



Natural Gas Price Dynamics

Insight to Emerging Trends

January 13, 2011

- **Who is Gavilon?**
- **History of Natural Gas**
- **What Drives Pricing?**
 - a. **Weather forecasts**
 - b. **Storage Inventories**
 - c. **Supply/Demand Items**
 - d. **Market Technical's**
 - e. **Economic Activity**
- **Other Outside Factors that Influence Pricing**
 - a. **Producer Hedging Activity**
 - b. **Fund Buying Allocations**
 - c. **Natural Gas Correlations to other Commodities**
- **Longer Term Outlook**



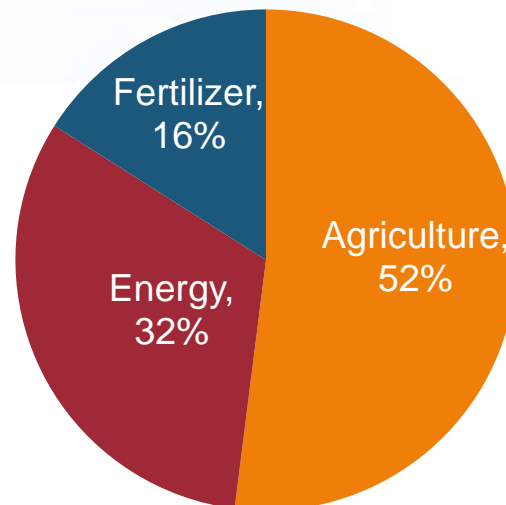
CEO: Greg Heckman

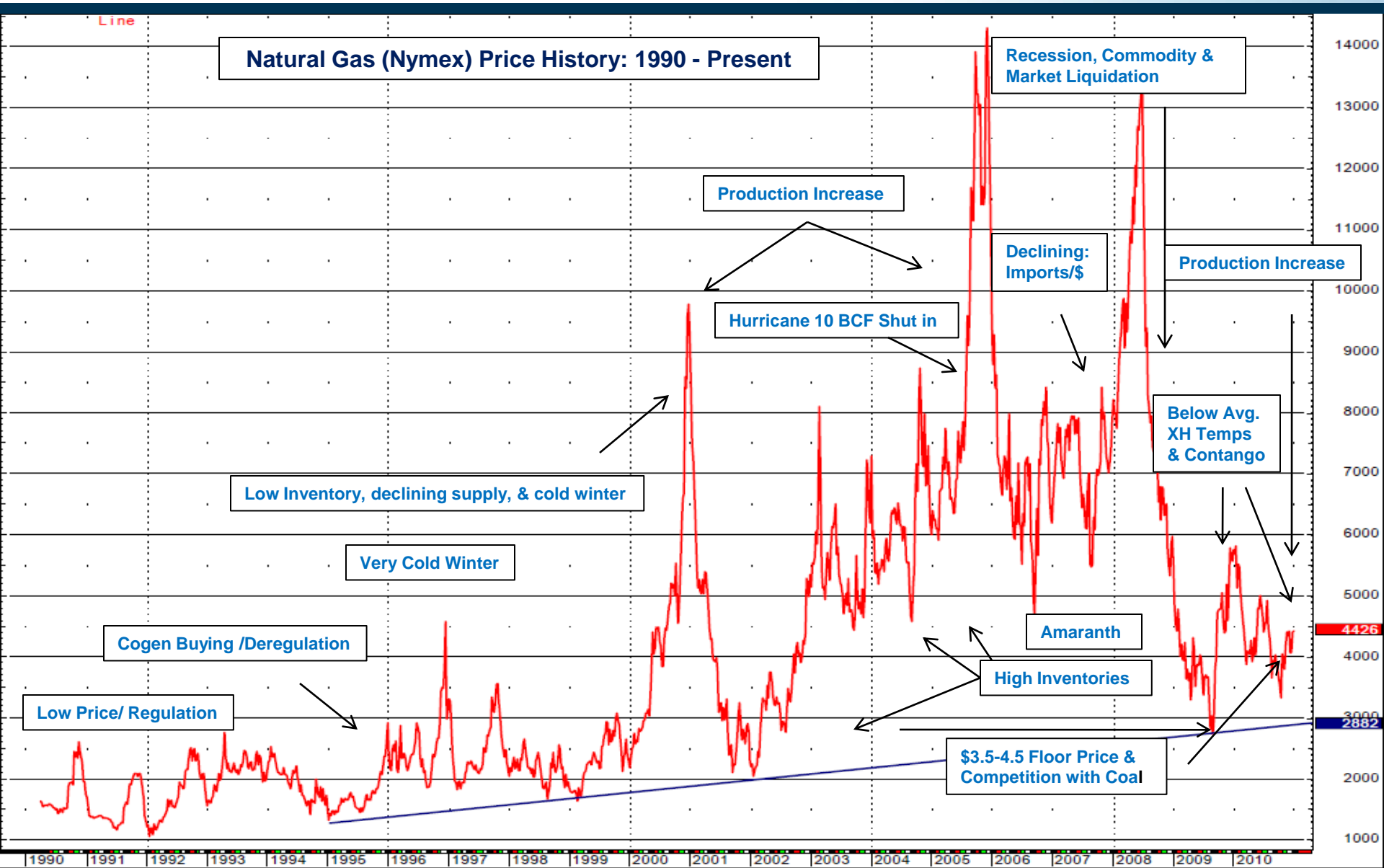
Headquarters: Omaha, Nebraska

Locations: 250 offices world wide

Services: Origination
Storage & handing
Transport & logistics
Marketing & Distribution
Risk Management

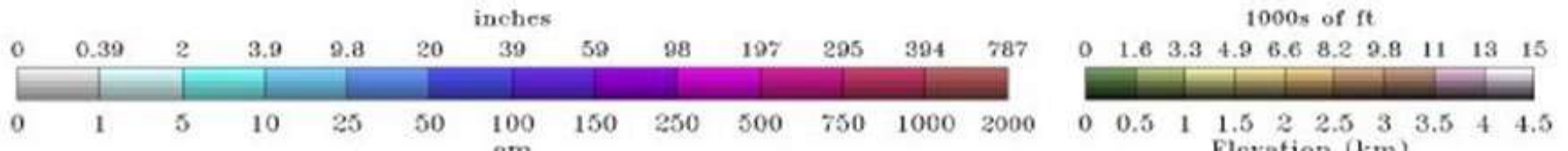
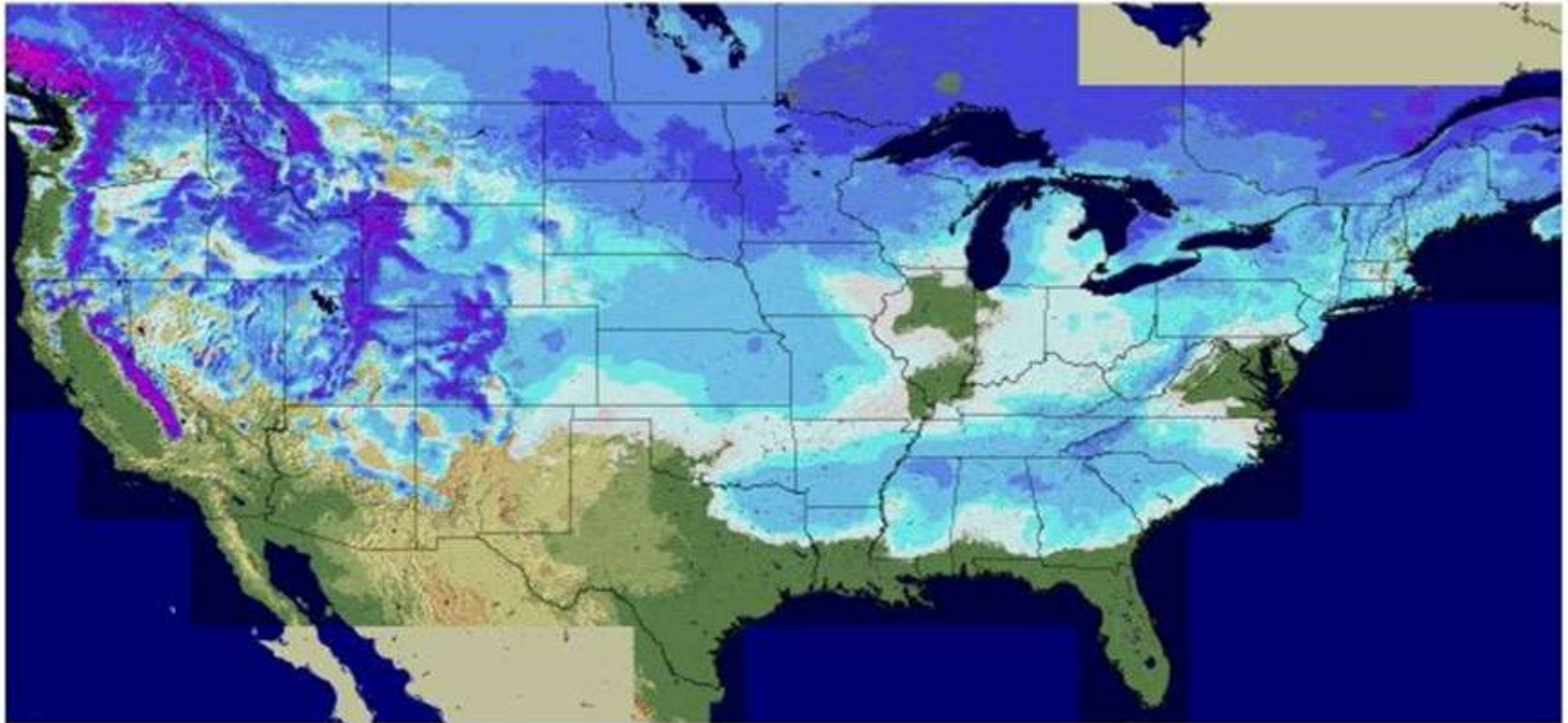
Employees: 1,100+



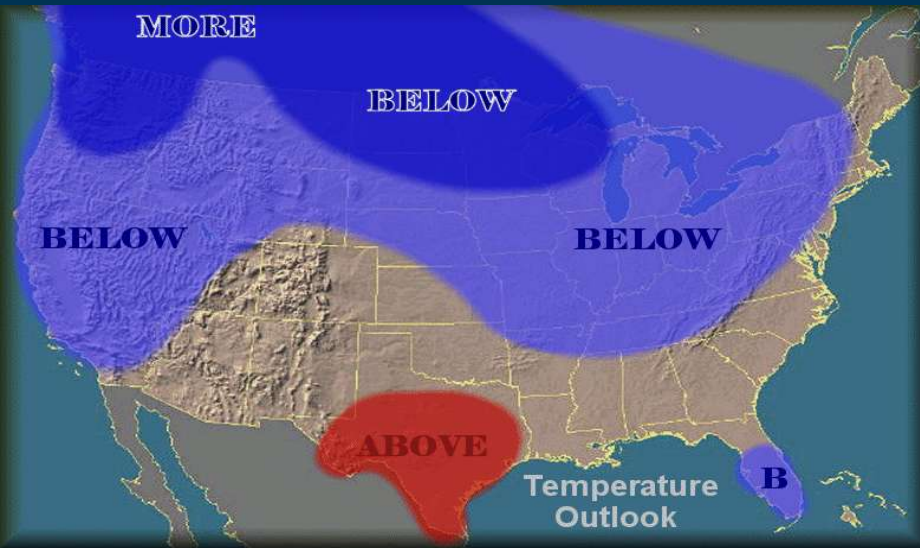


Snow Depth

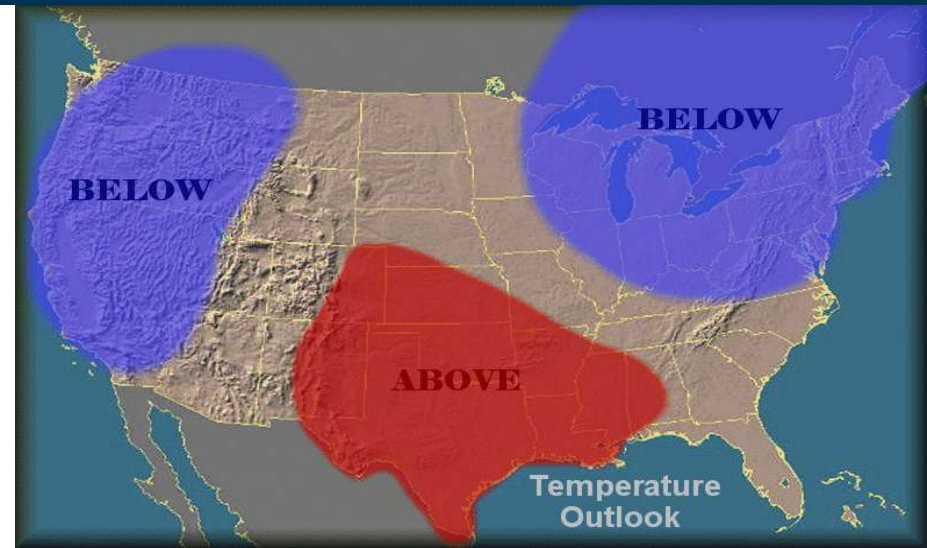
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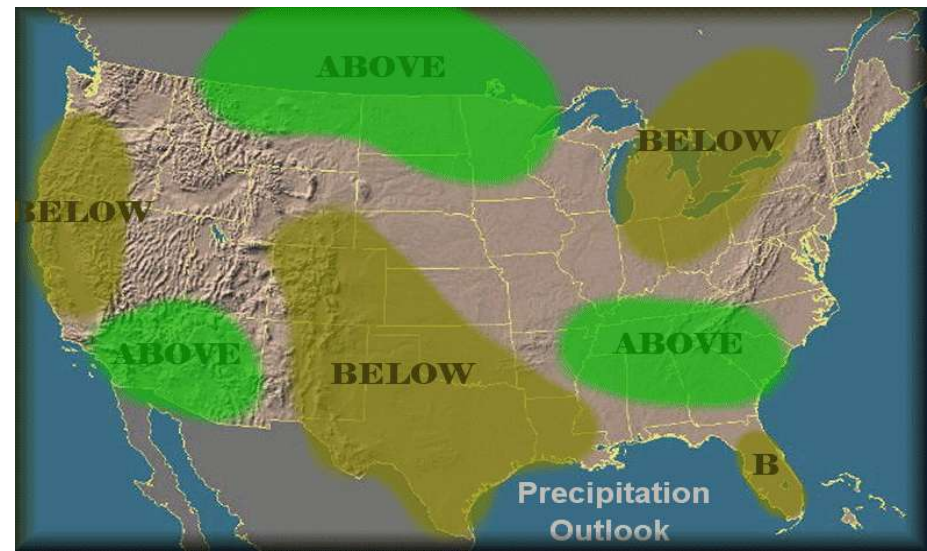
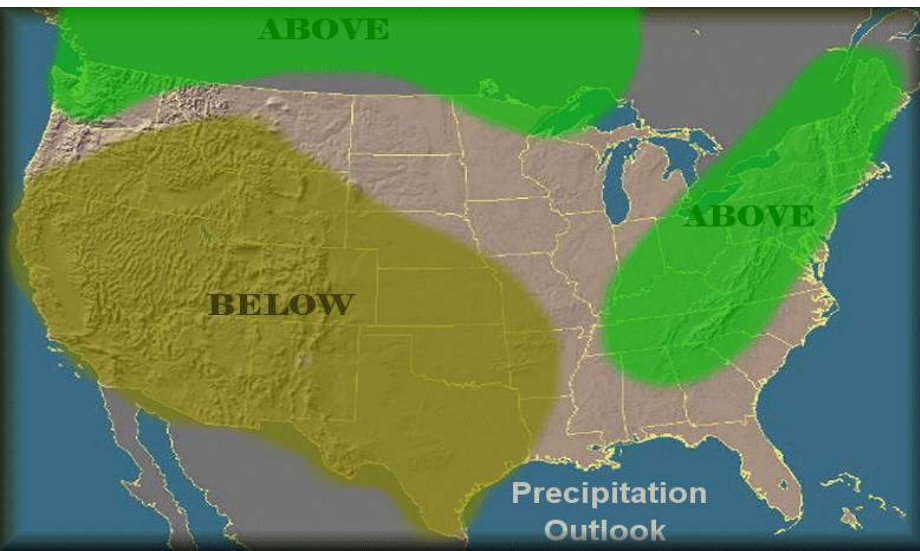
Weather Outlook for Feb-March, 2011 & June-August, 2011



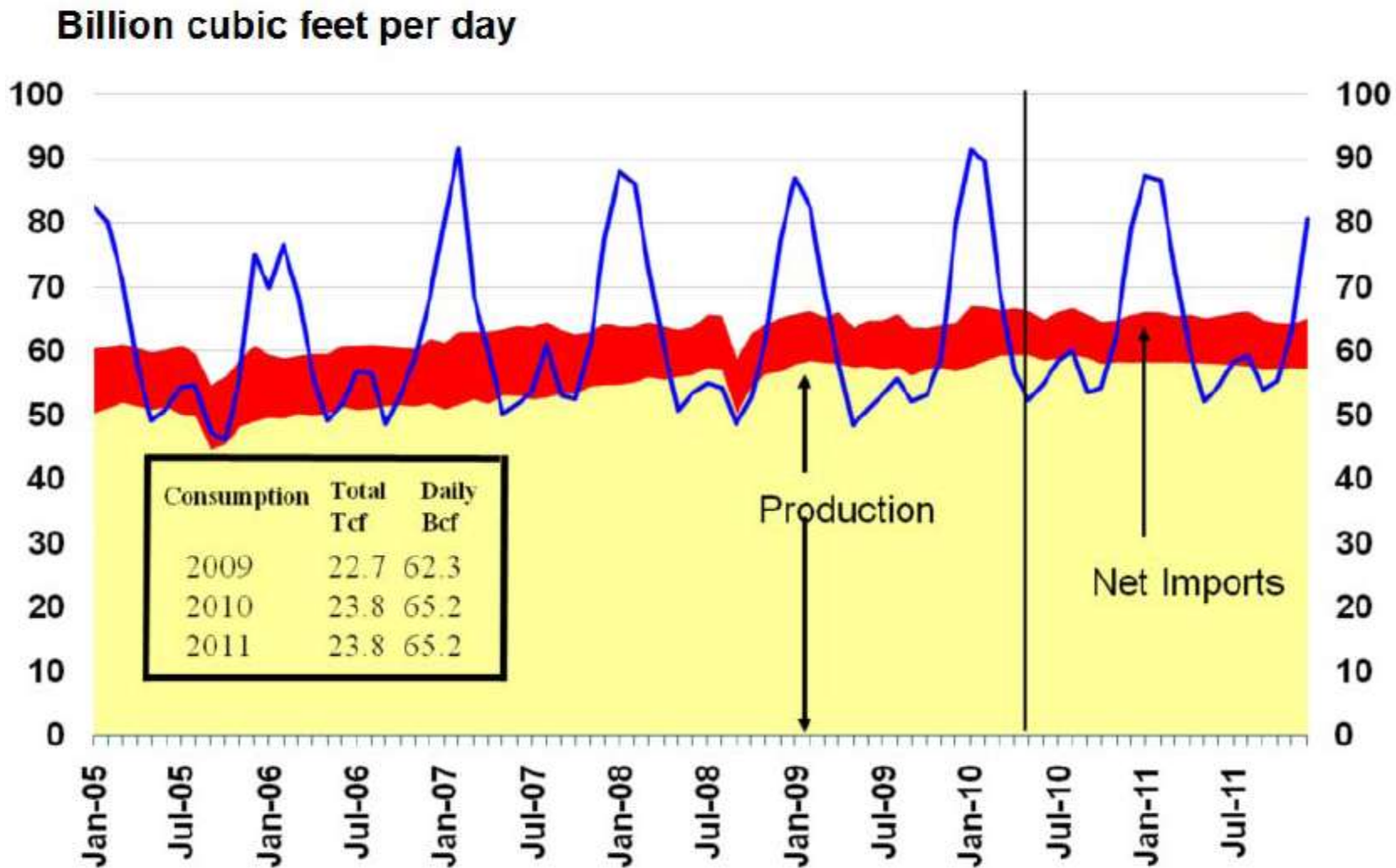
February - March Outlook

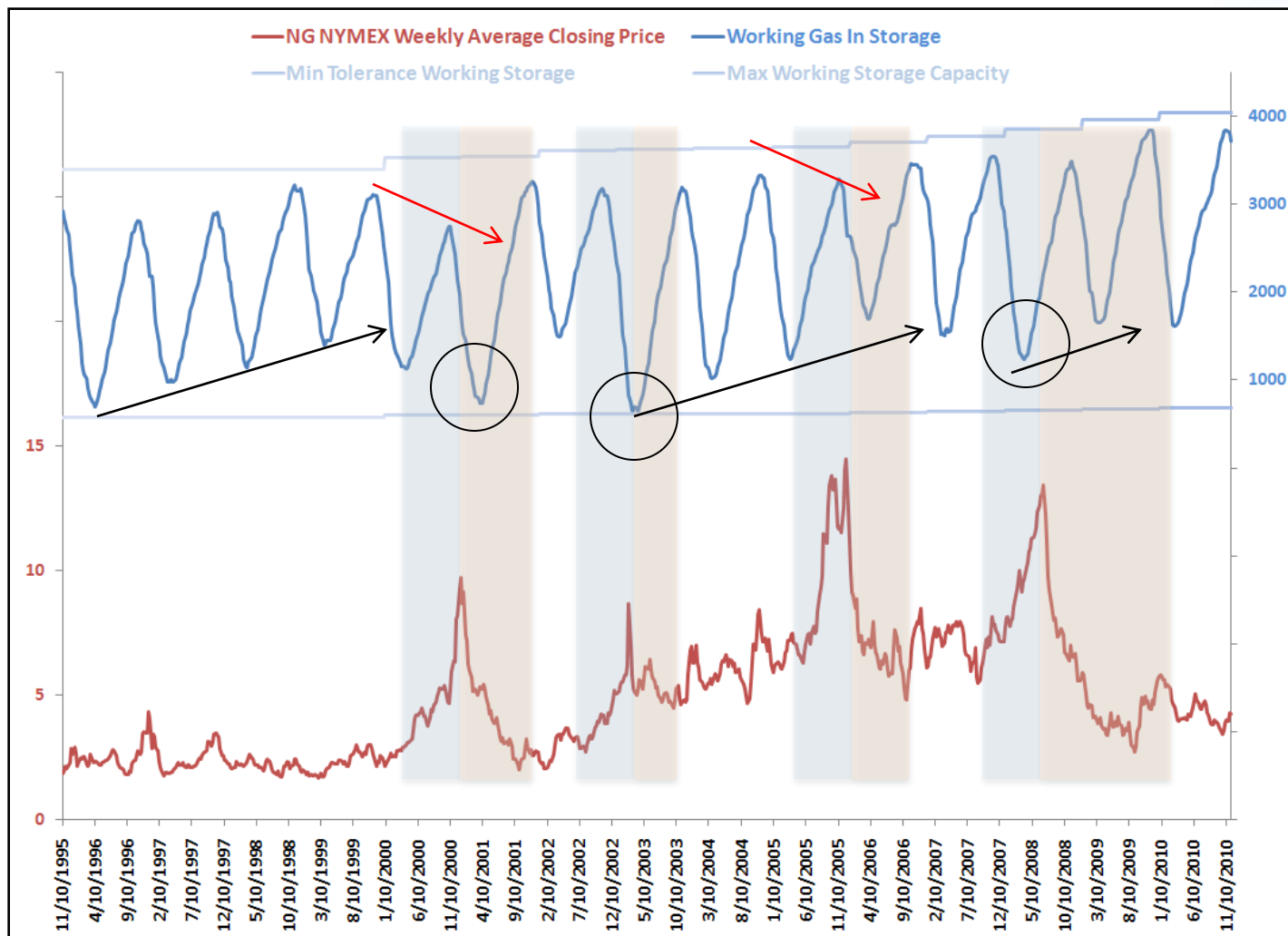


June - August Outlook



Natural Gas Supply and Consumption, 2005-2011





Common Reasons for Spikes in the Past (perceived or actual, with or without a lag):

- 1) Low storage at the end of injection season
- 2) Low storage at the end of withdrawal season (especially when prior season's draw was high).
- 3) Historically high absolute draw or historically low injection

Current Status:

Relatively low injections since 2009 are not perceived as bullish because the storage has been refilled almost to capacity at the end of each injection season

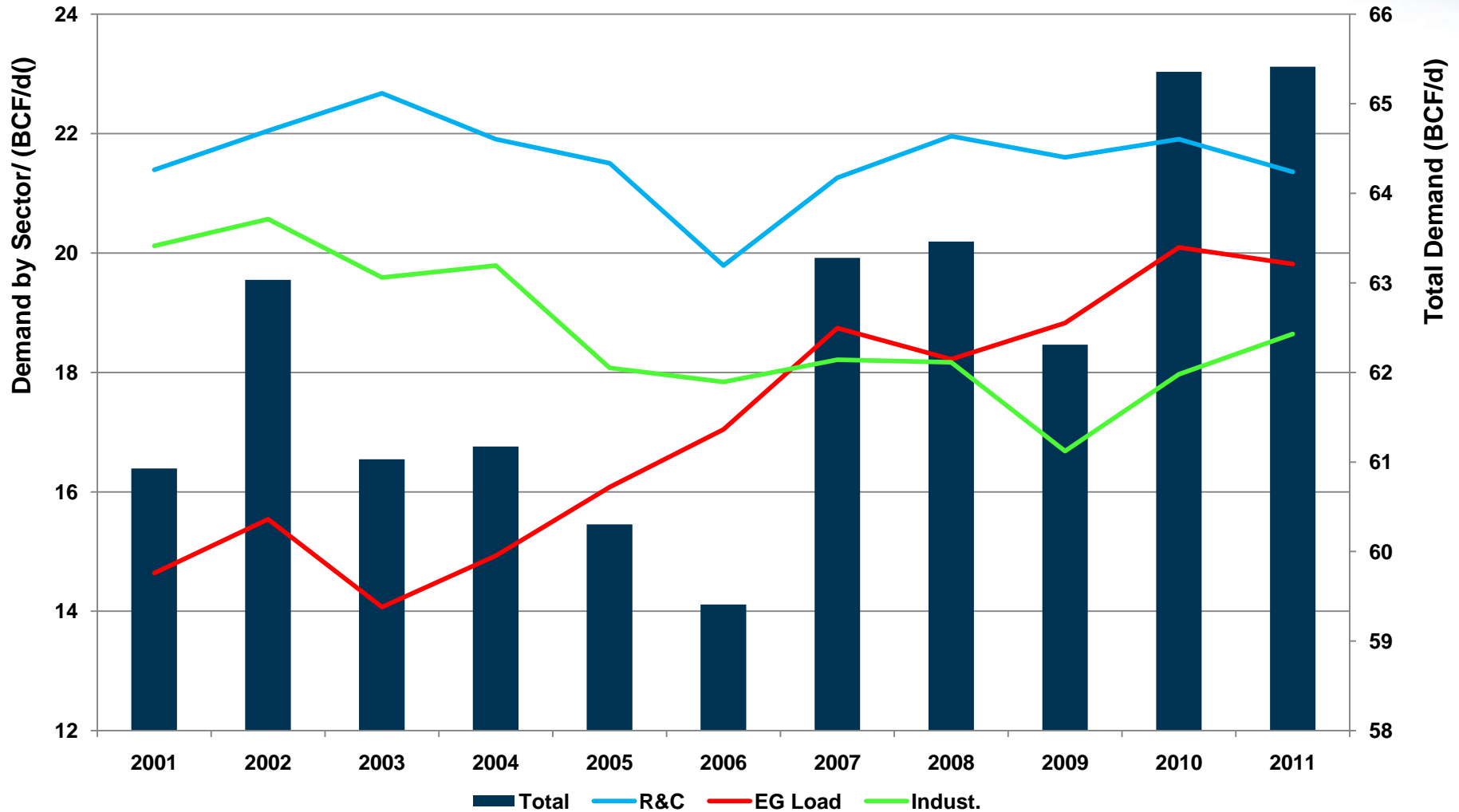
Common Reasons for Drops in the Past (perceived or actual, with or without a lag):

- 1) High storage at the end of injection season
- 2) High storage at the end of withdrawal season (especially when prior season's draw was low).
- 3) Historically low absolute draw or historically high injection

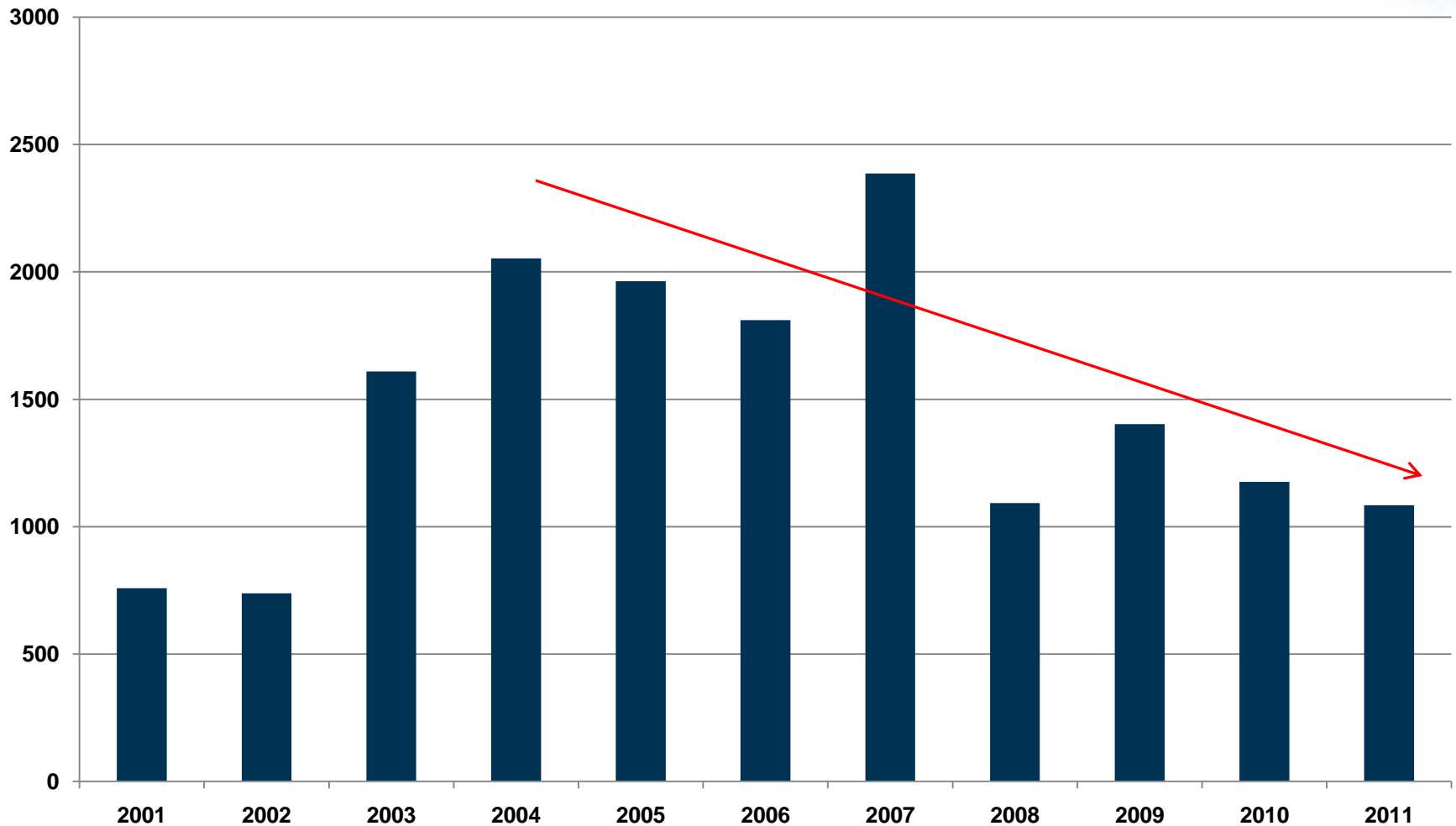
Current Status:

Historically high storage levels after injection season this year failed to produce decline of usual dramatic speed due to significant increase in the overall storage capacity.

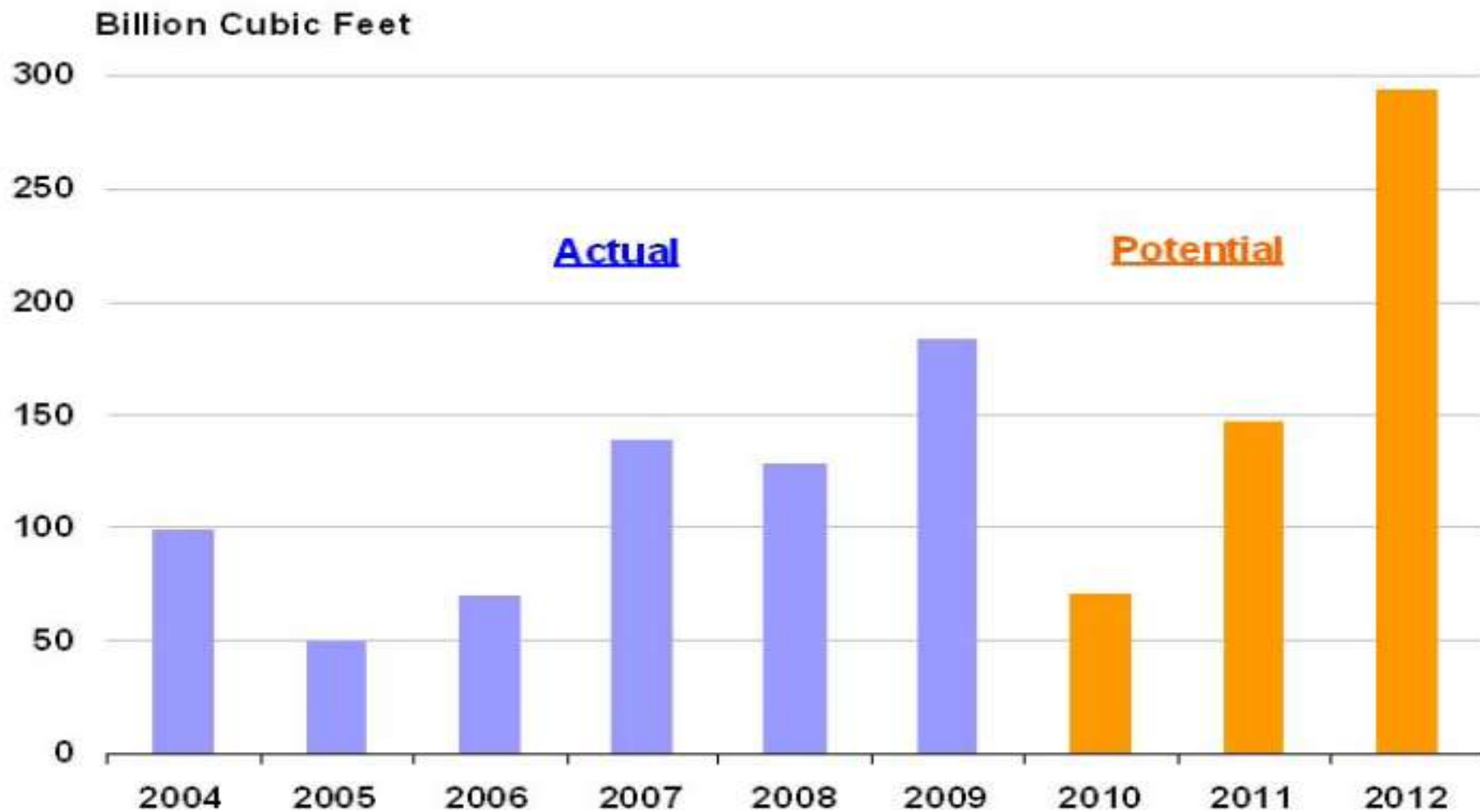
Total Natural Gas Demand and by Sector



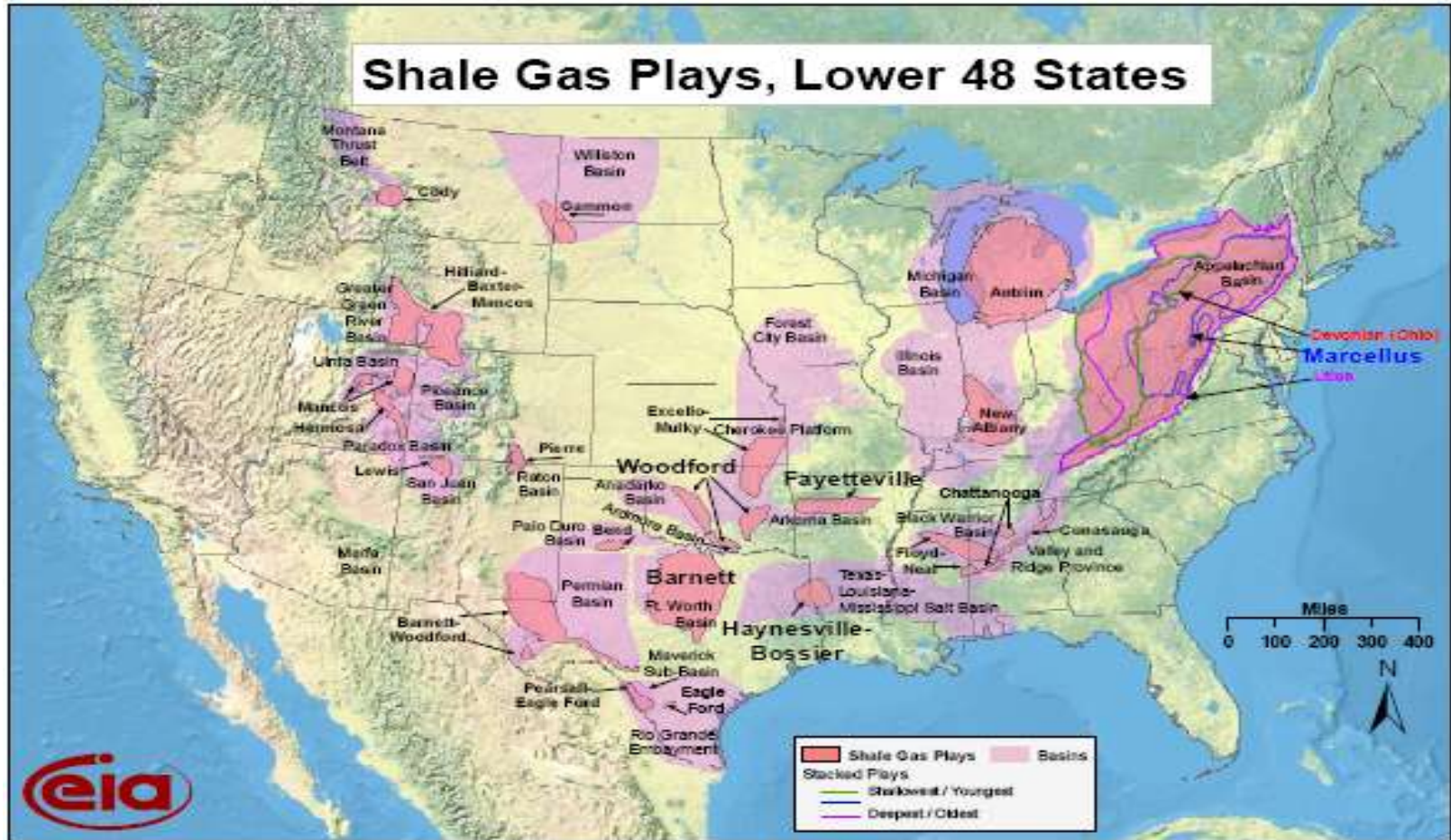
Total Average LNG Imports (MMBtu/Day)



Total Gas Storage Capacity Additions, 2004-2012



Source: Energy Information Administration, and Form EIA-191A



Source: Energy Information Administration based on data from various published studies.
Updated: March 10, 2010

Significant growth of shale gas through the United States

EIA - More Than Doubles Shale Reserves

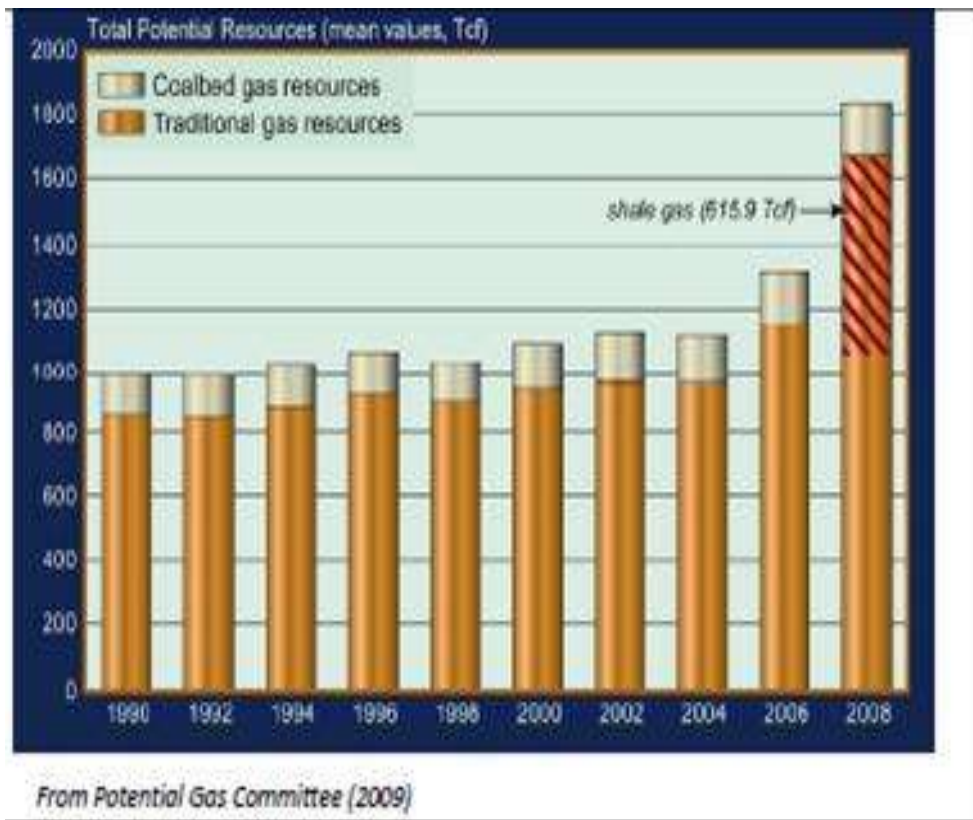
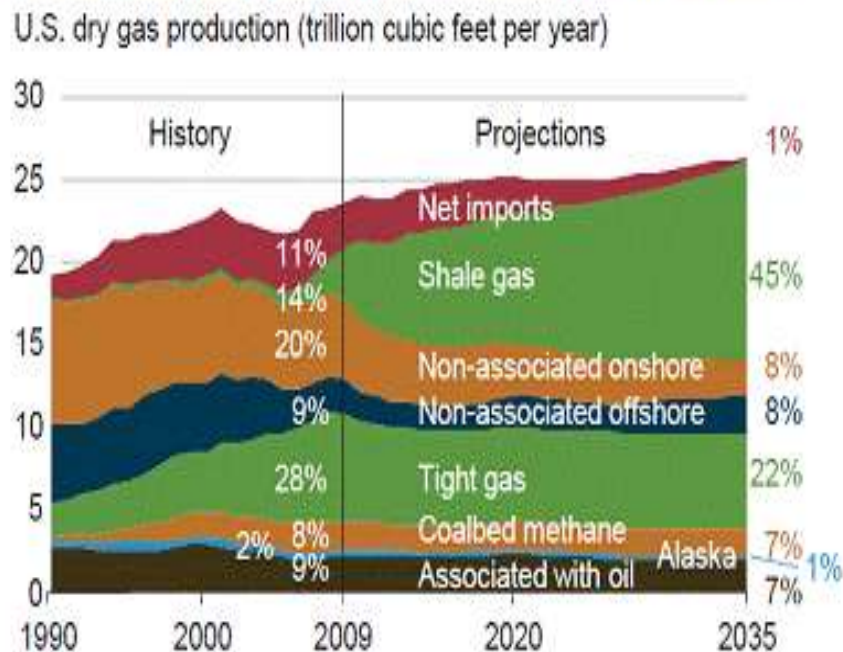


Figure 1. Shale gas offsets declines in other U.S. supply to meet consumption growth and lower import need



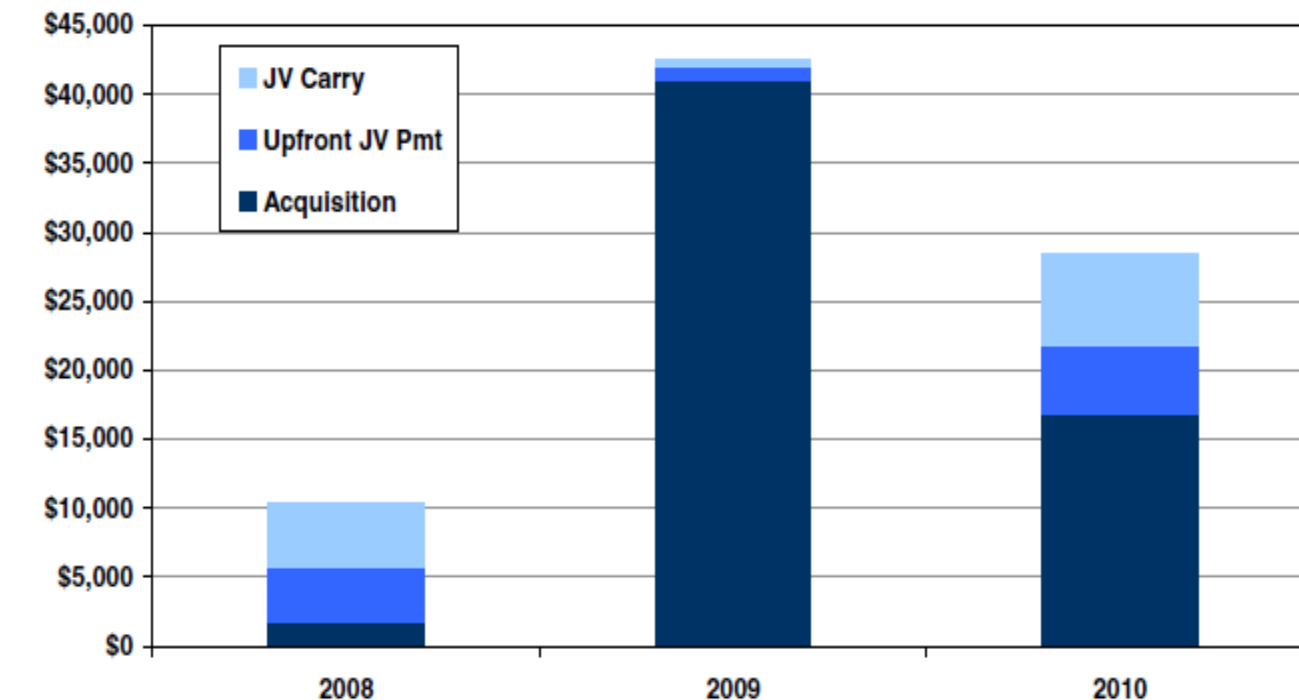
According to the Dec. 27th 2010 release, the EIA believes there is 827 trillion cubic feet (Tcf) of technically recoverable unproved shale gas resources as of January 1, 2009, which more than double what it had previously estimated. The prior estimate of 353 Tcf of shale gas resources has been increased by some 474 Tcf in the new assessment.

Will Capital Influx from New Investors Finance the Next Henry Hub Price Collapse?



Date	Company	Formation	\$ Billion
Jul 2008/Sep 2008	BP	Woodford/Fayetteville	\$1.8/\$1.9
Nov 2008/Mar 2009	Statoil	Marcellus	\$3.6
May 2009	ENI	Marcellus	\$0.3
Jun 2009	BG	Haynesville	\$1.0
Dec 2009	BP	Eagle Ford	\$0.2
Jul 2008 – Dec 2009 Joint Venture Total			\$8.8
Jan 2010	Total	Barnett	\$2.3
Feb 2010	Mitsui	Marcellus	\$1.4
Mar 2010	Kogas	Horn River/Montney	\$1.1
Mar 2010	Consol	Marcellus	\$3.5
Apr 2010	Reliance Industries	Marcellus	\$1.7
May 2010	BG	Marcellus	\$1.0
June 2010	Reliance Industries	Eagle Ford	\$1.2
Aug 2010	Reliance Industries	Marcellus	\$0.4
Aug 2010	Mitsubishi	Cordova (BC)	\$0.8
Aug 2010	Sumitomo	Marcellus	\$0.1
Oct 2010	CNOOC	Eagle Ford	\$2.2
Oct 2010	Statoil	Eagle Ford	\$0.8
Jan 2010 – Dec 2010 Joint Venture Total			\$16.5
Joint Venture Grand Total			\$25.3
1Q10	ExxonMobil	Multiple Plays	\$41.0
2Q10	Shell	Marcellus	\$4.7
4Q10	Chevron	Marcellus	\$4.3

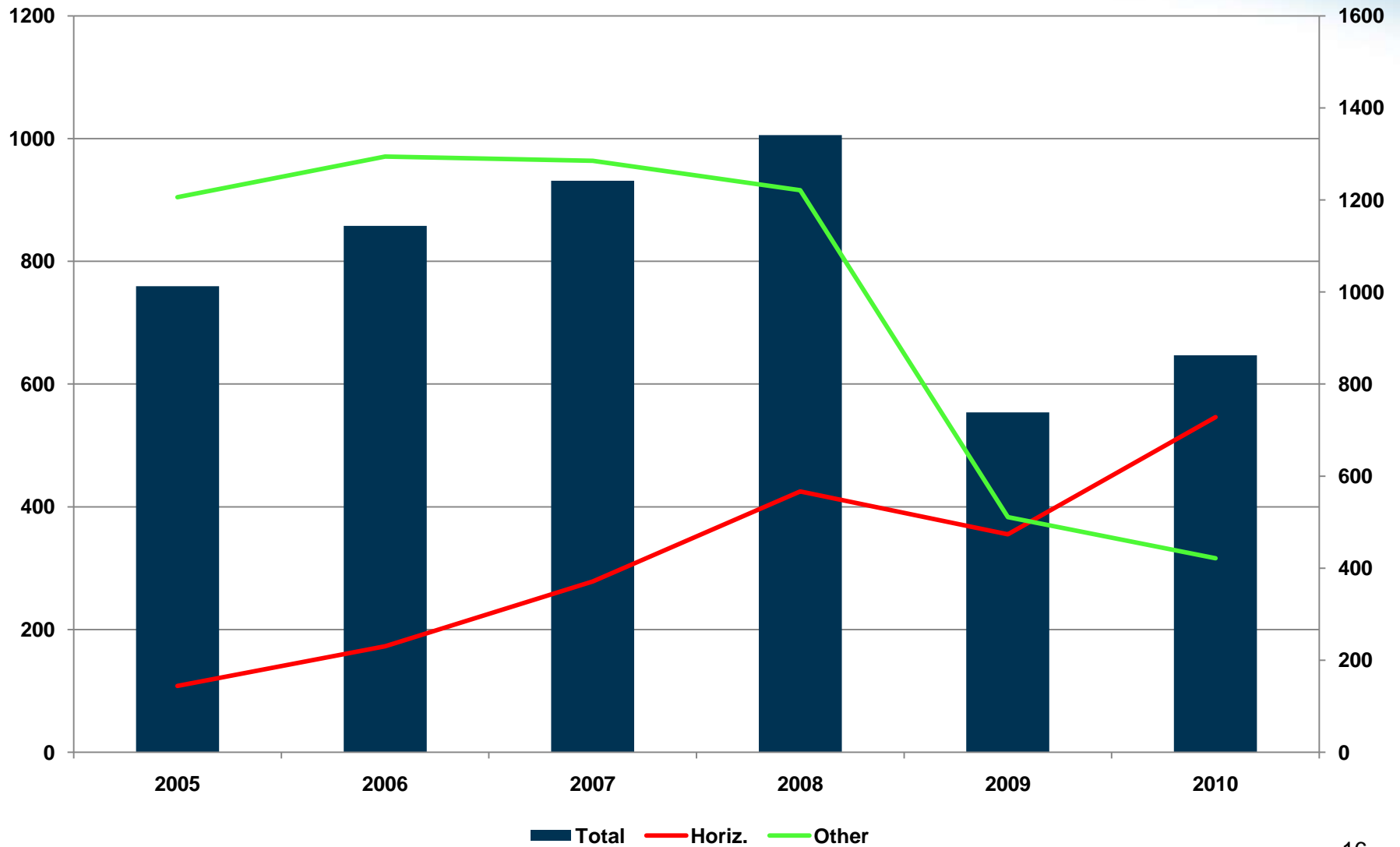
Exhibit 8: E&P Shale Focused Acquisitions / JVs (\$MM)



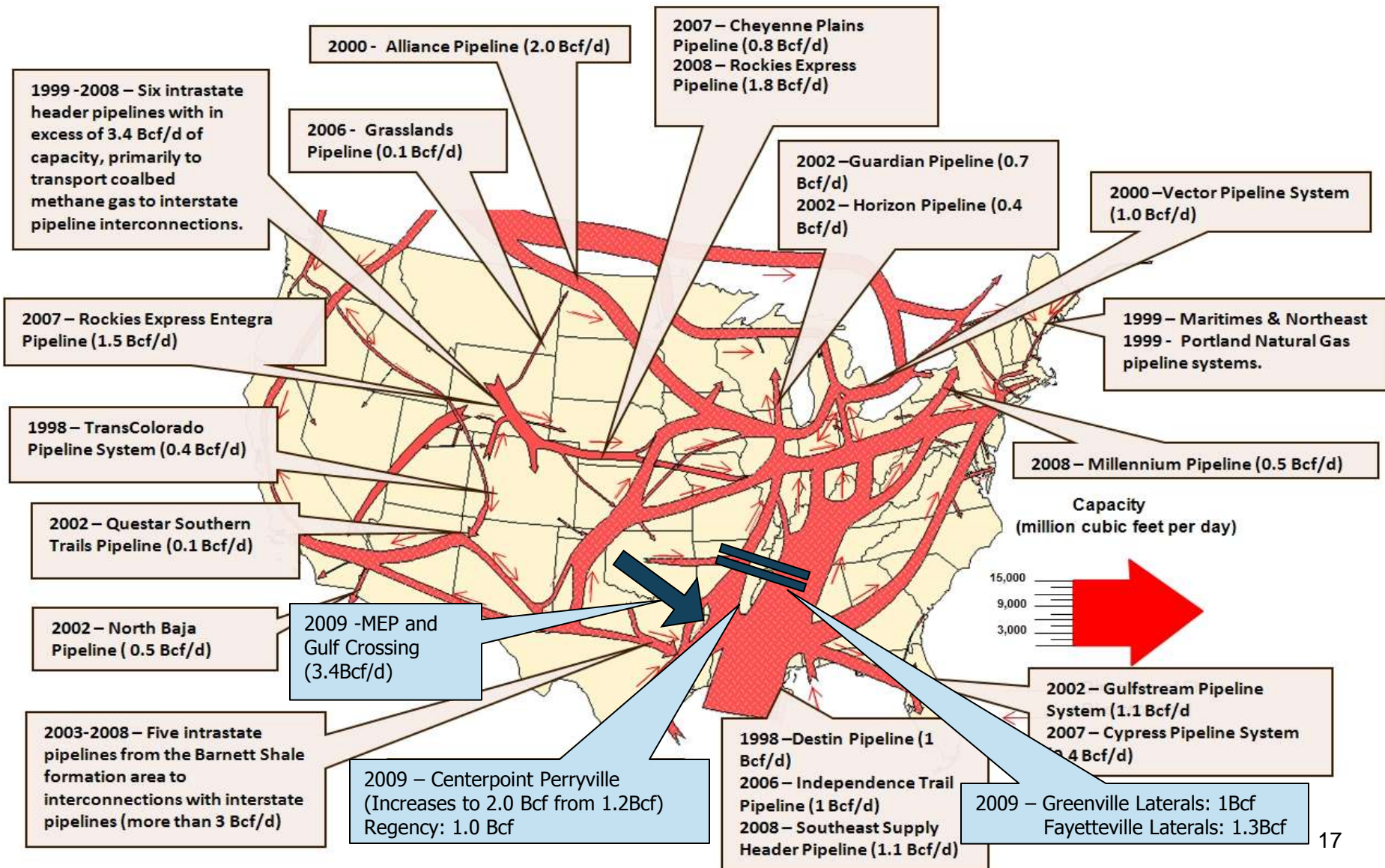
Acquisition	\$1,700	\$41,000	\$16,917
Upfront JV Pmt	\$4,000	\$1,033	\$4,920
JV Carry	\$4,575	\$413	\$6,554
TOTAL	\$10,275	\$42,446	\$28,391

Source: Company data, Credit Suisse estimates

U.S. Gas Drilling Rig Count

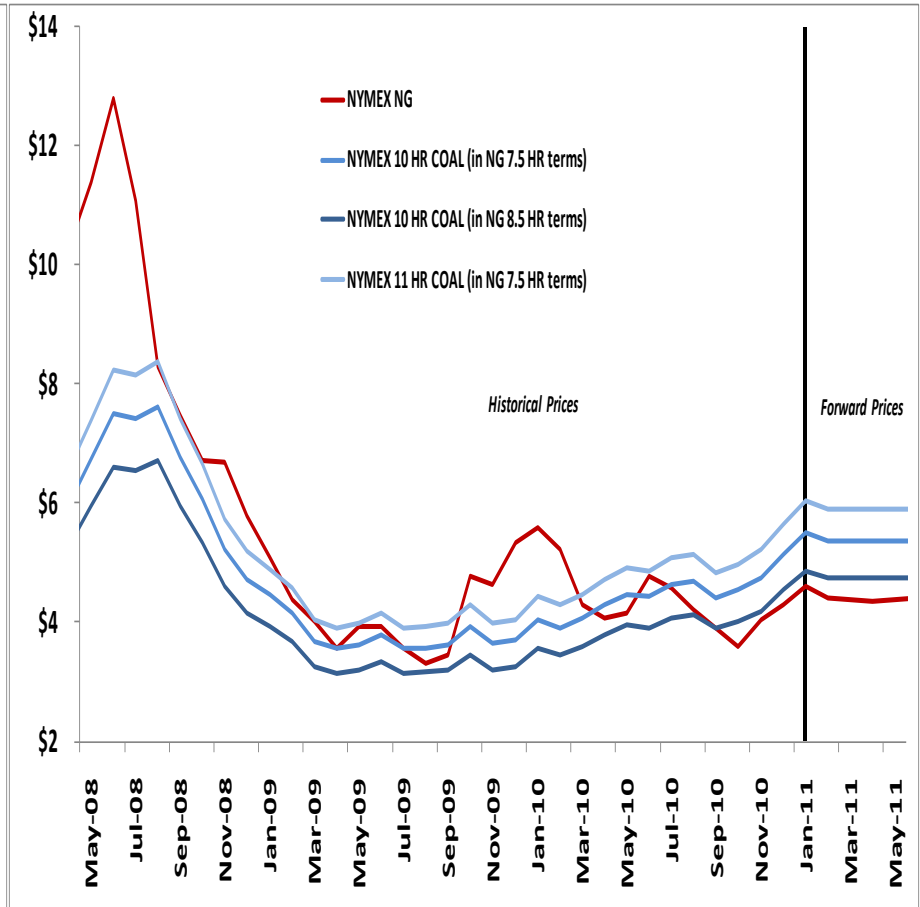
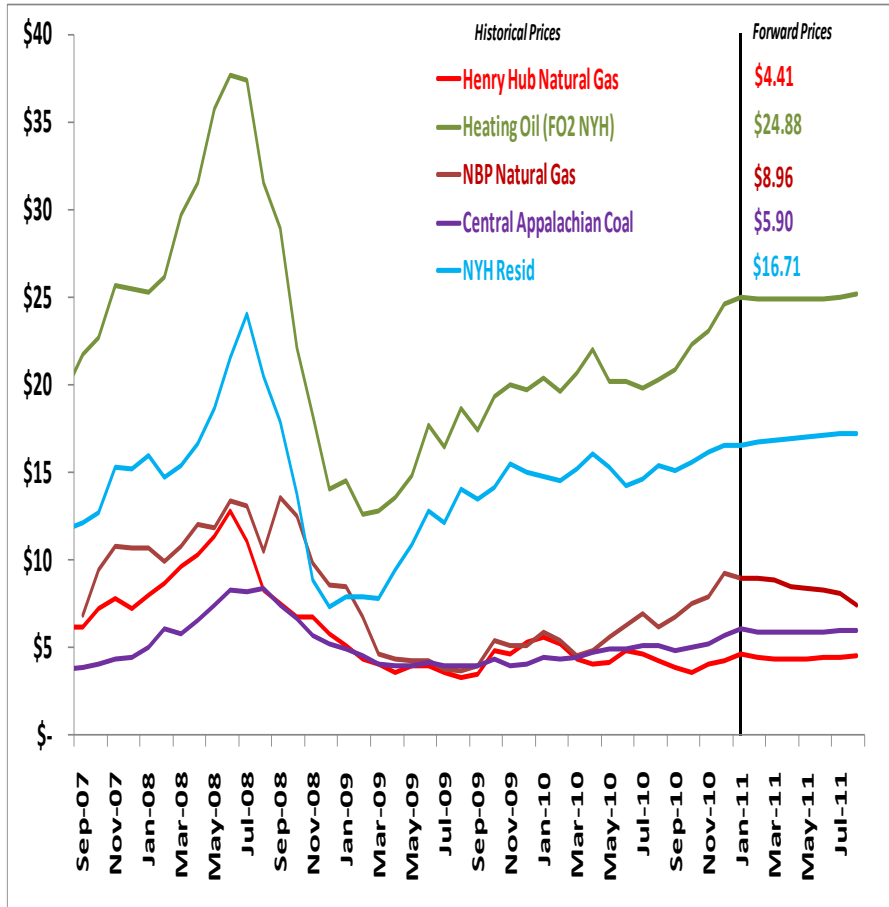


Major Change to Pipeline Infrastructure



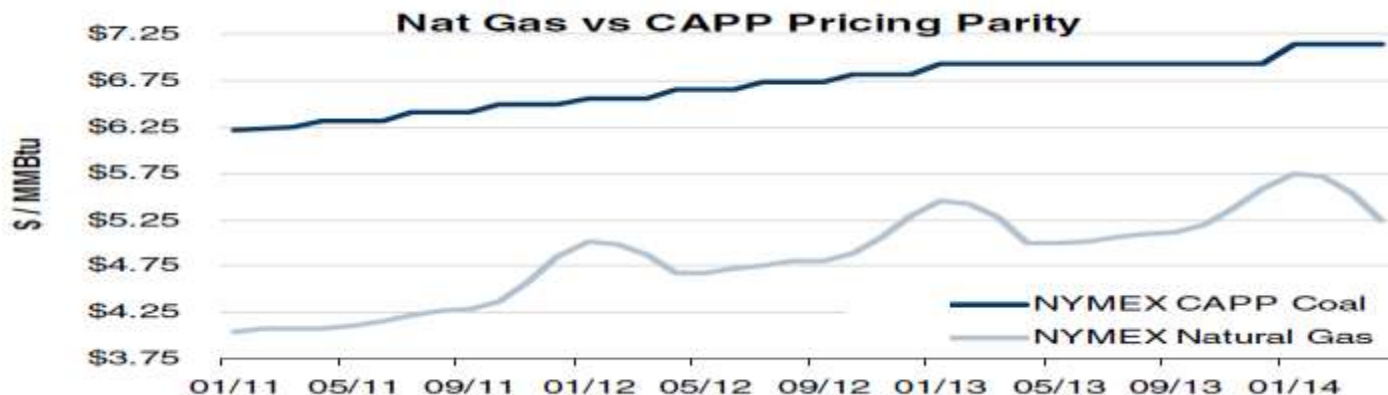
Competing Fuels in the EG Stack (as of 01/05/2011)

NG/Coal Parity by Efficiency (as of 01/05/2011)



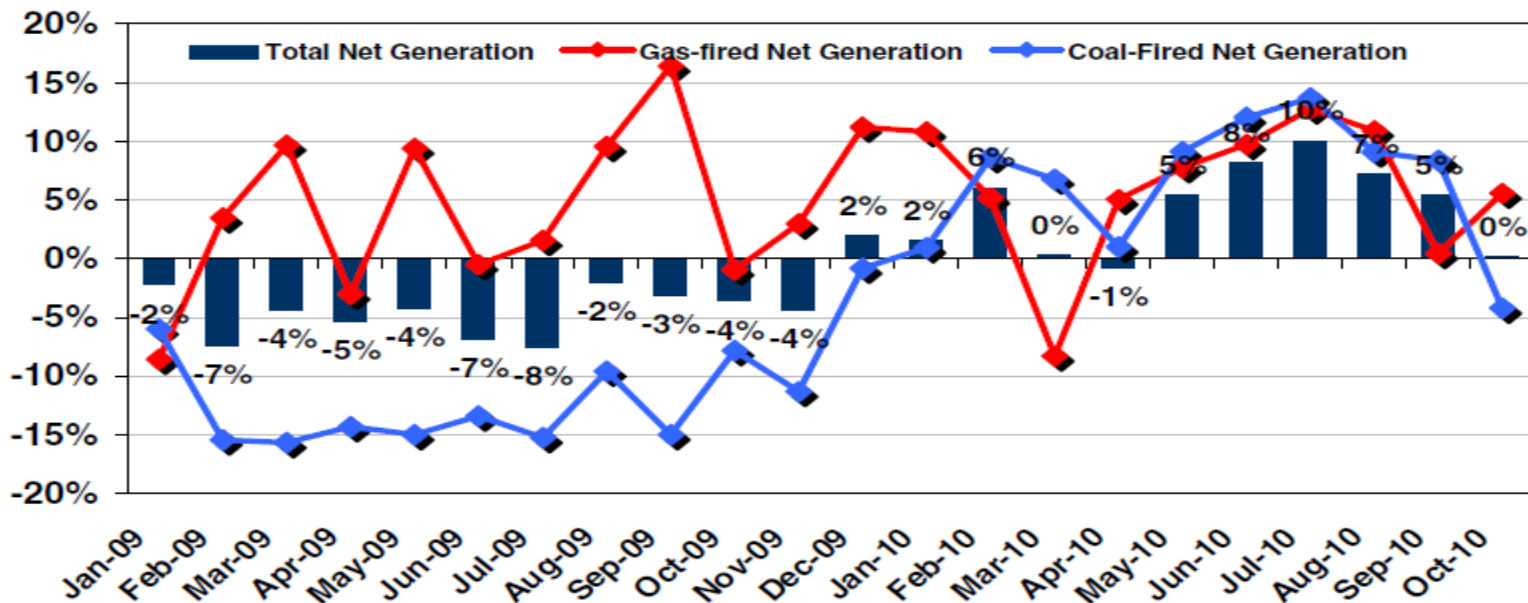
Sources: Gavilon, CME, Bloomberg

Exhibit 9: Natural Gas Futures vs. MMBtu Equivalent CAPP Coal Futures Prices



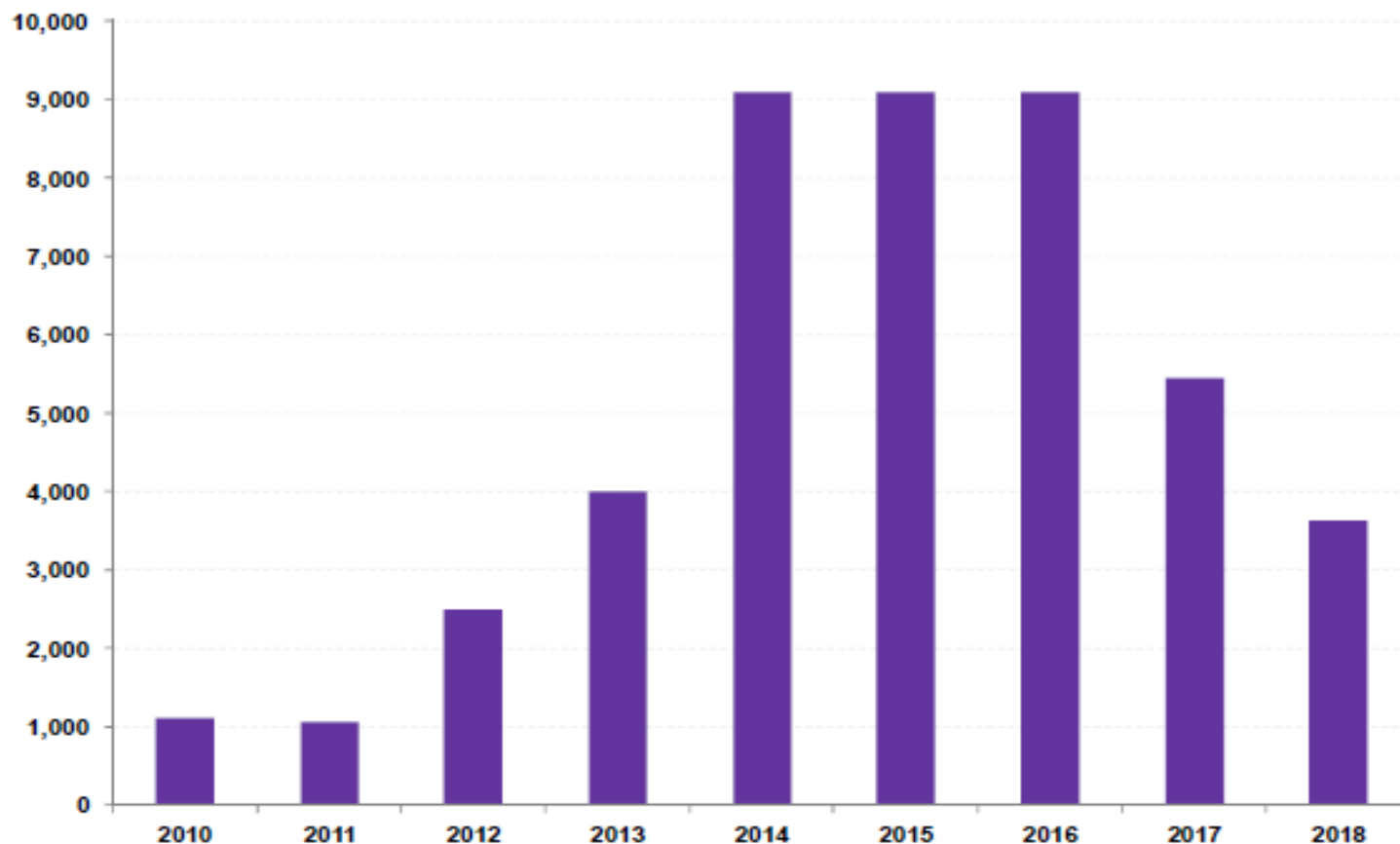
Source: Bloomberg and Credit Suisse estimates

Exhibit 10: Yr/Yr Change in Electric Power Generation



Source: EIA

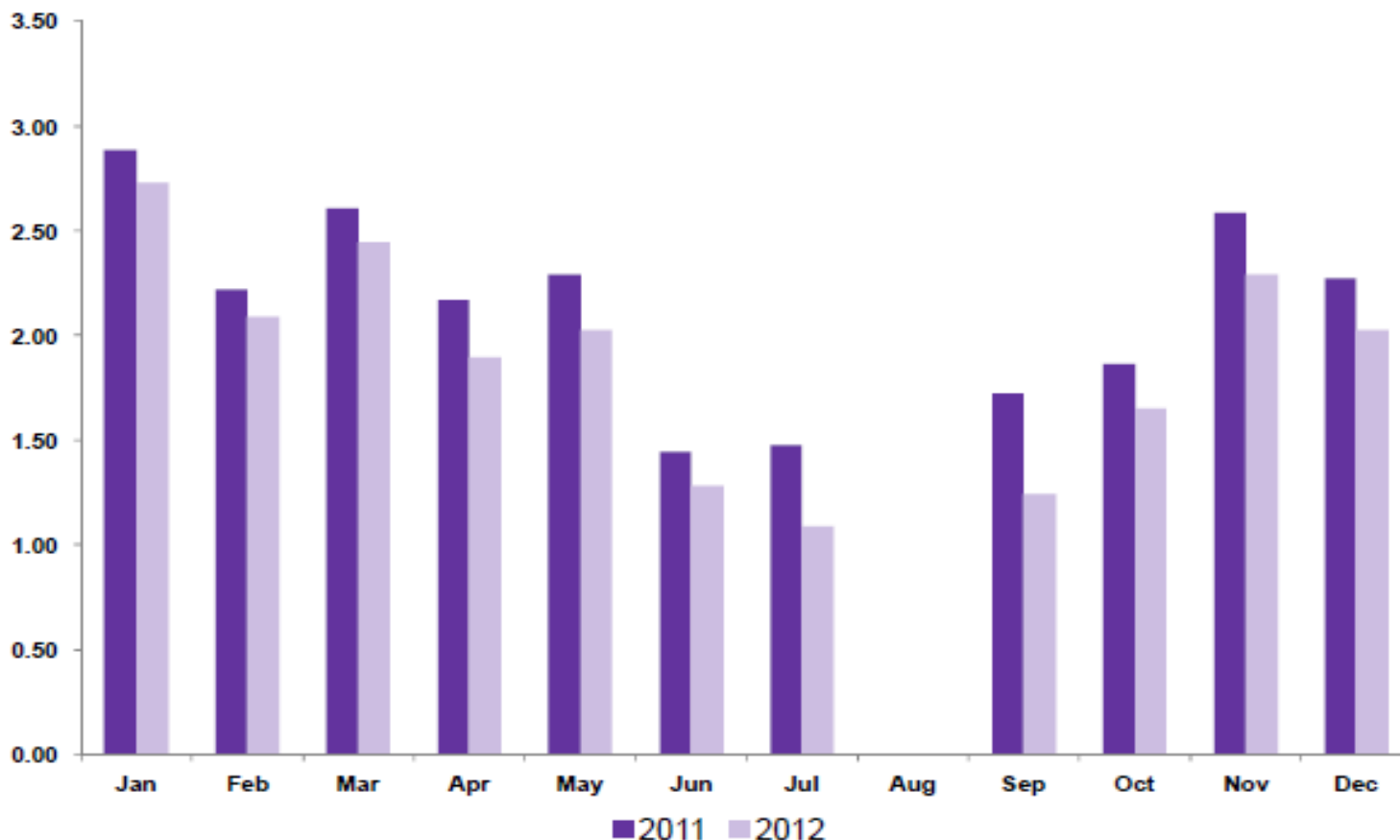
Exhibit 3: US coal plant retirements
 Expected coal power plant capacity retirements, MW



Source: Goldman Sachs Equity Research.

Exhibit 14: Low natural gas prices relative to coal will likely incentivize significant fuel switching in the generation sector

Estimated incremental natural gas demand owing to coal-to-gas substitution in Bcf/d

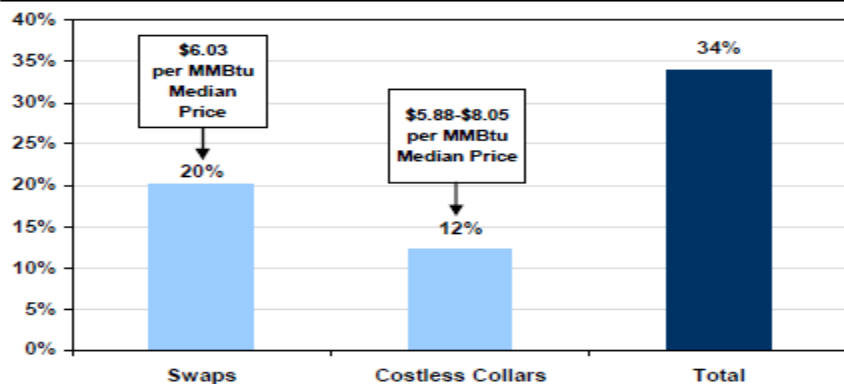


According to industry analyst Raymond James – “U S Natural Gas Producers are 66% unhedged for 2011”

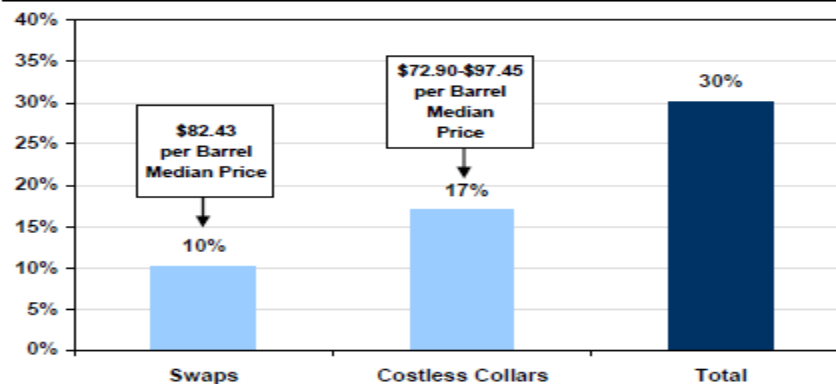
- The hedged positions of 41 large, mid and small cap producers which Raymond James covers had a floor price of \$5.92 on 34% of their production
- Chesapeake is now approximately 96% for its 2011 expected natural gas production with an average of \$5.84
- Range Resources was the most hedged among the large cap producers @ 90% for 2011 at a floor price of \$5.50
- Sandridge Energy is most hedged among the small cap producers @ 85% for 2011
- According to Credit Suisse – “For 2011 E&P’s are 36% hedged on North American natural gas production”

Exhibit 2: 2011 E&P Hedging Summary

Natural Gas (% Of FY 2011E N. Amer. Production)



Oil (% Of FY 2011E Worldwide Oil Production)



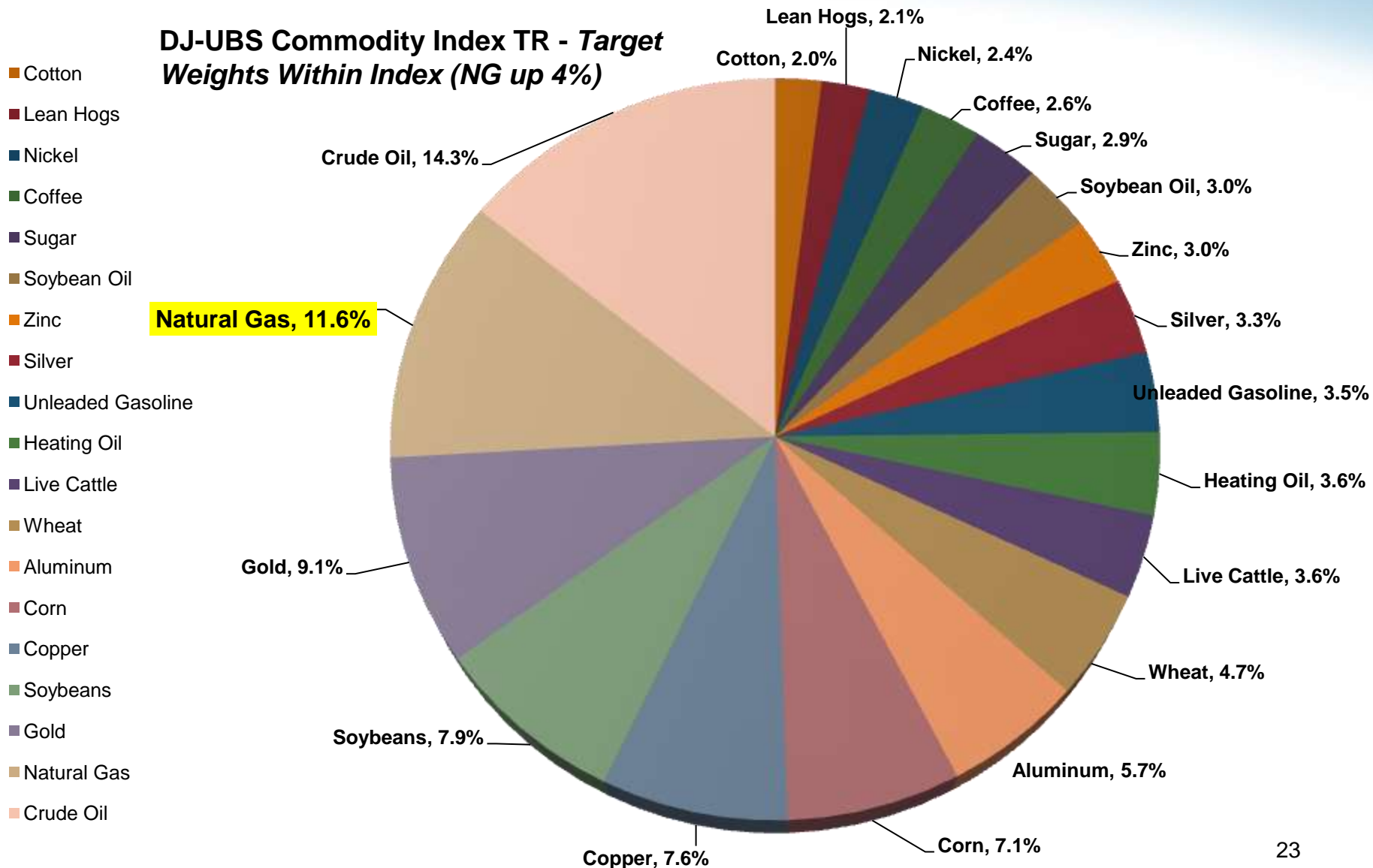
Footnotes (for both graphs):

Hedging positions are taken from company press releases and SEC filings as reported.

Calculated hedging percentages are in some cases based on annualized production rates from the most recent quarter.

Hedges are generally NYMEX equivalent and exclude the effect of basis differentials.

DJ-UBS Commodity Index TR: Target Weights Within Index (NG up 4%)



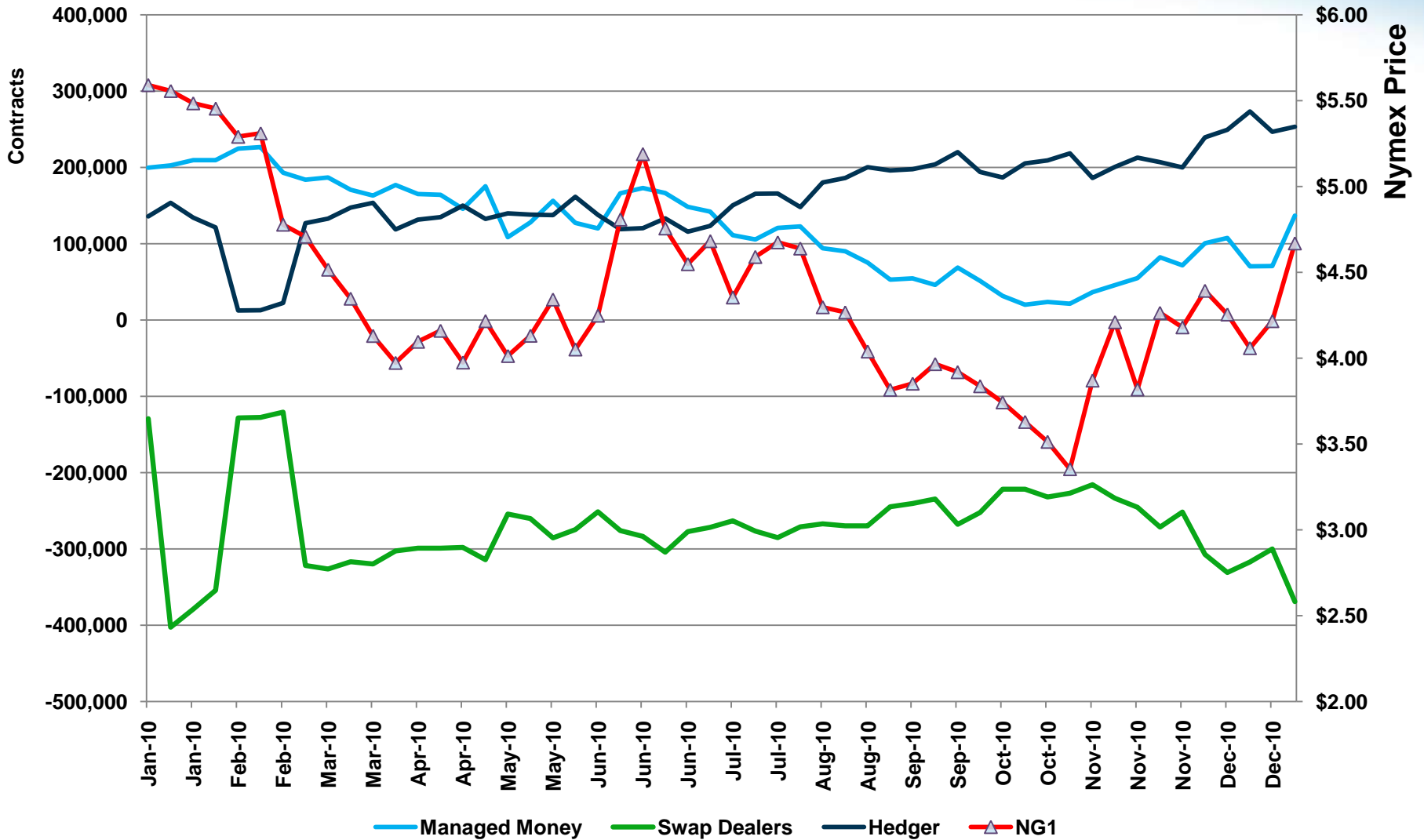
Dow Jones – UBS Commodity Index

Table 1: Estimated affect on contract flows during the January 2011 rebalance roll

Commodity	Exchange	Estimated net contracts change during rebalance roll	Change in contract month during roll?				Volume (daily average, 20 days)		Open Interest		
			Contract Sold	Number Sold	Contract Bought	Number Bought	Nearest 3 front month	Contract flows as %	Nearest 3 front month	Contract flows as %	
Natural Gas	NYM	51,049	No change to contract month.				133,518	38%	419,456	12%	
Crude Oil	NYM	11,200					373,358		3%	632,249	2%
Unleaded Gasoline	NYM	2,171					105,408		2%	164,259	1%
Heating Oil	NYM	1,181					88,164		1%	180,976	1%
Live Cattle	CME	-6,000	Feb-2011	-51,214	Apr-2011	45,214	32,134	-19%	219,041	-3%	
Lean Hogs	CME	-945	Feb-2011	-38,805	Apr-2011	37,860	27,269	-3%	160,997	-1%	
Wheat	CBT	-16,486	No change to contract month.				62,819	-26%	366,846	-4%	
Corn	CBT	-38,148					286,239		-13%	1,145,042	-3%
Soybeans	CBT	-6,475					195,491		-3%	447,033	-1%
Soybean Oil	CBT	-7,655					66,485		-12%	289,528	-3%
Aluminium	LME	-718					88,716		-1%	228,627	0%
Copper	CMX	-360					35,463		-1%	99,371	0%
Zinc	LME	2,091					22,861		9%	58,784	4%
Nickel	LME	-1,639	9,612		-17%	35,401	-5%				
Gold	CMX	3,069	Feb-2011	-39,831	Apr-2011	42,900	176,494	2%	403,004	1%	
Silver	CMX	-2,574	No change to contract month.				60,436	-4%	93,282	-3%	
Sugar	NYB	11,405					81,474		14%	464,000	2%
Cotton	NYB	-8,611					23,670		-36%	203,187	-4%
Coffee	NYB	-6,412					16,091		-40%	137,455	-5%

Source: DJ-UBS Commodity Index Handbook, Bloomberg, UBS Research

CFTC Natural Gas Trader Positions by Type



60 Day Energy Correlations

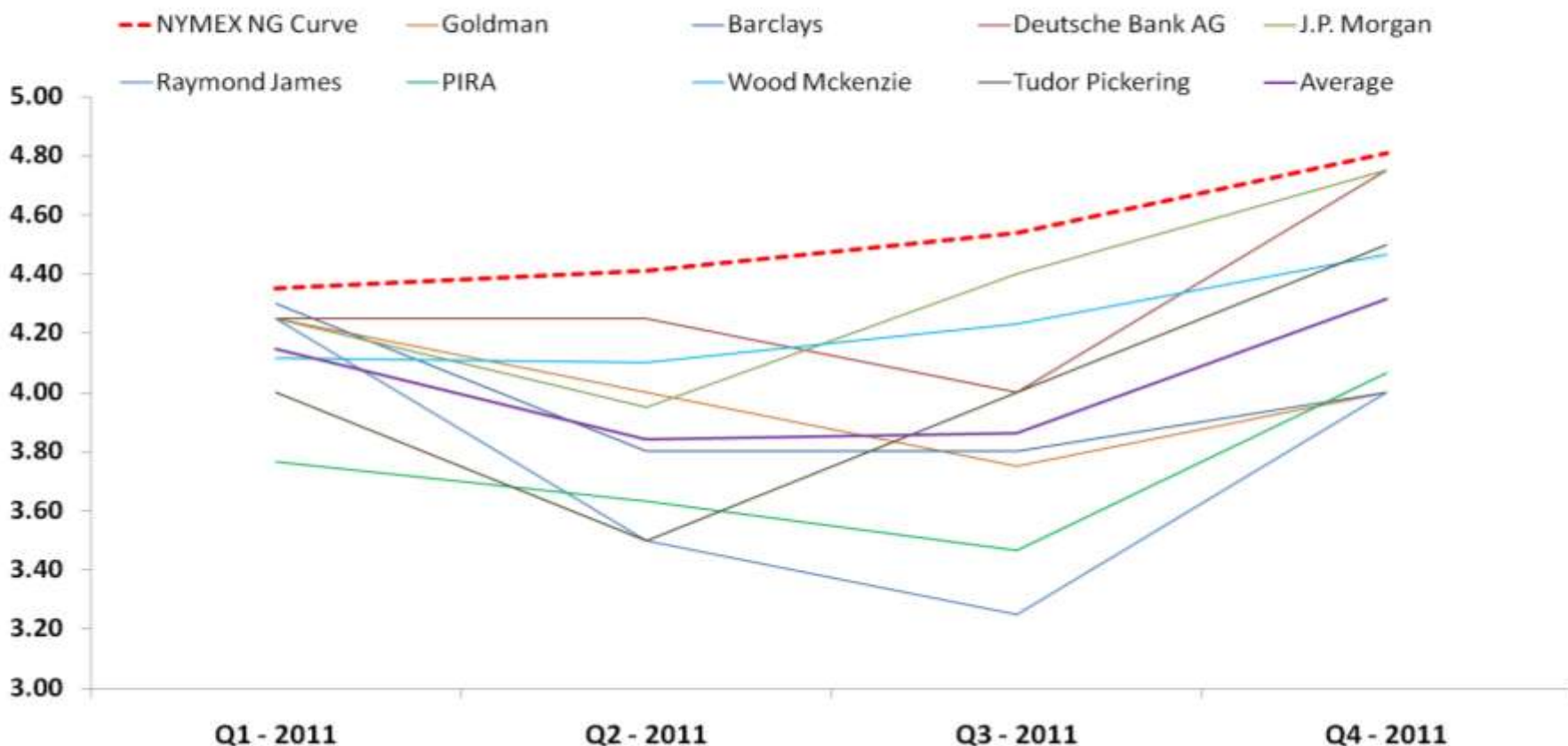
	CL-G11	NG-G11	RB-G11	HO-G11	ETH-G11	UREA	SPX	DXY
CL-G11	100%	21%	96%	99%	57%	63%	89%	50%
NG-G11		100%	26%	22%	-30%	29%	11%	26%
RB-G11			100%	97%	47%	73%	89%	67%
HO-G11				100%	52%	68%	91%	59%
ETH-G11					100%	29%	67%	5%
UREA						100%	77%	86%
SPX							100%	59%
DXY								100%

The correlation show NG's disconnect from the rest of the Energy complex

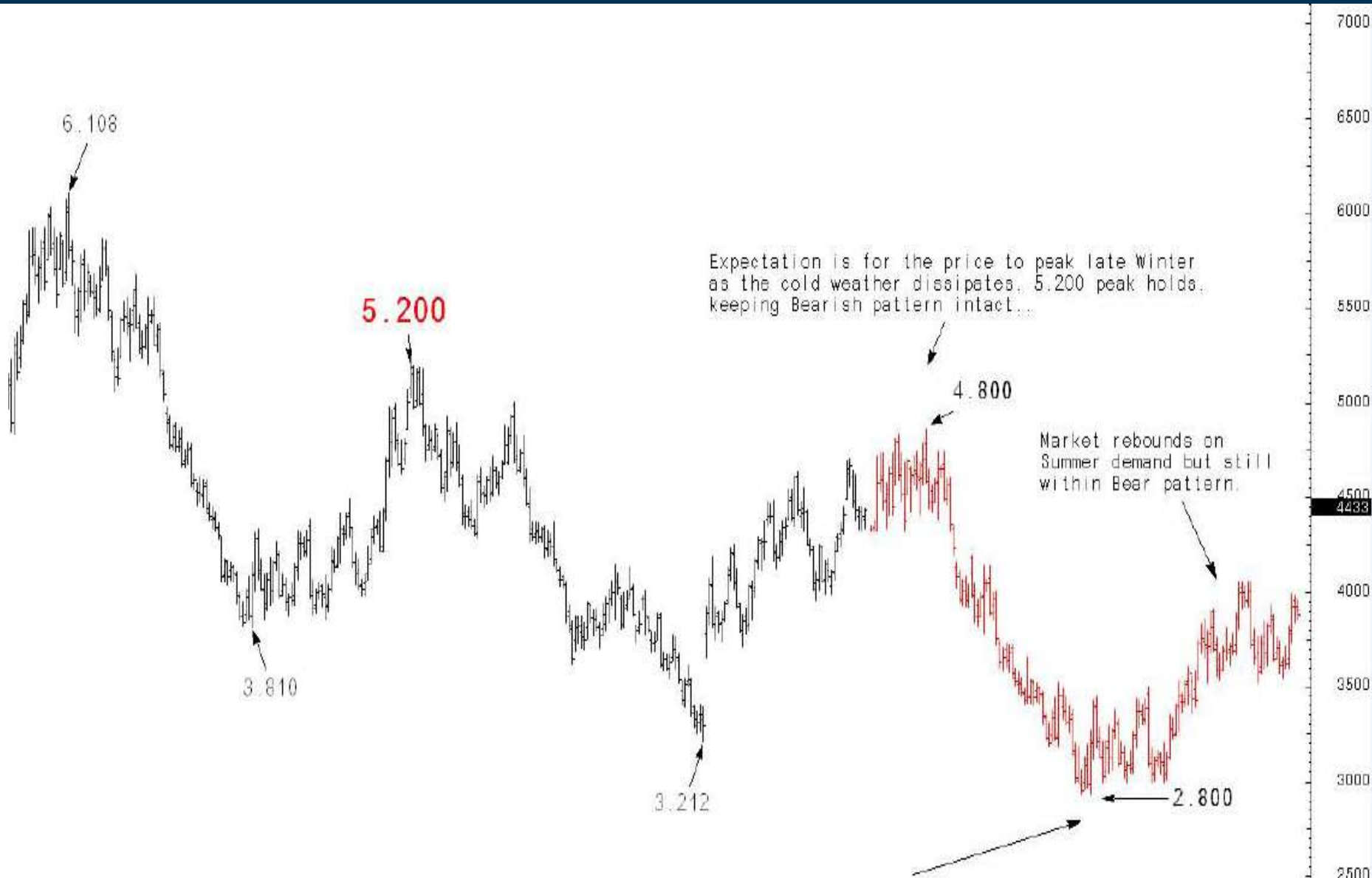


Natural Gas 2011 Price Targets Analysts & Bank Surveys

	NYMEX NG Curve	Goldman	Barclays	Deutsche Bank AG	J.P. Morgan	Raymond James	PIRA	Wood Mckenzie	Tudor Pickering	Avg. Bank Survey
Q1 - 2011	4.35	4.25	4.30	4.25	4.25	4.25	3.77	4.12	4.00	4.15
Q2 - 2011	4.41	4.00	3.80	4.25	3.95	3.50	3.63	4.10	3.50	3.84
Q3 - 2011	4.54	3.75	3.80	4.00	4.4	3.25	3.47	4.23	4.00	3.86
Q4 - 2011	4.81	4.00	4.00	4.75	4.75	4.00	4.07	4.47	4.50	4.32



2011 NYMEX Technical Price Outlook



2011-2013 NYMEX Technical Price Outlook



Long-Term Natural Gas Technicals Calendar 2012 - 12 mo Strip



1. The Cal '12 strip reached a significant downside support area of 4.80. This area triggered a corrective consolidation that has lasted 2.5 months so far.
2. The market may take longer time to consolidate and/or advance towards to at least the 5.25 area, and possibly even towards the upside target zone of 6.20 over the course of this winter. At this time, however, this move is still considered to be a correction of the prior downtrend.
3. If prices return to the 4.80 area at any point, the strip is likely to make at least marginal lows below the lows of this past October.
4. A move more serious than marginal would indicate the resumption of the downtrend, with targets clustered just under the 3.50 area.

Exhibit 2: Gas prices to remain low in 2011-2012, pick up in 2013 and 2014 as less coal-to-gas substitution is needed
 2009-2010 Henry Hub gas prices and our expected path through 2014E, \$/MMBtu

