

**September 29, 2014**

**Natural Gas Trends**

**Highlights**

**Shale gas, LNG will encourage global shift from coal: DOE official**

The United States has ongoing outreach programs designed to help countries wean their economies away from the use of coal and other high-carbon fuels in favor of natural gas, a spokesman for the US Department of Energy said Thursday. “Natural gas will play a major role in China,” explained Christopher Smith, principal deputy assistant secretary for Fossil Energy in the US Department of Energy speaking at a symposium hosted by Colorado State University at Fort Collins. The Peoples Republic of China “is very much aware” of the severe environmental issues that beset it because of its widespread use of coal. China is actively seeking alternatives to coal, he said. Currently, China is the largest consumer of coal in the world. He noted the US and China are collaborating on several energy-related issues, among them the development of China’s considerable shale gas reserves. He noted the Chinese are still learning a lot about the technology used in producing massive amounts of oil and gas from shale.

Smith said it is important to note circumstances in each country will be unique and there are many issues that must be dealt with very carefully. “The issue of the development of low-carbon energy is important to the people of China,” he said. “China and the United States are aligned in wanting to meet their goals to reduce their carbon footprint.”

David Sandalow, an inaugural fellow at the Center on Global Energy Policy at Columbia University, said China’s shale gas reserves “are enormous.” He said China’s natural gas use has been small relative to that of coal, but that is likely to change because the country’s air pollution problems “are epic.” A good indicator of China’s desire to move away from coal was the \$400 billion, 30-year agreement signed this year to import natural gas from Russia, he said. However, it is unlikely the development of shale gas in other countries will come as quickly as it did in the United States, he said. The research and development of horizontal drilling benefited from US tax incentives. He also pointed out that much of the gas in the US is privately owned, which is not the case in many other countries.

Andrew Ware, director of strategic projects for Cheniere Energy, said the international market for liquefied natural gas will be shaken up once US LNG enters that market. In much of the world, the price of natural gas is based on oil and costs much more than US-produced natural gas. He also noted that the US produced about 70 Bcf/d, which makes it the largest producer of gas in the world.

Pete Stark, a senior research director and advisor of HIS, noted it took a few years for horizontal drilling to catch on in the United States. Several years passed between the time horizontal wells were first developed in Barnett and Fayette formations and the Marcellus. He said in the last seven years, 19 Bcf/d has been added to the US inventory of gas supplies. Were it not for horizontal drilling in shale formations, he said the US would likely be importing natural gas now and the price of gas would be near \$7.44/Mcf as opposed to \$4/Mcf now.

Source: Platts Gas Daily

**Data**

- October 2014 Natural Gas Futures Contract (as of September 26), NYMEX at Henry Hub closed at \$3.984 per million British thermal units (MMBtu)
- November 2014 Light, Sweet Crude Oil Futures Contract WTI (as of September 26), closed at \$93.54 per U.S. oil barrel (Bbl.) or approximately \$16.13 per MMBtu

**Last week: Texas warmer than normal**

For the week beginning 9/21/14 and ending 9/27/14, cooling degree days (CDD) were higher than normal (warmer) for the week and for the year to date for most Texas cities shown.

Source: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

COOLING DEGREE DAYS (CDD)				
City or Region	Total CDD for week ending 9/27/14	*Week CDD +/- from normal	Year-to-date total CDD	* YTD % +/- from normal
Amarillo	25	-5	1483	13%
Austin	68	-20	2572	-4%
DFW	86	16	2680	11%
El Paso	62	6	2506	16%
Houston	89	6	2697	5%
SAT	95	7	3075	13%
Texas**	71	0	2445	2%
U.S.**	28	1	1194	5%

\* A minus (-) value is cooler than normal; a plus (+) value is warmer than normal. NOAA uses 65° Fahrenheit as the ‘normal’ basis from which CDDs 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 2,988 Bcf**

For the week ending 9/19/2014 working gas in storage increased from 2,891 Bcf to 2,988 Bcf. This represents an increase of 97 Bcf from the previous week. Stocks were 386 Bcf lower than last year at this time and 426 Bcf below the 5 year average of 3,414 Bcf.

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

U.S. WORKING GAS IN STORAGE				
Region	Week ending 9/19/14	Prior week	One-week change	Current Δ from 5-YR Average (%)
East	1,646	1,580	66	-10.3%
West	445	445	0	-9.0%
Producing	897	866	31	-17.6%
Lower 48 Total	2,988	2,891	97	-12.5%

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 nine for the week and down 38 when compared to twelve months ago. The total rig count for the U.S. did not change from last week and was up 187 when compared to twelve months ago. The total rig count include both oil and natural gas rotary rigs.

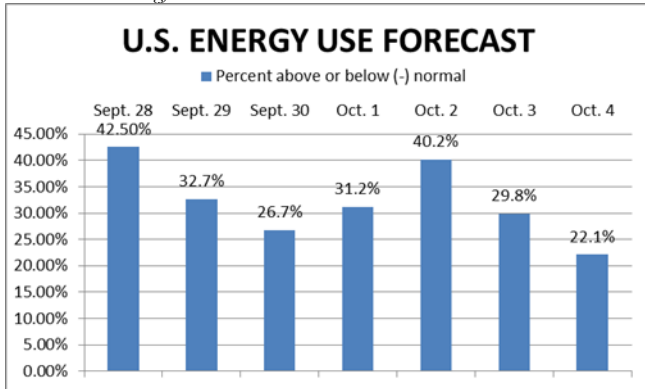
Source: Baker Hughes

BAKER HUGHES ROTARY RIG COUNT				
	As of 9/24/2014	+/- prior week	Year ago	+/- year ago
Texas	897	-3	825	72
U.S. gas	338	9	376	-38
U.S. oil	1592	-9	1362	230
U.S. total	1931	0	1744	187
Canada	429	52	390	39

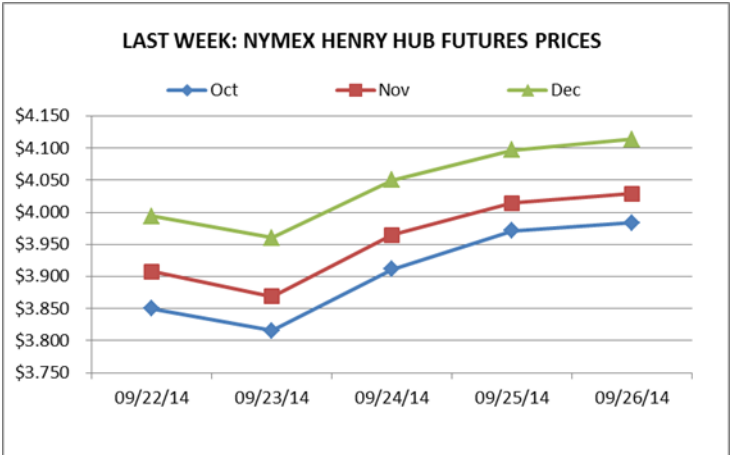
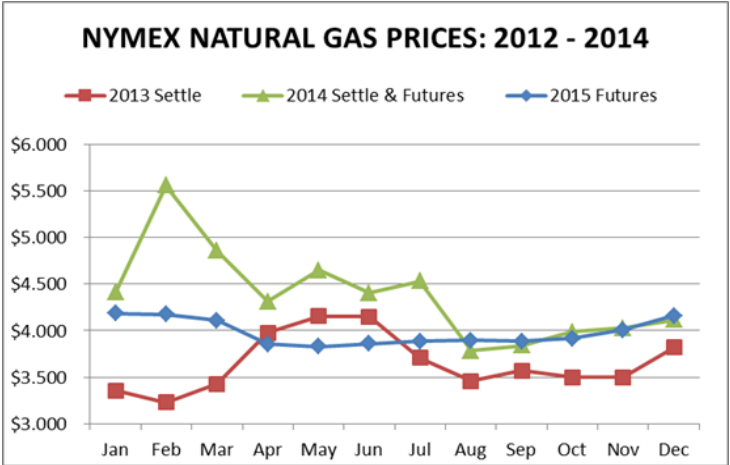
**This week: U.S. energy above normal**

U.S. energy use is predicted to be above normal most for 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



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



**NATURAL GAS PRICE SUMMARY AS OF 9/26/2014**

	This Week	+/- Last Week	+/- Last Year	12-Month Strip Avg.
US Oct. futures				
NYMEX	\$3.984	\$0.147	\$0.417	\$3.888