



HORNSBY & COMPANY, INC.

[www.hornsblyco.com](http://www.hornsblyco.com)

Energy Risk  
Management Services

---

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

### Summary

Since our last monthly report the prompt NYMEX natural gas contract has risen by some \$0.75 per mmBtu on a point-to-point basis. Within the period, however, the contract managed to trade above \$8.50 per mmBtu as managed funds covered short positions as they watched WTI advanced toward \$100.00 per barrel. In addition, periodically traders became concerned over late-season storm activity which never transformed into Gulf of Mexico-threatening hurricanes. In the final analysis, despite record nominal crude oil prices, the onus of record working storage levels held natural gas prices back relative to oil, compounded by a lack of any late-fall cold spells in major natural gas consuming regions.

By the end of the year, we believe that natural gas prices will revert toward a reflection of underlying fundamentals, with working storage more than ample for the upcoming winter under almost any weather scenario. In addition, while we are not forecasting an outright recession, we believe that if our economic assumptions are off the mark they may end up on the slightly more optimistic side of the coin. We suspect that current levels of manufacturing activity are weaker than the consensus of economists' estimates. As such, we retain our forecast December (basis January NYMEX) target of \$7.45 per mmBtu, implying downside price risk of about \$0.75 per mmBtu from current levels.

With regard to our outlook for 2008, once again assuming normal weather and moderate economic growth, our balances imply some improvement, such that next year will witness a net 45 bcf working storage draw, modestly less than forecast in last month's assessment. If we are close to the mark, it would imply end-2008 working storage returning to roughly the level prevailing at the end of 2006 compared to the current all-time record level. In terms of price, we retain our forecast 2008 average for prompt NYMEX/Henry Hub of about \$7.50 per mmBtu.

---

+ U.S. natural gas consumption is forecast to rise by 1.2%, or about 280 bcf next year, about unchanged from last month.

+ U.S. dry gas production is expected to gain by 0.4%, or 75 bcf, also largely unrevised from our previous report.

+ End-2008 working storage is assessed at about 3.1 tcf, implying a net draw next year of some 45 bcf.

---

## Viewpoint

From the date of publication of our previous report to the present time, the prompt NYMEX natural gas contract has risen by some \$0.75 per mmBtu on a purely point-to-point basis.

Within this time period, however, the contract managed to trade above \$8.50 per mmBtu, reaching a settlement high of \$8.637 per mmBtu on November 1 when prompt WTI was trading around \$93.50 per barrel.

Although our research has concluded there is not as consistent, intra-year relationship between price and active fund in the gas market as with crude oil, recent price gains were influenced by managed commodity funds as they covered some short positions while watching WTI advance toward \$100.00 per barrel.

For example, from September 25 to October 30, active CFTC-reporting funds reduced their net short positions from 63,860 contracts to 50,297 contracts. This corresponded in a rise in the prompt NYMEX natural contract from \$6.360 per mmBtu to \$8.021 per mmBtu.

In addition, periodically natural gas traders became concerned over late-season storm activity but such worries never materialized into Gulf of Mexico-threatening hurricanes.

In the final analysis, despite record nominal crude oil prices, the onus of record working storage levels held natural gas prices back relative to oil, with natural's reluctance compounded by a lack of any late-fall cold spells in major natural gas-consuming regions.

By the end of the year, we believe that natural gas prices will revert back and reflect underlying fundamentals, with working storage more than ample for the upcoming winter under virtually any weather scenario.

In addition, while we are not assuming an outright recession for our balances, we believe that if our economic outlook is off the mark reality will end up less robust than even *our* long-standing conservative assumptions.

We suspect that current levels of manufacturing activity are weaker than the consensus of economists' estimates. In our other reports we have discussed how over the years weekly implied distillate demand growth can often be a helpful coincident indicator of economic activity, once we adjust for weather and secondary stock movements.

According to DOE weekly oil data, the year-over-year growth in implied distillate demand has not only decelerated over the past couple months but now turned negative, with the weakness extended over too large a time frame to attribute merely to different year-to-year patterns of secondary stock change.

As such, we retain our forecast December (basis January NYMEX) target of \$7.45 per mmBtu, implying downside price risk of about \$0.75 per mmBtu from current levels.

In terms of our forecast for 2008, once again assuming normal weather and modest economic growth, our balances imply some improvement from the current picture, such that next year will witness a net 45 bcf working storage draw, less than last month's forecast net draw by 65 bcf.

If we are close to the mark, it would imply end-2008 working storage returning to about the level prevailing at the end of 2006, compared to the current all-time record.

In terms of price, we retain our forecast 2008 average for prompt NYMEX/Henry Hub of about \$7.50 per mmBtu in the context of \$65.00 per barrel WTI.

## Demand: Review and Outlook

Incorporating the latest DOE monthly natural gas demand estimates now available through August, we were surprised to find little need for any material revisions to our outlook. When all is said and done and assuming normal fourth quarter weather, we expect U.S. natural gas consumption to have risen by 4.1%, or some 890 bcf this year, little changed from last month's assessment.

As is well known, over 75% of this year's gain occurred in the first quarter, and subsequently the bulk of 2007's increase has been accounted for by the electric utility sector, reflecting new gas-fired units coming online and preferential fuel pricing, depending upon the market.

Industrial sector demand for this year is expected to decline modestly. Our customary table reviewing the latest activity levels for the eight largest industrial sector gas consumers is

shown below for the month of September compared to September of 2006.

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

| <b>Industry</b>              | <b>YOY %Chg.<br/>Output</b> |
|------------------------------|-----------------------------|
| <b>Chemicals</b>             | <b>+1.4</b>                 |
| <b>Petroleum and Coal</b>    | <b>-5.7</b>                 |
| <b>Primary Metals</b>        | <b>-0.1</b>                 |
| <b>Paper</b>                 | <b>-3.5</b>                 |
| <b>Food</b>                  | <b>+2.5</b>                 |
| <b>Non-Metallic Mineral</b>  | <b>+0.2</b>                 |
| <b>Fabricated Metal</b>      | <b>+2.7</b>                 |
| <b>Transportation Equip.</b> | <b>+2.3</b>                 |

While the chemical sector showed some improvement relative to the August comparisons and represents the largest industrial gas consumer, September output for paper and food weakened versus the August year-over-year comparisons. The improvement in chemicals would help account for the August improvement in the ratio of gas consumption to aggregate manufacturing output versus prior months.

For the manufacturing sector as a whole, September output gained by only 1.6%, somewhat below our long standing assumed average growth rate for 2007 as a whole first established in the summer of last year.

At this point, however, we are loathe to materially revise our assessment for next year, assuming an average manufacturing growth rate of 2.5% once again, which we believe will develop as weaker growth in the first half followed by somewhat stronger output in the second half, in part aided by our assumption of lower consumer hydrocarbon prices versus 2007, right or wrong.

Once again assuming normal weather for 2008 as a whole, we expect natural gas demand to rise by 1.2%, or some 280 bcf next year, about unchanged from last month's report.

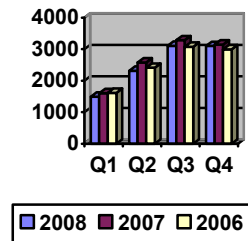
**Supply:  
Review and Outlook**

The latest DOE data reflect a trimming of dry gas production estimates for select months thus far this year, but nothing that we would classify as material. As such, we are looking for dry gas output to gain by 1.6%, or around 305 bcf in 2007.

Gross natural gas imports are estimated to rise by more than 10% this year, led by incremental LNG cargoes. Canadian pipeline imports have been revised up by the DOE for select months, and the overall picture points to a 1.3% gain from this source alone.

For next year we are looking for more modest gains in domestic dry gas production, with a 0.4%, or 75 bcf forecast increase in 2008, about unchanged from last month. Gross natural gas imports are expected to rise once again, but more modestly than the estimated rate for 2007.

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



Putting demand and supply together, our numbers suggest that 2007 will end with a shade over 3.1 tcf in working storage, suggesting an “overage” versus end 2006 of some 75 bcf versus the “overage” for the week ending November 2 of 99 bcf.

For 2008, through the combination of modest demand growth but more modest gains in both domestic production and imports, we believe the year will experience a modest net draw in working storage of some 45 bcf. If we re close to the mark, it suggests end-2008 working storage not too far from the end 2006 level of 3.070 tcf.

**Implications for Price**

As we issue this report the prompt NYMEX crude oil contract is trying to decide

whether it wants to advance toward \$100.00+ per barrel or has had enough, for 2007 at least. In this context, the prompt NYMEX natural contract is trading somewhat under \$8.00 per mmBtu, reluctantly pulled up by crude oil in the face of record working storage levels.

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

**1990-2006 Relationships      \$3.45(E)**  
**1990-1999 Relationships    \$1.90(E)**  
**2000-2006 Relationships    \$5.69(E)**

**2000-2006 Relationships  
Plus Oil Premium      **\$7.45(E)(a)****

**a) @ 210 cents per gallon distillate and \$70.00 per barrel WTI.**

Our customary table laid out above reveals that despite the surge in hydrocarbon prices, we are retaining our December (basis January NYMEX) price target of \$7.45 per mmBtu. We would note that this target embraces our belief that WTI will be trading at \$70.00 per barrel some time in December.

At the present time this seems patently absurd, with the consensus convinced that not only will \$100.00 be reached, but that WTI could easily advance beyond this long-standing “bogie”.

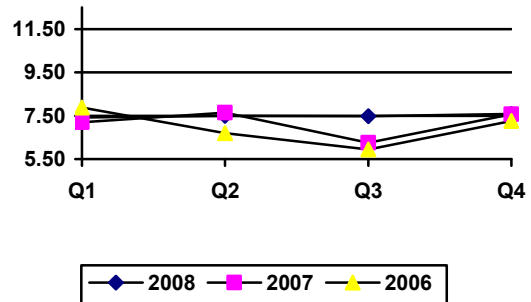
We have seen everything in our petroleum career, however, and given the velocity of the crude oil price rise in the context of weakening OECD oil demand and economic activity, prices could easily decline if active managed funds decided to liquidate their net length that has been accumulated since August.

To provide some perspective on the role of oil prices in our gas pricing models, however, if we were to “plug in” current crude oil and distillate prices and hold all other variables constant, it suggests the prompt NYMEX natural contract “should be” trading at around \$10.00 per mmBtu. Clearly, the retention of sizable net short positions by active commodity funds is helping to account for natural’s discount to crude oil.

It also suggests, however, that if our WTI forecast is close and funds retain net short natural

positions, our \$7.45 per mmBtu December target could end up a bit on the high side. Nonetheless, all things considered we will retain our target, which implies some \$0.75 per mmBtu of downside price risk from current levels.

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



For next year, given relatively little revision to our fundamental balances, we are also retaining our forecast prompt NYMEX/Henry Hub average of \$7.50 per mmBtu. This lies in the context of our forecast 2008 average for WTI of \$65.00 per barrel, which we are not compelled to revise despite the market’s current quest for \$100.00 per barrel crude oil.

November 9, 2007

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

|  | Q1          | Q2          | 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                   | 4,591       | 4,694       | 4,783       | 4,766       | 18,834      | 1.6           | 4,609       | 4,713       | 4,802       | 4,785       | 18,910      | 0.4           |
| Withdrawals From Storage                   | 1,791       | 241         | 382         | 648         | 3,063       | 22.9          | 1,986       | 395         | 306         | 525         | 3,212       | 4.9           |
| Supplemental Gaseous Fuels                 | 18          | 12          | 15          | 16          | 62          | -0.3          | 19          | 12          | 15          | 16          | 63          | 1.5           |
| Imports                                    | 1,153       | 1,133       | 1,167       | 1,147       | 4,599       | 10.4          | 1,152       | 1,144       | 1,176       | 1,154       | 4,625       | 0.6           |
| Canada                                     | 968         | 853         | 898         | 897         | 3,616       | 1.3           | 949         | 836         | 880         | 879         | 3,544       | -2.0          |
| LNG  | 184         | 280         | 269         | 250         | 983         |               | 203         | 308         | 296         | 275         | 1,081       |               |
| Other                                      | 0           | 0           | 0           | 0           | 0           |               | 0           | 0           | 0           | 0           | 0           |               |
| Balancing Item                             | 82          | 190         | (138)       | (175)       | (41)        |               | 0           | 0           | 0           | 0           | 0           |               |
| Total Supply                               | 7,635       | 6,270       | 6,210       | 6,402       | 26,517      | 4.5           | 7,766       | 6,264       | 6,299       | 6,480       | 26,809      | 1.1           |
| <b>Disposition</b>                         |             |             |             |             |             |               |             |             |             |             |             |               |
| Additions To Storage                       | 327         | 1,209       | 1,089       | 510         | 3,135       | 7.2           | 330         | 1,221       | 1,100       | 515         | 3,166       | 1.0           |
| Exports                                    | 203         | 178         | 187         | 205         | 772         | 6.7           | 180         | 185         | 185         | 205         | 755         | -2.2          |
| Consumption                                | 7,105       | 4,883       | 4,934       | 5,687       | 22,609      | 4.1           | 7,256       | 4,858       | 5,014       | 5,760       | 22,888      | 1.2           |
| Lease And Plant Fuel                       | 281         | 288         | 292         | 286         | 1,147       | 1.0           | 277         | 283         | 288         | 287         | 1,135       | -1.1          |
| Pipeline and Distribution Use              | 186         | 129         | 137         | 145         | 597         | 4.8           | 152         | 151         | 154         | 158         | 614         | 2.9           |
| Residential                                | 2,316       | 762         | 351         | 1,361       | 4,790       | 9.9           | 2,436       | 714         | 354         | 1,375       | 4,879       | 1.9           |
| Commercial(a)                              | 1,260       | 562         | 386         | 829         | 3,037       | 6.1           | 1,324       | 525         | 387         | 825         | 3,060       | 0.8           |
| Industrial                                 | 1,755       | 1,534       | 1,551       | 1,688       | 6,528       | -0.3          | 1,735       | 1,549       | 1,573       | 1,712       | 6,569       | 0.6           |
| Electric Power                             | 1,307       | 1,608       | 2,218       | 1,378       | 6,511       | 4.2           | 1,332       | 1,637       | 2,259       | 1,403       | 6,631       | 1.8           |
| Total Disposition                          | 7,635       | 6,270       | 6,210       | 6,402       | 26,517      | 4.5           | 7,766       | 6,264       | 6,299       | 6,480       | 26,809      | 1.1           |
| <b>Addendum:</b>                           |             |             |             |             |             |               |             |             |             |             |             |               |
| Net Storage Injections                     | (1,464)     | 968         | 706         | (138)       | 72          |               | (1,656)     | 826         | 794         | (10)        | (46)        |               |
| End Period Working Gas In Storage          | 1,603       | 2,580       | 3,284       | 3,146       | 3,146       |               | 1,490       | 2,316       | 3,110       | 3,101       | 3,101       |               |
| <b>Henry Hub Price (Dollars Per mmBtu)</b> | <b>7.20</b> | <b>7.64</b> | <b>6.25</b> | <b>7.57</b> | <b>7.16</b> | <b>3.2</b>    | <b>7.42</b> | <b>7.50</b> | <b>7.48</b> | <b>7.58</b> | <b>7.50</b> | <b>4.6</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>           |             |             |             |             | 104%        |               |             |             |             |             | 102%        |               |
| Total Recoverable Reserves (Bcf)           |             |             |             |             | 187,678     | 0.4           |             |             |             |             | 188,056     | 0.2           |
| <b>Reserve To Production Ratio(Years)</b>  |             |             |             |             | 10.0        |               |             |             |             |             | 9.9         |               |

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

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

(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.

(a) Includes minor use as a fuel by Hessley & Company, Inc. and W.H. Brown may, from time to time, have positions in the futures market relative to these recommendations.