

“Well, I’m a’ gonna raise a fuss
And I’m a’ gonna raise a holler
I’ve been working all summer
Just to try and earn a dollar”. The Who’s song, “Summertime Blues”

CONCLUSION AND OVERVIEW

Assuming normal weather for spring and summer 2014, the NYMEX natural gas complex in general, including the nearest futures continuation benchmark, probably will trade in a sideways to rising trend.

United States natural gas inventory days coverage at the end of the 2013-14 winter draw season is very low arithmetically (bcf) as well as from the more important days coverage vantage point. However, winter ends every year. As the April/October build season will diminish short term fears of running out of natural gas, bears snarl that it becomes more difficult to sustain prices over 5.00. Yet for prices to remain under 5.00 over the upcoming summer build and winter 2014-15 draw seasons, much depends on whether 2014 gas production climbs by significantly more than two bcf/day year-on-year. The Energy Information Administration predicts a 1.8bcf/day output increase (Short-Term Energy Outlook, “STEO”, Table 5a, 3/11/14; next release 4/8/14). Some assert that fuel switching from natural gas to coal will occur in the key electric power sector in calendar 2014 if natural gas prices remain at current levels, and especially if they trend higher. The EIA believes 2014 electric power demand edges about .3bcf/day lower relative to 2013’s level (though calendar 2015’s ascends a modest .6bcf/day versus 2014). Keep in mind the still substantial net noncommercial long position in natural gas at present. All else equal, liquidation of a substantial part of that net length would weaken prices.

Yet analysis of the days coverage variable constructs a bullish case. Assume normal spring and summer weather. Suppose the EIA’s production estimate does not greatly miss the actual output boost. Then not only in the early months of build season, but also at its close at end October (or early November), days coverage for US natural gas inventories will remain well below average (typical, normal; desired). Admittedly, the United States natural gas inventory situation probably will become less tight over the course of winter 2014-15. If late autumn and winter weather is normal, working gas inventories days coverage probably still will be somewhat below normal during winter 2014-15 since they should commence draw season at very depressed levels.

The list of uncertainties surrounding natural gas supply/demand is long. But given that US gas stocks are very depressed now, a look forward at the probable working gas inventory situation for the next several months suggests the NYMEX nearest futures continuation contract probably will break into the 500/520 range over the next several months, and perhaps by the end of summer.

But what if production gains are less than the EIA’s forecast, or if summer (or winter) gas demand exceeds expectations? Then a voyage into the high 5.00s, or even a retest of major resistance between 6.10 (major top 1/7/10 at 6.108; six times the all-time low on 1/24/92 is 6.12) and 6.50 (about the 2/24/14 peak) during either (or both) summer build season and winter 2014-15 draw season would be unsurprising.

What other price levels should observers watch closely? The spring 2013 peaks in the mid-4.40s (4/18/13 at 4.429; 5/1/13 at 4.444) represent key price levels. Significant support stands around 3.80 to 4.00 (3.933 high 11/23/12, 3.953 low take-off point 1/10/14), with further underpinning around 3.379 (11/5/13 low). Important resistance stands at 4.98 to 5.20 (see the highs established between June 2010 and June 2011); keep in mind around 5.70 as well.

What if NYMEX nearest futures spike higher? Watch 6.70 to 7.00. A five percent move over 6.49 is about 6.82, a 10pc breakthrough about 7.14; a 100pc spike from the 11/5/13 low at 3.379 is 6.758. Half the 7/20/08 high around 13.69 is 6.85.

Current days coverage levels, as well as those anticipated for the next several months, probably will keep prices above the 3.80 to 4.00 range (at least most of the time). Yet what if this summer is cool, next winter is warm, or gas production is substantially higher than many expect? Then 11/5/13's 3.379 becomes a target. Suppose prices shockingly crumble? A sturdy floor supports 3.00 to 3.15. Note the 3.05 low on 1/2/13 (and the gap relative to the 3.046 high on 9/26/12) and 2/15/13's 3.125 low and 8/8/13's 3.129 bottom.

Monitor NYMEX intramarket price spreads alongside movements in NYMEX nearest futures continuation and other actual contract months (and calendar strips), as well as electricity and coal price levels and trends. Also, keep an eye on natural gas basis relationships since inventories in a given region (or an area within a region) may be tighter than elsewhere.

SUPPLY/DEMAND ARCHITECTURE: BUILD SEASON 2014

"I'm fixing a hole where the rain gets in
And stops my mind from wandering
Where it will go
I'm filling the cracks that ran through the door
And kept my mind from wandering
Where it will go". "Fixing a Hole", by The Beatles

The supply/demand situation in the US natural gas theater for calendar 2014 probably will become a bit less tight as months pass after winter 2013-14 ends. But it still will remain constrained.

Use the EIA forecasts (March STEO, Table 5a) as a starting point. Total US natural gas consumption remains about flat in calendar 2014 at just under 71.3bcf/day relative to calendar 2013. Within the electric power sector, calendar 2014 consumption falls about 1.3pc to 22.0bcf/d. In contrast, calendar 2014 total marketed natural gas production expands 2.5pc year-on-year (nearly 72.0bcf/day in 2014 versus 2013's 70.2bcf/d). Total dry gas production grows from about 66.5bcf/day to 68.1bcf over that period, a 2.4pc increase. US electricity demand enlarges only 1.3pc in 2014 versus 2013 (Table 7a).

Anyway, what will America's inventory situation probably be at end October 2014? The EIA predicted on 3/11/14 that end March 2014 inventories would be 965bcf, with 3459bcf at end October. However, the cold calendar March 2014 slashed working gas stocks to 896bcf as of 3/21/14. Further cold since 3/21 probably will reduce inventories further, so take 850bcf at end

March 2014 as a guideline (though some predict even lower stocks). Then reduce the EIA's STEO figure of 3459bcf end October 2014 stocks by the 115bcf difference (965-850bcf), making them around 3344bcf.

Maybe higher prices will erode consumption lower and cause inventories to fall less than the 115bcf adjustment by end October. Anyway, players can await the EIA's April STEO (4/8/14 release) or embrace opinions of other clairvoyants.

Detailed historical analysis of natural gas inventories enables audiences to better ascertain how tight America's near term supply/demand situation has become. Although arithmetical (bcf) levels are important, review from the days coverage perspective offers greater insight.

Relative to calendar year 2014's nearly 71.3 bcf/day of demand (EIA), 3344bcf represents about 46.9 days of coverage. Now place the 46.9 day preliminary prophecy for end October 2014 in historical context. See the following columns. Particularly focus on the days coverage variable.

	Long Run (1990-2013)		Long Run (1990-2013)	
	End Calendar Month		End Calendar Month	
	Arithmetic (Bcf)		Days Coverage	
	<u>Average</u>		<u>Average</u>	
<u>October</u>	3305		53.8	
	<u>Season Highs (Year)</u>		<u>Season Lows (Year)</u>	
	<u>(Bcf)</u>	<u>Days Cover</u>	<u>(Bcf)</u>	<u>Days Cover</u>
<u>October</u>	3929 (2012)	66.0 (1990)	2732 (2000)	42.9 (2000)
	3851 (2010)	60.7 (2009)	2810 (1996)	45.5 (1996)
<u>October</u>	Medium Run (2006-2013)			
	End Calendar Month			
	<u>Days Cover Average</u>			
	56.7 days (2.9 days more than the 1990-2013 time span)			

Thus October 2014's 46.9 days of inventory will be 6.9 days under the long run 1990-2013 average of 53.8 days. This is a bullish marketplace situation.

Nowadays, for calendar October (and for any other calendar month), the eight year medium run span from 2006 to 2013 better shows the "normal" (average, typical, reasonable, prudent) level of days coverage than the long run 1990-2013 vista. Why? The average level of natural gas industry stock holding probably shifted upwards in recent years. One variable influencing this boost likely has been alternative "investment" in commodities, which reduces natural gas "free supply". This reduction in free supply probably can have particularly significant consequences in low inventory situations around the finish of the winter draw season. See previous essays such as "US Natural Gas- a Winter's Tale" (1/12/14), "US Natural Gas Inventory: the Producing Region Drawing Board" (12/16/13), and "US Natural Gas: Drawing Pictures" (11/25/13) on this topic.

Based upon the 2006-13 perspective, days coverage at end October will be 9.8 days beneath "normal" (56.7-46.9 days), an even more bullish situation.

Incidentally, even the March STEO's 3459bcf end October estimate equals a depressed 48.5 days coverage total.

MORE VIEWPOINTS ON THE CALENDAR 2014 BUILD SEASON

What other perspectives does history suggest could be potential US natural gas inventory builds, especially in days coverage terms, between end March 2014 to end October 2014?

The average days coverage build from end March to end April is roughly 2.5 days (around 2.6 days for the past eight years, 2.2 days for the over two decades of long run history).

The average climb from end April to end October from 1990 to 2013 is 28.9 days (1772bcf). Over the eight years from 2006 through 2013, the days coverage build is 27.5 days (1793bcf). Since the average days coverage build over the two time spans is about the same, the midpoint between them, 28.2 days, is a satisfactory practical general estimate.

Suppose end March 2014 natural gas stocks days coverage is 11.9 days (850bcf divided by 71.3bcf/day). Add to this the typical end March to end April increase of 2.5 days to this, plus the 28.2 end April to end October average. That makes end October 2014 days coverage 42.6 days, well below both the 1990-2013 and the 2006-13 averages. This is an even more bullish picture than the 46.9 days derived from the EIA's March STEO.

What if 2013 history repeats itself this year? Days coverage expanded only 1.3 days from end March to end April, then about 27.4 days through October. End March 2014's coverage plus 28.7 days results in merely 40.6 days coverage by end October 2014.

What were record low and high days coverage builds for end April through end October over the long run 1990-2013? There is a big difference between the extremes.

The April through October 2012 year saw a paltry 18.9 days. Weather and many other factors intertwine to influence inventory build totals in arithmetic and days coverage terms. Yet this tiny build arguably in part responded to (linked with) the low prices early that year (4/19/12 major bottom at 1.902) and the enormous 37.0 days coverage inventory at the end of March 2012 (for analytical labeling purposes, March 2012 belongs to the 2011 "year"; its "year" designation derives from the year of the preceding October; see the "Looking Backward" section below). In 2002, inventories ascended only 23.1 days from end April to end October. The end October 2002 stocks of 49.4 days were below average. Recall the subsequent ascent, culminating in the skyrocketing to 2/25/03's 11.90 price summit.

What years saw record high days coverage jumps from end April to end October. Recall 2003's 36.7 days. At the end of the 2002 year's close (in actual calendar March 2003), inventories were a record depth of 11.6 days. Keep in mind the 2/25/03 price peak. Was this increase partly in response to a low inventory/recent high price environment situation? Arguably in part. Compare 2012's very small days coverage rise alongside its high stocks/recent low price situation. In calendar March 2001 (at the end of the 2000 "year"), days coverage likewise achieved a record trough of 11.6 days. Remember the 10.10 peak early that winter on 12/27/00. The end April through end October inventory build in 2001 was a sizeable 35.3 days.

Everyone knows that numerous factors influence inventory builds. But suppose that sometimes very low (high) inventories or very low (high) prices (prices at low or high altitudes for a “sufficient” length of time) influence the extent of days coverage build. Thus the probable end 2013-14 winter draw season well below average days coverage (March 2014’s 11.9 days) will tend to encourage an above average inventory build rate. However, the related February 2014 price pinnacle near 6.50 was not nearly as elevated as many spikes seen in the past. And prices in the mid to high 4.00s are not way above average. Consequently the build in calendar 2014 from end April to end October probably will not be as massive as those evidenced in 2001 and 2003.

So even though much can happen between now and end October, suppose that end October 2014 US natural gas inventories are around 3344bcf and thus equal 46.9 days coverage relative to full calendar year 2014 demand. Assume a 2.5 day build from end March to end April. With March 2014 days coverage around 11.9 days, and assuming a 2.5 day build from end March to end April, the 46.9 days end October 2014 coverage implies an end April to end October stock jump of 32.5 days. This forecast 32.5 day build is greater than average yet below past extremes; it therefore represents a reasonable conjecture.

Natural gas stocks may be considerably tighter in some regions than others (and at some locations within regions), both in the near term as well as at end October 2014.

The shale revolution, assuming gas prices remain sufficiently high, may inspire production increases in calendar 2014 greater than two bcf/day. Inventory builds via this parameter may turn out to be greater than many expect. But until more actual evidence appears for calendar 2014, why not take the EIA’s numbers as an appropriate estimate for now?

Also, try to estimate Canadian gas inventory totals and trends.

LOOKING BACKWARD (THIS WINTER), LOOKING FORWARD (NEXT WINTER)

“While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.” The Book of Genesis, Chapter 8, verse 22 (King James version)

In the following discussion regarding and table for US end March working gas inventories, the indicated “year” for a given March derives from the calendar year of the preceding October. Thus the 2473bcf (that in actual calendar March 2012) noted for the 2011 “year” is from the October 2011 to March 2012 winter draw season. This table extends through winter 2013-14 (includes the 2013 year) by averaging in a 850bcf inventory estimate for March 2014.

The average draw from 1990 through 2013 is 1967bcf, or 32.0 days. The days coverage draw from 2006-2013 is about the same, 32.1 days (the average bcf draw over that vista is 2103bcf).

Winter 2013-14’s sustained cold gobbled up US working natural gas inventories. Assume end March 2014 inventories of 850bcf. From end October 2013 to then, inventories plummeted 2966bcf, smashing the 2002 year’s record by nearly 580bcf. The spectacular 41.6 days coverage

drawdown likewise soared over 2002's plateau of 37.8 days and 1992's 39.7 day pinnacle. Compare the meager 1331bcf and 19.9 day draws of the 2011 year.

	Long Run (1990-2013)	Long Run (1990-2013)
	End Calendar Month	End Calendar Month
	Arithmetic (Bcf)	Days Coverage
	<u>Average</u>	<u>Average</u>
<u>March</u>	1337	21.8

	<u>Season Highs (Year)</u>		<u>Season Lows (Year)</u>	
	<u>(Bcf)</u>	<u>Days Cover</u>	<u>(Bcf)</u>	<u>Days Cover</u>
<u>March</u>	2473 (2011)	37.1 (2011)	730 (2002)	11.6 (2002)
	1692 (2005)	28.1 (2005)	742 (2000)	11.6 (2000)
			850 (2013)	11.9 (2013)
			758 (1995)	12.5 (1995)

Some statisticians would label the 1723bcf end March inventory for the 2012 year as high. Yet this represented only 24.7 days coverage - a modest 2.9 days above the long run average, whereas 2005's bounded 6.3 days above that average. Compare 2012's 69.7bcf/day consumption with calendar year 2005's 60.3bcf/d.

<u>March</u>	Medium Run (2006-2013)
	End Calendar Month
	<u>Days Cover Average</u>
	24.6 days (2.8 days more than 1990-2013's time span)

End March 2014's 11.9 days of coverage rest nearly ten days under the 21.8 days end March 1990-2013 average. From this long run view, stocks are extremely tight. End 1Q14 natural gas stocks tumbled even more relative to 2006-13's end March average, by 12.7 days (24.6 less 11.9 days).

The March STEO declared March 2015 stocks will be 1552bcf day. That will equal about 21.8 days coverage. However, adjust that total down by 115bcf to account for recent draws. This gives 1437bcf, or slightly less than 20.2 days coverage. Based upon this revised figure, end 1Q15 inventories fall about 4.4 days under 2006-2013's 24.6 day average, though only about 1.6 days under the 1990-13 long run average.

Therefore relative to the 2006-13 average, the 4.4 day end March 2015 days coverage shortfall will be considerably less than end March 2014's 9.9 days.

Admittedly inventory levels and days coverage at end October 2014 and end March 2015 are conjectural. Yet based upon the preceding analysis, how do the potential below average days coverage levels for end October 2014 and end March 2015 compare? Use the 2006-13 span. End October 2014's guideline prediction of 46.9 days dives 9.8 days under the 56.7 day end October

average. End March 2015's 20.2 days coverage total drops 4.4 days beneath end March's 24.6 day normal level.

So end March 2015 days coverage, though notably below its 2006-13 average, has a significantly smaller shortfall than end October 2014's 9.8 day difference. Thus for this viewpoint as for the March 2014 versus March 2015 comparison, although inventories are moderately tight at end March 2015, they are less so.

Despite this, what does the March 2015 days coverage situation suggest for NYMEX natural gas prices (nearest futures continuation)? Since the long run March 2015 inventories probably will be relatively tight in comparison to the benchmark 2006-13 average (and even beneath 1990-13's 21.8 day average), that will tend to support prices at least around 3.80 to 4.00. Besides, in this context, underscore that the inventory situation through around October 2014 remains very bullish. Falling back toward 11/5/13's 3.379 low or less would take a significant increase in inventory projections for the 2014 build season and winter 2014-15.

What creates this less perilous inventory situation for March 2015? Scan the EIA's March STEO. One reason is somewhat higher production. Calendar 2014 total marketed production grows about 1.8bcf/day year-on-year, although first quarter 2015 grows only about .7bcf/d relative to 1Q14.

Another key factor derives from quarterly year-on-year consumption slides. The EIA indicates total 2Q13 consumption at about 59.7bcf/day. That for 2Q14 dips slightly from this, to just over 59.3bcf/d. Third quarter 2013's consumption was about 60.8bcf/d; 3Q14 climbs to 61.3bcf/d. Thus over the next six months, consumption remains about flat year-on-year.

However (surely in part due to a normal winter weather prediction), 4Q14 demand falls 4.4bcf/day (5.7 percent) versus 4Q13, from 76.9bcf/d to 72.5bcf/d. Not all this 4Q year-on-year decline transpires in the residential arena, which has 1.7bcf/d less; 4Q14 electric power sector demand slips to 19.4bcf, down 5.9 percent versus 4Q13's 20.6bcf. Although the EIA likely will adjust 1Q14 consumption higher, pretend it will remain as originally forecast at 92.2bcf/d. The anticipated first quarter 2015 consumption of about 87.0bcf/d falls about 5.2bcf/d (5.6pc) relative to 1Q14. Of this 5.2bcf/d decline, around 3.4bcf occurs in the residential territory and 1.7bcf in the commercial category (electric power demand inches up about .2bcf/d).

Retirements of coal power plants rise in 2015 due to the implementation of the Mercury and Air Toxics Standards. However, the March 2014 STEO projects calendar year 2015 consumption in the electric power arena will slide slightly (.3bcf/day) versus calendar 2015.

To what extent will American liquefied natural gas exports fortify prices? LNG exports represent a notable long run supply/demand factor, but they remain in the relatively distant future. When will these exports start to emerge? Not in calendar 2014, and not early in calendar 2015. In 4Q15, the first of the new facilities to liquefy gas produced in the lower 48 states for exports is expected to come partially on line.

NONCOMMERCIALS

What does the CFTC's Commitments of Traders for natural gas display regarding the positions of noncommercial adventurers? For the benchmark NYMEX and ICE contracts (futures and options

combined) plus the NYMEX European look-alike options contract, the total net noncommercial long (NCL) position as of 3/25/14 stood at about 265,000 contracts. This substantial net NCL position represents about 7.4 percent of total open interest.

In the natural gas complex, sometimes key highs and lows in price occur alongside notable levels in the net noncommercial position. This was true in late February 2014. Recall 2/24/13's 6.493 top in NYMEX nearest futures continuation. The recent net noncommercial long high around 328,000 contracts occurred 2/18/14. The peak net NCL percentage relative to total open interest was 2/25/14's 8.4 percent.

Though the current net NCL level retreats slightly from 2/18/14's 328m, it represents a huge increase from the net noncommercial short position (NCS) of about 5,000 contracts on 11/5/13 (and about 27m NCS on 11/19/13). Remember the important nearest futures interim low at 3.379 on 11/5/13.

Recent net NCL levels reside beneath the 367m net NCL ceiling established 4/30/13 (7.6pc of total open interest; plateau percentage 5/28's 7.8pc). This net NCL top occurred alongside the key interim top in NYMEX natural gas (nearest futures continuation) at 4.444 on 5/1/13.

This essay is furnished on an "as is" basis. Leo Haviland does not warrant the accuracy or correctness of this essay or the information contained therein. Leo Haviland makes no warranty, express or implied, as to the use of any information contained in this essay in connection with the trading of equities, interest rates, currencies, or commodities, or for any other use. Leo Haviland makes no express or implied warranties and expressly disclaims all warranties of merchantability or fitness for a particular purpose. In no event shall Leo Haviland be liable for any direct, indirect, special, incidental, or consequential damages (including but not limited to trading losses or lost profits) arising out of or related to the accuracy or correctness of this essay or the information contained therein, whether based on contract, warranty, tort, or any other legal theory.

All content copyright © 2014 Leo Haviland. All Rights Reserved.