



Energy Survey

Tenth District Energy Activity Fell Again

by: Chad Wilkerson and Chase Farha

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First quarter energy survey results revealed that Tenth District energy activity fell again and is expected to decline further. Firms reported that oil prices needed to be on average \$65 per barrel for drilling to be profitable, and \$90 per barrel for a substantial increase in drilling to occur. Natural gas prices needed to be \$3.47 per million Btu for drilling to be profitable on average, and \$4.38 per million Btu for drilling to increase substantially.

Summary of Quarterly Indicators

Tenth District energy activity fell again in the first quarter of 2024, as indicated by firms contacted between March 15th, 2024, and April 1st, 2024 (Tables 1 & 2). The drilling and business activity index increased from -33 to -13 (Chart 1). Revenues stayed steady in Q1, while profits declined at a slower pace than in previous quarters. Only the employment-related indexes had positive readings this quarter—namely the number of employees, employee hours, and wages & benefits indexes.

Drilling activity also fell from this time last year, with the business/drilling activity index changing to -26 from -33 last quarter. Revenues and profits also declined somewhat, and the capital expenditures index was negative for the first time since Q4 2020.

The contraction in drilling activity is expected to continue in the next six months, but firms anticipate revenues and profits will pick up somewhat. Despite this, capital expenditures are expected to continue declining even as the outlook for access to credit is stable.

Summary of Special Questions

Firms were asked what oil and natural gas prices were needed on average for drilling to be profitable across the fields in which they are active. The average oil price needed was \$65 per barrel (Chart 2), while the average natural gas price needed was \$3.47 per million Btu (Chart 3). Firms were also asked what prices were needed for a substantial increase in drilling to occur across the fields in which they are active. The average oil price needed was \$90 per barrel (Chart 2), and the average natural gas price needed was \$4.38 per million Btu (Chart 3).

Chart 2. Special Question: What price is currently needed for a drilling to be profitable and for a substantial increase in drilling to occur for oil? What do you expect WTI prices to be in six months, one year, two years, and five years?

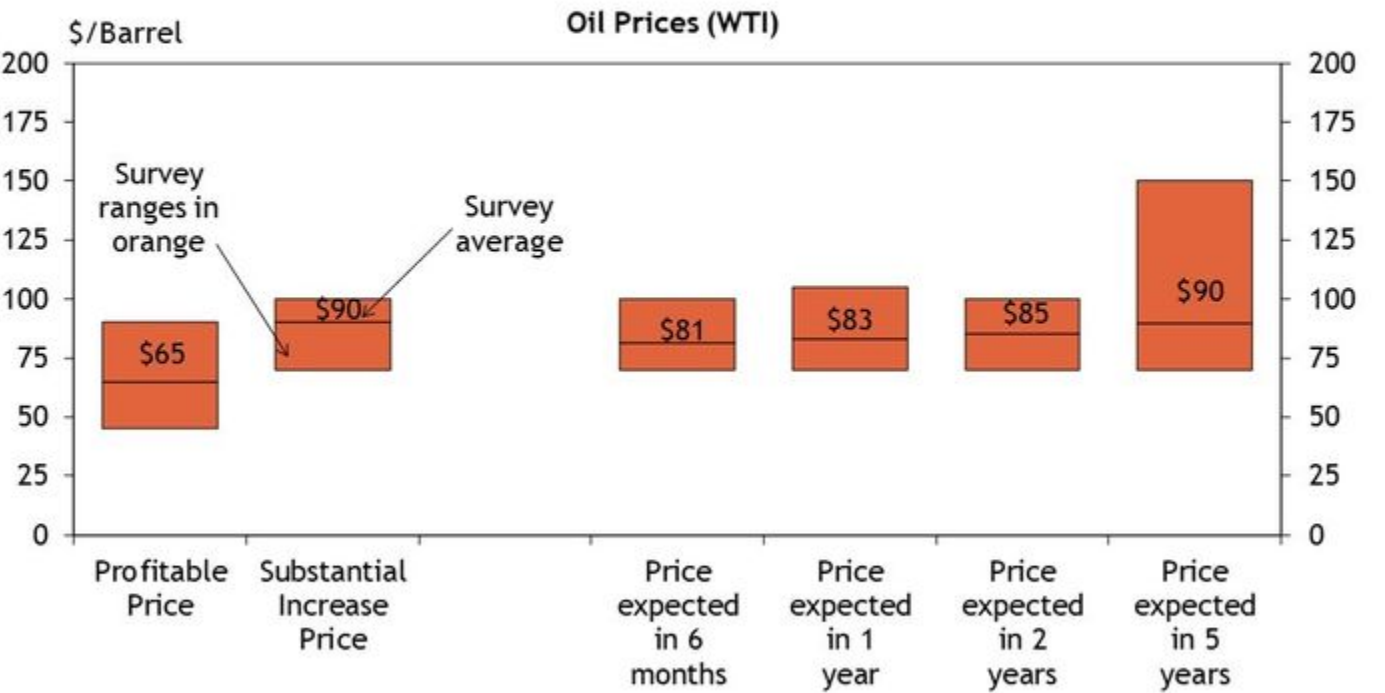
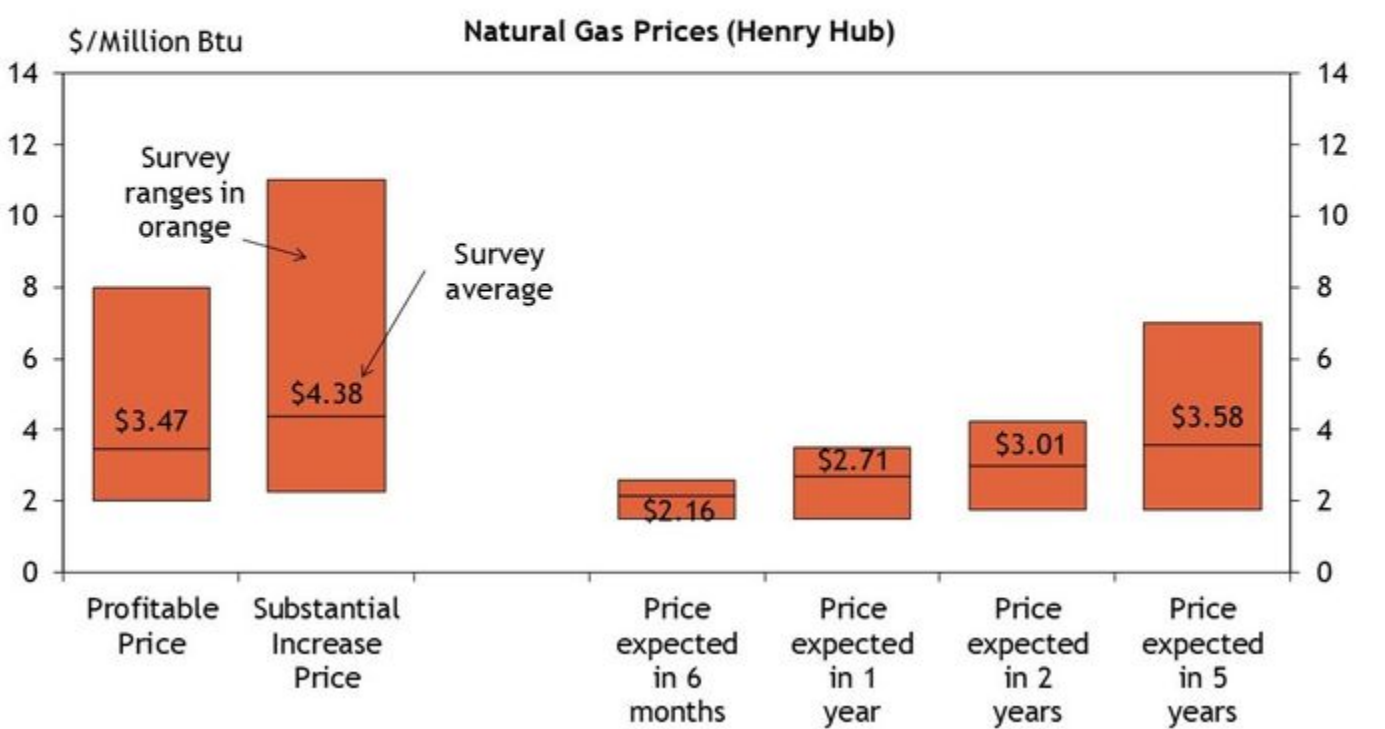


Chart 3. Special Question: What price is currently needed for a drilling to be profitable and for a substantial increase in drilling to occur for natural gas? What do you expect Henry Hub prices to be in six months, one year, two years, and five years?



Firms reported what they expected oil and natural gas prices to be in six months, one year, two years, and five years. The average expected WTI prices were \$81, \$83, \$85, and \$90 per barrel, respectively. The average expected Henry Hub natural gas prices were \$2.16, \$2.71, \$3.01, and \$3.58 per million Btu, respectively.

Firms were asked how they anticipate the ongoing consolidation in the oil sector will affect U.S. oil production growth and oil price trajectories (Chart 4). 42% believe the consolidation will likely lead to more cautious U.S. oil production growth and could potentially drive higher oil prices, while 35% believe it will lead to more cautious U.S. oil production growth and contribute to more stable oil prices. The other 23% of firms do not anticipate any significant impact on U.S. oil production or oil prices due to industry consolidation.

Contacts were also asked about how profit margins have changed in the last 3 months given current price pressures (Chart 5). Responses were mixed, with 29% reporting a slight decrease in margins, 25% a significant decrease, and 23% each reporting no change in margins or a slight increase.

Table 1
Summary of Tenth District Energy Conditions, Quarter 1, 2024

Energy Company Indicators	Quarter 4 vs. Quarter 1(percen Quarter 1 vs. Year Ago(percent)* Expected in Six Months(percent)*											
	No	Diff	No	Diff	No	Diff	No	Diff	No	Diff	No	Diff
Drilling/Business Activity	10	67	23	-13	19	35	45	-26	20	50	30	-10
Total Revenues	36	27	36	0	38	19	44	-6	34	44	22	13
Capital Expenditures					18	42	39	-21	16	50	34	-19
Supplier Delivery Time	0	84	16	-16	0	61	39	-39	0	87	13	-13
Total Profits	27	39	33	-6	34	19	47	-13	31	41	28	3
Number of Employees	30	58	12	18	47	41	13	34	31	63	6	25
Employee Hours	15	73	12	3	25	63	13	13	25	63	13	13
Wages and Benefits	55	39	6	48	75	19	6	69	38	56	6	31
Access to Credit	3	90	6	-3	13	77	10	3	17	77	7	10
Expected Oil Prices									41	50	9	31
Expected Natural Gas Prices									58	29	13	45
Expected Natural Gas Liquids Prices									29	58	13	16

*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 15, 2024 to April 1, 2024 and included 33 responses from firms in Colorado, Kansas, Nebraska, Oklahoma, Wyoming, northern New Mexico, and western Missouri.

Table 2
Historical Energy Survey Indexes

	Q1'21	Q2'21	Q3'21	Q4'21	Q1'22	Q2'22	Q3'22	Q4'22	Q1'23	Q2'23	Q3'23	Q4'23	Q1'24
<i>Versus a Quarter Ago</i> (not seasonally adjusted)													
Drilling/Business Activity	35	33	43	32	29	57	44	6	-13	-19	-13	-33	-13
Total Revenues	44	82	82	63	38	87	25	-8	-42	-42	13	-13	0
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	5	-3	-3	6	-9	10	-3	-11	-3	-21	-10	-3	-16
Total Profits	36	70	69	34	44	68	29	-17	-26	-39	-3	-19	-6
Number of Employees	12	25	26	34	39	42	47	38	6	27	13	13	18
Employee Hours	17	42	38	28	41	39	37	41	6	18	6	0	3
Wages and Benefits	21	39	33	53	56	58	61	59	42	27	35	32	48
Access to Credit	5	9	16	10	25	16	6	6	0	3	-3	-6	-3
<i>Versus a Year Ago</i>													
Drilling/Business Activity	12	59	68	74	52	77	78	56	17	-16	-23	-33	-26
Total Revenues	20	88	92	88	72	90	87	67	-10	-48	-23	-17	-6
Capital Expenditures	14	30	54	59	63	71	71	65	26	0	6	6	-21
Supplier Delivery Time	7	3	8	9	-3	23	6	-5	10	-45	-6	-23	-39
Total Profits	5	91	82	84	75	81	84	61	3	-48	-26	-17	-13
Number of Employees	-17	12	31	32	66	55	61	56	26	39	23	43	34
Employee Hours	-7	30	45	29	63	55	50	57	26	21	3	20	13
Wages and Benefits	0	45	56	77	84	77	87	89	77	58	77	73	69
Access to Credit	-12	24	29	23	38	19	27	3	6	6	-3	0	3
<i>Expected in Six Months</i> (not seasonally adjusted)													
Drilling/Business Activity	41	41	45	45	42	50	25	19	-13	-22	7	7	-10
Total Revenues	54	76	58	50	53	55	27	11	-26	3	42	23	13
Capital Expenditures	36	33	31	53	63	52	52	49	-6	-9	16	7	-19
Supplier Delivery Time	10	18	8	9	9	16	-10	-19	-23	-42	0	-13	-13
Total Profits	37	79	59	44	38	35	39	6	-23	-3	23	3	3
Number of Employees	24	30	31	42	47	42	42	38	13	12	19	40	25
Employee Hours	36	27	26	23	41	32	27	30	13	3	3	27	13
Wages and Benefits	36	36	46	71	72	63	65	70	45	24	52	55	31
Access to Credit	7	12	13	6	19	6	7	3	-6	3	-3	-3	10
Expected Oil Prices	24	55	33	34	-16	-6	20	62	29	42	32	32	31
Expected Natural Gas Prices	31	59	31	3	0	10	-10	-3	14	53	50	-16	45
Expected Natural Gas Liquids Prices	36	63	34	13	19	0	21	22	20	31	37	-7	16
<i>Special Price Questions</i> (averages)													
Profitable WTI Oil Price (per barrel)	\$53		\$57		\$62	\$65	\$61	\$64	\$64	\$63	\$64	\$64	\$65
WTI Price to Substantially Increase Drilling		\$72		\$73	\$86	\$98	\$102	\$89	\$86	\$86	\$90	\$84	\$90
WTI Price Expected in 6 Months	\$62	\$74	\$73	\$75	\$96	\$109	\$88	\$83	\$75	\$75	\$91	\$76	\$81
WTI Price Expected in 1 Year	\$65	\$76	\$75	\$78	\$89	\$102	\$89	\$86	\$81	\$79	\$88	\$79	\$83
WTI Price Expected in 2 Years	\$67	\$76	\$75	\$78	\$83	\$88	\$90	\$88	\$86	\$83	\$88	\$84	\$85
WTI Price Expected in 5 Years	\$70	\$78	\$76	\$80	\$84	\$86	\$93	\$88	\$90	\$88	\$93	\$88	\$90
Profitable Natural Gas Price (per million BTU)	\$2.94		\$3.88		\$3.72	\$4.64	\$4.42	\$4.32	\$3.45	\$3.49	\$3.45	\$3.12	\$3.47
Natural Gas Price to Substantially Increase Drilling		\$3.82		\$4.27	\$4.53	\$6.34	\$7.65	\$6.13	\$4.74	\$4.67	\$4.36	\$4.04	\$4.38
Henry Hub Price Expected in 6 Months	\$2.72	\$3.19	\$4.72	\$3.66	\$4.45	\$7.06	\$7.46	\$5.01	\$2.82	\$3.00	\$3.06	\$2.55	\$2.16
Henry Hub Price Expected in 1 Year	\$2.94	\$3.21	\$4.22	\$3.92	\$4.32	\$6.65	\$6.48	\$5.52	\$3.33	\$3.33	\$3.34	\$3.04	\$2.71
Henry Hub Price Expected in 2 Years	\$3.14	\$3.34	\$4.31	\$3.97	\$4.29	\$6.06	\$6.16	\$5.78	\$4.04	\$3.71	\$3.97	\$3.42	\$3.01
Henry Hub Price Expected in 5 Years	\$3.50	\$3.71	\$4.79	\$4.29	\$4.74	\$5.77	\$6.51	\$6.19	\$4.51	\$3.98	\$4.83	\$3.96	\$3.58

Selected Energy Comments

“We are staying nimble in order to be able to react to major happenings in the world.”

“In the short run, there is very little that can be done to maintain profit margins. In general, we don't think there is a lot that service companies can do to lower their cost and thus pass on savings to exploration and production companies. Capital expenditures must come down to match cash flow.”

“Long term, the cost of gas needs to match the cost to replace the gas reserves. Current low prices do not justify the cost of reserve replacement.”

“Natural gas continues to be plentiful.”

“The USA is way oversupplied in natural gas, hence exports of LNG are critical. As LNG projects for exports are delayed, natural gas will back up in the USA.”

“Working through excess supply currently. Natural gas will be in higher demand as we move forward for electricity generation.”

“Dry gas development will meet increased demand needs. Associated gas constant to rising.”

“Less companies looking for new reserves means we will not be able to replace the reserves needed to cover the demand.”

“At least for publicly traded companies, there is sufficient motivation to place profits and return of capital over growth.”

“The industry remains highly fragmented in the US, and US production is a small component of an efficient global market.”

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Authors



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Chad Wilkerson serves as Oklahoma City Branch Executive and Senior Vice President of Community Development for the Federal Reserve Bank of Kansas City. Wilkerson has been with the Federal Reserve since 1998, starting in Kansas City's research department. Appointed in 2006 as Oklahoma City Branch Executive, Wilkerson is the Bank's lead officer and regional economist in Oklahoma. He recruits and works closely with the Oklahoma City Branch Board of Directors and is responsible for briefing the Kansas City Fed president, a member of the Federal Open Market Committee, on economic trends in the state. His team conducts research and surveys on key regional issues such as energy, manufacturing and migration. Wilkerson was appointed Senior Vice President in 2022, and supports a Community Development team located across the Kansas City Fed's seven-state region. This group works to understand and address issues affecting the ability of underserved communities and small businesses to access credit. Community development focus areas include financial resiliency, affordable housing, community investments, workforce development, rural development and digital inclusion. Wilkerson holds a master's degree in public policy from the University of Chicago, as well as a master's degree from Southwestern Seminary and bachelor's degree from William Jewell College. He serves on the boards of the Economic Club of Oklahoma, the United Way of Central Oklahoma and City Rescue Mission. He lives in Edmond, Oklahoma, with his wife and children.



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