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RAILROAD COMMISSION OF TEXAS
Oversight and Safety Division
Market Oversight Section

Aug. 15, 2016

Natural Gas Trends

Highlights

NOAA ups likelihood of active storm season

The National Oceanic and Atmospheric Administration last week said there is a higher likelihood of a near-normal 2016 Atlantic Hurricane season than previously forecast. The agency decreased the chance of a below-normal season to only 15%. In its latest 2016 Atlantic Hurricane Season Outlook, updated from the initial outlook issued in May, NOAA said it still expects the current season to be the most active in the last four years. "The last three years have been fairly weak, so we think this season will be stronger than the last three years," Gerry Bell, lead seasonal hurricane forecaster at NOAA's Climate Prediction Center, said in an interview Friday. "It's not going to be one of the strongest on record but it's going to be stronger than any year since 2012."

Forecasters now expect a 70% chance of 12-17 named storms, of which 5-8 are expected to become hurricanes, including 2-4 major hurricanes. The initial outlook had called for 10-16 named storms, 4-8 hurricanes, and 1-4 major hurricanes. An average hurricane season comprises 12 named storms, 6 hurricanes and 3 major hurricanes. "We've raised the numbers because some conditions now in place are indicative of a more active hurricane season, such as El Niño ending, weaker vertical wind shear and weaker trade winds over the central tropical Atlantic, and a stronger West African monsoon," Bell said in a statement. "However, less conducive ocean temperatures patterns in both the Atlantic and eastern subtropical North Pacific, combined with stronger wind shear and sinking motion in the atmosphere over the Caribbean Sea, are expected to prevent the season from becoming extremely active," he said.

Given these competing conditions, if a La Niña weather pattern develops, it would likely be weak and have little impact on the hurricane season, Bell said. NOAA announced Thursday that La Niña is slightly favored to develop during the hurricane season. A tropical storm or hurricane that enters the Gulf of Mexico could shut in gas production from offshore rigs in the producing regions of the Gulf, while storms hitting elsewhere in the continental US could bring lower temperatures, reducing demand for gas. Bell said that the Atlantic Basin has been in a multi-decade period of active hurricane activity since 1995. "Overall, since 1995 seasons have been more active. We had a similar active period in the 1950s and '60s," he said. Recent years have been marked by less hurricane activity in the basin. "In the last three seasons, two of them have been below-normal and one of them barely made it into the normal category," Bell said. He added that while NOAA predicts the number and strength of storms likely to hit in a given season, it does not venture a guess as to where the storms will make landfall or predict the intensity of any particular storm. "Where a storm strikes and how strong it is when it makes landfall, that depends on the weather patterns that are in place at the time the storm is approaching. Those weather patterns are not predictable for more than about a week in advance," Bell said. "You really can't say much as far as landfall on a seasonal time scale."

He cited the 1992 storm season as an example of the difficulty of predicting the onset of a devastating storm." In 1992 the season was really suppressed. It was really a weak season, then conditions became conducive for two weeks and we had Hurricane Andrew develop and smash southern Florida," he said. Bell said it is difficult to gauge the impact that global climate change might have on a particular hurricane season. "There's still not a consensus on what climate change will do," he said. "One of the signals we look at is the Atlantic temperatures relative to the rest of the global tropics." The Atlantic Ocean currently is warmer than its historical average, "but so is the rest of the global tropics," Bell said. "The warmth isn't the main signal."

To date, NOAA said there have been five named storms in the current Atlantic season, including two hurricanes, Alex and Earl. Four storms have made landfall: Bonnie in South Carolina, Colin in western Florida, Danielle in eastern Mexico, and Earl in Belize and Mexico, the agency said.

Source: Platts Gas Daily

Data

- Sept. 2016 Natural Gas Futures Contract (as of Aug. 12) NYMEX at Henry Hub closed at $2.586 per million British thermal units (MMBtu)
- Sept. 2016 Light, Sweet Crude Oil Futures Contract WTI (as of Aug. 12), closed at $44.49 per U.S. oil barrel (Bbl.) or approximately $7.67 per MMBtu

Last week: Texas warmer than normal last week

For the week beginning 7/31/16 and ending 8/6/16, cooling degree days (CDDs) were higher than normal (warmer) on average for the week and for the year to date for most of the Texas cities shown.

Source: www.cpc.ncep.noaa.gov

COOLING DEGREE DAYS (CDD)

City or Region	Total CDD for week ending 8/6/16	*Week CDD + / - from normal	Year-to-date total CDD	* YTD % +/- from normal
Amarillo	119	30	1130	29%
Austin	138	-3	1810	2%
DFW	180	33	1854	17%
El Paso	135	16	1852	24%
Houston	156	23	1926	10%
SAT	155	15	1966	7%
Texas**	149	19	1801	11%
U.S.**	87	14	909	20%

* A minus (-) value is cooler than normal; a plus (+) value is warmer 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
*This week's information was unavailable on the NOAA website

Last week: U.S. natural gas storage at 3,317 Bcf

For the week ending 8/5/2016 working gas in storage increased from 3,288 Bcf to 3,317 Bcf. This represents an increase of 29 Bcf from the previous week. Stocks were 361 Bcf higher than last year at this time and 440 Bcf above the 5 year average of 2,877 Bcf. Source: http://ir.eia.gov/ngs/ngs.html

U.S. WORKING GAS IN STORAGE

Region	Week ending 8/05/16	Prior week	One-week change	Current Δ from 5-YR Average (%)
East	746	729	17	8.4%
Midwest	845	825	20	15.8%
Mountain	215	213	2	29.5%
Pacific	314	314	0	-3.7%
South Central	1,197	1,207	-10	23.7%
Lower 48 Total	3,317	3,288	29	15.3%

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

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

The gas rig count for the U.S. was up two for the week and down 128 when compared to twelve months ago. The total rig count for the U.S. was up 17 compared to last week and down 403 when compared to twelve months ago. The total rig count includes both oil and natural gas rotary rigs.

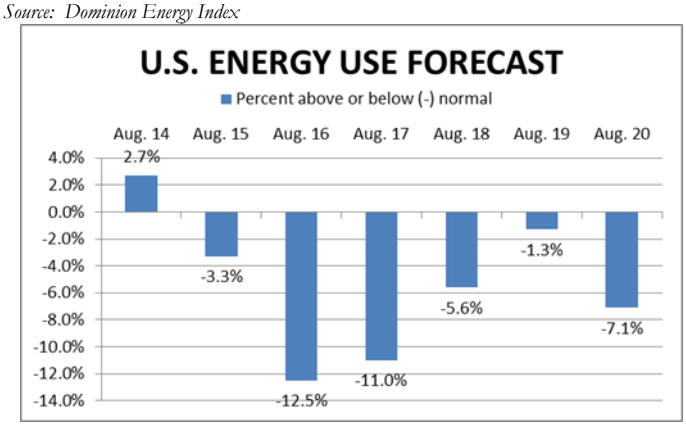
Source: Baker Hughes

BAKER HUGHES ROTARY RIG COUNT				
	As of 8/12/2016	+/- prior week	Year ago	+/- year ago
Texas	230	13	389	-159
U.S. gas	83	2	211	-128
U.S. oil	396	15	672	-276
U.S. total	481	17	884	-403
Canada	126	4	211	-85

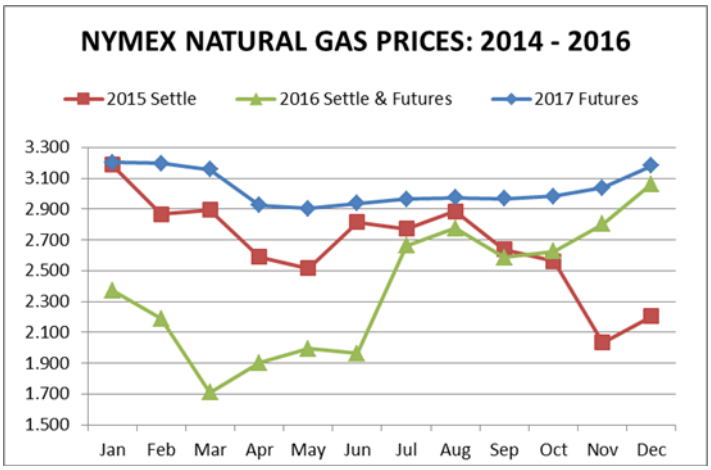
This week: U.S. energy use varies

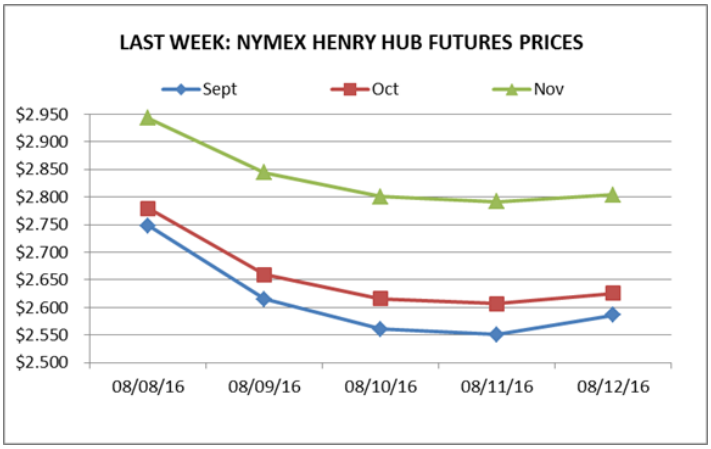
U.S. energy use is predicted to vary this week, according to the Dominion Energy Index, as shown below. Dominion forecasts total U.S. residential energy usage, a component of which is natural gas.

Source: Dominion Energy Index



2016 prices. Natural gas prices for 2016, shown below in green, are the NYMEX settlement prices for Jan-July and futures prices for the year.





NATURAL GAS PRICE SUMMARY AS OF 8/12/2016

	This Week	+/- Last Week	+/- Last Year	12-Month Strip Avg.
US September futures				
NYMEX	$2.586	-$0.186	-$1.142	$2.929