



Energy Survey

Tenth District Energy Activity Grew Solidly

by:

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Third quarter energy survey results revealed that Tenth District energy activity grew solidly, while expectations for future activity eased somewhat.

Summary of Quarterly Indicators

The pace of growth in Tenth District energy activity declined slightly in the third quarter of 2022, as indicated by firms contacted between September 15th, 2022, and September 30th, 2022 (Tables 1 & 2). The drilling and business activity index decreased from 57 to 44 (Chart 1). Still, this marked one of the highest readings in survey history. All other indexes declined but remained positive, except the supplier delivery time index that eased from 10 to -3. On the other hand, the quarterly indexes for number of employees and wages and benefits rose to new survey record highs.

Year-over-year indexes remained mixed. The year-over year drilling and business activity index rose from 77 to 78. Indexes for capital expenditures and profits-maintained record-level highs (since 2014). However, total revenues, supplier delivery time, and employee hours indexes decreased slightly. Expectations for future activity decreased moderately in Q3 2022 but remained positive. The future drilling and business activity index decreased from 50 to 25, while expectations for future total profits and capital spending remained steady. Price expectations for oil increased after dropping the two previous quarters, while expectations for natural gas prices fell somewhat from a quarter ago, following a large price increase in Q3.

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 \$61 per barrel, while the average natural gas price needed was \$4.42 per million Btu (Chart 2). 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 \$102 per barrel, and the average natural gas price needed was \$7.65 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?

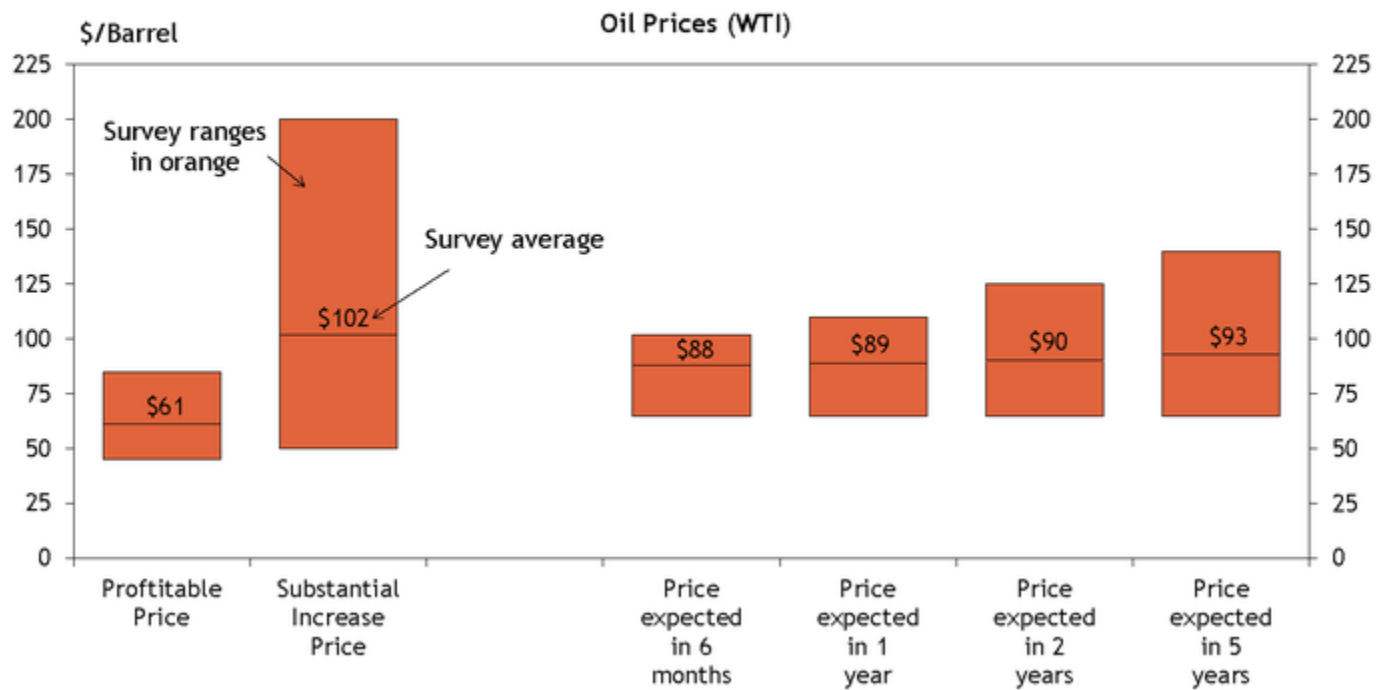
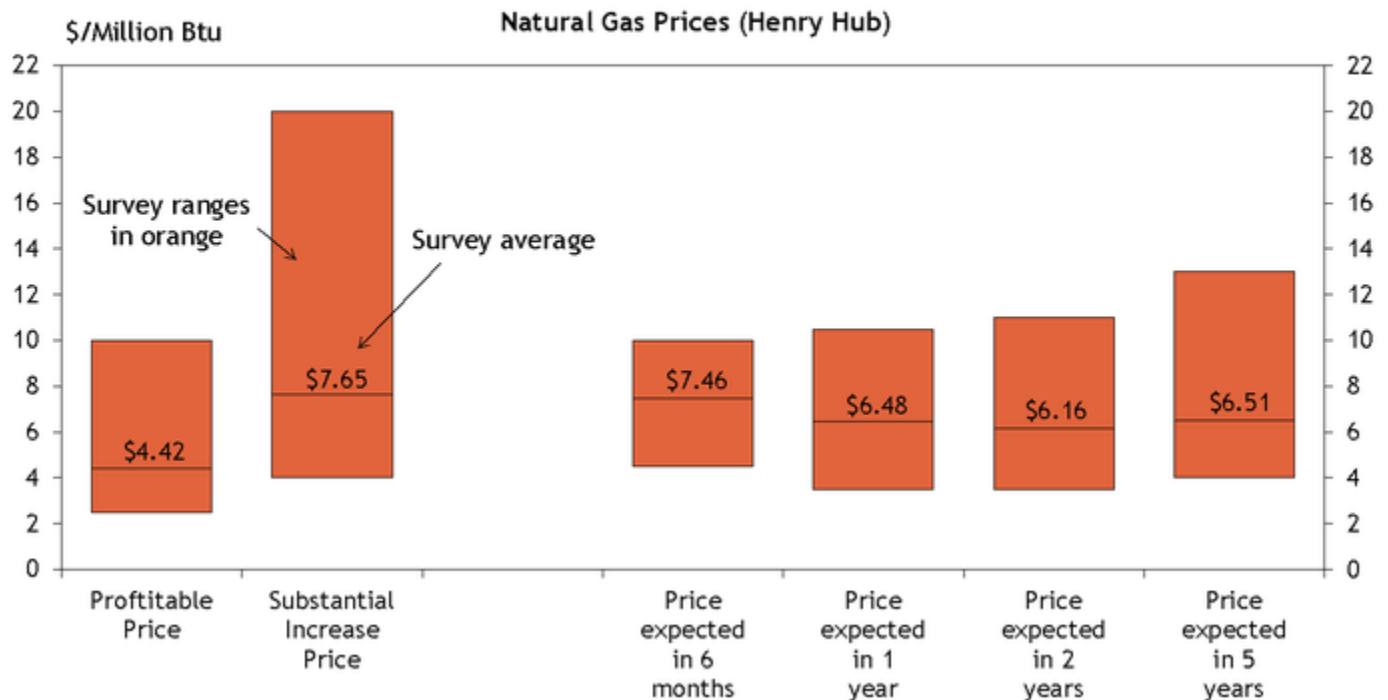


Chart 3. Special Question - What price is currently needed for a drilling to be profitable and for a substantial increase in drilling to occur for natural gas? What do you expect Henry Hub prices to be in six months, one year, two years, and five years?



Firms were also asked what they expected oil and natural gas prices to be in six months, one year, two years, and five years. Oil price expectations again surpassed survey records, and natural gas expectations increased compared to expectations in Q2 2022. The average expected WTI prices were \$88, \$89, \$90, and \$93 per barrel, respectively. The average expected Henry Hub natural gas prices were \$7.46, \$6.48, \$6.16, and \$6.51 per million Btu, respectively. Energy firms were also asked about the change in the number of job openings at their firm over the last quarter (Chart 4). More than 64% of firms reported an increase in job openings, 7% reported a decrease, and 29% reported no change.

In addition, firms were asked if they expected a significant tightening of the oil market by the end of 2024, given current underinvestment in exploration (Chart 5). Around 79% of firms reported “yes”, and of those firms 97% expected some or many financial investors will return to the oil and gas sector.

Industry	Percent of Total Income						Avg Annual Growth in Nonmetro OK 2001-2015*
	U.S.	Nonmetro OK	NW	NE	SW	SE	
Mining	1.6	10.4	11.2	8.7	5.4	7.1	11.4
Farming	0.8	5.3	8.7	3.8	2.7	3.8	6.3
Construction	6.1	6.3	6.9	5.8	5.0	6.3	4.8
State & Local Government	13.2	20.3	18.3	19.7	14.8	24.1	4.6
Trade, Transportation & Utilities	16.2	16.4	n/a	n/a	n/a	n/a	4.3
Education & Health	13.3	8.5	n/a	5.0	4.8	n/a	3.8
Federal Government	3.0	3.6	2.8	4.9	19.3	3.0	3.3
Information	3.5	1.1	n/a	0.9	n/a	0.8	3.0
Leisure & Hospitality	4.7	3.1	n/a	2.5	n/a	n/a	2.9
Financial Activities	7.1	2.5	n/a	2.6	2.7	2.3	2.9
Manufacturing	10.1	9.2	7.2	11.0	n/a	9.7	1.0
Professional & Business Services	20.3	4.2	n/a	3.1	n/a	n/a	0.2

Table 2
Historical Energy Survey Indexes

	Q3'19	Q4'19	Q1'20	Q2'20	Q3'20	Q4'20	Q1'21	Q2'21	Q3'21	Q4'21	Q1'22	Q2'22	Q3'22
<i>Versus a Quarter Ago</i> (not seasonally adjusted)													
Drilling/Business Activity	-23	-48	-81	-61	4	40	35	33	43	32	29	57	44
Total Revenues	-10	6	-73	-78	-7	31	44	82	82	63	38	87	25
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	-7	-6	-24	-13	-21	0	5	-3	-3	6	-9	10	-3
Total Profits	-23	-21	-81	-88	-24	14	36	70	69	34	44	68	29
Number of Employees	-10	0	-54	-56	-39	-14	12	25	26	34	39	42	47
Employee Hours	0	-12	-54	-55	-38	3	17	42	38	28	41	39	37
Wages and Benefits	10	9	-24	-38	-17	9	21	39	33	53	56	58	61
Access to Credit	-6	-21	-32	-31	-28	-6	5	9	16	10	25	16	6
<i>Versus a Year Ago</i>													
Drilling/Business Activity	-21	-50	-92	-70	-71	-60	12	59	68	74	52	77	78
Total Revenues	-7	-19	-81	-74	-79	-77	20	88	92	88	72	90	87
Capital Expenditures	-10	-13	-68	-69	-66	-57	14	30	54	59	63	71	71
Supplier Delivery Time	-21	-13	-22	-26	-10	-9	7	3	8	9	-3	23	6
Total Profits	-13	-30	-83	-84	-83	-69	5	91	82	84	75	81	84
Number of Employees	-13	-18	-62	-61	-59	-60	-17	12	31	32	66	55	61
Employee Hours	-17	-18	-62	-53	-62	-46	-7	30	45	29	63	55	50
Wages and Benefits	33	3	-30	-16	-24	-32	0	45	56	77	84	77	87
Access to Credit	0	-16	-44	-35	-28	-46	-12	24	29	23	38	19	27
<i>Expected in Six Months</i> (not seasonally adjusted)													
Drilling/Business Activity	-21	-16	-78	0	0	26	41	41	45	45	42	50	25
Total Revenues	4	13	-78	-16	-7	51	54	76	58	50	53	55	27
Capital Expenditures	-17	-13	-73	-35	-14	9	36	33	31	53	63	52	52
Supplier Delivery Time	-14	-23	-32	-19	3	-3	10	18	8	9	9	16	-10
Total Profits	-10	0	-81	-10	-3	51	37	79	59	44	38	35	39
Number of Employees	-3	-16	-68	-26	-38	-9	24	30	31	42	47	42	42
Employee Hours	-10	-18	-59	-33	-31	-3	36	27	26	23	41	32	27
Wages and Benefits	17	-6	-49	-19	-28	12	36	36	46	71	72	63	65
Access to Credit	-10	-9	-44	-13	-10	6	7	12	13	6	19	6	7
Expected Oil Prices	32	28	-19	28	28	51	24	55	33	34	-16	-6	20
Expected Natural Gas Prices	23	-6	16	38	34	37	31	59	31	3	0	10	-10
Expected Natural Gas Liquids Prices	13	10	-8	45	31	40	36	63	34	13	19	0	21
<i>Special Price Questions</i> (averages)													
Profitable WTI Oil Price (per barrel)	\$55		\$47		\$49		\$53		\$57		\$62	\$65	\$61
WTI Price to Substantially Increase Drilling		\$65		\$51		\$56		\$72		\$73	\$86	\$98	\$102
WTI Price Expected in 6 Months	\$58	\$60	\$33	\$41	\$43	\$48	\$62	\$74	\$73	\$75	\$96	\$109	\$88
WTI Price Expected in 1 Year	\$60	\$62	\$42	\$47	\$47	\$52	\$65	\$76	\$75	\$78	\$89	\$102	\$89
WTI Price Expected in 2 Years	\$63	\$65	\$50	\$53	\$53	\$56	\$67	\$76	\$75	\$78	\$83	\$88	\$90
WTI Price Expected in 5 Years	\$69	\$71	\$58	\$60	\$60	\$61	\$70	\$78	\$76	\$80	\$84	\$86	\$93
Profitable Natural Gas Price (per million BTU)	\$2.91		\$2.65		\$3.12		\$2.94		\$3.88		\$3.72	\$4.64	\$4.42
Natural Gas Price to Substantially Increase Drilling		\$3.66		\$2.88		\$3.28		\$3.82		\$4.27	\$4.53	\$6.34	\$7.65
Henry Hub Price Expected in 6 Months	\$2.59	\$2.38	\$2.02	\$2.17	\$2.62	\$2.68	\$2.72	\$3.19	\$4.72	\$3.66	\$4.45	\$7.06	\$7.46
Henry Hub Price Expected in 1 Year	\$2.58	\$2.49	\$2.34	\$2.41	\$2.71	\$2.88	\$2.94	\$3.21	\$4.22	\$3.92	\$4.32	\$6.65	\$6.48
Henry Hub Price Expected in 2 Years	\$2.81	\$2.69	\$2.57	\$2.64	\$2.87	\$3.03	\$3.14	\$3.34	\$4.31	\$3.97	\$4.29	\$6.06	\$6.16
Henry Hub Price Expected in 5 Years	\$3.20	\$3.09	\$2.94	\$3.02	\$3.28	\$3.23	\$3.50	\$3.71	\$4.79	\$4.29	\$4.74	\$5.77	\$6.51

Selected Energy Comments

"Supply will be constrained by under spending, depletion, and OPEC's willingness to defend a price < \$80+. Demand will remain high enough because energy transition will be slower than promised in the real world."

"There is downward pressure due to a slowing economy and inflation pressure is reducing demand. The overhang of an Iranian oil supply increase and continued SPR oil release into the market are additional headwinds."

"[Factors driving our expectations are] near term excess supply and limited export infrastructure. Long term access to expanded export capability will push gas prices in line with global prices."

"In the USA high gasoline prices have curbed demand. Likewise in Europe. We believe oil prices will moderate, but natural gas prices will not. The industrial users of natural gas in Europe will be almost nonexistent."

"US supply growth cannot meet world demand growth given shareholder pressures to not grow quickly and dramatically reduced access to drilling on federal lands." "The acreage in many plays has been high-graded and consolidation will lead to fewer players drilling."

"We see demand continuing to increase without adequate supply in crude products. The backwardation in the market could move forward at higher prices than the market has built in its structure."

"Commodity pricing curves are very steep and do not support long-term investment projects at this time. We expect continued spending restraint by public companies with focus on returns to shareholders. Spending will be tightly controlled until the demand structure is better defined. Currently more downsides exist due to restrictive government policy on developing oil and gas reserves and inflationary pressure on supplies and services than upside from demand growth."

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