



HORNSBY & COMPANY, INC.

www.hornsbyco.com

Energy Risk  
Management Services

---

## U.S. Natural Gas Perspectives Monthly Review and Outlook

### Summary

Since our last report, the prompt NYMEX natural gas contract has declined by more than \$1.50 per mmBtu. A lack of sustainable heat combined with weekly storage builds that have averaged above consensus expectations have largely accounted for the decline. We also suspect that some traders were a bit too hopeful of early activity during the current hurricane season and have decided to bail and wait for an actual event. The price fall was a clear disconnect from crude oil, as WTI responded positively to inventory declines in PAD II and the unwinding of long Brent-short WTI spreads previously established. Almost irrespective of the path of working storage from here, summer and early autumn futures values strike us as having zero embedded hurricane premium. We are not necessarily suggesting that such a premium *should* be integral to price, but rather we are quite surprised that traders and funds have “given up” to the degree that they have.

Although we continue to believe that winter natural gas prices remain somewhat overvalued relative to our fundamental outlook despite these contracts’ recent declines, we believe that contracts from the prompt month through November are undervalued relative to oil. Our updated fundamental balances reveal relatively little revision from last month’s report for 2007, and in this report we include our first official look at 2008. Assuming normal weather in the first quarter of next year and moderate growth in manufacturing output, we anticipate a relatively constructive balance, implying a net storage draw for the year. With regard to price, for 2007 we anticipate that prompt NYMEX/Henry Hub will average about \$7.35 per mmBtu, a modest downward revision from our previous outlook. For 2008, we forecast an average of \$7.50 per mmBtu in the context of WTI averaging about \$60.00 per barrel.

---

+ U.S. natural gas consumption is forecast to rise by 4.1%, or some 900 bcf this year, roughly unchanged from last month. 2008 demand growth is expected to moderate to 1.2%, or about 270 bcf.

+ U.S. dry gas production is expected to rise by 1.2%, or about 230 bcf in 2007, with next year production pegged to gain by 0.4%, or some 75 bcf. Declining imports from Canada are expected to be more than offset by rising LNG cargoes.

+ With regard to working storage, our balances imply a net draw of a modest 10 bcf in 2007, with a further decline by almost 380 bcf in 2008.

---

## Viewpoint

Since the publication of our last monthly natural gas report, the prompt NYMEX natural gas contract has declined from over \$8.00 per mmBtu to the mid \$6.00s per mmBtu, a drop of more than \$1.50 per mmBtu.

Although we have yet to enter the hottest period of summer, a lack of consistently warmer than normal temperatures has “turned off” traders. In addition, weekly working storage builds have tended to come in above consensus expectations, primarily due to higher LNG imports according to our balances, also contributing to the price decline.

We also believe that some traders and funds were too hopeful of an early hurricane as we move through the current season. They have decided to take their losses and retrench for the time being, and may not buy again until a storm actually develops in the Caribbean.

Large managed funds that report to the CFTC contributed to the price drop since our last report, building net short positions from 17,383 contracts on June 5 to 37,953 contracts as of June 26. The latest position was the largest net short position held since March 21, 2006.

The fall in natural gas prices was a major disconnect from crude oil, as WTI responded positively to inventory declines in PAD II and the unwinding of long Brent-short WTI spreads previously established. As we issue this report, the prompt NYMEX natural contract is selling at only 54% of the August crude oil contract.

In our view, almost irrespective of the path of working storage from here, summer and early autumn futures values have literally zero embedded hurricane premium.

Mind you, we are not necessarily suggesting that such a premium *should* be incorporated in the market price. Rather we are quite surprised that traders and funds have “given up” on prospective storm activity to the extent that they have thus far.

Although fourth and first quarter futures prices remain somewhat overvalued in our opinion relative to our fundamental

outlook despite the recent price drop, we believe that contracts from August through November are undervalued relative to both crude oil and distillate.

Upon updating our fundamental balances we see little reason to materially revise our outlook for 2007 after incorporating the storage data for the week ending June 29, and in this report we include our first official forecast for 2008.

If we assume normal weather in the first quarter of next year and continued but moderate growth in manufacturing output, we anticipate a relatively constructive balance for 2008, implying a net storage draw for the year, despite rising imports.

In terms of price, for 2007 we expect the prompt NYMEX/Henry Hub to average about \$7.35 per mmBtu, a modest downward revision from our previous outlook. For 2008, we forecast an average of \$7.50 per mmBtu in the context of WTI averaging about \$60.00 per barrel, thus implying that natural will trade at an average 75% of crude oil.

## Demand: Review and Outlook

For this we year we anticipate that U.S. natural gas consumption will rise by 4.1%, or some 900 bcf versus 2006, with once again the bulk of the rise accounted for by the first quarter. The DOE reported that first quarter residential demand, for example, was a full 13.6% higher than the first quarter of 2006, reflecting 11.8% more heating degree days during the period compared to the year before.

Industrial sector gas consumption remained, and continues to remain, relatively anemic in the aggregate. While May output from industries such as food, fabricated metal, and transportation equipment gained versus May of 2006, the four largest gas consumers together remain in flat to negative territory.

In the first quarter industrial gas consumption rose by a mere 0.3% over the first quarter of last year. For 2007 as a whole, we anticipate industrial gas demand to decline by

1.2%, or around 80 bcf, with the trough occurring in the second quarter.

**Eight Largest Industrial Consumers  
of Natural Gas  
May Manufacturing Output**

| <b>Industry</b>              | <b>YOY %Chg.<br/>Output</b> |
|------------------------------|-----------------------------|
| <b>Chemicals</b>             | <b>+0.2</b>                 |
| <b>Petroleum and Coal</b>    | <b>+1.8</b>                 |
| <b>Primary Metals</b>        | <b>-3.6</b>                 |
| <b>Paper</b>                 | <b>-1.8</b>                 |
| <b>Food</b>                  | <b>+3.8</b>                 |
| <b>Non-Metallic Mineral</b>  | <b>-4.1</b>                 |
| <b>Fabricated Metal</b>      | <b>+2.2</b>                 |
| <b>Transportation Equip.</b> | <b>+2.4</b>                 |

Electric utility sector gas demand remains relative robust, however, influenced by new gas-fired generating capacity coming online as well as periodic and opportunistic fuel switching. For this year we expect utility gas demand to rise by 6.0%, or around 37 bcf versus last year.

For 2008, our demand outlook embraces a “normalization” of weather trends for winter and summer, along with the assumption that U.S. manufacturing output will gain by an average of 2.5% over 2007.

As such, residential gas demand growth is expected to moderate from the experience of this year to 1.9%, or some 90 bcf versus our estimate for 2007. Industrial gas demand is forecast to rise by 0.6%, or about 40 bcf over this year.

Although our outlook implies a gain in demand less than the rise in aggregate manufacturing output, it reflects our belief that the most gas-intensive industries will once again lag the economy as a whole. If our outlook is reasonable, however, it would mark the first increase in industrial natural gas demand since 2004.

In the electric utility sector, we expect a gain in gas demand of under 2.0%, or about

120 bcf, reflecting both a moderation in new gas-fired capacity coming online as well as a more normalized relationship between gas and oil prices.

**Supply:  
Review and Outlook**

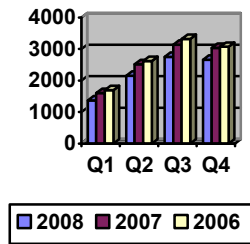
The DOE reported that first quarter dry gas production rose by 1.6%, or some 70 bcf above the first quarter of 2006. However, for the year as a whole we anticipate a moderation in this first quarter gain, partly reflecting the accelerating depletion later in the year of mature onshore reservoirs.

For 2007 as a whole we are looking for a 1.2%, or a 230 bcf gain in dry gas output. For 2008, we forecast a slight rise in U.S. dry gas production by some 75 bcf.

With regard to imports, we are looking for supplies from Canada to decline modestly this year, but more than offset by higher LNG cargoes. Recently LNG imports have been running a bit above our expectations, which we believe has helped account for levels of working storage coming in a bit above our Base Case.

In terms of next year, imports from Canada are expected to decline at a modestly higher rate, primarily reflecting rising demand by synthetic oil producers. Once again, however, we anticipate that LNG imports will more than offset any falloff in pipeline volumes.

**End-Quarter  
Working Gas Storage Levels  
(BCF)**



Putting together the demand and supply sides of the equation, for 2007 we anticipate a net draw in working storage of only 10 bcf.

End-October working storage is forecast to stand at about 3.46 tcf, not far from October 2006 levels and implying ample gas for next winter. However, our outlook does not assume any material or prolonged disruption in Gulf of Mexico production due to hurricane activity.

For next year our forecast balance improves, aided by modest demand growth and a moderation in domestic production. Despite higher net imports next year, our balances imply a larger net storage draw of almost 380 bcf. End 2008 working storage is targeted to lie at about 2.68 tcf. If reasonable, it would place year-end storage roughly on par with the end of 2005.

**Implications for Price**

As we issue this report the August natural contract is sinking to a five-month low, weighed by a weaker cash market and ample storage.

It seems like yesterday that our models were suggesting that June natural gas was quite overvalued, and now prices have plummeted below our previous targets and we are in the position of an outlier relative to the market once again.

The volatility does not deter us, however, and we feel, as always, that the best

course of action is to give it our best independent shot for prices months out into the future and not turn into a “windsock”, changing the forecast in line with wherever the prompt contract is doing at the moment.

In this regard, our customary table below lays out our target for September (basis October NYMEX) in the context of our forecast natural gas balances and incorporating our customary “oil premium”.

We have previously discussed the likelihood that our Base Case forecast for third quarter WTI likely lies on the conservative side. As such, as our table shows we have increased our September WTI target to \$65.00 per barrel.

**Henry Hub Price Outlook  
Average for Month of September 2007  
(\$/mmBtu)**

|                                |                  |
|--------------------------------|------------------|
| <b>1990-2006 Relationships</b> | <b>\$3.10(E)</b> |
| <b>1990-1999 Relationships</b> | <b>\$1.80(E)</b> |
| <b>2000-2006 Relationships</b> | <b>\$4.95(E)</b> |

**2000-2006 Relationships**  
**Plus Oil Premium**      **\$7.50(E)(a)**

**a) @ 210 cents per gallon distillate and \$65.00 per barrel WTI.**

Absent any “oil premium” our natural gas balances imply a September natural target of under \$5.00 per mmBtu. We still find it hard to believe that gas will be left in the dust with higher oil prices, however.

History has shown that when natural is selling at only about 50% of WTI, it tends to find a bottom, with traders seeking to profit from the arbitrage while the physical market benefits from stationary boilers switching to gas at the margin wherever possible.

Incorporating the oil premium yields a September target of \$7.50 per mmBtu, taking into account higher oil prices versus higher forecast storage levels.

While marking a 20 cent per mmBtu downward revision from last month’s

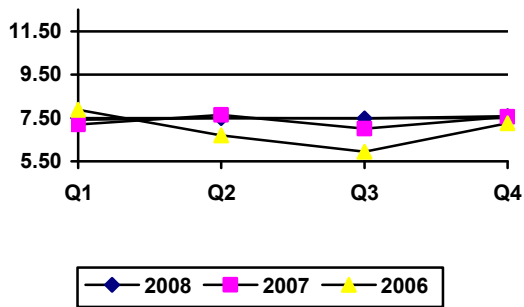
assessment, our outlook implies, right or wrong, a full 70-75 cents per mmBtu above current contract trading levels, assuming that natural's discount to WTI will narrow over time.

As previously noted, funds remain quite short natural gas, and we would expect that the slightest hint of storm formation would lead to at least some short covering, reducing natural's discount to crude.

Since for calendar 2007 our models still imply that December and January NYMEX remain somewhat overvalued, we expect a 2007 prompt NYMEX/Henry Hub average of \$7.35 per mmBtu, marking a modest downward revision from last month.

For 2008, our improved natural gas balances in the context of somewhat lower forecast crude oil prices implies a prompt NYMEX/Henry Hub average of \$7.50 per mmBtu.

**Henry Hub Prices  
2006-2008  
(Dollars per MCF)**



July 6, 2007

U.S. Natural Gas Supply and Demand Balances  
2007-2008  
(Billion Cubic Feet)

|  | Q1          | Q2(E)       | Q3(E)       | Q4(E)       | 2007(E)     | %Chg<br>07-06 | Q1(E)       | Q2(E)       | Q3(E)       | Q4(E)       | 2008(E)     | %Chg<br>08-07 |
|--|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|---------------|
| <b>Supply</b>                              |             |             |             |             |             |               |             |             |             |             |             |               |
| Total Dry Gas Production                   | 4,602       | 4,647       | 4,747       | 4,766       | 18,762      | 1.2           | 4,620       | 4,665       | 4,766       | 4,785       | 18,837      | 0.4           |
| Withdrawals From Storage                   | 1,791       | 143         | 388         | 611         | 2,933       | 17.7          | 2,000       | 305         | 414         | 612         | 3,331       | 13.6          |
| Supplemental Gaseous Fuels                 | 18          | 12          | 16          | 16          | 63          | 1.5           | 19          | 12          | 16          | 16          | 64          | 1.5           |
| Imports                                    | 1,131       | 1,032       | 1,084       | 1,061       | 4,308       | 2.9           | 1,128       | 1,018       | 1,127       | 1,118       | 4,391       | 1.9           |
| Canada                                     | 947         | 808         | 899         | 896         | 3,550       | -1.2          | 923         | 788         | 877         | 873         | 3,461       | -2.5          |
| LNG  | 184         | 224         | 185         | 165         | 758         |               | 205         | 230         | 250         | 245         | 930         |               |
| Other                                      | 0           | 0           | 0           | 0           | 0           |               | 0           | 0           | 0           | 0           | 0           |               |
| Balancing Item                             | 122         | 273         | 0           | (40)        | 356         |               | 0           | 95          | 0           | (40)        | 55          |               |
| Total Supply                               | 7,665       | 6,107       | 6,236       | 6,414       | 26,421      | 3.8           | 7,767       | 6,096       | 6,323       | 6,492       | 26,678      | 1.0           |
| <b>Disposition</b>                         |             |             |             |             |             |               |             |             |             |             |             |               |
| Additions To Storage                       | 327         | 1,075       | 1,011       | 510         | 2,923       | -0.1          | 330         | 1,086       | 1,021       | 515         | 2,952       | 1.0           |
| Exports                                    | 232         | 177         | 185         | 205         | 798         | 10.2          | 180         | 185         | 185         | 205         | 755         | -5.4          |
| Consumption                                | 7,106       | 4,856       | 5,039       | 5,699       | 22,700      | 4.1           | 7,257       | 4,825       | 5,117       | 5,772       | 22,971      | 1.2           |
| Lease And Plant Fuel                       | 282         | 279         | 285         | 286         | 1,132       | -0.4          | 277         | 280         | 286         | 287         | 1,130       | -0.1          |
| Pipeline and Distribution Use              | 186         | 139         | 142         | 145         | 613         | 6.5           | 152         | 149         | 152         | 158         | 612         | -0.2          |
| Residential                                | 2,316       | 746         | 341         | 1,361       | 4,765       | 9.4           | 2,436       | 698         | 344         | 1,375       | 4,854       | 1.9           |
| Commercial(a)                              | 1,260       | 549         | 388         | 829         | 3,026       | 5.7           | 1,324       | 512         | 386         | 825         | 3,047       | 0.7           |
| Industrial                                 | 1,755       | 1,525       | 1,561       | 1,702       | 6,542       | -1.2          | 1,735       | 1,540       | 1,582       | 1,727       | 6,583       | 0.6           |
| Electric Power                             | 1,307       | 1,618       | 2,323       | 1,376       | 6,623       | 6.0           | 1,332       | 1,647       | 2,366       | 1,400       | 6,745       | 1.8           |
| Total Disposition                          | 7,665       | 6,107       | 6,236       | 6,414       | 26,421      | 3.8           | 7,767       | 6,096       | 6,323       | 6,492       | 26,678      | 1.0           |
| <b>Addendum:</b>                           |             |             |             |             |             |               |             |             |             |             |             |               |
| Net Storage Injections                     | (1,464)     | 932         | 623         | (101)       | (10)        |               | (1,669)     | 780         | 607         | (97)        | (379)       |               |
| End Period Working Gas In Storage          | 1,603       | 2,532       | 3,154       | 3,054       | 3,054       |               | 1,384       | 2,165       | 2,771       | 2,675       | 2,675       |               |
| <b>Henry Hub Price (Dollars Per mmBtu)</b> | <b>7.20</b> | <b>7.64</b> | <b>7.00</b> | <b>7.55</b> | <b>7.35</b> | <b>5.8</b>    | <b>7.42</b> | <b>7.50</b> | <b>7.48</b> | <b>7.58</b> | <b>7.50</b> | <b>2.0</b>    |
| Gas Wells Drilled                          |             |             |             |             | 34,746      | 10.0          |             |             |             |             | 38,220      | 10.0          |
| Total Discoveries(Bcf)                     |             |             |             |             | 15,636      | -1.0          |             |             |             |             | 15,288      | -2.2          |
| Discoveries Per Well(Bcf)                  |             |             |             |             | 0.45        | -10.0         |             |             |             |             | 0.40        | -11.1         |
| Total Revisions and Adjustments(Bcf)       |             |             |             |             | 4,000       | 0.0           |             |             |             |             | 4,000       | 0.0           |
| Total Reserve Additions(Bcf)               |             |             |             |             | 19,636      | -0.8          |             |             |             |             | 19,288      | -1.8          |
| <b>Reserve Replacement Ratio</b>           |             |             |             |             | 105%        |               |             |             |             |             | 102%        |               |
| Total Recoverable Reserves (Bcf)           |             |             |             |             | 187,750     | 0.5           |             |             |             |             | 188,201     | 0.2           |
| <b>Reserve To Production Ratio(Years)</b>  |             |             |             |             | 10.0        |               |             |             |             |             | 10.0        |               |

Source: Historical Data, U.S. Department of Energy.

Note: May not sum to totals in all cases due to rounding.

(E) WHB Energy Research LLC estimates.

(a) Includes minor use as vehicle fuel.

Information contained herein is believed to be reliable but its accuracy cannot be guaranteed. Past performance is not indicative of future results and the risk of loss is substantial in futures trading.

Hornsby & Company, Inc. and W.H. Brown may, from time to time, have positions in the futures market relative to these recommendations.