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RAILROAD COMMISSION OF TEXAS
Oversight and Safety Division
Market Oversight Section

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Natural Gas Trends

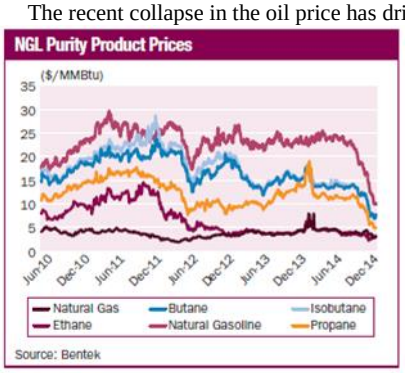
Highlights

NGL economics challenged by oil price plunge

Natural gas liquids (NGL) are becoming an economic burden for some producers rather than a benefit. NGL economics have deteriorated rapidly, putting an additional strain on producers who are already reeling from the crude oil price collapse. "In the past, producers received an uplift from recovering NGLs, which had a value superior to natural gas," noted Bentek NGL Analyst Maria Mejia. "In today's price environment, producers will have to continue to recover NGLs to maintain oil production. In some regions, recovering NGLs has become an added cost of production rather than a revenue driver." Liquids have gone from being a major economic attraction of the US drilling industry to providing little or no economic benefit beyond their base Btu/heating value. This is a significant change from the market dynamics in place for most of the last few years.

Since the economic crisis ended, oil and NGL prices have been much higher than natural gas, as robust shale gas production maintained downward pressure on gas prices. This large value-gap between natural gas and liquids created an economic incentive for producers to target liquids-rich plays, which resulted in a strong NGL production growth.

The recent collapse in the oil price has driven NGL prices much lower, challenging the economics of recovering NGLs. In most places today it makes more economic sense to attempt to leave as much ethane and propane in the natural gas pipeline stream as possible, rather than take the liquids out to make purity products. This is problematic for producers in liquids-rich plays because propane and heavier NGLs cannot be rejected into the gas stream. Their heat content is too high. Pipeline quality specifications will not allow it. The BTU content of the gas in the pipeline grid generally has to be less than 1,100 Btu per cubic foot (cf), but propane has a Btu content of 2,516 Btu/cf.



The Mont Belvieu weighted NGL barrel price recently dropped below 45 cents/gallon, hitting a low of 43.1 cents/gallon on Jan. 8 and settling on Wednesday at 45.8 cents/gallon. The last time the Mont Belvieu NGL barrel was below 45 cents/gallon was on Dec. 5, 2008 when the price reached 44.1 cents/gallon. The value of natural gas, NGLs and oil has converged on a heat-equivalent basis. NGL prices have fallen at an even steeper pace than crude. Fractionation spreads for NGL have plummeted. The Mont Belvieu NGL Frac Spread is a metric that compares the value of the weighted NGL barrel to the price of natural gas on a heat-equivalent basis, adjusted for the cost of transportation and fractionation (T&F), which Bentek estimates at 7 cents/gallon – in remote producing areas T&F costs can be as high as 30 cents/gallon. The NGL Frac Spread increased through 2010 and averaged $11.36/MMBtu in 2011. Spreads remained healthy throughout 2014, leading to substantial investment in processing and fractionation infrastructure. However, in December this metric dropped below $2/MMBtu and has since averaged about $1.49/MMBtu.

"With T&F cost of 20 cents/gallon and at current prices, fractionators in distant regions, such as the Rockies, the Williston, and the Northeast, would not generate an economic incentive to recover ethane and propane." Said Bentek's Mejia Ethane has traded for less than natural gas since late 2012, and producers and midstream companies have rejected as much of it as possible into the natural gas pipeline stream. However, producers cannot reject the other NGLs, and this will likely lead to important new constraints on production. Source: Platts Gas Daily

Data

- February 2015 Natural Gas Futures Contract (as of January 16), NYMEX at Henry Hub closed at $3.127 per million British thermal units (MMBtu)
- February 2015 Light, Sweet Crude Oil Futures Contract WTI (as of January 16), closed at $48.69 per U.S. oil barrel (Bbl.) or approximately $8.39 per MMBtu

Last week: Texas colder than normal

For the week beginning 1/11/15 and ending 1/17/15, heating degree days (HDD) were higher than normal (colder) for the week but lower than normal (warmer) and for the year to date for most Texas cities shown.

Source: www.cpc.ncep.noaa.gov

HEATING DEGREE DAYS (HDD)

City or Region	Total HDD for week ending 1/17/15	*Week HDD + / - from normal	Year-to-date total HDD	* YTD % +/- from normal
Amarillo	200	-10	2121	-7%
Austin	145	33	1097	20%
DFW	157	7	1323	2%
El Paso	152	5	1251	-15%
Houston	131	33	840	1%
SAT	128	23	851	-3%
Texas**	151	28	1151	5%
U.S.**	213	4	2165	-4%

-999 = Normal Less Than 100 or Ratio Incalculable

* A minus (-) value is warmer than normal; a plus (+) value is cooler than normal. NOAA uses 65° Fahrenheit as the 'normal' basis from which HDDs are calculated. ** State and U.S. degree days are population-weighted by NOAA.

Last week: U.S. natural gas storage at 2,853 Bcf

For the week ending 1/09/2015 working gas in storage decreased from 3,089 Bcf to 2,853 Bcf. This represents a decrease of 236 Bcf from the previous week. Stocks were 282 Bcf higher than last year at this time and 113 Bcf below the 5 year average of 2,966 Bcf.

Source: http://ir.eia.gov/ngs/ngs.html

U.S. WORKING GAS IN STORAGE

Region	Week ending 1/09/15	Prior week	One-week change	Current Δ from 5-YR Average (%)
East	1,468	1,595	-127	-3.6%
West	400	428	-28	-3.1%
Producing	985	1,066	-81	-4.4%
Lower 48 Total	2,853	3,089	-236	-3.8%

Lower 48 states, underground storage, units in billion cubic feet (Bcf)

Last week: U.S. gas rig count down for the week

The gas rig count for the U.S. was down ninetenn for the week and down 55 when compared to twelve months ago. The total rig count for the U.S. was down 74 from last week and down 101 when compared to twelve months ago. The total rig count includes both oil and natural gas rotary rigs.

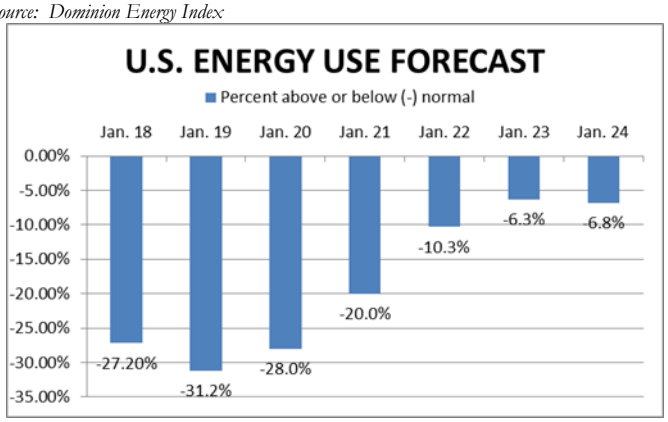
Source: Baker Hughes

BAKER HUGHES ROTARY RIG COUNT				
	As of 1/16/2015	+/- prior week	Year ago	+/- year ago
Texas	766	-44	841	-75
U.S. gas	310	-19	365	-55
U.S. oil	1366	-55	1408	-42
U.S. total	1676	-74	1777	-101
Canada	440	74	565	-125

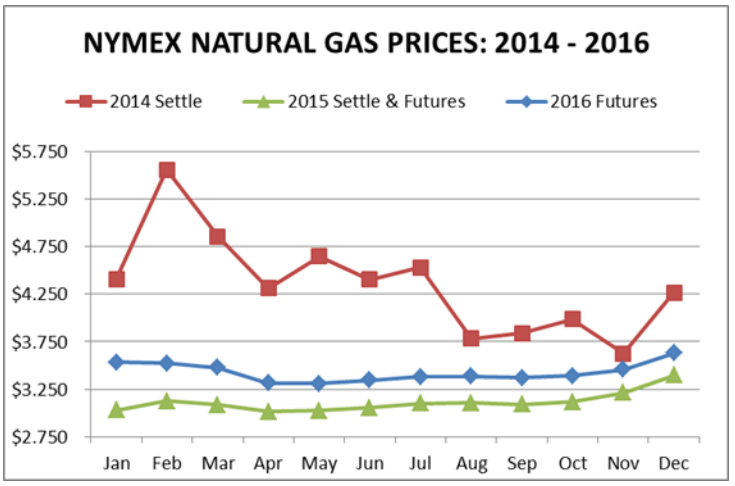
This week: U.S. energy use below normal

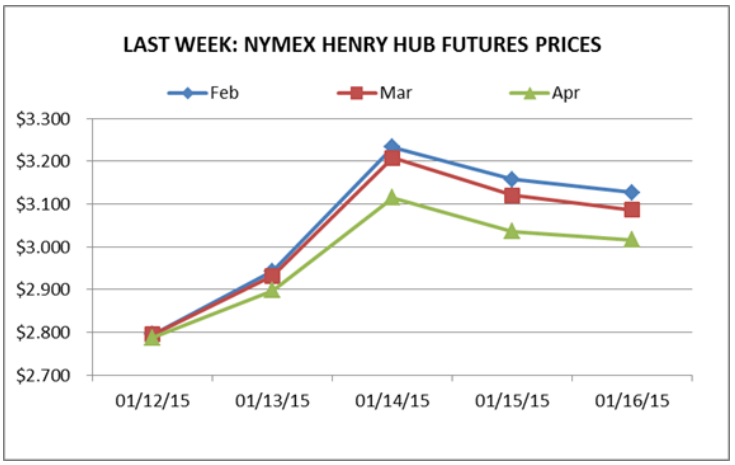
U.S. energy use is predicted to be below normal this week, according to the Dominion Energy Index, as shown below. Dominion forecasts total U.S. residential energy usage, a component of which is natural gas.

Source: Dominion Energy Index



2015 prices. Natural gas prices for 2015, shown below in green, are the NYMEX settlement prices for Jan. and futures prices for the remainder of the year.





NATURAL GAS PRICE SUMMARY AS OF 1/16/2015

	This Week	+/- Last Week	+/- Last Year	12-Month Strip Avg.
US Feb. futures				
NYMEX	$3.127	$0.181	-$1.728	$3.113