$22,898</b>	<b>4.0%</b>
<b>MA-1</b>	3,650	16,420	3.9%	\$235	\$973	4.3%	\$603	\$1,733	4.9%
<b>MA-2</b>	3,450	16,930	3.7%	\$243	\$1,090	4.1%	\$813	\$2,097	5.1%
<b>MA-3</b>	2,730	15,400	3.5%	\$253	\$1,323	4.0%	\$565	\$2,150	4.1%
<b>MA-4</b>	2,750	17,750	3.2%	\$158	\$1,308	3.5%	\$475	\$2,122	3.7%
<b>MA-5</b>	2,370	17,170	3.1%	\$240	\$1,570	3.4%	\$505	\$2,555	3.4%
<b>MA-6</b>	3,360	20,080	3.5%	\$252	\$1,646	3.9%	\$540	\$2,674	4.0%
<b>MA-7</b>	2,290	18,260	2.6%	\$252	\$2,181	3.1%	\$676	\$3,496	3.3%
<b>MA-8</b>	3,360	22,420	3.1%	\$332	\$2,518	3.8%	\$1,144	\$4,231	4.4%
<b>MA-9</b>	3,860	17,330	3.8%	\$259	\$1,043	4.3%	\$712	\$1,840	4.8%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-23. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Michigan, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Michigan</b>	<b>60,180</b>	<b>274,400</b>	<b>4.8%</b>	<b>\$4,034</b>	<b>\$17,338</b>	<b>5.2%</b>	<b>\$10,675</b>	<b>\$31,078</b>	<b>5.9%</b>
<b>MI-1</b>	8,670	24,910	6.5%	\$403	\$1,114	6.7%	\$1,022	\$2,167	8.0%
<b>MI-2</b>	4,710	21,830	4.9%	\$252	\$1,219	5.2%	\$1,039	\$2,478	6.9%
<b>MI-3</b>	3,760	19,430	4.4%	\$183	\$1,131	4.6%	\$643	\$2,060	5.4%
<b>MI-4</b>	9,400	30,360	9.1%	\$906	\$1,967	12.2%	\$1,824	\$3,509	13.7%
<b>MI-5</b>	3,650	14,780	5.1%	\$214	\$785	5.5%	\$699	\$1,624	6.7%
<b>MI-6</b>	3,420	17,680	4.2%	\$222	\$1,024	4.5%	\$669	\$1,956	5.2%
<b>MI-7</b>	4,400	19,700	4.6%	\$240	\$1,152	4.8%	\$641	\$2,129	5.4%
<b>MI-8</b>	4,400	18,720	4.7%	\$197	\$1,084	4.8%	\$690	\$2,074	5.5%
<b>MI-9</b>	2,000	16,810	3.6%	\$95	\$1,178	3.9%	\$229	\$1,823	3.9%
<b>MI-10</b>	4,250	17,050	4.9%	\$199	\$908	5.0%	\$511	\$1,591	5.5%
<b>MI-11</b>	2,620	21,080	3.9%	\$194	\$1,681	4.5%	\$511	\$2,640	4.7%
<b>MI-12</b>	3,070	17,510	4.1%	\$330	\$1,318	4.8%	\$743	\$2,277	5.3%
<b>MI-13</b>	3,490	16,470	4.9%	\$378	\$1,303	5.9%	\$854	\$2,290	6.4%
<b>MI-14</b>	2,340	18,090	3.9%	\$221	\$1,473	4.7%	\$600	\$2,462	5.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-24. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Minnesota, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Minnesota</b>	<b>39,920</b>	<b>171,070</b>	<b>4.5%</b>	<b>\$2,423</b>	<b>\$11,385</b>	<b>4.9%</b>	<b>\$9,486</b>	<b>\$23,010</b>	<b>6.2%</b>
<b>MN-1</b>	6,190	20,930	4.8%	\$264	\$1,071	4.7%	\$718	\$2,006	5.5%
<b>MN-2</b>	5,580	27,100	7.0%	\$606	\$1,959	8.6%	\$4,125	\$6,208	15.5%
<b>MN-3</b>	3,680	23,480	3.7%	\$333	\$2,114	4.3%	\$658	\$3,250	4.3%
<b>MN-4</b>	2,910	18,730	3.7%	\$202	\$1,340	4.1%	\$1,050	\$2,689	5.5%
<b>MN-5</b>	3,070	23,760	3.5%	\$288	\$2,188	4.2%	\$700	\$3,473	4.4%
<b>MN-6</b>	4,510	17,230	4.5%	\$168	\$898	4.6%	\$458	\$1,552	5.1%
<b>MN-7</b>	7,450	21,000	5.1%	\$292	\$941	5.2%	\$915	\$1,986	6.5%
<b>MN-8</b>	6,530	18,850	5.2%	\$272	\$874	5.3%	\$863	\$1,845	6.8%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-25. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Mississippi, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Mississippi</b>	<b>36,500</b>	<b>112,590</b>	<b>7.0%</b>	<b>\$2,179</b>	<b>\$5,523</b>	<b>7.9%</b>	<b>\$7,378</b>	<b>\$13,009</b>	<b>11.3%</b>
<b>MS-1</b>	7,490	24,450	5.7%	\$306	\$1,029	5.8%	\$914	\$2,134	7.3%
<b>MS-2</b>	7,730	23,420	6.4%	\$422	\$1,112	7.0%	\$1,499	\$2,695	10.1%
<b>MS-3</b>	10,850	31,720	7.1%	\$663	\$1,609	8.2%	\$1,483	\$3,055	9.9%
<b>MS-4</b>	10,440	33,000	9.1%	\$788	\$1,773	10.4%	\$3,483	\$5,125	18.2%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-26. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Missouri, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Missouri</b>	<b>45,210</b>	<b>178,480</b>	<b>4.7%</b>	<b>\$2,367</b>	<b>\$10,143</b>	<b>4.9%</b>	<b>\$6,557</b>	<b>\$18,706</b>	<b>5.9%</b>
<b>MO-1</b>	5,520	28,280	4.4%	\$553	\$2,309	5.1%	\$1,360	\$4,014	5.8%
<b>MO-2</b>	4,280	22,790	4.1%	\$262	\$1,613	4.6%	\$652	\$2,674	4.9%
<b>MO-3</b>	6,100	21,540	4.9%	\$223	\$983	4.8%	\$641	\$1,881	5.7%
<b>MO-4</b>	5,270	16,990	4.8%	\$221	\$718	4.7%	\$639	\$1,452	6.2%
<b>MO-5</b>	4,120	20,400	3.9%	\$268	\$1,406	4.3%	\$659	\$2,399	4.8%
<b>MO-6</b>	6,900	23,170	5.2%	\$322	\$1,130	5.4%	\$951	\$2,291	6.6%
<b>MO-7</b>	6,660	25,290	5.2%	\$251	\$1,156	5.3%	\$858	\$2,235	6.8%
<b>MO-8</b>	6,360	20,020	5.7%	\$267	\$829	6.1%	\$797	\$1,760	8.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-27. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Montana, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Montana</b>	<b>15,960</b>	<b>56,870</b>	<b>8.3%</b>	<b>\$1,482</b>	<b>\$3,432</b>	<b>10.8%</b>	<b>\$3,430</b>	<b>\$6,412</b>	<b>12.7%</b>
<b>MT-1 (At-Large)</b>	15,960	56,870	8.3%	\$1,482	\$3,432	10.8%	\$3,430	\$6,412	12.7%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-28. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Nebraska, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Nebraska</b>	<b>15,680</b>	<b>79,530</b>	<b>6.0%</b>	<b>\$4,506</b>	<b>\$7,910</b>	<b>10.5%</b>	<b>\$5,793</b>	<b>\$11,448</b>	<b>9.2%</b>
<b>NE-1</b>	4,880	24,390	5.9%	\$1,122	\$2,131	9.5%	\$1,251	\$2,917	8.1%
<b>NE-2</b>	3,050	23,580	4.6%	\$853	\$2,205	7.0%	\$1,591	\$3,814	7.2%
<b>NE-3</b>	7,750	31,560	7.7%	\$2,531	\$3,574	16.7%	\$2,951	\$4,717	13.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-29. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Nevada, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Nevada</b>	<b>14,880</b>	<b>70,490</b>	<b>3.8%</b>	<b>\$839</b>	<b>\$3,982</b>	<b>4.0%</b>	<b>\$2,763</b>	<b>\$8,052</b>	<b>4.8%</b>
<b>NV-1</b>	4,280	24,370	3.6%	\$282	\$1,368	4.0%	\$736	\$2,510	4.3%
<b>NV-2</b>	5,100	20,820	4.5%	\$234	\$1,191	4.5%	\$1,208	\$2,773	6.3%
<b>NV-3</b>	2,640	14,950	3.4%	\$164	\$847	3.6%	\$390	\$1,561	3.8%
<b>NV-4</b>	2,850	10,350	4.0%	\$160	\$576	4.0%	\$430	\$1,208	4.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.



**Table C-30. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Hampshire, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>New Hampshire</b>	<b>8,790</b>	<b>35,870</b>	<b>4.0%</b>	<b>\$528</b>	<b>\$2,433</b>	<b>4.4%</b>	<b>\$1,321</b>	<b>\$4,093</b>	<b>4.8%</b>
<b>NH-1</b>	4,490	18,860	4.0%	\$297	\$1,324	4.5%	\$804	\$2,284	5.1%
<b>NH-2</b>	4,300	17,010	4.0%	\$230	\$1,109	4.3%	\$517	\$1,808	4.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-31. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Jersey, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>New Jersey</b>	<b>42,260</b>	<b>230,080</b>	<b>4.1%</b>	<b>\$4,688</b>	<b>\$19,157</b>	<b>4.8%</b>	<b>\$15,732</b>	<b>\$37,444</b>	<b>6.0%</b>
<b>NJ-1</b>	3,960	20,170	5.3%	\$452	\$1,457	6.4%	\$2,394	\$3,914	10.8%
<b>NJ-2</b>	4,390	17,650	4.4%	\$412	\$1,132	5.3%	\$1,799	\$2,927	8.4%
<b>NJ-3</b>	4,290	18,810	4.2%	\$273	\$1,225	4.5%	\$656	\$2,127	4.9%
<b>NJ-4</b>	3,630	18,520	4.4%	\$372	\$1,320	5.4%	\$1,153	\$2,584	6.5%
<b>NJ-5</b>	3,950	19,170	4.0%	\$328	\$1,498	4.6%	\$915	\$2,614	5.2%
<b>NJ-6</b>	3,240	19,450	4.0%	\$334	\$1,598	4.6%	\$984	\$2,940	5.2%
<b>NJ-7</b>	4,820	27,530	4.6%	\$733	\$2,713	5.5%	\$2,497	\$5,394	7.1%
<b>NJ-8</b>	2,340	15,000	3.5%	\$233	\$1,440	4.2%	\$850	\$2,629	5.0%
<b>NJ-9</b>	2,410	17,180	3.5%	\$262	\$1,396	4.2%	\$802	\$2,482	4.7%
<b>NJ-10</b>	2,900	15,770	4.6%	\$416	\$1,453	5.6%	\$1,700	\$3,305	7.7%
<b>NJ-11</b>	3,020	21,060	3.5%	\$423	\$2,105	4.2%	\$898	\$3,370	4.4%
<b>NJ-12</b>	3,310	19,780	4.1%	\$451	\$1,820	4.7%	\$1,084	\$3,158	5.3%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-32. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New Mexico, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>New Mexico</b>	<b>46,450</b>	<b>117,020</b>	<b>10.5%</b>	<b>\$3,464</b>	<b>\$6,753</b>	<b>12.2%</b>	<b>\$11,934</b>	<b>\$17,516</b>	<b>17.5%</b>
<b>NM-1</b>	5,570	21,460	5.2%	\$251	\$1,121	5.2%	\$575	\$1,970	5.5%
<b>NM-2</b>	27,860	62,740	18.1%	\$2,392	\$3,934	22.7%	\$7,977	\$10,685	31.6%
<b>NM-3</b>	13,020	32,820	9.3%	\$821	\$1,699	10.3%	\$3,381	\$4,860	16.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-33. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in New York, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>New York</b>	<b>62,870</b>	<b>391,630</b>	<b>3.1%</b>	<b>\$7,529</b>	<b>\$37,753</b>	<b>3.8%</b>	<b>\$14,784</b>	<b>\$63,639</b>	<b>3.8%</b>
<b>NY-1</b>	2,210	12,680	3.1%	\$248	\$965	3.6%	\$687	\$1,796	4.2%
<b>NY-2</b>	1,850	11,100	3.2%	\$172	\$850	3.5%	\$628	\$1,683	4.3%
<b>NY-3</b>	2,590	20,560	3.2%	\$356	\$1,726	3.9%	\$1,141	\$3,254	4.5%
<b>NY-4</b>	1,810	13,250	3.1%	\$281	\$1,084	3.9%	\$691	\$1,959	4.4%
<b>NY-5</b>	1,150	7,490	2.7%	\$77	\$479	2.7%	\$123	\$791	2.7%
<b>NY-6</b>	1,160	8,230	2.6%	\$71	\$478	2.7%	\$138	\$799	2.7%
<b>NY-7</b>	2,200	15,580	3.0%	\$227	\$1,636	3.7%	\$563	\$2,809	3.9%
<b>NY-8</b>	1,980	9,360	3.4%	\$171	\$558	4.0%	\$426	\$1,106	4.6%
<b>NY-9</b>	1,320	6,630	2.6%	\$66	\$342	2.6%	\$133	\$596	2.7%
<b>NY-10</b>	1,740	30,740	2.5%	\$435	\$5,499	3.5%	\$635	\$8,849	3.4%
<b>NY-11</b>	1,600	9,310	2.9%	\$138	\$562	3.2%	\$412	\$1,090	3.8%
<b>NY-12</b>	2,450	49,000	2.6%	\$1,863	\$10,265	4.1%	\$1,522	\$14,673	3.6%
<b>NY-13</b>	330	5,470	1.9%	\$261	\$718	2.8%	\$139	\$1,069	2.2%
<b>NY-14</b>	1,340	10,700	2.7%	\$87	\$650	2.8%	\$180	\$1,140	2.9%
<b>NY-15</b>	830	6,490	2.6%	\$406	\$718	4.9%	\$167	\$684	2.9%
<b>NY-16</b>	1,250	8,370	2.7%	\$91	\$592	2.8%	\$187	\$965	2.9%
<b>NY-17</b>	2,110	15,880	3.1%	\$135	\$1,277	3.3%	\$353	\$2,114	3.4%
<b>NY-18</b>	2,460	11,860	3.4%	\$145	\$720	3.4%	\$636	\$1,570	4.4%
<b>NY-19</b>	4,400	15,280	3.9%	\$212	\$763	3.8%	\$660	\$1,610	4.8%
<b>NY-20</b>	4,140	19,070	3.9%	\$356	\$1,346	4.2%	\$1,000	\$2,668	5.0%
<b>NY-21</b>	4,630	14,510	3.9%	\$252	\$764	3.8%	\$627	\$1,510	4.4%
<b>NY-22</b>	3,030	11,940	3.6%	\$171	\$641	3.7%	\$544	\$1,356	4.7%
<b>NY-23</b>	4,920	17,660	4.5%	\$328	\$1,038	5.0%	\$370	\$1,568	4.6%
<b>NY-24</b>	2,910	14,720	3.4%	\$197	\$945	3.7%	\$781	\$2,002	4.7%
<b>NY-25</b>	1,970	14,080	3.1%	\$112	\$933	3.4%	\$378	\$1,677	3.8%
<b>NY-26</b>	2,600	15,500	3.6%	\$235	\$1,071	4.2%	\$565	\$2,007	4.5%
<b>NY-27</b>	3,900	16,150	4.3%	\$435	\$1,133	5.3%	\$1,098	\$2,292	6.3%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-34. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in North Carolina, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>North Carolina</b>	<b>53,040</b>	<b>238,720</b>	<b>3.9%</b>	<b>\$2,753</b>	<b>\$13,771</b>	<b>4.1%</b>	<b>\$9,245</b>	<b>\$27,655</b>	<b>4.9%</b>
<b>NC-1</b>	4,300	18,330	4.2%	\$221	\$1,079	4.3%	\$750	\$2,211	5.1%
<b>NC-2</b>	3,950	16,520	4.1%	\$206	\$954	4.5%	\$646	\$1,990	5.1%
<b>NC-3</b>	4,170	14,880	3.5%	\$178	\$654	3.2%	\$932	\$1,766	5.2%
<b>NC-4</b>	3,060	20,640	3.2%	\$171	\$1,525	3.5%	\$459	\$2,715	3.7%
<b>NC-5</b>	3,760	17,610	3.9%	\$178	\$909	4.2%	\$409	\$1,704	4.4%
<b>NC-6</b>	4,730	19,170	4.3%	\$220	\$987	4.5%	\$659	\$1,944	5.2%
<b>NC-7</b>	4,690	17,840	4.3%	\$205	\$826	4.4%	\$770	\$1,811	5.6%
<b>NC-8</b>	4,650	19,930	3.7%	\$232	\$1,072	3.6%	\$734	\$2,083	4.4%
<b>NC-9</b>	3,710	15,850	4.0%	\$200	\$954	4.3%	\$783	\$1,955	5.6%
<b>NC-10</b>	4,330	18,910	4.4%	\$199	\$909	4.6%	\$690	\$1,826	5.7%
<b>NC-11</b>	3,940	15,610	4.2%	\$161	\$663	4.3%	\$560	\$1,388	5.5%
<b>NC-12</b>	3,880	25,150	3.6%	\$366	\$2,234	4.2%	\$1,220	\$4,384	4.9%
<b>NC-13</b>	3,860	18,290	4.4%	\$216	\$1,006	4.7%	\$634	\$1,878	5.5%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-35. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in North Dakota, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>North Dakota</b>	<b>37,300</b>	<b>90,070</b>	<b>15.5%</b>	<b>\$3,477</b>	<b>\$6,463</b>	<b>19.6%</b>	<b>\$9,188</b>	<b>\$13,757</b>	<b>24.5%</b>
<b>ND-1 (At-Large)</b>	37,300	90,070	15.5%	\$3,477	\$6,463	19.6%	\$9,188	\$13,757	24.5%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-36. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Ohio, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Ohio</b>	<b>95,250</b>	<b>420,090</b>	<b>5.9%</b>	<b>\$8,398</b>	<b>\$27,812</b>	<b>6.8%</b>	<b>\$36,332</b>	<b>\$67,445</b>	<b>10.0%</b>
<b>OH-1</b>	4,630	26,640	5.1%	\$545	\$2,130	6.2%	\$1,432	\$3,998	6.9%
<b>OH-2</b>	4,040	22,020	5.0%	\$453	\$1,694	6.1%	\$998	\$3,031	6.6%
<b>OH-3</b>	3,720	22,580	4.5%	\$419	\$1,715	5.3%	\$1,236	\$3,363	6.4%
<b>OH-4</b>	7,200	29,900	7.0%	\$608	\$1,856	8.1%	\$2,615	\$4,598	11.9%
<b>OH-5</b>	7,300	28,810	6.3%	\$619	\$1,790	7.5%	\$1,922	\$3,762	9.8%
<b>OH-6</b>	12,330	35,140	10.0%	\$958	\$1,976	12.3%	\$7,103	\$8,810	27.7%
<b>OH-7</b>	9,500	32,200	7.5%	\$727	\$1,889	9.0%	\$4,722	\$6,569	18.1%
<b>OH-8</b>	4,810	22,240	5.5%	\$362	\$1,341	6.1%	\$1,022	\$2,646	7.1%
<b>OH-9</b>	4,610	23,600	7.3%	\$683	\$1,871	9.2%	\$4,120	\$5,984	17.1%
<b>OH-10</b>	3,600	19,490	4.7%	\$285	\$1,210	5.0%	\$958	\$2,426	6.2%
<b>OH-11</b>	3,530	25,360	4.4%	\$406	\$2,004	5.2%	\$1,019	\$3,571	5.9%
<b>OH-12</b>	6,790	29,700	5.7%	\$509	\$1,911	6.6%	\$2,268	\$4,439	9.5%
<b>OH-13</b>	4,280	19,000	5.5%	\$260	\$1,061	6.0%	\$1,237	\$2,499	8.8%
<b>OH-14</b>	7,090	32,160	6.4%	\$533	\$2,002	7.2%	\$1,914	\$4,245	9.2%
<b>OH-15</b>	6,170	26,810	5.7%	\$471	\$1,701	6.4%	\$1,575	\$3,583	8.2%
<b>OH-16</b>	5,640	24,450	6.1%	\$560	\$1,660	7.5%	\$2,191	\$3,922	10.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-37. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Oklahoma, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Oklahoma</b>	<b>163,300</b>	<b>448,580</b>	<b>19.2%</b>	<b>\$21,042</b>	<b>\$34,994</b>	<b>27.7%</b>	<b>\$44,764</b>	<b>\$66,792</b>	<b>33.0%</b>
<b>OK-1</b>	30,730	122,270	23.4%	\$10,354	\$15,023	41.4%	\$17,368	\$24,740	44.1%
<b>OK-2</b>	17,370	44,860	12.3%	\$1,026	\$2,100	14.1%	\$2,260	\$4,008	16.3%
<b>OK-3</b>	47,070	101,310	23.3%	\$2,999	\$5,331	26.7%	\$7,207	\$11,073	32.7%
<b>OK-4</b>	23,910	59,520	15.0%	\$1,300	\$2,795	15.8%	\$3,196	\$5,598	19.7%
<b>OK-5</b>	44,230	120,630	19.7%	\$5,364	\$9,744	25.9%	\$14,732	\$21,373	35.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-38. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Oregon, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Oregon</b>	<b>19,130</b>	<b>95,560</b>	<b>3.7%</b>	<b>\$1,109</b>	<b>\$5,970</b>	<b>4.0%</b>	<b>\$3,147</b>	<b>\$10,705</b>	<b>4.5%</b>
<b>OR-1</b>	3,330	20,880	3.7%	\$242	\$1,606	4.1%	\$612	\$2,775	4.3%
<b>OR-2</b>	5,190	19,060	4.1%	\$200	\$915	4.2%	\$576	\$1,683	4.9%
<b>OR-3</b>	3,500	21,810	3.4%	\$303	\$1,625	3.8%	\$970	\$3,001	4.5%
<b>OR-4</b>	4,090	17,650	4.2%	\$195	\$889	4.2%	\$514	\$1,608	4.8%
<b>OR-5</b>	3,030	16,150	3.3%	\$169	\$935	3.5%	\$475	\$1,639	4.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-39. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Pennsylvania, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Pennsylvania</b>	<b>112,330</b>	<b>496,560</b>	<b>6.4%</b>	<b>\$17,055</b>	<b>\$42,684</b>	<b>8.6%</b>	<b>\$40,171</b>	<b>\$78,590</b>	<b>10.0%</b>
<b>PA-1</b>	2,770	21,050	4.8%	\$940	\$2,993	6.9%	\$2,266	\$5,046	8.1%
<b>PA-2</b>	2,140	21,410	4.1%	\$740	\$2,731	6.0%	\$1,930	\$4,826	7.1%
<b>PA-3</b>	8,830	30,900	8.1%	\$1,005	\$2,202	11.1%	\$2,333	\$4,163	12.9%
<b>PA-4</b>	4,730	23,990	5.3%	\$515	\$1,673	6.6%	\$736	\$2,474	6.2%
<b>PA-5</b>	12,030	35,520	9.2%	\$811	\$1,980	10.7%	\$3,317	\$5,115	16.9%
<b>PA-6</b>	4,340	22,960	5.5%	\$824	\$2,246	7.9%	\$1,139	\$3,298	7.2%
<b>PA-7</b>	5,480	33,380	5.7%	\$1,308	\$3,386	8.3%	\$3,240	\$6,441	9.4%
<b>PA-8</b>	3,550	22,070	5.1%	\$678	\$1,902	7.3%	\$859	\$2,684	6.4%
<b>PA-9</b>	10,820	30,890	8.9%	\$713	\$1,736	10.1%	\$2,568	\$4,144	14.7%
<b>PA-10</b>	9,720	29,810	8.6%	\$1,018	\$1,963	11.9%	\$3,074	\$4,530	16.6%
<b>PA-11</b>	5,930	22,060	5.8%	\$399	\$1,337	6.5%	\$1,005	\$2,453	7.4%
<b>PA-12</b>	6,640	27,040	6.7%	\$713	\$1,957	8.5%	\$2,060	\$3,922	10.7%
<b>PA-13</b>	2,820	17,880	4.1%	\$198	\$1,396	4.5%	\$368	\$2,215	4.4%
<b>PA-14</b>	5,830	35,320	6.1%	\$2,042	\$4,241	10.5%	\$4,394	\$7,709	12.1%
<b>PA-15</b>	5,840	26,960	5.6%	\$495	\$1,835	6.4%	\$877	\$2,877	6.5%
<b>PA-16</b>	4,640	27,850	6.5%	\$1,364	\$2,768	10.9%	\$1,705	\$3,744	9.9%
<b>PA-17</b>	4,590	22,370	5.8%	\$534	\$1,488	7.6%	\$925	\$2,374	7.7%
<b>PA-18</b>	11,630	45,100	11.5%	\$2,758	\$4,852	19.3%	\$7,374	\$10,574	24.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-40. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Rhode Island, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Rhode Island</b>	<b>4,840</b>	<b>24,350</b>	<b>3.8%</b>	<b>\$413</b>	<b>\$1,624</b>	<b>4.3%</b>	<b>\$1,115</b>	<b>\$3,035</b>	<b>5.0%</b>
<b>RI-1</b>	2,200	11,760	3.6%	\$158	\$777	3.9%	\$484	\$1,450	4.6%
<b>RI-2</b>	2,650	12,590	3.9%	\$255	\$847	4.7%	\$630	\$1,585	5.4%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-41. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in South Carolina, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>South Carolina</b>	<b>30,410</b>	<b>122,510</b>	<b>4.3%</b>	<b>\$1,396</b>	<b>\$6,219</b>	<b>4.3%</b>	<b>\$5,325</b>	<b>\$13,152</b>	<b>5.6%</b>
<b>SC-1</b>	3,370	14,860	3.8%	\$160	\$780	3.7%	\$661	\$1,627	4.9%
<b>SC-2</b>	3,970	15,990	4.2%	\$171	\$799	4.1%	\$610	\$1,656	5.2%
<b>SC-3</b>	4,030	15,330	4.4%	\$166	\$696	4.2%	\$659	\$1,578	5.7%
<b>SC-4</b>	4,610	20,490	4.4%	\$253	\$1,161	4.6%	\$1,057	\$2,474	6.1%
<b>SC-5</b>	4,650	17,200	4.9%	\$208	\$897	4.9%	\$549	\$1,656	5.7%
<b>SC-6</b>	6,230	23,780	4.4%	\$305	\$1,261	4.4%	\$1,309	\$2,867	6.2%
<b>SC-7</b>	3,550	14,860	4.0%	\$133	\$625	4.1%	\$480	\$1,293	5.1%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.



**Table C-42. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in South Dakota, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>South Dakota</b>	<b>10,010</b>	<b>28,560</b>	<b>4.7%</b>	<b>\$357</b>	<b>\$1,348</b>	<b>4.3%</b>	<b>\$1,223</b>	<b>\$2,929</b>	<b>5.6%</b>
<b>SD-1 (At-Large)</b>	10,010	28,560	4.7%	\$357	\$1,348	4.3%	\$1,223	\$2,929	5.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-43. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Tennessee, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Tennessee</b>	<b>39,860</b>	<b>175,710</b>	<b>4.3%</b>	<b>\$2,731</b>	<b>\$11,241</b>	<b>4.8%</b>	<b>\$7,324</b>	<b>\$20,151</b>	<b>5.5%</b>
<b>TN-1</b>	4,820	19,680	5.2%	\$326	\$1,028	6.1%	\$748	\$1,814	6.9%
<b>TN-2</b>	4,790	18,970	4.2%	\$254	\$1,102	4.6%	\$671	\$2,003	5.2%
<b>TN-3</b>	4,430	19,450	4.4%	\$276	\$1,214	4.9%	\$704	\$2,121	5.4%
<b>TN-4</b>	4,420	17,520	4.3%	\$261	\$965	4.8%	\$521	\$1,666	4.8%
<b>TN-5</b>	4,720	26,850	3.7%	\$530	\$2,354	4.4%	\$1,201	\$3,810	4.8%
<b>TN-6</b>	4,540	17,680	4.6%	\$258	\$949	5.2%	\$665	\$1,704	6.0%
<b>TN-7</b>	4,150	17,160	4.3%	\$293	\$1,218	5.0%	\$649	\$1,997	5.5%
<b>TN-8</b>	4,740	18,680	4.2%	\$276	\$1,049	4.8%	\$707	\$1,926	5.5%
<b>TN-9</b>	3,250	19,710	4.0%	\$257	\$1,362	4.6%	\$1,459	\$3,109	6.6%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-44. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Texas, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Texas</b>	<b>716,540</b>	<b>3,184,380</b>	<b>18.1%</b>	<b>\$128,423</b>	<b>\$277,760</b>	<b>25.5%</b>	<b>\$294,930</b>	<b>\$528,969</b>	<b>29.3%</b>
<b>TX-1</b>	30,630	97,320	24.2%	\$3,612	\$6,675	33.8%	\$7,524	\$12,358	37.4%
<b>TX-2</b>	29,960	143,010	22.8%	\$11,736	\$20,163	39.4%	\$22,858	\$35,367	43.4%
<b>TX-3</b>	10,510	73,490	13.6%	\$948	\$5,637	15.5%	\$2,202	\$9,406	16.1%
<b>TX-4</b>	13,870	64,550	15.2%	\$821	\$3,061	16.0%	\$2,322	\$5,994	19.2%
<b>TX-5</b>	9,210	47,500	14.0%	\$880	\$2,961	15.9%	\$1,718	\$5,181	17.1%
<b>TX-6</b>	7,110	50,820	12.2%	\$553	\$2,881	12.9%	\$1,287	\$5,256	14.0%
<b>TX-7</b>	46,960	188,200	25.0%	\$16,609	\$27,736	45.0%	\$35,785	\$51,693	51.5%
<b>TX-8</b>	17,880	82,820	18.4%	\$3,449	\$7,203	27.3%	\$6,370	\$12,076	29.0%
<b>TX-9</b>	9,640	60,780	15.8%	\$2,508	\$6,197	22.4%	\$4,966	\$10,414	24.7%
<b>TX-10</b>	12,660	77,290	15.2%	\$2,437	\$6,592	20.7%	\$3,761	\$10,165	20.3%
<b>TX-11</b>	90,100	211,830	39.4%	\$13,188	\$19,000	61.4%	\$25,596	\$35,451	61.1%
<b>TX-12</b>	28,770	108,500	20.4%	\$3,056	\$7,332	24.5%	\$6,638	\$13,456	27.1%
<b>TX-13</b>	42,130	116,540	25.6%	\$3,370	\$7,014	30.8%	\$9,941	\$15,990	38.6%
<b>TX-14</b>	24,700	107,960	28.0%	\$5,491	\$9,763	42.6%	\$29,370	\$36,371	65.5%
<b>TX-15</b>	12,590	64,080	15.8%	\$1,087	\$3,023	18.4%	\$2,259	\$5,253	21.0%
<b>TX-16</b>	5,060	46,400	11.5%	\$654	\$2,392	12.3%	\$1,939	\$4,718	15.8%
<b>TX-17</b>	12,240	70,640	13.7%	\$885	\$4,189	14.9%	\$1,856	\$7,364	15.8%
<b>TX-18</b>	28,260	132,090	20.1%	\$10,352	\$18,632	32.7%	\$19,616	\$32,055	35.2%
<b>TX-19</b>	29,570	92,290	21.7%	\$2,276	\$5,073	25.0%	\$5,642	\$10,258	30.3%
<b>TX-20</b>	5,310	44,520	11.8%	\$1,772	\$3,898	17.6%	\$1,889	\$5,422	15.6%
<b>TX-21</b>	18,070	115,310	16.4%	\$4,730	\$10,421	25.1%	\$5,712	\$14,580	22.6%
<b>TX-22</b>	14,410	68,360	15.7%	\$2,086	\$4,938	20.7%	\$6,930	\$11,385	28.2%
<b>TX-23</b>	24,630	88,050	19.2%	\$3,397	\$6,424	25.5%	\$5,421	\$10,662	25.6%
<b>TX-24</b>	18,140	143,580	14.2%	\$2,535	\$12,530	17.1%	\$5,550	\$20,900	18.0%
<b>TX-25</b>	15,020	83,640	16.1%	\$2,730	\$6,764	22.8%	\$4,031	\$10,270	22.4%
<b>TX-26</b>	7,660	54,230	13.5%	\$605	\$3,141	14.9%	\$1,149	\$5,195	15.1%
<b>TX-27</b>	28,130	100,460	24.4%	\$3,324	\$6,737	32.0%	\$11,956	\$17,449	44.3%
<b>TX-28</b>	15,630	60,090	17.5%	\$1,702	\$3,453	21.4%	\$3,280	\$6,264	23.4%
<b>TX-29</b>	14,830	70,690	20.9%	\$4,779	\$8,886	31.5%	\$14,145	\$20,499	40.3%
<b>TX-30</b>	9,940	74,200	13.3%	\$1,739	\$6,633	16.6%	\$3,457	\$11,180	17.4%

(continued on next page)

**Table C-44. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Texas, 2018, continued**

<b>TX-31</b>	<b>6,470</b>	<b>54,300</b>	<b>11.4%</b>	<b>\$504</b>	<b>\$3,333</b>	<b>11.8%</b>	<b>\$906</b>	<b>\$5,270</b>	<b>12.2%</b>
<b>TX-32</b>	23,940	119,330	17.0%	\$4,893	\$12,559	24.0%	\$9,762	\$21,410	25.5%
<b>TX-33</b>	7,380	62,430	12.1%	\$884	\$4,635	13.2%	\$2,009	\$8,139	13.9%
<b>TX-34</b>	11,220	51,590	15.3%	\$956	\$2,459	17.7%	\$1,877	\$4,278	19.9%
<b>TX-35</b>	8,790	64,260	13.7%	\$2,499	\$5,786	20.3%	\$3,015	\$8,307	18.2%
<b>TX-36</b>	25,120	93,220	24.9%	\$5,377	\$9,642	36.7%	\$22,190	\$28,936	54.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-45. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Utah, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Utah</b>	<b>21,870</b>	<b>99,750</b>	<b>4.8%</b>	<b>\$1,456</b>	<b>\$5,796</b>	<b>5.4%</b>	<b>\$5,016</b>	<b>\$12,136</b>	<b>6.8%</b>
<b>UT-1</b>	6,990	23,950	5.7%	\$471	\$1,271	6.3%	\$1,287	\$2,597	7.9%
<b>UT-2</b>	8,020	39,600	5.9%	\$640	\$2,427	6.7%	\$2,761	\$5,668	9.4%
<b>UT-3</b>	4,250	19,920	4.2%	\$195	\$1,073	4.5%	\$623	\$2,029	5.3%
<b>UT-4</b>	2,610	16,270	3.3%	\$150	\$1,025	3.7%	\$345	\$1,843	4.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-46. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Vermont, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Vermont</b>	<b>6,090</b>	<b>19,820</b>	<b>4.5%</b>	<b>\$266</b>	<b>\$998</b>	<b>4.5%</b>	<b>\$764</b>	<b>\$1,879</b>	<b>5.7%</b>
<b>VT-1 (At-Large)</b>	6,090	19,820	4.5%	\$266	\$998	4.5%	\$764	\$1,879	5.7%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-47. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Virginia, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Virginia</b>	<b>47,550</b>	<b>198,830</b>	<b>3.7%</b>	<b>\$2,526</b>	<b>\$12,515</b>	<b>3.7%</b>	<b>\$7,382</b>	<b>\$23,055</b>	<b>4.3%</b>
<b>VA-1</b>	5,090	18,020	4.2%	\$232	\$897	4.2%	\$899	\$1,961	5.6%
<b>VA-2</b>	3,730	15,170	3.1%	\$131	\$737	2.8%	\$351	\$1,316	3.2%
<b>VA-3</b>	3,280	14,950	3.1%	\$143	\$849	2.8%	\$382	\$1,471	3.2%
<b>VA-4</b>	5,910	22,930	4.8%	\$362	\$1,444	5.0%	\$870	\$2,754	5.4%
<b>VA-5</b>	5,250	19,340	4.2%	\$225	\$913	4.2%	\$760	\$1,899	5.3%
<b>VA-6</b>	4,590	17,800	4.3%	\$207	\$873	4.4%	\$794	\$1,904	5.7%
<b>VA-7</b>	4,380	17,850	4.0%	\$194	\$1,121	4.1%	\$413	\$1,972	4.1%
<b>VA-8</b>	2,490	16,080	2.7%	\$219	\$1,565	2.9%	\$571	\$2,549	3.2%
<b>VA-9</b>	5,500	17,340	4.9%	\$306	\$826	5.5%	\$766	\$1,669	6.4%
<b>VA-10</b>	4,610	23,540	3.5%	\$261	\$1,835	3.6%	\$931	\$3,196	4.2%
<b>VA-11</b>	2,710	15,800	3.2%	\$245	\$1,455	3.5%	\$645	\$2,365	4.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-48. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Washington, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Washington</b>	<b>28,660</b>	<b>158,930</b>	<b>3.5%</b>	<b>\$2,219</b>	<b>\$12,344</b>	<b>3.8%</b>	<b>\$12,753</b>	<b>\$29,781</b>	<b>5.3%</b>
<b>WA-1</b>	3,960	20,970	4.5%	\$462	\$1,985	5.3%	\$3,734	\$6,407	9.2%
<b>WA-2</b>	3,670	19,050	4.5%	\$361	\$1,280	4.8%	\$2,992	\$4,496	8.9%
<b>WA-3</b>	3,490	15,400	4.3%	\$226	\$935	4.8%	\$938	\$2,086	6.4%
<b>WA-4</b>	3,600	15,040	3.8%	\$191	\$857	4.1%	\$1,054	\$2,128	6.3%
<b>WA-5</b>	2,480	13,090	3.4%	\$175	\$776	3.8%	\$518	\$1,513	4.6%
<b>WA-6</b>	2,780	12,900	3.2%	\$142	\$701	3.0%	\$761	\$1,656	4.6%
<b>WA-7</b>	1,590	19,120	2.6%	\$133	\$2,063	3.1%	\$377	\$3,611	3.2%
<b>WA-8</b>	2,330	11,510	3.1%	\$166	\$887	3.3%	\$628	\$1,859	3.9%
<b>WA-9</b>	2,270	20,530	2.9%	\$214	\$2,174	3.4%	\$994	\$4,407	3.7%
<b>WA-10</b>	2,480	11,320	3.4%	\$148	\$685	3.4%	\$758	\$1,619	5.0%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-49. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in West Virginia, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>West Virginia</b>	<b>44,000</b>	<b>102,430</b>	<b>11.3%</b>	<b>\$3,529</b>	<b>\$6,636</b>	<b>14.4%</b>	<b>\$9,349</b>	<b>\$14,336</b>	<b>18.5%</b>
<b>WV-1</b>	19,980	47,630	13.8%	\$1,939	\$3,416	18.4%	\$5,508	\$7,851	24.5%
<b>WV-2</b>	15,130	34,150	11.1%	\$1,076	\$2,110	13.5%	\$2,432	\$4,074	16.0%
<b>WV-3</b>	8,890	20,650	8.2%	\$514	\$1,109	9.3%	\$1,409	\$2,411	12.1%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-50. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Wisconsin, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Wisconsin</b>	<b>39,470</b>	<b>160,540</b>	<b>4.3%</b>	<b>\$1,789</b>	<b>\$9,053</b>	<b>4.3%</b>	<b>\$5,837</b>	<b>\$17,435</b>	<b>5.2%</b>
<b>WI-1</b>	3,890	17,460	4.2%	\$187	\$971	4.3%	\$461	\$1,719	4.7%
<b>WI-2</b>	4,730	21,010	3.6%	\$247	\$1,296	3.8%	\$737	\$2,503	4.4%
<b>WI-3</b>	6,580	21,030	4.9%	\$234	\$963	4.7%	\$722	\$1,953	5.7%
<b>WI-4</b>	2,430	16,540	3.5%	\$186	\$1,269	4.0%	\$678	\$2,332	4.7%
<b>WI-5</b>	3,830	19,440	4.2%	\$208	\$1,225	4.4%	\$558	\$2,133	4.8%
<b>WI-6</b>	6,040	22,820	4.9%	\$250	\$1,209	4.8%	\$591	\$2,122	5.3%
<b>WI-7</b>	6,950	22,060	5.0%	\$254	\$1,002	4.8%	\$1,387	\$2,596	7.6%
<b>WI-8</b>	5,010	20,180	4.3%	\$224	\$1,117	4.3%	\$702	\$2,077	5.1%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

Note: Details may not add to totals due to rounding.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

**Table C-51. Economic Impact of the Natural Gas, Oil and Petrochemical Industry in Wyoming, 2018**

State / Congressional District	Employment (Jobs) <sup>(1)</sup>			Labor Income (\$Million) <sup>(2)</sup>			Value Added (\$Million)		
	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District	Direct	Total <sup>(3)</sup>	Total as a % of State / District
<b>Wyoming</b>	<b>28,690</b>	<b>71,070</b>	<b>17.5%</b>	<b>\$3,793</b>	<b>\$5,740</b>	<b>25.7%</b>	<b>\$7,007</b>	<b>\$10,509</b>	<b>26.9%</b>
<b>WY-1 (At-Large)</b>	28,690	71,070	17.5%	\$3,793	\$5,740	25.7%	\$7,007	\$10,509	26.9%

Source: PwC calculations using the IMPLAN model and data from the Census Bureau and the Bureau of Labor Statistics.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors' income.

(3) Total impact includes direct, indirect, and induced impacts. Direct impacts are those occurring directly within the natural gas, oil and petrochemical industry. Indirect impacts are those occurring within other businesses as part of the supply chain to the natural gas, oil and petrochemical industry. Induced impacts are those arising from household spending of income earned from the natural gas, oil and petrochemical industry or its supply chain.

## **Appendix D: Data Sources and Methodology**

This Appendix describes the methodology used to derive the results for the study. It first discusses the data sources PwC utilized to develop estimates of the US natural gas, oil and petrochemical industry's direct employment, labor income, and value added impacts and its dividend and capital investment impacts. It then describes the development of the indirect and induced impact estimates.

### **Estimating the Direct Jobs, Labor Income and Value Added**

PwC's employment estimates for the natural gas, oil and petrochemical industry include both full-time and part-time workers as well as self-employed business owners. The *State Annual Personal Income and Employment* data set published by the US Bureau of Economic Analysis ("BEA") is the only source on total employment including self-employed individuals by industry. In cases where there is a one-to-one correspondence between the subsectors of the natural gas, oil and petrochemical industry as defined by PwC and the BEA sectors, we use the BEA data on employment, labor income and GDP without any further adjustment. This is the case for three NAICS codes: NAICS 211 (Oil and gas extraction), NAICS 447 (Gasoline stations), and NAICS 486 (Pipeline transportation).

For the remaining subsectors for the natural gas, oil and petrochemical industry, which are more disaggregated compared to the BEA data, PwC obtained each subsector's paid employment from the US Bureau of Labor Statistics ("BLS"). PwC then estimated total self-employment for the more aggregated industry using the BEA data and allocated across the subsectors according to each industry's share of paid employment. For example, self-employment was estimated for NAICS sector 213 (Support Activities for Mining) and then allocated across five subsectors including 213111 (Drilling Oil and Gas Wells) and 213112 (Support Activities for Oil and Gas Operations). In a limited number of cases, data from the Census Bureau's *Nonemployer Statistics* was used to allocate self-employment across subsectors.<sup>14</sup>

Direct employment was separately estimated for the US as a whole, each of the 50 states and the District of Columbia, and each Congressional District. The state-level estimates were then scaled to match the national level estimates, and the Congressional District-level estimates were also scaled to match the state-level estimates.

A similar methodology was used to estimate labor income and GDP for sectors where there was not a one-to-one correspondence between the subsectors of the natural gas, oil and petrochemical industry as defined by PwC and the BEA sectors.

### **Estimating Capital Investment Impact**

To quantify the industry's capital investment impact, PwC estimated its capital expenditures for 2018 based on data from the Census Bureau and the BEA. For the impact analysis, capital spending was then translated into purchases of capital assets by type through the use of the so-called "capital flow matrix" from the BEA.

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<sup>14</sup> A nonemployer is a business without paid employees. Most nonemployers are self-employed individuals operating small unincorporated businesses, which may or may not be the owner's principal source of income.



## Estimating Dividend Impact

PwC obtained data on common stock dividend payments by companies in the US natural gas, oil and petrochemical industry.<sup>15</sup> Dividend payments were allocated between households, foreign shareholders, retirement plans, governments, and other businesses using data from the Federal Reserve Board's *Financial Accounts of the United States*. Dividends paid to households by the natural gas, oil and petrochemical industry were allocated by income group and across the 50 states and the District of Columbia using tax return data published by the IRS's Statistics of Income Division.

Dividends paid to pension plans and other retirement accounts were allocated across income group based on data on retirement assets by income quintile obtained from the 2016 *Survey of Consumer Finances*, conducted by the Federal Reserve. The data were then allocated across the 50 states and the District of Columbia using data on the distribution of assets in 401(k) and thrift savings accounts from the *Survey of Income and Program Participation* conducted by the US Census Bureau. These data were combined with the data on dividends paid directly to households by the natural gas, oil and petrochemical industry to derive our estimates of total dividends paid by the industry to residents in each state.

To quantify the economic impact resulting from the dividend payments of the US natural gas, oil and petrochemical industry, PwC first converted dividend payments into additional household consumption expenditures. For dividends paid directly to households, after-tax dividend income was estimated by income class based on average tax rates on dividend income. The additional consumption from dividends paid directly to households was estimated using published estimates of the marginal propensity to consume out of dividend income.<sup>16</sup> Similarly, the additional consumption resulting from dividends paid to retirement accounts was estimated based on published estimates of the marginal propensity to consume out of wealth.<sup>17</sup>

## Estimating the Indirect and Induced Economic Impacts

The initial round of output, income, and employment generated by the operations of the natural gas, oil and petrochemical industry leads to successive rounds of re-spending in the chain of production and through the personal consumption spending of industry and supplier employees. Such indirect and induced economic impacts can be measured using various approaches. The most common is multiplier analysis. In broad terms, a multiplier is an index that indicates the overall change in the level of economic activity that results from a given initial change. It effectively adds up all the successive rounds of re-spending, based on a number of assumptions that are embedded in the method of estimation.

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<sup>15</sup> The measure of dividends used includes cash dividends from all classes of common stock. It also includes dividends paid to US shareholders out of income from US operations by foreign corporations. It does not include the dollar value of stock dividends or dividends paid or accrued on preferred stock.

<sup>16</sup> The marginal propensity to consume out of dividend income is a measure of the additional consumption resulting from the last dollar of dividend income earned. The MPCs used for this study were based on Malcolm Baker, Stefan Nagel, and Jeffrey Wurgler, "The Effects of Dividends on Consumption" *Brookings Papers on Economic Activity*, 2007, pgs. 213-291. Using two micro data sets the authors estimated pre-tax MPCs ranging from 0.25 to 0.77. Using the authors' midpoint estimate of 0.4, PwC estimated the after-tax MPC for each income group as the pre-tax MPC divided by one minus the marginal effective tax rate on dividend income.

<sup>17</sup> A review of the literature suggests that each additional dollar of financial wealth increases consumption between two and six cents. To be conservative we have assumed an MPC out of wealth of 0.028 for all income groups (based on Gabriel Chodorow-Reich, Plamen T. Nenov, and Alp Simsek, "Stock Market Wealth and the Real Economy: A Local Labor Market Approach," working paper, June 7, 2019).



There are different methods available for calculating multipliers. The method used in this report is *input-output* analysis. It is the most commonly used approach in regional economic impact studies. The input-output model developed by IMPLAN is a well-known input-output model for regional economic studies in the United States and is widely used by government, academics and private-sector researchers.<sup>18</sup>

The IMPLAN model is built around an “input-output” table that relates the purchases that each industry has made from other industries to the value of the output of each industry. To meet the demand for goods and services from an industry, purchases are made in other industries according to the patterns recorded in the input-output table. These purchases in turn spark still more purchases by the industry’s suppliers, and so on. Additionally, employees and business owners make personal purchases out of the additional income that is generated by this process, sending new demands rippling through the economy. Multipliers describe these iterations. The Type I multiplier measures the direct and indirect effects of a change in economic activity. It captures the inter-industry effects only, i.e., industries buying from local industries. The Type II (Social Accounting Matrix or SAM) multiplier captures the direct and indirect effects and, in addition, it also reflects induced effects (i.e., changes in spending from households as income increases or decreases due to the changes in production). The indirect and induced impacts by the natural gas, oil and petrochemical industry on other sectors of the economy in terms of employment, labor income (including wages and salaries and benefits as well as proprietors’ income), and value added were calculated through the multiplier process built into the model.<sup>19</sup>

For this study, PwC built customized IMPLAN input-output models for the national economy, each state and the District of Columbia, and each Congressional District to calculate the natural gas, oil and petrochemical industry’s *indirect* and *induced* economic impact on each study area in terms of employment, labor income, and value added.

Because IMPLAN regional models capture only the indirect and induced effects within a region, the indirect and induced effects crossing state borders (“cross-state spillover effects”) are not captured by the IMPLAN state models. PwC quantified the cross-state “spillover effects” and allocated them proportionally to each state. The state indirect and induced effects reported throughout this study include such allocation of the cross-state spillover effects. Similar modeling was performed at the Congressional District level to capture cross-district spillover effects.

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<sup>18</sup> More information on IMPLAN is available at [www.implan.com](http://www.implan.com).

<sup>19</sup> Because the IMPLAN models are used for total impact analysis (as opposed to marginal impact analysis) in this study, necessary adjustments are made to the initial indirect and induced impact estimates to prevent double counting. For instance, any indirect or induced effects from the estimates that are mapped to the natural gas, oil and petrochemical industry are removed.

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