News Release
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TENTH DISTRICT ENERGY ACTIVITY INCREASED MODERATELY

Federal Reserve Bank of Kansas City Releases 3rd Quarter Energy Survey

KANSAS CITY, Mo. –The Federal Reserve Bank of Kansas City released the 3rd quarter Energy Survey today. According to Chad Wilkerson, vice president, economist, and Oklahoma City Branch executive at the Federal Reserve Bank of Kansas City, the survey revealed a moderate increase in Tenth District energy firm activity.

"For the first time in two years, firms reported rising business activity and revenues last quarter," said Wilkerson. "On average, though, firms need energy prices to be slightly higher than recent prices in order to be profitable."

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 3rd 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 Survey

Tenth District Energy Activity Increased Moderately in the Third Quarter

Third quarter energy survey results indicated that Tenth District energy firm activity increased moderately. The future activity outlook also remained positive overall. Firms reported that oil and natural gas prices on average needed to be $53 per barrel and $3.45 per million BTU, respectively, to be profitable in the areas in which they were active. On average, firms projected WTI prices to be $49 per barrel by year-end 2016 and $57 by year-end 2017. The majority of firms expected oil inventories to balance in the second or third quarters of 2017.

Summary of Quarterly Indicators

District energy activity increased in the third quarter of 2016, as reported by firms contacted between September 15 and 30 (Table 1). The drilling and business activity index increased from 0 to 26, and the total revenues index jumped into positive territory from -31 to 5 (Chart 1). The employment and employee hours indexes were also considerably higher, though still below zero. The total profits, access to credit and wages and benefits indexes picked up modestly but also remained negative.

The year-over-year indexes continued to rise but remained negative. The drilling and business activity index jumped from -65 to -21, and the revenues, total profits, and capital spending indexes increased moderately. The employment, employee hours, and access to credit indexes rose modestly. The wages and benefits and supplier delivery time indexes edged higher.

The future expectations indexes moderated somewhat but overall remained positive. The future drilling and business activity index eased from 39 to 21. The future revenues index declined from 26 to 6, and the future total profits index also fell moderately. The future capital spending index inched lower from 17 to 9. The future employment and employee hours indexes fell back into negative territory and access to credit declined to -6.

Price expectations for oil and gas eased somewhat but remained positive. The expected oil prices index edged lower from 58 to 49. The expected natural gas prices index fell from 61 to 44. The NGL price index fell moderately from 59 to 31.

Summary of Special Questions

Firms were asked what oil and natural gas prices were needed to be profitable in the areas in which they were active. The average oil price needed was $53 per barrel, slightly higher than the $51 average reported in Q1 2016 (Chart 2). Responses ranged from $40 to $75. The average natural gas price needed was $3.45 per million BTU, with a range of $2 to $5.

Firms were also asked what they expected the WTI oil price to be by year-end 2016 and 2017. For year-end 2016, the average expected WTI price was $49 per barrel, down from the $53 per barrel average projected last quarter. The average price for year-end 2017 was $57 per barrel, lower than the $63 per barrel average last survey. Global supply and demand imbalances and OPEC production were mentioned as factors behind the slightly lower price expectations.

Firms were also asked what they expected the Henry Hub natural gas price to be by year-end 2016 and 2017 and why. The year-end 2016 expected price was $2.97 per million BTU, up from last survey's average of $2.84 per million BTU. The average year-end 2017 expected price was $3.33 per million BTU, slightly higher than the previous survey average of $3.18 per million BTU. The majority of respondents said lower supply, increasing demand, and winter weather were factors that led to their slightly higher price projections.

Firms were asked how their capital spending plans for 2017 compared to 2016 and to 2014. Compared to their 2016 capital spending plans, most firms projected spending in 2017 to be flat to slightly higher, with a few expecting sizeable increases (Chart 3). By contrast, when compared to their 2014 spending, over half of firms reported that spending for 2017 would be down more than 50 percent.

Firms were also asked in what quarter they expected the world oil inventory surplus to come into balance. The highest number of respondents expected the balance to occur in the second quarter of 2017, followed by the third quarter of 2017 (Chart 4). However, a fourth of respondents expected the balance to not occur until the first quarter of 2018 or later.

Selected Comments

“We expect a significant increase in 2017 capital spending as long as we have access to debt and equity markets at rates justifying accretive returns.”

“We need to replace declining production and also expect some price improvement.”

“We expect drilling and completion spending to change in anticipation of prices rising in late 2017.”

“We may increase capital spending to drill if oil prices rise above $55 for a sustained period.”

“I think completions spending will increase the most in 2017 followed by drilling spending.”

“We need to replace reserves in order to maintain our borrowing base.”

“The recent increase in natural gas prices has spurred drilling in southeast Oklahoma.”

“Uncertainty around commodity pricing and regulation are huge headwinds. The regulatory front continues to be challenging, with new EPA and BLM rules proposed without clarity on process.”

Table 1
Summary of Tenth District Energy Conditions, Quarter 3, 2016

Energy Company Indicators	Quarter 3 vs. Quarter 2 (percent)* Increase	No Change	Decrease	Diff Index^	Quarter 3 vs. Year Ago (percent)* Increase	No Change	Decrease	Diff Index^	Expected in Six Months (percent)* Increase	No Change	Decrease	Diff Index^
Drilling/Business Activity	41	44	15	26	34	11	55	-21	42	37	21	21
Total Revenues	35	35	30	5	25	19	56	-31	36	33	31	6
Capital Expenditures					15	12	73	-58	39	30	30	9
Supplier Delivery Time	0	92	8	-8	3	83	14	-11	6	81	14	-8
Total Profits	28	33	38	-10	18	15	67	-49	37	32	32	5
Number of Employees	21	47	32	-11	11	29	61	-50	11	57	32	-22
Employee Hours	18	54	28	-10	11	42	47	-37	13	66	21	-8
Wages and Benefits	3	72	25	-22	14	39	47	-33	19	64	17	3
Access to Credit	11	73	16	-5	8	54	38	-30	14	67	19	-6
Expected Oil Prices									51	46	3	49
Expected Natural Gas Prices									49	46	5	44
Expected Natural Gas Liquids Prices									36	59	5	31

*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 third quarter survey ran from September 15-30, 2016 and included 39 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

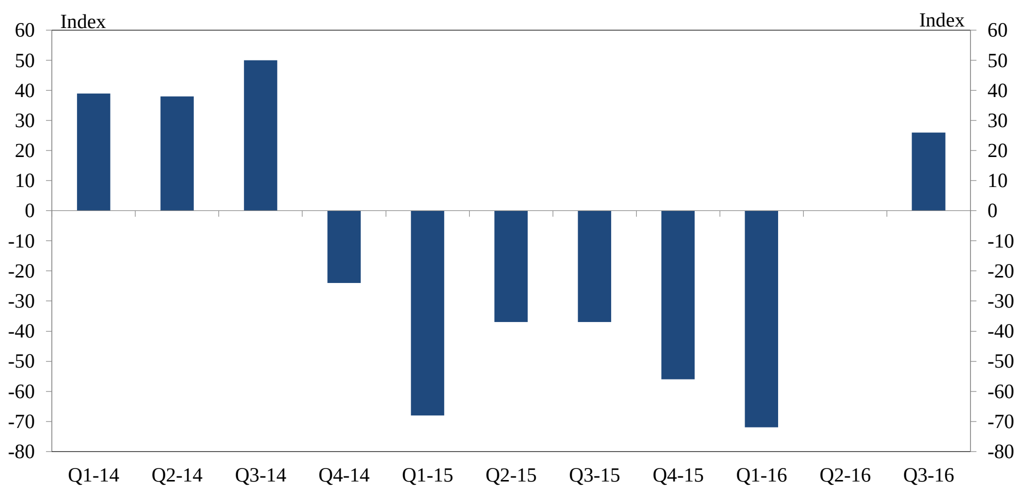

Table 2
Historical Energy Survey Indexes

	Q1'14	Q2'14	Q3'14	Q4'14	Q1'15	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16
Versus a Quarter Ago											
(not seasonally adjusted)											
Drilling/Business Activity	39	38	50	-24	-68	-37	-37	-56	-72	0	26
Total Revenues	33	57	72	-42	-81	-45	-58	-86	-67	-31	5
Supplier Delivery Time	-3	12	-15	4	-3	11	6	-6	-9	-3	-8
Total Profits	31	34	50	-44	-86	-53	-61	-76	-78	-22	-10
Number of Employees	42	28	41	0	-26	-37	-41	-49	-69	-59	-11
Employee Hours	20	14	34	-19	-43	-19	-39	-39	-54	-52	-10
Wages and Benefits	48	34	45	12	0	-16	-30	-33	-50	-37	-22
Access to Credit	6	15	14	-12	-17	-10	-41	-49	-39	-17	-5
Versus a Year Ago											
Drilling/Business Activity	26	19	56	-23	-63	-84	-91	-89	-84	-65	-21
Total Revenues	53	63	71	-4	-70	-77	-88	-92	-81	-69	-31
Capital Expenditures	19	30	52	-11	-67	-62	-84	-76	-73	-84	-58
Supplier Delivery Time	-3	12	-15	8	11	-4	-18	-3	-6	-14	-11
Total Profits	38	46	62	-16	-74	-90	-89	-92	-81	-71	-49
Number of Employees	35	28	67	35	-13	-32	-47	-56	-78	-67	-50
Employee Hours	20	11	33	4	-43	-38	-54	-40	-66	-48	-37
Wages and Benefits	59	38	67	38	3	-28	-25	-26	-47	-42	-33
Access to Credit	3	11	26	-25	-43	-32	-40	-56	-53	-47	-30
Expected in Six Months											
(not seasonally adjusted)											
Drilling/Business Activity	34	58	46	-83	-53	20	-26	-43	-31	39	21
Total Revenues	59	74	69	-60	-42	19	-36	-56	-17	26	6
Capital Expenditures	20	33	44	-64	-67	-3	-41	-67	-50	17	9
Supplier Delivery Time	-3	4	-11	15	10	-10	-3	-9	-3	-3	-8
Total Profits	47	59	61	-76	-52	-3	-38	-63	-22	23	5
Number of Employees	42	50	59	-23	-29	-7	-34	-51	-39	6	-22
Employee Hours	29	26	39	-48	-26	0	-24	-42	-39	6	-8
Wages and Benefits	34	32	69	-8	-26	7	-14	-27	-38	-3	3
Access to Credit	13	29	23	-40	-21	0	-31	-40	-35	0	-6
Expected Oil Prices	3	24	-23	-52	3	32	20	-9	41	58	49
Expected Natural Gas Prices	22	30	37	-26	-19	16	11	-15	18	61	44
Expected Natural Gas Liquids Prices	26	26	-4	-42	-13	10	6	-15	29	59	31
Special Price Questions											
Profitable WTI Oil Price (per barrel)			$79		$62		$60		$51		$53
WTI Price to Significantly Increase Drilling						$73		$60		$64	
Current Year-End Expected WTI Price					$56	$63	$48		$45	$53	$49
Next Year-End Expected WTI Price						$70	$58	$50	$56	$62	$57
Profitable Natural Gas Price (per million BTU)									$3.29		$3.45
Henry Hub Price to Significantly Increase Drilling										$3.65	
Current Year-End Expected Henry Hub Price										$2.84	$2.97
Next Year-End Expected Henry Hub Price										$3.18	$3.33

Chart 2. Special Question - On average across the fields in which you are active, 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 at the end of 2016 and 2017?

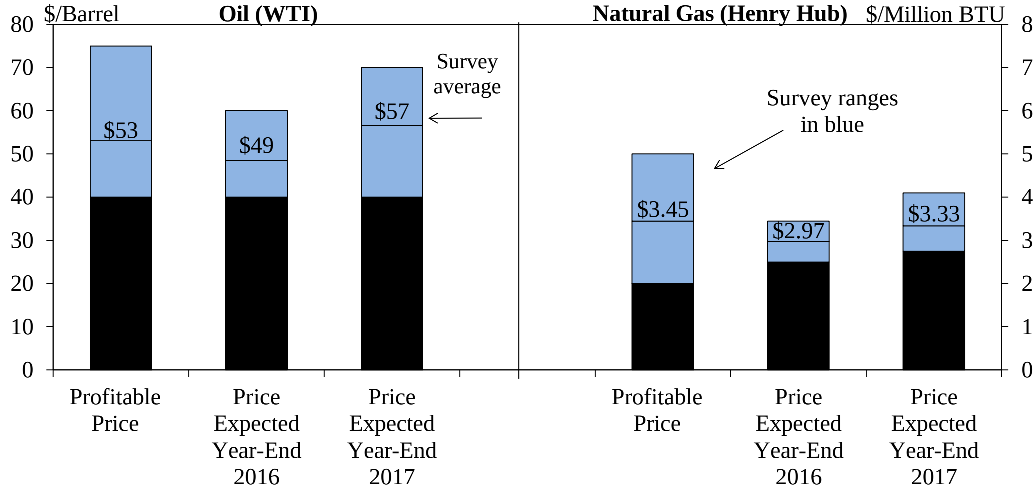

Chart 3. Special Question - How do your firm's 2017 capital spending plans compare to your capital spending this year (2016) and two years ago (2014)?

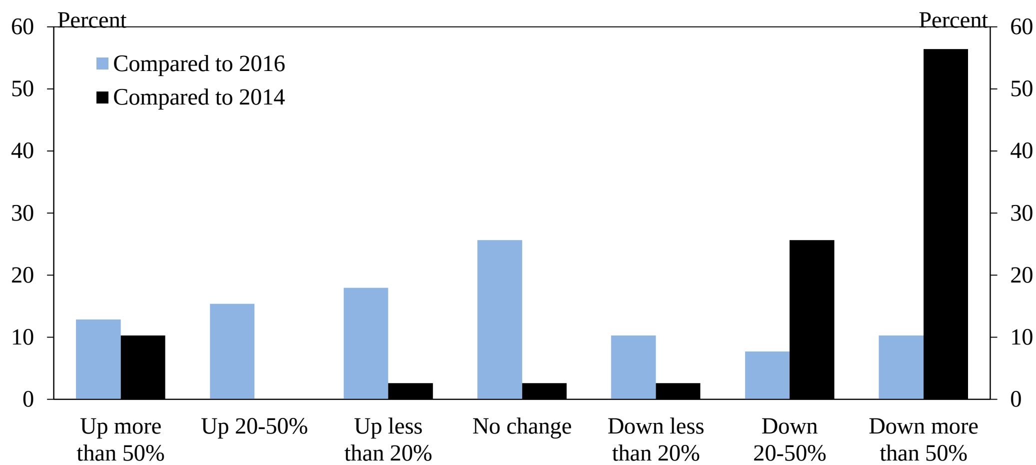

Chart 4. Special Question - In which quarter do you expect the world oil inventory surplus to come back into balance?