

March 25, 2013

Natural Gas Trends

Highlights

Average price spread of natural gas delivered to the power sector over coal declined by over three-quarters in 2012.

The average price of natural gas delivered in the United States to electric power generators decreased to \$28.16 per megawatt hour (MWh) in 2012, 28 percent below the average for 2011, according to data from the U.S. Energy Information Administration's (EIA) *Electric Power Monthly*. This reflects a spread of \$3.22 per MWh over the average annual price of coal delivered to the power sector in 2012, less than one-quarter of the \$14.20 per MWh average spread in 2011, and just over one-fifth of the \$16.49 per MWh average spread from 2009 to 2011.

During 2012 in the United States, power generation from natural gas rose by 21 percent above 2011 levels to 1,231 million MWh, while generation from coal decreased by 12 percent to 1,517 million MWh. The average ratio of power generated from natural gas to power generated from coal reached 0.81 in 2012, 39 percent above the 0.58 average ratio in 2011, and 82 percent above the 0.44 ratio in 2008, when average Henry Hub natural gas prices were more than double the annual averages seen since. For 2013 and 2014, EIA's *Short-Term Energy Outlook* forecasts the gas/coal net generation ratio to come down from its 2012 level, but to stay above the level seen in 2010 as the natural gas to coal price spread increases from 2012 levels while staying below the average 2010 level.

Pennsylvania natural gas production rose 69% in 2012 despite reduced drilling activity

Natural gas production in Pennsylvania averaged 6.1 billion cubic feet per day (Bcf/d) in 2012, up from 3.6 Bcf/d in 2011, according to Pennsylvania Department of Environmental Protection (DEP) data released in February 2013. This 69% increase came in spite of a significant drop in the number of new natural gas wells started during the year.

Several factors contributed to the production increase, according to the EIA. While accelerated drilling in recent years (primarily in the Marcellus Shale formation) significantly boosted Pennsylvania's natural gas production, increases were restricted by the state's limited pipeline and processing infrastructure. This created a large backlog of wells that were drilled but not brought online. As infrastructure expanded, these wells were gradually connected to pipelines, sustaining natural gas production increases through 2012 despite the decline in new natural gas well starts. Data from DEP show that a significant portion of wells that began producing in 2012 were drilled earlier.

Data

- April 2013 Natural Gas Futures Contract (as of Mar. 22), NYMEX at Henry Hub closed at \$3.927 per million British thermal units (MMBtu)
- May 2013 Light, Sweet Crude Oil Futures Contract WTI (as of Mar. 22), closed at \$93.71 per U.S. oil barrel (Bbl.) or approximately \$16.16 per MMBtu

Last week: Texas warmer and U.S. cooler than normal

For the week beginning 3/17/13 and ending 3/23/13, heating degree days (HDD) were lower than normal (warmer) for Texas and higher than normal (cooler) for the US.

62°ℱ: www.cpc.ncep.noaa.gov

HEATING DEGREE DAYS (HDD)				
City or Region	Total HDD for week ending 3/23/13	*Week HDD + / - from normal	Year-to-date total HDD	* YTD % +/- from normal
Amarillo	102	-13	3192	-16%
Austin	9	-22	1464	-7%
DFW	48	0	1790	-20%
El Paso	10	-45	2066	-13%
Houston	4	-26	1053	-27%
SAT	0	-28	1088	-28%
Texas**	26	-18	1548	-17%
U.S.**	159	33	3662	-5%

* 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 1,876 Bcf

For the week ending 3/15/2013 working gas in storage decreased from 2,938 Bcf to 1,876 Bcf. This represents a decrease of 62 Bcf from the previous week. Stocks were 502 Bcf lower than last year at this time and 162 Bcf above the 5 year average of 1,714 Bcf.

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

U.S. WORKING GAS IN STORAGE				
Region	Week ending 3/15/13	Prior week	One-week change	Current Δ from 5-YR Average (%)
East	783	830	-47	2.8%
West	339	339	0	29.4%
Producing	754	769	-15	9.1%
Lower 48 Total	1,876	1,938	-62	9.5%

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

Last week: U.S. gas rig count down 13

The gas rig count for the U.S. was down 13 when compared to the prior week and down 234 when compared to 12 months ago. The total rig count for the U.S. was down 30 for the week and down 222 when compared to 12 months ago. The total rig count includes both oil and natural gas rotary rigs. Source: Baker Hughes

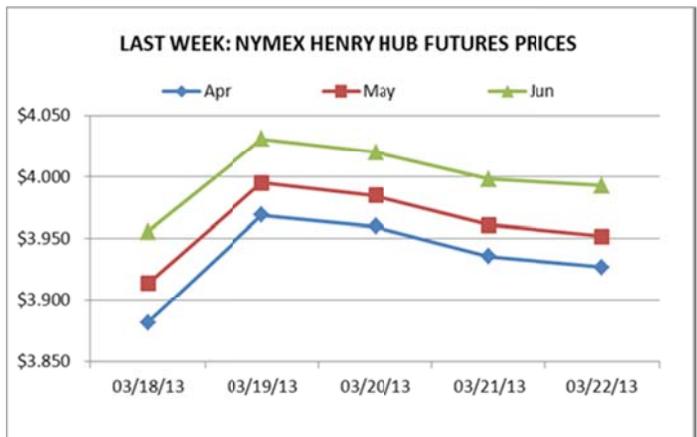
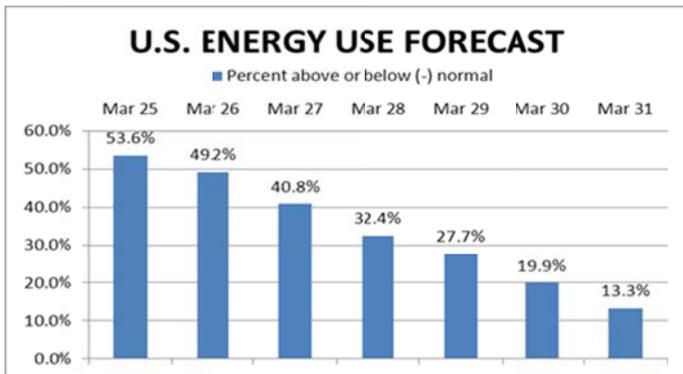
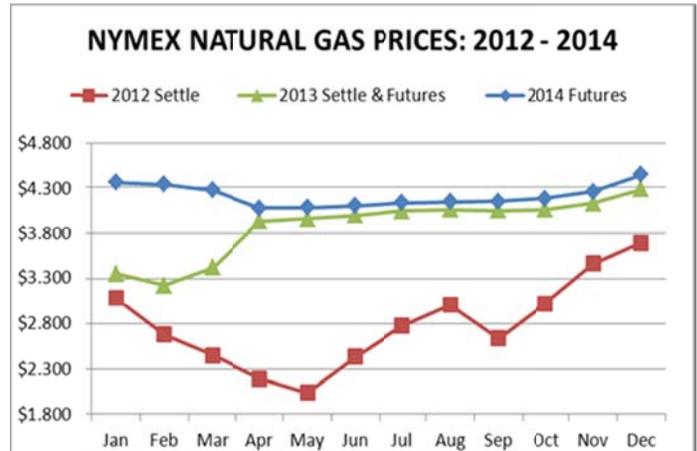
BAKER HUGHES ROTARY RIG COUNT				
	As of 3/22/2013	+/- prior week	Year ago	+/- year ago
Texas	827	-11	915	-88
U.S. gas	418	-13	652	-234
U.S. oil	1324	-17	1313	11
U.S. total	1746	-30	1968	-222
Canada	337	-166	352	-15

Numbers are excerpted and not meant to be totaled

2013 prices. Natural gas prices for 2013, shown below in green, are the NYMEX settlement prices for January-March and the futures prices for the remaining months of 2013.

This week: U.S. energy use above normal

U.S. energy use is predicted to be above normal throughout 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



Last week: Basis ranged from -\$0.01 to -\$0.04 cents

Gas basis at key Texas hub markets is shown below and at right as the spot market cash price minus the Henry Hub as of last Friday. Source: Platt's Gas Daily

