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RAILROAD COMMISSION OF TEXAS
Gas Services Division
Market Oversight Section

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Natural Gas Trends

Highlights

At just 22%, vertical rig share at 26-year low

With producers increasingly shifting to horizontal drilling in shale plays, vertical rigs made up just 22% of the total operating gas and oil rigs in the US last week, the lowest proportion in more than 26 years, according to Baker Hughes. That is down from 27.1% in the same week of 2012, 31.1% for the comparable week of 201 and 47% five years ago, Baker Hughes said in its weekly report.

The data showed that 387 of a total of 1,757 drilling rigs in the US were working on vertical wells, while 1,146 rigs were drilling horizontal wells. Another 224 rigs were classified as directional. The actual vertical rig count is the lowest since 385 were operating in the first week of November 2009, Baker Hughes said.

Historically, vertical rigs made up more than 80% of the total from the mid-1980s to mid-1990s, after which their share gradually shifted downward as companies realized the benefits of drilling directionally and then horizontally. In particular, activity has proliferated in shale and other unconventional gas and oil reservoirs, where horizontal wells have proven the most efficient way to extract the largest volume of hydrocarbons for the least amount of money.

The Bakken, Eagle Ford and Niobrara shales centered on North Dakota, southern Texas and Colorado, respectively, are three of the largest plays that use horizontal drilling, according to Baker Hughes data.

Meanwhile, the Permian Basin in West Texas and southeastern New Mexico is a formerly conventional oil reservoir that is undergoing a gradual shift from vertical to horizontal drilling as consolidation continues there and acreage changes hands, according to industry analysis. As that happens, new owners are expected to have more funds to devote to horizontal wells, which are generally more expensive to drill than vertical wells but tend to yield substantially more oil and gas. Analysts believe horizontal drilling in the Permian – which has been drilled vertically for nearly a century – is poised to take off in the next couple of years.

Recent projections by RBC Capital Markets show an estimated 2,401 horizontal wells in the Permian in 2013, of 13% of the total estimate of 18,580 US horizontal wells drilled this year. That compared with 10% in 2012 and 6% in 2011. RBC forecasts that the Permian's share of the respective horizontal well counts will grow to 16% next year and 17% in 2015. "We forecast 30% 2014 year-on-year horizontal well count growth in the Permian as horizontal drilling in the basin continues to advance," RBC said.

Meanwhile, "the Niobrara is another potential area of growth for horizontal drilling through 2015," RBC said. "We anticipate year-over-year horizontal well count growth averaging around 18% the next two years." Even so, that growth will only lift the Niobrara's share of horizontal wells from 5% in 2013 and 2014 to 6% in 2015, RBC predicted.

Source: Platts Gas Daily

Data

- February 2014 Natural Gas Futures Contract (as of January 3), NYMEX at Henry Hub closed at $4.304 per million British thermal units (MMBtu)
- February 2014 Light, Sweet Crude Oil Futures Contract WTI (as of January 3), closed at $93.96 per U.S. oil barrel (Bbl.) or approximately $16.20 per MMBtu

Last week: Texas cooler than normal

For the week beginning 12/29/13 and ending 1/4/14, heating degree days (HDD) were higher than normal (cooler) for the week and the year to date for most Texas cities shown and for the US.

Source: www.cpc.ncep.noaa.gov

HEATING DEGREE DAYS (HDD)

City or Region	Total HDD for week ending 1/4/14	*Week HDD + / - from normal	Year-to-date total HDD	* YTD % +/- from normal
Amarillo	199	-11	1845	-2%
Austin	143	38	946	34%
DFW	159	12	1152	13%
El Paso	140	-9	1065	-11%
Houston	116	19	753	16%
SAT	115	11	702	3%
Texas**	143	22	1017	18%
U.S.**	220	15	1877	1%

* 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.

-999 = Normal Less Than 100 or Ratio Incalculable

Last week: U.S. natural gas storage at 2,974 Bcf

For the week ending 12/27/2013 working gas in storage decreased from 3,071 Bcf to 2,974 Bcf. This represents a decrease of 97 Bcf from the previous week. Stocks were 562 Bcf lower than last year at this time and 289 Bcf below the 5 year average of 3,263 Bcf.

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

U.S. WORKING GAS IN STORAGE

Region	Week ending 12/27/13	Prior week	One-week change	Current Δ from 5-YR Average (%)
East	1,501	1,568	-67	-13.1%
West	412	429	-17	-8.0%
Producing	1,061	1,074	-13	-2.5%
Lower 48 Total	2,974	3,071	-97	-8.9%

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 two compared to the prior week and down 67 when compared to twelve months ago. The total rig count for the U.S. was down six for the week and down eleven when compared to twelve months ago. The total rig count includes both oil and natural gas rotary rigs.

Source: Baker Hughes

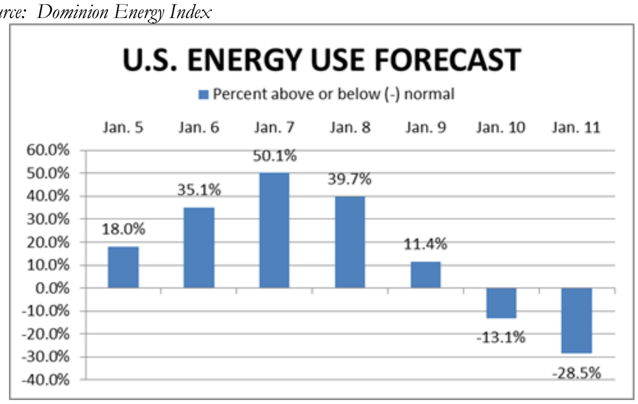
BAKER HUGHES ROTARY RIG COUNT

	As of 1/3/2014	+/- prior week	Year ago	+/- year ago
Texas	832	-3	826	6
U.S. gas	372	-2	439	-67
U.S. oil	1378	-4	1318	60
U.S. total	1751	-6	1762	-11
Canada	282	19	258	24

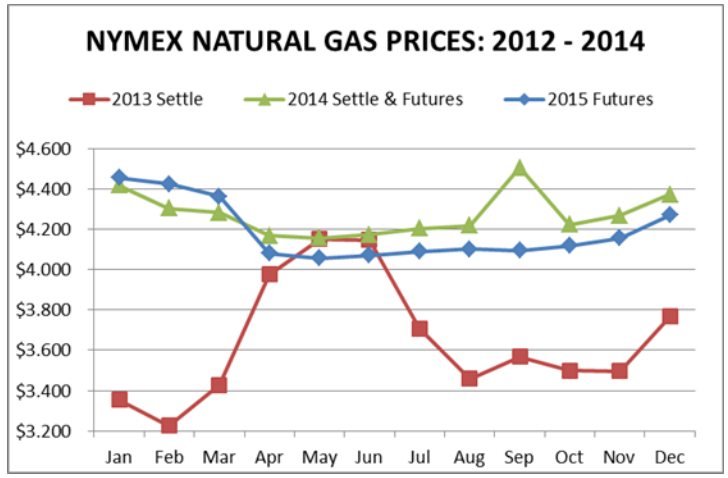
This week: U.S. energy use varies

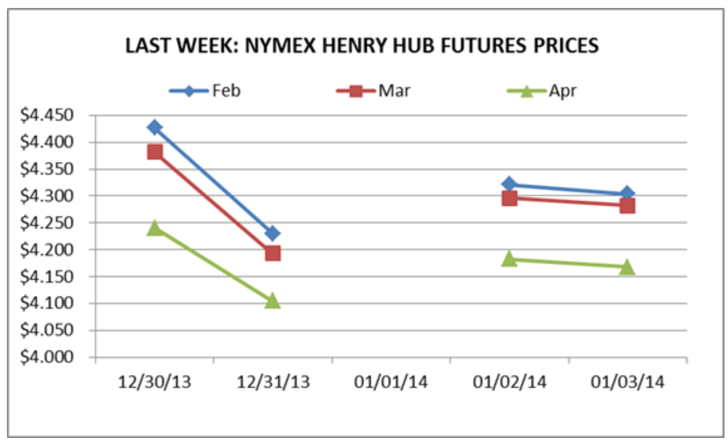
U.S. energy use is predicted to be above normal early in the week and below normal for the latter part of the week, according to the Dominion Energy Index, as shown below. Dominion forecasts total U.S. residential energy usage, a component of which is natural gas.

Source: Dominion Energy Index



2014 prices. Natural gas prices for 2014, shown below in green, are the NYMEX settlement prices for January and futures prices for the remainder of the year.





*No data is available for Jan. 1, 2014 due to the New Year's Day Holiday.

NATURAL GAS PRICE SUMMARY AS OF 1/3/2014

	This Week	+/- Last Week	+/- Last Year	12-Month Strip Avg.
US February futures				
NYMEX	$4.304	-$0.064	$1.078	$4.278