Les Deman Energy Consulting, Co.

Les Deman Energy Consulting provides economic analysis on energy and commodity markets. The company's focus is to provide customers with actionable information on the behavior of energy and related commodities using economic theory and market research. Areas of expertise include natural gas, LNG, NGL, pipelines, oil markets and electric power. Recent engagements include:

- Analyzing the impact of new associated gas production from the Bakken and other oil shale plays on the U.S. supply-demand balance.
- Developing gas demand scenarios in electric generation for 2012 based on the extreme weather conditions seen in 2011.
- Providing spring, summer and winter hedging options for gas consumers in 2012.

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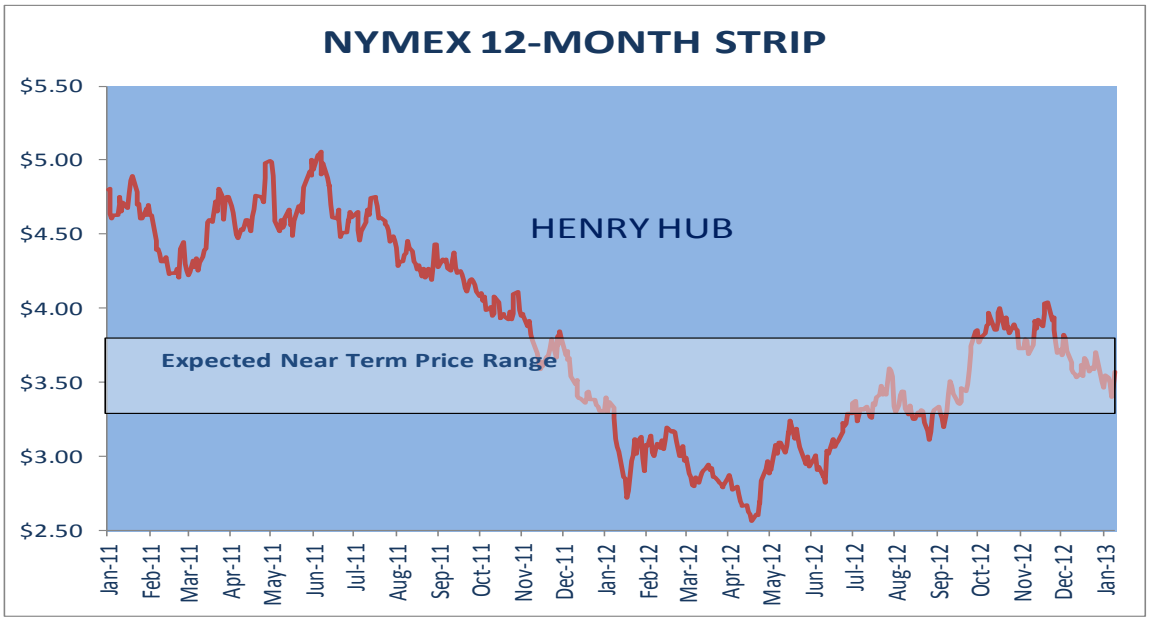
MONTHLY U.S. GAS PRICE FUNDAMENTALS – JANUARY 2013

Most Likely Price Scenario: Since my last report in mid November the 12-month NYMEX Henry Hub strip behaved as I expected; it fluctuated within the $3.50-$4.00 range. With hope for a colder than normal winter the bulls carried sway from early October to late November, but hopes were dashed as November-December GWHDD totals were below last year, a winter that saw record warmth. So the primary question is will the NYMEX follow last year's path towards a $2-handle. As usual the market is focusing on weather and associated storage levels for guidance. NOAA's most recent rest-of-winter weather forecast shows an above average temperature swath covering much of the bottom half of the continental US; still this pattern is significantly colder than last year's record warmth. Thus, space-heating demand during the 1st quarter could soak up 500 Bcf more storage than in 2012. While 4/1/13 storage should be lower than a year ago, summer gas demand is unlikely to match the 2012 records that resulted from the prolonged heat wave. Unless there are weather surprises I believe that the market is unlikely to collapse or surge over the next 45 to 60 days. With dreams of a cold winter dashed I have lowered my near term price range by $0.25 to $3.25 - $3.75 for the 12-month strip. My probability of a >$3.75 strip is 20% while my <$3.25 strip is 25%.

Gas Consumers: Bouts of milder weather could push the spring and summer strip lower, as could the lack of a debt ceiling compromise in Washington.
Gas Producers: There is not much price upside from the supply side in the near term given the backlog of uncompleted and unconnected shale wells.



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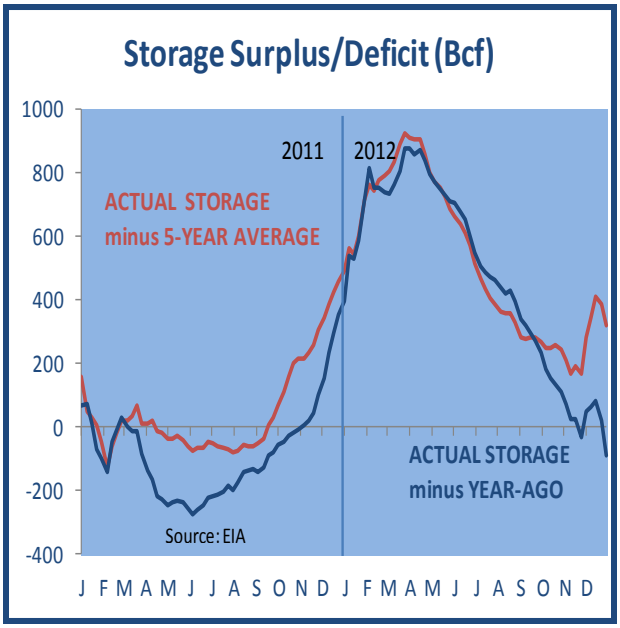
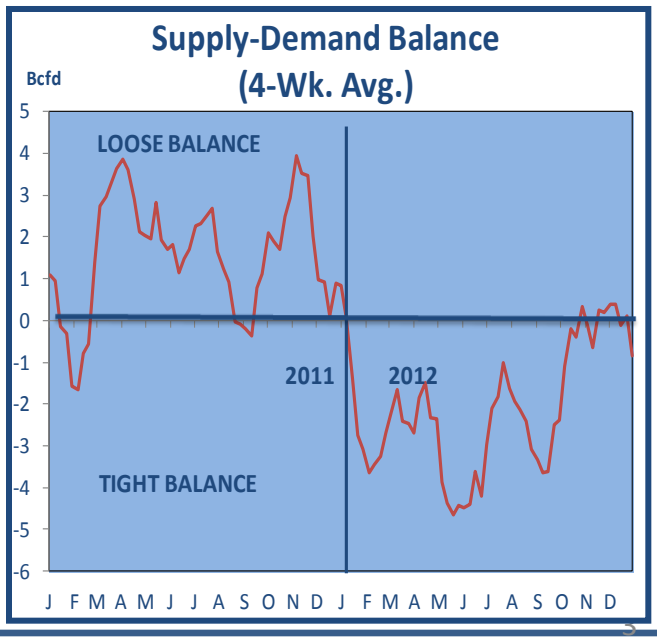
FUNDAMENTALS US natural gas prices have been virtually immune to financial/energy market perturbations over the past few years. The current business cycle saw the S&P 500 trough at about 755 at the end of 09Q1. During this same period WTI (NYMEX 12-month strip) saw a nadir of $45/B and natural gas (Henry Hub 12-month strip) bottomed at $4.75. By the end of 2012 the S&P had climbed by roughly 93% and WTI was up 110%, but Henry Hub was down 25%. Clearly US gas is behaving neither as a financial asset nor a global energy commodity. For much of its history US natural gas prices danced to a different tune because it was either a byproduct of crude oil production or it was being controlled by government agencies. A growing shortage began at the end of the last century leading to a large growth in gas imports, overland from Canada and overseas via LNG. With most of the world LNG trade indexed to oil, US gas prices began to see better correlation against WTI. From 2000 through 2005 the Henry Hub strip averaged 95% of WTI strip on a Btu basis. The explosion of shale gas production after 2005 reduced the need for imports and gas prices again decoupled from oil. From a Btu ratio of 74% in 2006, the last 12 months saw a gas/oil Btu ratio of about 20%. Does this history provide any guidance for the future? From my reading it is unlikely that recent prices (<$4.00 for the 12-month strip) nor the steep discount to oil is the long term norm. As long as US gas is in surplus it will be priced as a byproduct (against shale oil and NGLs), so the market will change when the supply-demand balance tightens. Sooner or later it will tighten, possibly from growing LNG exports or from more rapid coal generation unit closures. My advice is keep tuned!





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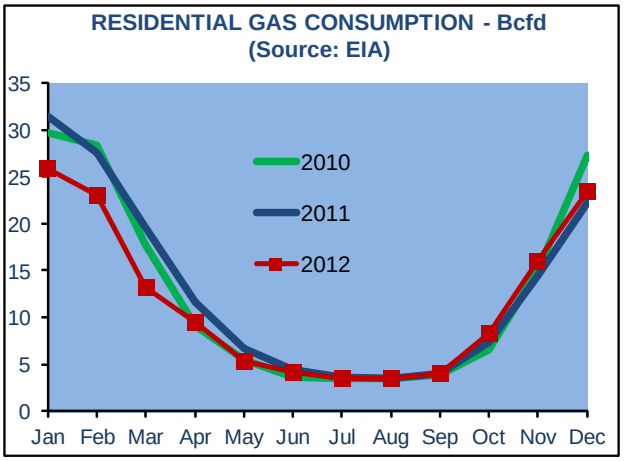
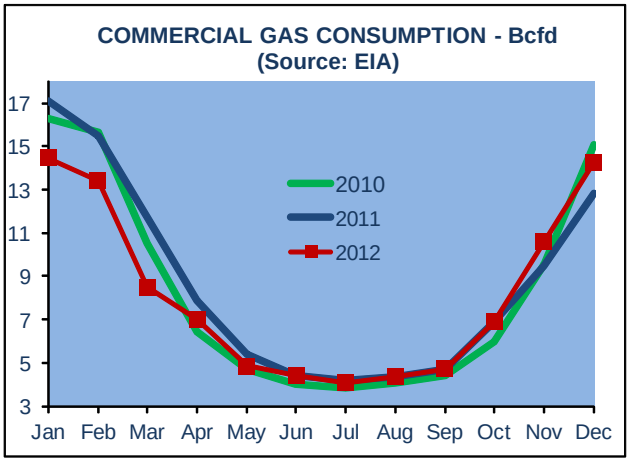
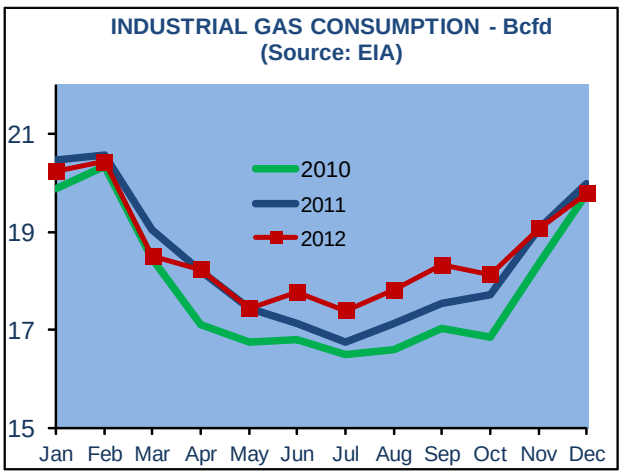


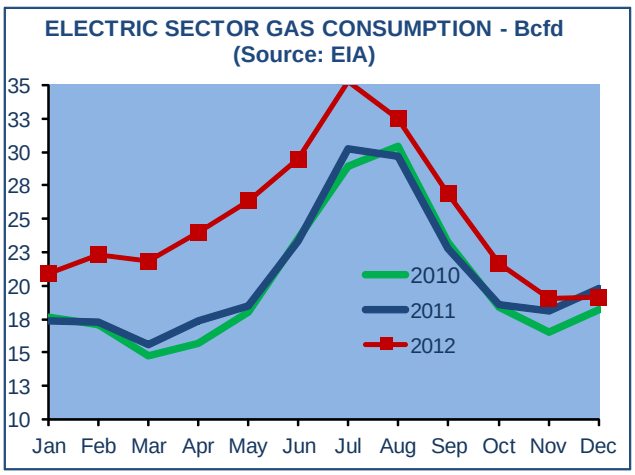
While the EIA estimates that residential gas demand rose 5.5% Y/Y in December, GWHDDs declined 2.2% Y/Y. I researched EIA's data set and they appear to have used higher GWHDDs than NOAA so I expect a revision next month.



Commercial gas use spurted 11.1% Y/Y according to EIA, but this rise will likely become a decline when the data is updated next month.



Gas consumed by the industrial sector is estimated to have declined 1.1% Y/Y in December, corresponding to an estimated 0.6% decline in GWIP. For the year 2012 industrial gas demand is estimated to have reached its highest volume since 2004.



The EIA's estimates that U.S. electric power generation rose 2.9% in December Y/Y. Gas generation continued its multiyear trend, gaining 4.1% Y/Y, but gas consumption fell 3.3% Y/Y due to lower heat rates. Coal generation was up 3.6%, petroleum gained 5.3% and nuclear grew 2.2%. Renewable generation rose only 0.2% Y/Y due to declines in wind generation.

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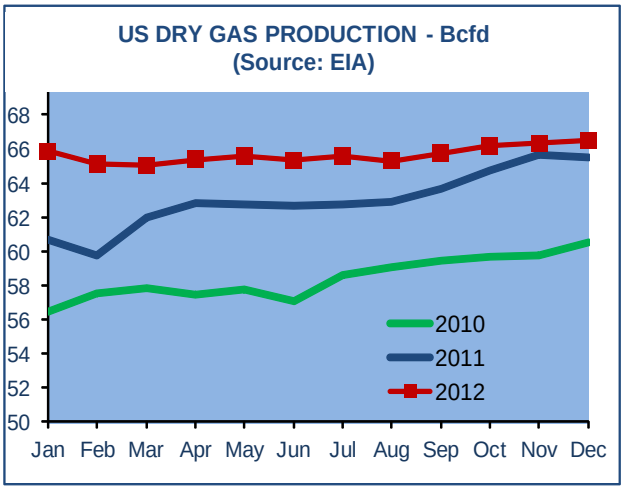
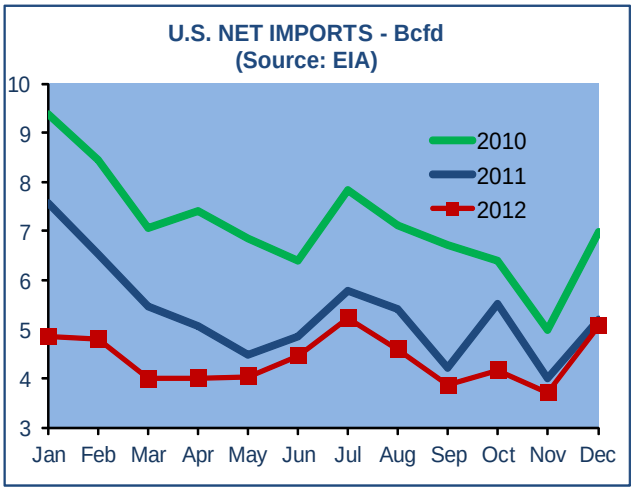
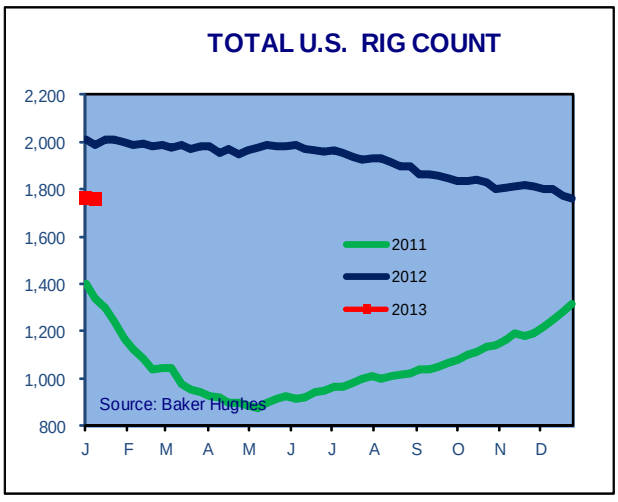


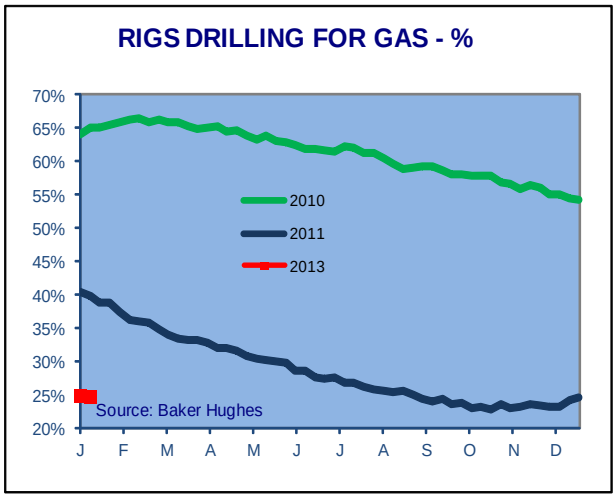
Y/Y dry gas production growth continues to decelerate, but the anticipated Y/Y decline is not yet apparent. Fourth quarter growth averaged only 1.6% (December was up an estimated 1.5%), but the EIA projects that it will be late in 2013 before there are Y/Y declines. Given the dismal record of these declines there is little to be bullish about.



Net imports rose to its highest volume since June. Nonetheless, December imports fell 0.1 Bcfd Y/Y (-2.3%). December Canadian gas imports are estimated to have increased 0.3 Bcfd Y/Y, but LNG imports fell 0.4 Bcfd.

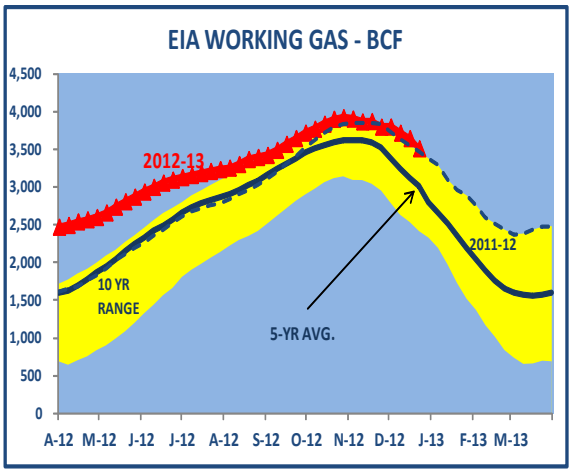


The average monthly rig count declined by 27 in December, the 7th straight monthly decline. The oil rig count rose by 3 rigs, while the gas rig count declined by 31 rigs. At year-end the oil rig count is up 134 Y/Y, but the gas rig count is down 378.

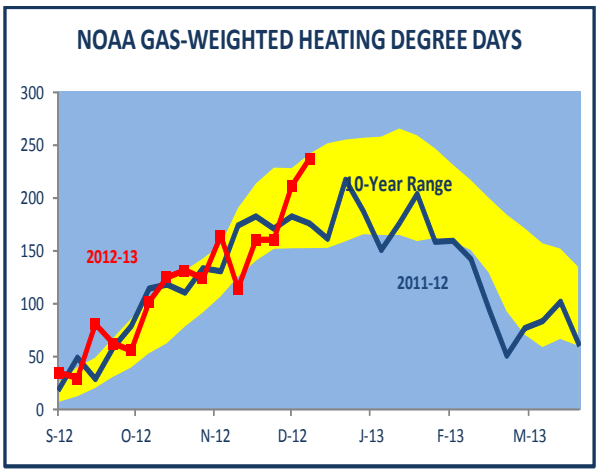


The latest data (January 11, 2013) shows 434 rigs drilling for gas, down from the peak of 992 in mid August 2010. The lowest count this cycle was 413 in early November. Only 24.6% of the total rig count is drilling for gas.

MONTHLY US GAS PRICE FUNDAMENTALS - JANUARY 2013



Season-to-date (11/1+) storage withdrawals are 592 Bcf, 42% more than last winter but 14% below the 5-year average. Storage volumes are currently 61 Bcf below 2012, but 518 Bcf above the 5-year average.



GWHDDs in December were 2.2% below 2011 and 12.7% below the 10-year average. December was the 10th warmest in the 117 year NOAA record book and the warmest since 2006. This winter (10 weeks) GWHDDs total 5.6% above last winter, but 1.4% below the 10-year average.

GLOSSARY/ABBREVIATIONS

•**Bcf**: Billion cubic feet (0.028 Billion cubic meters).
•**Bcfd**: Billion cubic feet per.
•**CDD:** Cooling Degree-Day. The number of degrees of temperature that a day's average temperature is above 65 degrees Fahrenheit. It is computed each day by subtracting 65 degrees Fahrenheit from the average of the day's high and low temperatures.
•**EIA**: U.S. Energy Information Administration. Official statistics on natural gas supply and demand.
•**El Niño**: Unusually warm ocean temperatures in the Equatorial Pacific which affects weather patterns.
•**FRB**: The U.S. Federal Reserve Board.
•**Fracking**: Usually hydraulic fracturing of gas or oil bearing formations with fluids or other proppants to increase production.
•**GOM:** Gulf of Mexico
•**GWIP:** Gas-weighted industrial production index. U.S. industrial production weighted by natural use in a base year.
•**HDD**: Heating Degree-Day. It measures how cold a location is over a period of time. In the U.S. it is computed each day by subtracting the average of the day's high and low temperatures from 65 degrees Fahrenheit. (**GWHDD** = Gas-weighted HDD)
•**La Niña**: Unusually cold ocean temperatures in the Equatorial Pacific which affects weather patterns.
•**M/M**: Month over month.
•**MENA**: Middle East and North Africa
•**MW:** Megawatt (MMW = Thousand Megawatts)
•**NOAA**: National Oceanographic and Atmospheric Administration provides U.S. and worldwide weather data.
•**NYMEX**: New York Mercantile Exchange. Trades the Henry Hub natural gas contract.
•**SAAR**: Seasonal adjusted, annual rate.
•**STEO**: Short Term Energy Outlook.
•**Strip**: The average of NYMEX futures over several months. A 12-month strip is the price average over the next 12 months and provides a picture of market sentiments that exclude seasonality components.
•**YTD:** Year to date.
•**Y/Y**: Year over year.