



WICHITA STATE
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SCHOOL OF BUSINESS

Center for Economic Development
and Business Research

Oil and Gas Industry Multipliers

The oil and gas industry has long been a part of the Kansas economy. As a tier two energy state, Kansas receives a net boost to state earnings and employment as a result of rising oil and gas prices,¹ and a subsequent decline when prices drop. This historically volatile industry has recently been the focus of debate due to the improved economic viability of hydraulic fracturing or “fracking.” As with any other industry, if there are changes in employment levels the local economy will be affected in multiple ways.

The total effect of the expansion or contraction in an industry is the sum of direct, indirect and induced multiplier effects. The direct and indirect multiplier effects arise due to the interrelatedness of local industries. The induced multiplier effects arise due to the relationship between wages and employee demands on supporting industries, such as retail trade.

Multipliers are calculated using information from the economic census. The size of the multiplier indicates the impact of an industry on the local economy. For example, the employment multiplier for the oil and gas extraction industry in Kansas is 3.2774. This means that each oil and gas extraction job supports another 2.2774 jobs statewide. A multiplier of 1.0000 indicates one direct job created, and no multiplier effect.

The Center for Economic Development and Business Research (CEDBR) purchases RIMS II multipliers for selected industries defined by their North American Industrial Classification System (NAICS) code. This report provides: the Census Bureau definition of industries in the oil and gas extraction sector; multipliers for the state of Kansas; multipliers for each of the five local areas defined by the Kansas Department of Labor for workforce development; the number of establishments; annual average employment; annual total wages; information on occupations in the industry; and selected large employers in the state of Kansas.

¹ Snead, Mark C. Are the Energy States Still Energy States? *Economic Review. Kansas City Federal Reserve Q4 2009*

Oil and Gas Extraction

Industries in the oil and gas extraction 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.

Oil and Gas Extraction					
NAICS 211	Earnings Multiplier (a)	Employment Multiplier (a)	Number of Establishments (b)	Employment (b)	Total Wages (b)
Kansas	2.1478	3.2774	418	2,303	\$140,050,662
Area 1	1.8805	2.7298	178	1,108	\$68,339,180
Area 2	1.6868	2.5795	10	40	\$1,744,526
Area 3	1.9161	2.7706	14	123	\$7,587,887
Area 4	1.9455	2.8937	113	459	\$31,053,714
Area 5	1.6826	2.3628	96	441	\$18,292,611
Occupations NAICS 211 (c)	Est. KS Employment (c)	Avg. KS Wage (c)	Large Employers (d)		
Petroleum Engineers	120	\$102,120	Prater Oil & Gas		
Roustabouts, Oil and Gas	1,540	\$33,310	Post Rock Energy		
Wellhead Pumpers	470	\$37,910	BP America Production Co		
Petroleum Pump System Operators, Refinery Operators, and Gaugers	1,090	\$59,010	Anadarko Petroleum Corp		
Geoscientists, Except Hydrologists and Geographers	230	\$65,500	Pioneer Natural Resources USA		

(a) – (d) denotes data sources. See pg. 8

Drilling Oil and Gas Wells

This industry includes 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 in, drilling in, re-drilling, and directional drilling.

Drilling Oil and Gas Wells					
NAICS 213111	Earnings Multiplier (a)	Employment Multiplier (a)	Number of Establishments (b)	Employment (b)	Total Wages (b)
Kansas	2.2520	2.6795	100	1,558	\$69,834,286
Area 1	1.9210	2.2202	46	1,083	\$49,726,544
Area 2	1.8504	2.2785	*	*	*
Area 3	2.4025	2.7939	*	*	*
Area 4	2.1412	2.5107	17	276	\$12,518,085
Area 5	1.6707	1.9270	28	178	\$6,589,375
Occupations NAICS 2131 (c)	Est. KS Employment (c)	Avg. KS Wage (c)	Large Employers (d)		
Roustabouts, Oil and Gas	1,540	\$33,310	Duke Drilling Co		
Service Unit Operators, Oil, Gas, and Mining	1,290	\$38,150	W W Drilling LLC		
Rotary Drill Operators, Oil and Gas	270	\$41,830	VAL Energy Inc		
Derrick Operators, Oil and Gas	2,660	\$40,080	Royal Drilling Inc		
First-Line Supervisors of Construction Trades and Extraction Workers	5,870	\$56,290	Murfin Drilling Co		

(a) – (d) denotes data sources. See pg. 8

Support Activities for Oil and Gas Operations

This industry 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 include 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.

Support Activities for Oil and Gas Operations					
NAICS 213112	Earnings Multiplier (a)	Employment Multiplier (a)	Number of Establishments (b)	Employment (b)	Total Wages (b)
Kansas	1.9669	2.2361	458	3,329	\$159,913,994
Area 1	1.7147	1.9145	328	2,415	\$118,280,247
Area 2	1.6734	1.9760	*	*	*
Area 3	2.0556	2.2589	*	*	*
Area 4	1.9154	2.1452	60	307	\$13,034,721
Area 5	1.5162	1.6920	52	468	\$19,473,505
Occupations NAICS 2131 (c)	Est. KS Employment (c)	Avg. KS Wage (c)	Large Employers (d)		
Heavy and Tractor-Trailer Truck Drivers	18,770	\$38,270	Post Rock Energy		
Helpers--Extraction Workers	310	\$32,750	Woolsey Operating		
General and Operations Managers	17,380	\$93,240	Pratt Well Svc Inc		
Operating Engineers and Other Construction Equipment Operators	6,190	\$35,270	Slawson Exploration Co		
Construction Laborers	8,860	\$29,870	ONEOK Hydrocarbon LP		

(a) – (d) denotes data sources. See pg. 8

Natural Gas Distribution

This industry 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.

Natural Gas Distribution NAICS 2212	Earnings Multiplier (a)	Employment Multiplier (a)	Number of Establishments (b)	Employment (b)	Total Wages (b)
Kansas	3.2509	5.4859	81	1,922	\$130,921,537
Area 1	2.9521	4.6531	55	419	\$29,557,453
Area 2	2.1927	3.7337	*	*	*
Area 3	2.0744	3.3725	6	1,293	\$85,811,169
Area 4	2.9018	4.8163	8	108	\$8,127,758
Area 5	2.6809	4.0913	*	*	*
Occupations NAICS 2212 (c)	Est. KS Employment (c)	Avg. KS Wage (c)	Large Employers (d)		
Customer Service Representatives	22,030	\$29,750	Kansas Gas Svc Co		
Control and Valve Installers and Repairers, Except Mechanical Door	340	\$45,360	Midwest Energy Inc		
Plumbers, Pipefitters, and Steamfitters	3,840	\$47,650	Great Plains Gas Compression		
Meter Readers, Utilities	430	\$29,340	Southern Star Central Gas		
Gas Plant Operators	100	\$55,650	Panhandle Energy		

(a) – (d) denotes data sources. See pg. 8

Pipeline Transportation

Industries in the pipeline transportation subsector use transmission pipelines to transport products such as crude oil, natural gas, refined petroleum products, and slurry. Industries are identified based on the products transported (i.e., pipeline transportation of crude oil, natural gas, refined petroleum products, and other products).

The pipeline transportation of natural gas industry 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.

Pipeline Transportation	Earnings Multiplier (a)	Employment Multiplier (a)	Number of Establishments (b)	Employment (b)	Total Wages (b)
NAICS 486					
Kansas	2.6018	4.5760	64	809	\$65,070,870
Area 1	2.1124	3.4205	31	380	\$31,301,295
Area 2	2.1403	3.7810	5	48	\$3,835,774
Area 3	2.3496	4.1484	5	53	\$4,284,321
Area 4	2.6145	4.6838	9	174	\$14,173,703
Area 5	1.9438	3.0691	9	113	\$7,449,929
Occupations NAICS 486 (c)		Est. KS Employment (c)	Avg. KS Wage (c)	Large Employers (d)	
Gas Plant Operators		100	\$55,650	National Cooperative Refinery	
Industrial Machinery Mechanics		3,260	\$42,710	ONEOK Inc	
Gas Compressor and Gas Pumping Station Operators		60	\$53,130	American Pipeline Co LLC	
First-Line Supervisors of Production and Operating Workers		7,830	\$52,990	Southern Star Gas Pipelines	
Heavy and Tractor-Trailer Truck Drivers		18,770	\$38,270	Southern Central Gas Pipeline	

(a) – (d) denotes data sources. See pg. 8

Definitions and Terms

Annual Average Employment – Reported monthly employment data represents the number of covered workers who worked during, or received pay for, the pay period which included the 12th day of the month. Reported annual average employment is an average of the corresponding monthly employment levels. Definition from: [Bureau of Labor Statistics](#)

Annual Total Wages – Reported quarterly total wages are the wages paid by unemployment insurance covered employers during the calendar quarter, regardless of when the services were performed. Reported total annual wages are the sum of the total wages reported for the corresponding quarters. Total wage values have been rounded and are reported in thousands of dollars. Definition from: [Bureau of Labor Statistics](#)

Average Kansas Wage – Mean annual wage estimates are calculated with data collected from employers in all industry sectors in metropolitan and nonmetropolitan areas in Kansas. Annual wages have been calculated by multiplying the hourly mean wage by a “year-round, full-time” figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data. Definition from: [Bureau of Labor Statistics](#)

Earnings Multiplier – The direct-effect multipliers for earnings can be used if data on the initial changes in earnings by industry are available. The direct-effect earnings multiplier indicates the total change in earnings in the region that results from a \$1 change in earnings in the industry. Definition from: [Bureau of Economic Analysis](#)

Employment Multiplier – The direct-effect multipliers for employment can be used if data on the initial changes in employment by industry are available. The direct-effect employment multiplier indicates the total change in employment in the region that results from a change of one job in the industry. Definition from: [Bureau of Economic Analysis](#)

Estimated Kansas Employment – Employment estimates are calculated with data collected from employers in all industry sectors in metropolitan and nonmetropolitan areas in Kansas. Estimates do not include self-employed workers. Definition from: [Bureau of Labor Statistics](#)

Large Employers – The five largest employers were selected from the Reference USA database for the state of Kansas. As with all datasets, incomplete data is frequent.

[a] Bureau of Economic Analysis. 2011.

[b] 2010 Annual Average - Kansas Department of Labor, Labor Market Information Services; U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages Note: The sum of the Local Areas will not equal the statewide total due to establishments which are not assigned to a specific county.

* - Non-disc losable due to BLS confidentiality rules

[c] Bureau of Labor Statistics, Occupational Employment Statistics May 2010

[d] Reference USA Database