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Tenth District Energy Activity Declined Sharply *Federal Reserve Bank of Kansas City Releases Fourth Quarter Energy Survey*

KANSAS CITY, Mo. –The Federal Reserve Bank of Kansas City released the fourth quarter Energy Survey today. According to Chad Wilkerson, senior vice president at the Federal Reserve Bank of Kansas City, the survey revealed that Tenth District energy activity declined sharply but is expected to pick up modestly in the next six months.

“District drilling and business activity decreased even further in Q4, marking its fourth consecutive quarter of decline,” said Wilkerson. “Despite this, firms increased employment levels moderately and expect them to stay steady or increase slightly in 2024.”

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 survey is attached. Results from past surveys and release dates for future surveys can be found at <https://www.kansascityfed.org/surveys/energy-survey>.

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

Fourth quarter energy survey results revealed that Tenth District energy activity declined sharply but is expected to pick up modestly in the next six months. Firms reported that oil prices needed to be on average \$64 per barrel for drilling to be profitable, and \$84 per barrel for a substantial increase in drilling to occur. Natural gas prices needed to be \$3.12 per million Btu for drilling to be profitable on average, and \$4.04 per million Btu for drilling to increase substantially.

Summary of Quarterly Indicators

Tenth District energy activity declined sharply in the fourth quarter of 2023, as indicated by firms contacted between Dec. 15th, 2023, and Jan. 3rd, 2024 (Tables 1 & 2). The drilling and business activity index decreased from -13 to -33 (Chart 1). Profits and revenues also declined this quarter. Only the employment-related indexes had positive readings this quarter—namely the number of employees, employee hours, and wages & benefits indexes.

Activity also fell sharply from this time last year. Drilling/business activity, revenues, profits, and supplier delivery time all continued to post negative readings. Capital expenditures continue to expand moderately even as access to credit stays flat.

Expectations for future activity remained expansionary despite the downturn. All expectations indexes stayed positive, except for supplier delivery time, access to credit, and the expected natural gas prices. Firms anticipate activity will pick up moderately in the next six months, but profits will stay mostly flat, while the expected employment index picked up to a reading of 40.

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 \$64 per barrel (Chart 2), while the average natural gas price needed was \$3.12 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 \$84 per barrel (Chart 2), and the average natural gas price needed was \$4.04 per million Btu (Chart 3).

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 \$76, \$79, \$84, and \$88 per barrel, respectively. The average expected Henry Hub natural gas prices were \$2.55, \$3.04, \$3.42, and \$3.96 per million Btu, respectively.

Contacts were asked about their firms' expectations in 2024 relative to 2023 (Chart 4). A strong majority of firms expect employment to either increase slightly in 2024 (43%) or remain close to 2023 levels (50%). Expectations for capital expenditures heading into the new year were mixed, with 33% each reporting expectations of a slight increase or slight decrease and 23% reporting they will remain close to 2023 levels.

District energy firms were also asked how much they expect key input prices to change from December 2023 to December 2024 (Chart 5). Only 3% reported they expect a significant increase, 30% reported a slight increase, 57% anticipate they will remain close to 2023 levels, and 10% expect a slight decrease.

Selected Energy Comments

“World demand is rising; investment hasn’t kept pace.”

“Consolidation in the Permian will lead to more orderly development.”

“Worldwide capital expenditures remain relatively low.”

“Any meaningful rise in gas price will be met with dry gas drilling.”

“It’s very hard to predict gas prices. Most operators just try to be efficient and make money at low costs.”

“There is an abundant supply of natural gas, driven mostly as a by-product of oil drilling.”

“Lack of infrastructure will prohibit being able to develop and connect supplies to growing markets.”

“LNG send-out capacity is currently driving domestic gas supplies. Current gas prices are insufficient to add new dry gas production.”

“Consolidation is more prevalent.”

“Well design optimization has been the most impactful use of AI. But AI is being utilized in all aspects of our business.”

Table 1
Summary of Tenth District Energy Conditions, Quarter 4, 2023

Energy Company Indicators	Quarter 4 vs. Quarter 3 (percent)*				Quarter 4 vs. Year Ago (percent)*				Expected in Six Months (percent)*			
	Increase	No Change	Decrease	Diff Index [^]	Increase	No Change	Decrease	Diff Index [^]	Increase	No Change	Decrease	Diff Index [^]
Drilling/Business Activity	3	60	37	-33	20	27	53	-33	33	40	27	7
Total Revenues	19	48	32	-13	30	23	47	-17	40	43	17	23
Capital Expenditures					32	42	26	6	30	47	23	7
Supplier Delivery Time	10	77	13	-3	17	43	40	-23	7	73	20	-13
Total Profits	19	42	39	-19	33	17	50	-17	27	50	23	3
Number of Employees	23	68	10	13	53	37	10	43	43	53	3	40
Employee Hours	13	74	13	0	33	53	13	20	30	67	3	27
Wages and Benefits	35	61	3	32	77	20	3	73	59	38	3	55
Access to Credit	3	87	10	-6	10	80	10	0	7	83	10	-3
Expected Oil Prices									45	42	13	32
Expected Natural Gas Prices									16	52	32	-16
Expected Natural Gas Liquids Prices									20	53	27	-7

*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 fourth quarter survey ran from Dec. 15, 2023 to Jan. 3, 2024 and included 31 responses from firms in Colorado, Kansas, Nebraska, Oklahoma, Wyoming, northern New Mexico, and western Missouri.

Chart 1. Drilling/Business Activity Indexes

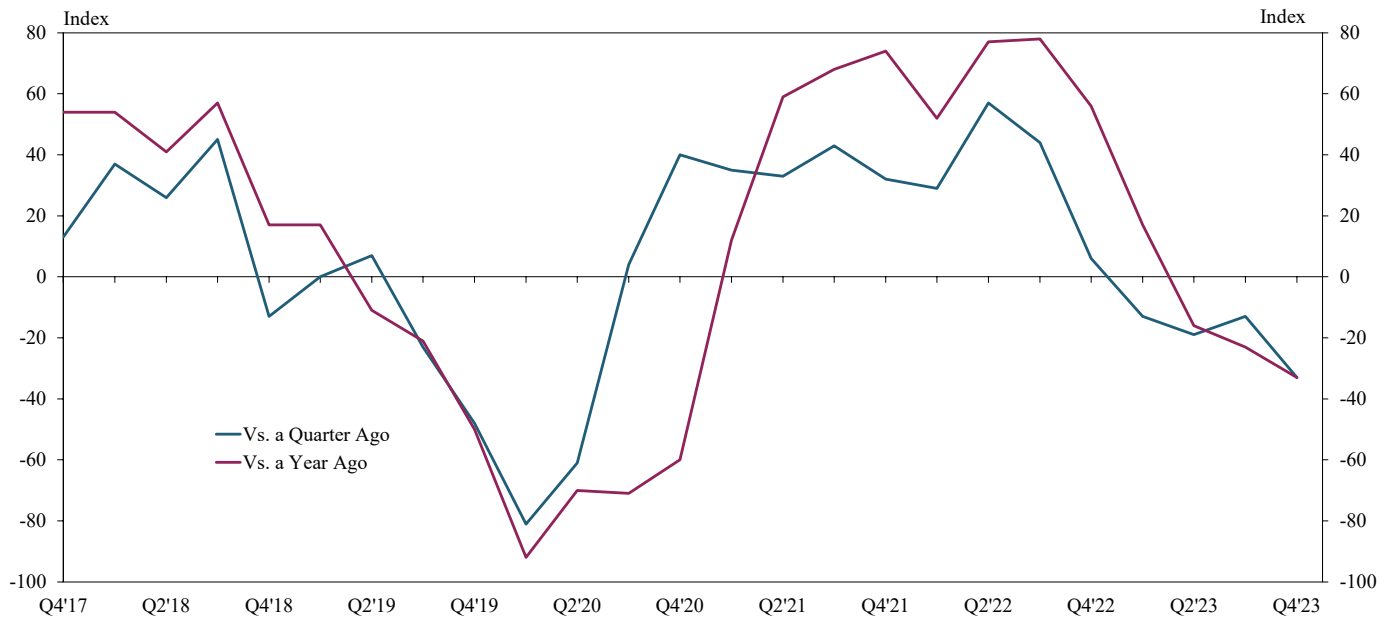


Table 2
Historical Energy Survey Indexes

	Q4'20	Q1'21	Q2'21	Q3'21	Q4'21	Q1'22	Q2'22	Q3'22	Q4'22	Q1'23	Q2'23	Q3'23	Q4'23
<i>Versus a Quarter Ago</i>													
(not seasonally adjusted)													
Drilling/Business Activity	40	35	33	43	32	29	57	44	6	-13	-19	-13	-33
Total Revenues	31	44	82	82	63	38	87	25	-8	-42	-42	13	-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	0	5	-3	-3	6	-9	10	-3	-11	-3	-21	-10	-3
Total Profits	14	36	70	69	34	44	68	29	-17	-26	-39	-3	-19
Number of Employees	-14	12	25	26	34	39	42	47	38	6	27	13	13
Employee Hours	3	17	42	38	28	41	39	37	41	6	18	6	0
Wages and Benefits	9	21	39	33	53	56	58	61	59	42	27	35	32
Access to Credit	-6	5	9	16	10	25	16	6	6	0	3	-3	-6
<i>Versus a Year Ago</i>													
Drilling/Business Activity	-60	12	59	68	74	52	77	78	56	17	-16	-23	-33
Total Revenues	-77	20	88	92	88	72	90	87	67	-10	-48	-23	-17
Capital Expenditures	-57	14	30	54	59	63	71	71	65	26	0	6	6
Supplier Delivery Time	-9	7	3	8	9	-3	23	6	-5	10	-45	-6	-23
Total Profits	-69	5	91	82	84	75	81	84	61	3	-48	-26	-17
Number of Employees	-60	-17	12	31	32	66	55	61	56	26	39	23	43
Employee Hours	-46	-7	30	45	29	63	55	50	57	26	21	3	20
Wages and Benefits	-32	0	45	56	77	84	77	87	89	77	58	77	73
Access to Credit	-46	-12	24	29	23	38	19	27	3	6	6	-3	0
<i>Expected in Six Months</i>													
(not seasonally adjusted)													
Drilling/Business Activity	26	41	41	45	45	42	50	25	19	-13	-22	7	7
Total Revenues	51	54	76	58	50	53	55	27	11	-26	3	42	23
Capital Expenditures	9	36	33	31	53	63	52	52	49	-6	-9	16	7
Supplier Delivery Time	-3	10	18	8	9	9	16	-10	-19	-23	-42	0	-13
Total Profits	51	37	79	59	44	38	35	39	6	-23	-3	23	3
Number of Employees	-9	24	30	31	42	47	42	42	38	13	12	19	40
Employee Hours	-3	36	27	26	23	41	32	27	30	13	3	3	27
Wages and Benefits	12	36	36	46	71	72	63	65	70	45	24	52	55
Access to Credit	6	7	12	13	6	19	6	7	3	-6	3	-3	-3
Expected Oil Prices	51	24	55	33	34	-16	-6	20	62	29	42	32	32
Expected Natural Gas Prices	37	31	59	31	3	0	10	-10	-3	14	53	50	-16
Expected Natural Gas Liquids Prices	40	36	63	34	13	19	0	21	22	20	31	37	-7
<i>Special Price Questions</i>													
(averages)													
Profitable WTI Oil Price (per barrel)		\$53		\$57		\$62	\$65	\$61	\$64	\$64	\$63	\$64	\$64
WTI Price to Substantially Increase Drilling	\$56		\$72		\$73	\$86	\$98	\$102	\$89	\$86	\$86	\$90	\$84
WTI Price Expected in 6 Months	\$48	\$62	\$74	\$73	\$75	\$96	\$109	\$88	\$83	\$75	\$75	\$91	\$76
WTI Price Expected in 1 Year	\$52	\$65	\$76	\$75	\$78	\$89	\$102	\$89	\$86	\$81	\$79	\$88	\$79
WTI Price Expected in 2 Years	\$56	\$67	\$76	\$75	\$78	\$83	\$88	\$90	\$88	\$86	\$83	\$88	\$84
WTI Price Expected in 5 Years	\$61	\$70	\$78	\$76	\$80	\$84	\$86	\$93	\$88	\$90	\$88	\$93	\$88
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
Natural Gas Price to Substantially Increase Drilling	\$3.28		\$3.82		\$4.27	\$4.53	\$6.34	\$7.65	\$6.13	\$4.74	\$4.67	\$4.36	\$4.04
Henry Hub Price Expected in 6 Months	\$2.68	\$2.72	\$3.19	\$4.72	\$3.66	\$4.45	\$7.06	\$7.46	\$5.01	\$2.82	\$3.00	\$3.06	\$2.55
Henry Hub Price Expected in 1 Year	\$2.88	\$2.94	\$3.21	\$4.22	\$3.92	\$4.32	\$6.65	\$6.48	\$5.52	\$3.33	\$3.33	\$3.34	\$3.04
Henry Hub Price Expected in 2 Years	\$3.03	\$3.14	\$3.34	\$4.31	\$3.97	\$4.29	\$6.06	\$6.16	\$5.78	\$4.04	\$3.71	\$3.97	\$3.42
Henry Hub Price Expected in 5 Years	\$3.23	\$3.50	\$3.71	\$4.79	\$4.29	\$4.74	\$5.77	\$6.51	\$6.19	\$4.51	\$3.98	\$4.83	\$3.96

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?

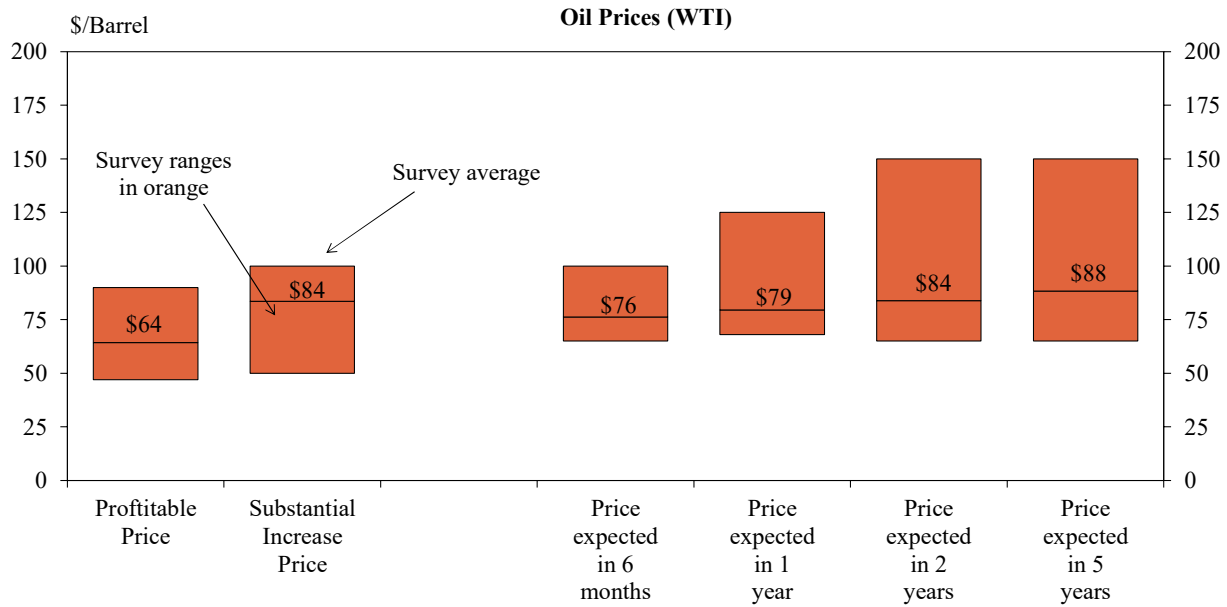


Chart 3. Special Question: What price is currently needed for a drilling to be profitable and for a substantial increase in drilling to occur for natural gas? What do you expect Henry Hub prices to be in six months, one year, two years, and five years?

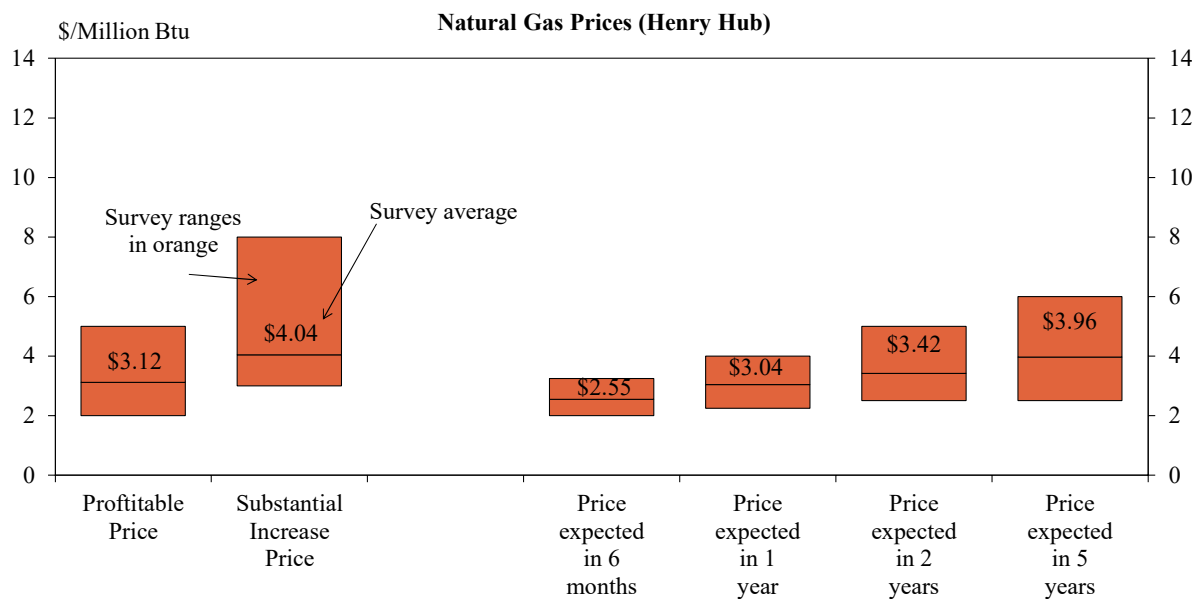


Chart 4. Special Question: What are your firm's expectations in 2024 vs. 2023?

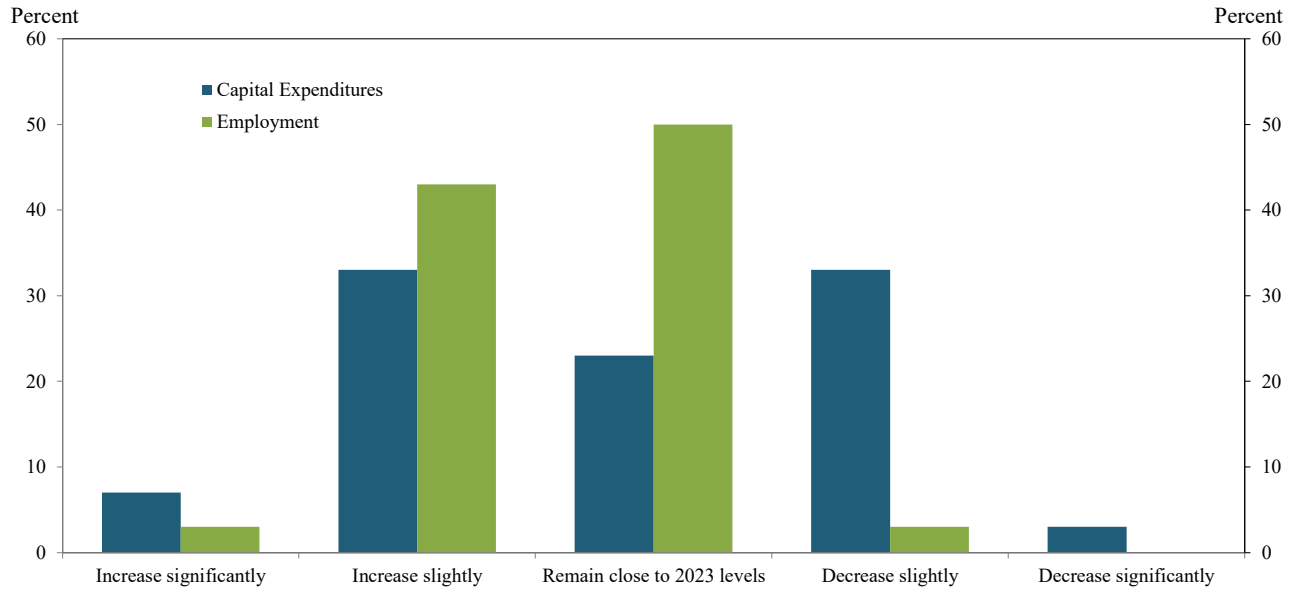


Chart 5. Special Question: By how much do you expect prices for your firm's key inputs to change from December 2023 to December 2024?

