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CONTACT: Pam Campbell
405-270-8617
Pam.Campbell@kc.frb.org

TENTH DISTRICT ENERGY ACTIVITY FLAT, OUTLOOK HIGHER

Federal Reserve Bank of Kansas City Releases First Quarter Energy Survey

KANSAS CITY, Mo. –The Federal Reserve Bank of Kansas City released the first quarter Energy Survey today. According to Chad Wilkerson, Oklahoma City Branch executive and economist at the Federal Reserve Bank of Kansas City, the survey revealed that Tenth District energy activity was flat, but the outlook for future activity rose moderately.

"Higher oil prices in 2019 appear to have stabilized the regional energy sector following a decline in late 2018," said Wilkerson. "Drilling is expected to be a little higher in coming months, as oil prices are expected to stay above the $52/bbl that firms report is needed, on average, to be profitable in the fields where they are active."

The Kansas City Fed's quarterly Tenth District Energy Survey provides information on current and expected activity among energy firms in the Tenth District. The survey monitors oil and gas-related firms located and/or headquartered in the Tenth District, with results based on total firm activity. Survey results reveal changes in several indicators of energy activity, including drilling, capital spending, and employment. Firms also indicate projections for oil and gas prices. All results are diffusion indexes – the percentage of firms indicating increases minus the percentage of firms indicating decreases. A summary of the first quarter survey is attached. Results from past surveys and release dates for future surveys can be found at https://www.kansascityfed.org/research/indicatorsdata/energy.

The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, encompassing the western third of Missouri; all of Kansas, Colorado, Nebraska, Oklahoma and Wyoming; and the northern half of New Mexico. As part of the nation's central bank, the Bank participates in setting national monetary policy, supervising and regulating numerous commercial banks and bank holding companies, and providing financial services to depository institutions. More information is available online at www.kansascityfed.org.

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TENTH DISTRICT ENERGY SUMMARY

First quarter energy survey results revealed Tenth District energy activity was flat, but the outlook for future activity rose moderately. Firms reported that oil prices needed to be on average $52 per barrel for drilling to be profitable, down slightly from six months ago and below both current and expected prices.

Summary of Quarterly Indicators

Tenth District energy activity was flat in the first quarter of 2019, as indicated by firms contacted between March 18th and March 29th, 2019 (Tables 1 & 2). The drilling and business activity index increased from -13 to 0, indicating unchanged activity in Q1, following a decline in Q4 2018 (Chart 1). Indexes for total revenues and delivery time rose, and profits moved back into positive territory. However, the employment and wages and benefits indexes dipped further, and the index for access to credit remained negative.

Most year-over-year indexes decreased moderately. The year-over-year drilling and business activity index was flat, while indexes for revenues, capital expenditures, and profits dropped. Year-over-year employment, employee hours, wages and benefits, and access to credit indexes also dipped slightly.

Expectation indexes improved markedly, with the future drilling and business activity index jumping from -19 to 17, although this level of expectations was still lower than in 2017 and early 2018. The future revenues, capital expenditures, and profits indexes rebounded substantially as well, with positive readings. On the other hand, the future employment and access to credit indexes edged lower, and the expected wages and benefits index dipped to the lowest level since Q2 2017. The oil price expectations index increased modestly, from 29 to 34, and the natural gas price expectations index recovered substantially, increasing from -33 to 3.

Summary of Special Questions

This quarter firms were asked what oil and natural gas prices were needed for drilling to be profitable on average across the fields in which they are active (in alternate quarters they are asked what price they need for a substantial increase in drilling). The average oil price needed was $52 per barrel, with a range of $30 to $85 (Chart 2). This average was down slightly from $55 in the third quarter of 2018, but matched the price reported in the first quarter of 2018. The average natural gas price needed was $3.02 per million Btu, with responses ranging from $1.50 to $5.00.

Firms were again asked what they expected oil and natural gas prices to be in six months, one year, two years, and five years. Expected oil prices increased since the last quarter, and were above the average price needed to be profitable. The average expected WTI prices were $60, $61, $65, and $72 per barrel, respectively. However, natural gas price expectations decreased. The average expected Henry Hub natural gas prices were $2.85, $2.91, $3.05, and $3.18 per million Btu, respectively.

Firms were also asked about their expectations for access to pipeline capacity in the next 6 to 12 months (Chart 3). More than 62 percent of energy contacts expect pipeline capacity to increase either significantly or slightly in the next year. Less than 12 percent of firms expect pipeline capacity to decrease.

Finally, respondents were asked about drilled but uncompleted (DUC) wells. Around 20 percent of firms indicated their number of DUC wells had increased compared to a year ago, while only around 8 percent expect their number of DUC wells to increase in the next 6 to 12 months (Chart 4).

Selected Energy Comments

“We are focusing on what we control, shoring up and improving our equipment, hoping that translates towards better efficiency, and doing so from cash flow and without taking on debt. Regardless of energy prices over the next 6 months, we want to reduce debt and be better positioned to ride out another downturn in pricing should that occur.”

“Commodity prices are the key determinant in any activity (capital expenditure changes). Most likely no change if prices are higher, and significantly lower prices would create a reduction in activity.”

“The market seems to have found a healthy supply and demand balance. That balance is being driven by oil supply being reduced from OPEC and demand remaining stable in spite of economic growth concerns.”

“We expect U.S. shale output will be limited by capital available. OPEC will continue to support pricing. Demand will continue to grow, albeit at a slower rate than before.”

“Completions activity has slowed and oil production has plateaued. The slowing production will be offset by slowing global demand caused by slower economic growth.”

“There is little lag between increased commodity prices and the ability to ramp up oil production, leading to more production and lower prices. It seems the market is able to reach supply-demand equilibrium (barring one-off geo-political events) much more quickly. Drilling and completion technology has led, again, to rapid production. Companies can simply move more quickly on shale plays with greater success.”

“Ample supply of gas will constrain the increase in gas prices over the next few years. Although export demand has grown (and will continue), there seems to be ample supply in the U.S. to cover this increase in demand.”

“More gas will be available to the market when pipelines are accessible from the Permian Basin.”

“We anticipate access to pipeline capacity will improve significantly in the next 6 to 12 months. Regional pipelines (Permian and Anadarko Basins) will come online. This will move the bottleneck downstream to the Gulf Coast.”

Table 1
Summary of Tenth District Energy Conditions, Quarter 1, 2019

	Quarter 1 vs. Quarter 4 (percent)*				Quarter 1 vs. Year Ago (percent)*				Expected in Six Months (percent)*			
Energy Company Indicators	Increase	No Change	Decrease	Diff Index^	Increase	No Change	Decrease	Diff Index^	Increase	No Change	Decrease	Diff Index^
Drilling/Business Activity	28	44	28	0	41	34	24	17	38	41	21	17
Total Revenues	47	20	33	13	53	17	30	23	57	33	10	47
Capital Expenditures					40	23	37	3	39	42	19	19
Supplier Delivery Time	7	90	3	3	14	76	10	3	17	79	3	14
Total Profits	47	13	41	6	45	16	39	6	52	32	16	35
Number of Employees	20	63	17	3	38	48	14	24	14	86	0	14
Employee Hours	19	69	13	6	28	59	13	16	16	81	3	13
Wages and Benefits	34	59	6	28	53	41	6	47	31	66	3	28
Access to Credit	7	76	17	-10	17	70	13	3	10	81	10	0
Expected Oil Prices									41	53	6	34
Expected Natural Gas Prices									7	90	3	3
Expected Natural Gas Liquids Prices									21	75	4	18

*Percentage may not add to 100 due to rounding.
^Diffusion Index. The diffusion index is calculated as the percentage of total respondents reporting increases minus the percentage reporting declines.

Note: The first quarter survey ran from March 18 to March 29, 2019 and included 33 responses from firms in Colorado, Kansas, Nebraska, Oklahoma, Wyoming, northern New Mexico, and western Missouri.

Chart 1. Drilling/Business Activity Index vs. a Quarter Ago

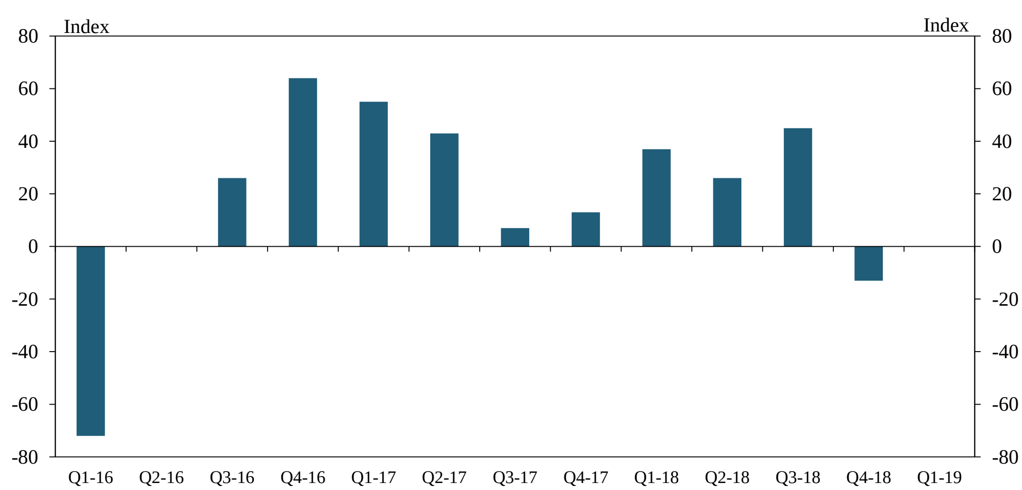

Table 2
Historical Energy Survey Indexes

	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19
Versus a Quarter Ago													
(not seasonally adjusted)													
Drilling/Business Activity	-72	0	26	64	55	43	7	13	37	26	45	-13	0
Total Revenues	-67	-31	5	62	52	20	23	39	50	53	50	6	13
Capital Expenditures	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Supplier Delivery Time	-9	-3	-8	-7	4	11	-10	-4	19	16	7	0	3
Total Profits	-78	-22	-10	42	41	3	21	29	50	53	37	-18	6
Number of Employees	-69	-59	-11	26	31	23	17	19	20	29	23	9	3
Employee Hours	-54	-52	-10	20	16	20	0	19	24	24	23	6	6
Wages and Benefits	-50	-37	-22	17	13	20	7	16	34	39	33	30	28
Access to Credit	-39	-17	-5	0	3	-3	13	0	3	15	10	-19	-10
Versus a Year Ago													
Drilling/Business Activity	-84	-65	-21	41	59	70	44	54	54	41	57	17	17
Total Revenues	-81	-69	-31	15	52	62	37	56	68	56	61	50	23
Capital Expenditures	-73	-84	-58	14	43	59	50	50	68	58	62	27	3
Supplier Delivery Time	-6	-14	-11	-14	-4	11	-14	-7	19	16	10	3	3
Total Profits	-81	-71	-49	23	55	59	21	38	53	50	47	42	6
Number of Employees	-78	-67	-50	-7	13	31	23	40	31	36	27	27	24
Employee Hours	-66	-48	-37	3	0	28	10	27	30	34	31	19	16
Wages and Benefits	-47	-42	-33	17	9	31	37	34	48	69	67	55	47
Access to Credit	-53	-47	-30	-17	13	-3	20	7	0	15	25	9	3
Expected in Six Months													
(not seasonally adjusted)													
Drilling/Business Activity	-31	39	21	73	57	26	30	33	50	61	50	-19	17
Total Revenues	-17	26	6	67	52	18	44	44	52	50	56	-23	47
Capital Expenditures	-50	17	9	79	37	19	37	43	56	48	43	-13	19
Supplier Delivery Time	-3	-3	-8	-7	11	4	-11	-11	15	17	-4	9	14
Total Profits	-22	23	5	76	45	12	28	43	53	48	59	-27	35
Number of Employees	-39	6	-22	32	16	21	20	21	34	33	21	15	14
Employee Hours	-39	6	-8	28	16	21	17	27	43	31	17	3	13
Wages and Benefits	-38	-3	3	52	23	7	30	50	34	39	34	42	28
Access to Credit	-35	0	-6	3	0	4	10	14	3	6	30	3	0
Expected Oil Prices	41	58	49	72	3	4	54	50	31	12	48	29	34
Expected Natural Gas Prices	18	61	44	26	6	3	24	28	3	21	20	-33	3
Expected Natural Gas Liquids Prices	29	59	31	64	14	21	38	30	7	27	32	-3	18
Special Price Questions													
(averages)													
Profitable WTI Oil Price (per barrel)	$51		$53		$51		$51		$52		$55		$52
WTI Price to Substantially Increase Drilling		$64		$60		$56		$62		$69		$63	
WTI Price Expected in 6 Months					$51	$47	$52	$58	$63	$67	$71	$54	$60
WTI Price Expected in 1 Year					$54	$49	$55	$60	$64	$70	$72	$59	$61
WTI Price Expected in 2 Years					$60	$54	$58	$62	$66	$73	$73	$61	$65
WTI Price Expected in 5 Years					$69	$61	$65	$70	$72	$78	$79	$66	$72
Profitable Natural Gas Price (per million BTU)	$3.29		$3.45		$3.38		$3.05		$2.92		$3.23		$3.02
Natural Gas Price to Substantially Increase Drilling		$3.65		$3.97		$3.65		$3.59		$3.60		$3.48	
Henry Hub Price Expected in 6 Months					$2.85	$3.05	$3.01	$2.88	$2.70	$2.85	$2.89	$3.06	$2.85
Henry Hub Price Expected in 1 Year					$3.01	$3.06	$3.11	$3.10	$2.83	$2.90	$2.92	$3.12	$2.91
Henry Hub Price Expected in 2 Years					$3.22	$3.25	$3.30	$3.30	$2.98	$3.05	$3.10	$3.23	$3.05
Henry Hub Price Expected in 5 Years					$3.64	$3.51	$3.73	$3.65	$3.33	$3.34	$3.42	$3.54	$3.18

Chart 2. Special Question - What price is currently needed for drilling to be profitable for oil and natural gas, and what do you expect the WTI and Henry Hub prices to be in six months, one year, two years, and five years?

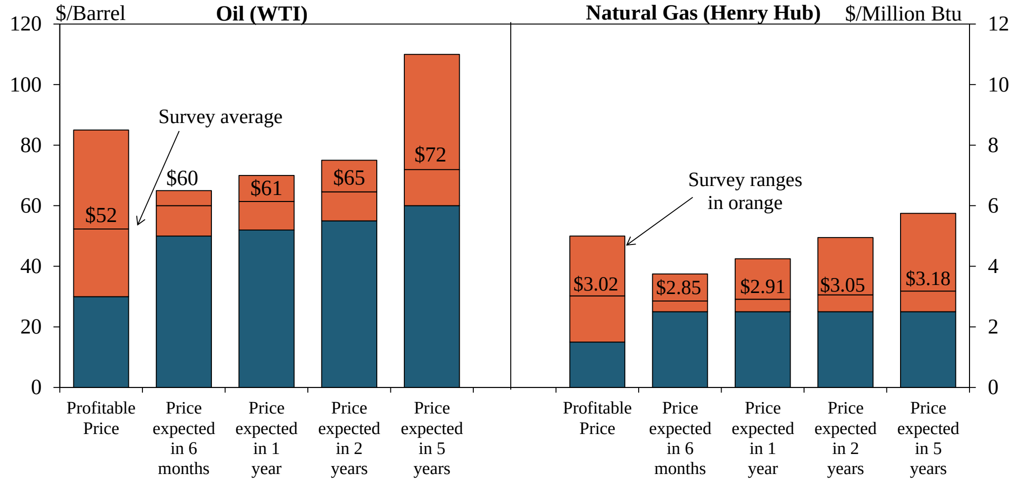

Chart 3. Special Question - How does your firm anticipate access to pipeline capacity will change in the next 6 to 12 months?

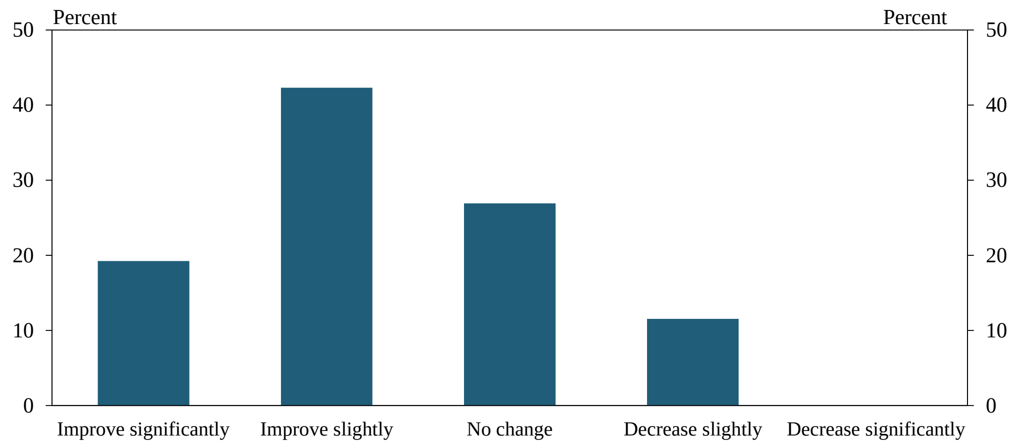

Chart 4. Special Question - Drilled but uncompleted (DUC) wells