
Raymond James Energy Group

Oil, Gas, and Coal **The Good, the Bad, and the Not So Ugly**

PESA

April 2008

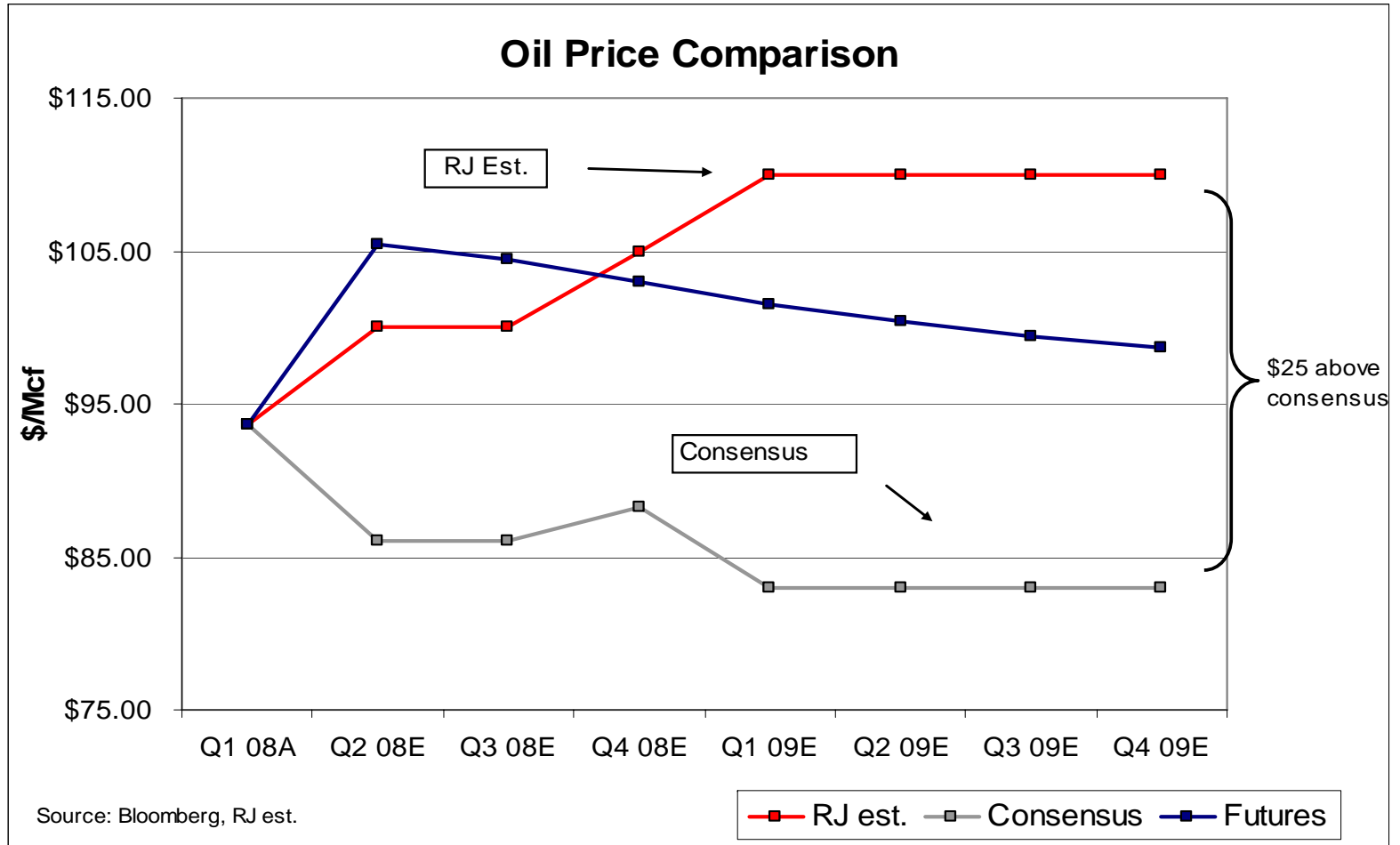
Raymond James Energy Group
(800) 945-6275

Marshall.Adkins@RaymondJames.com
Jim.Rollyson@RaymondJames.com
Collin.Gerry@RaymondJames.com

2008 Energy Themes

- ◆ **Still a secular bull market for oil/energy**
- ◆ **Oil supply growth is limited**
- ◆ **China, India, Middle East oil demand growth offsetting lower US oil demand**
- ◆ **Cold weather bailed out natural gas...for now**
- ◆ **More downside than upside for summer gas**
- ◆ **Coal “floor price” rising rapidly**

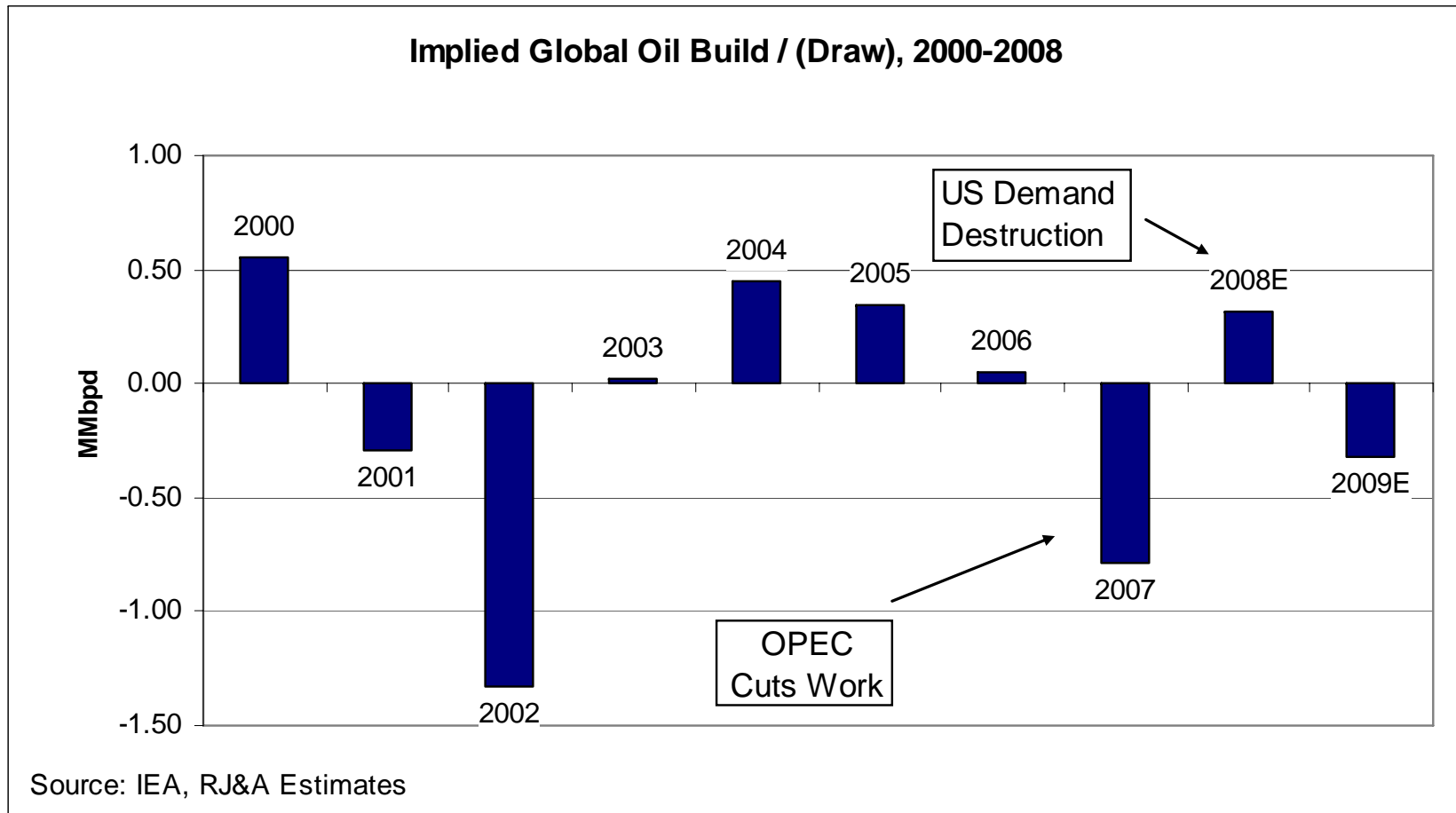
Crude– RJ Way Above Consensus



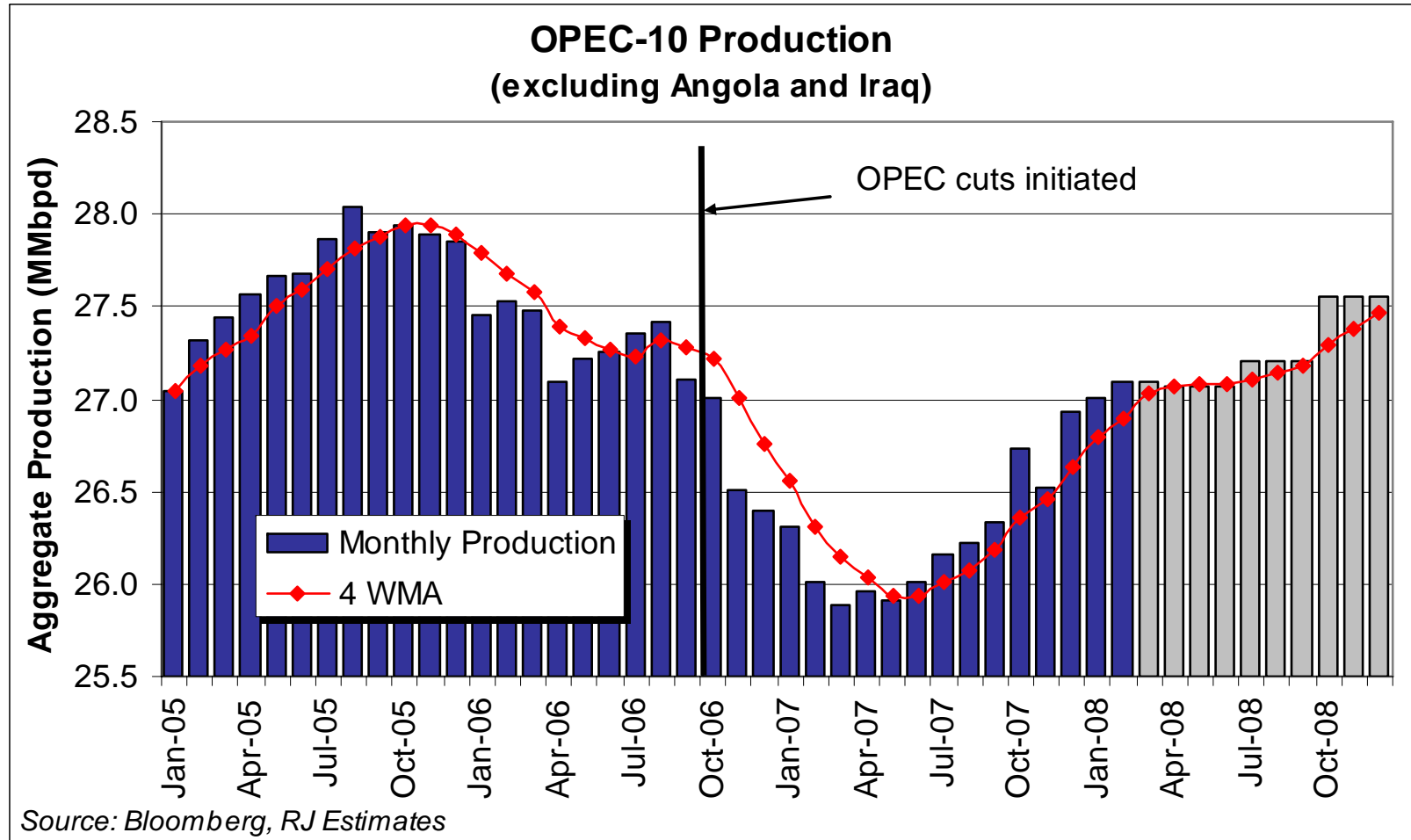
Long-Term Oil Fundamentals Very Bullish

- ◆ Short-Term oil volatility/weakness
- ◆ Negative U.S./OECD demand growth offset by Middle East, China, & India Growth
- ◆ Oil markets tighten again in 2009
- ◆ Oil is getting harder to find and produce
- ◆ 2009 and beyond looks very bullish
- ◆ Saudi Holds the Cards

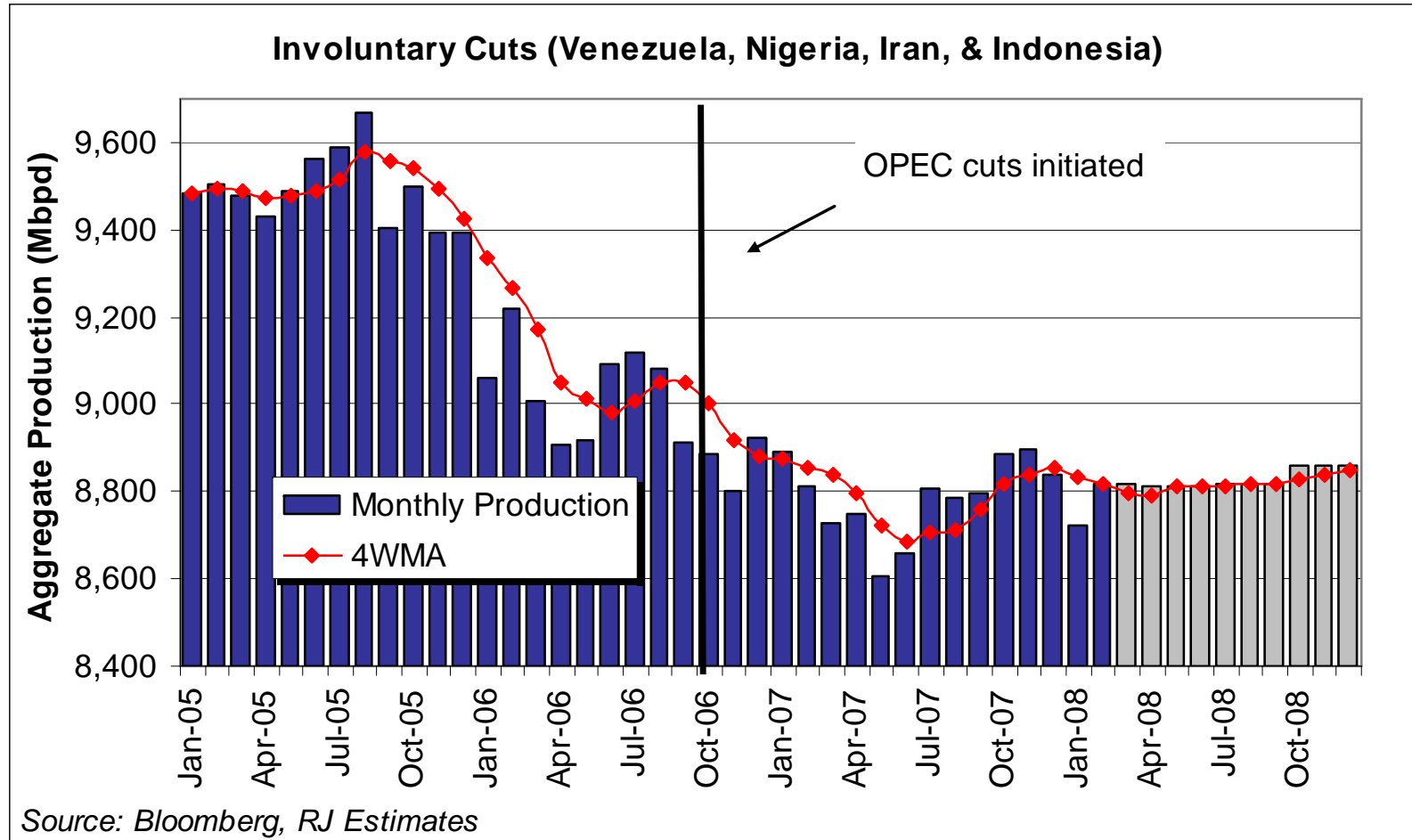
Oil Inventories: 2008 Up, 2009 Down...Again



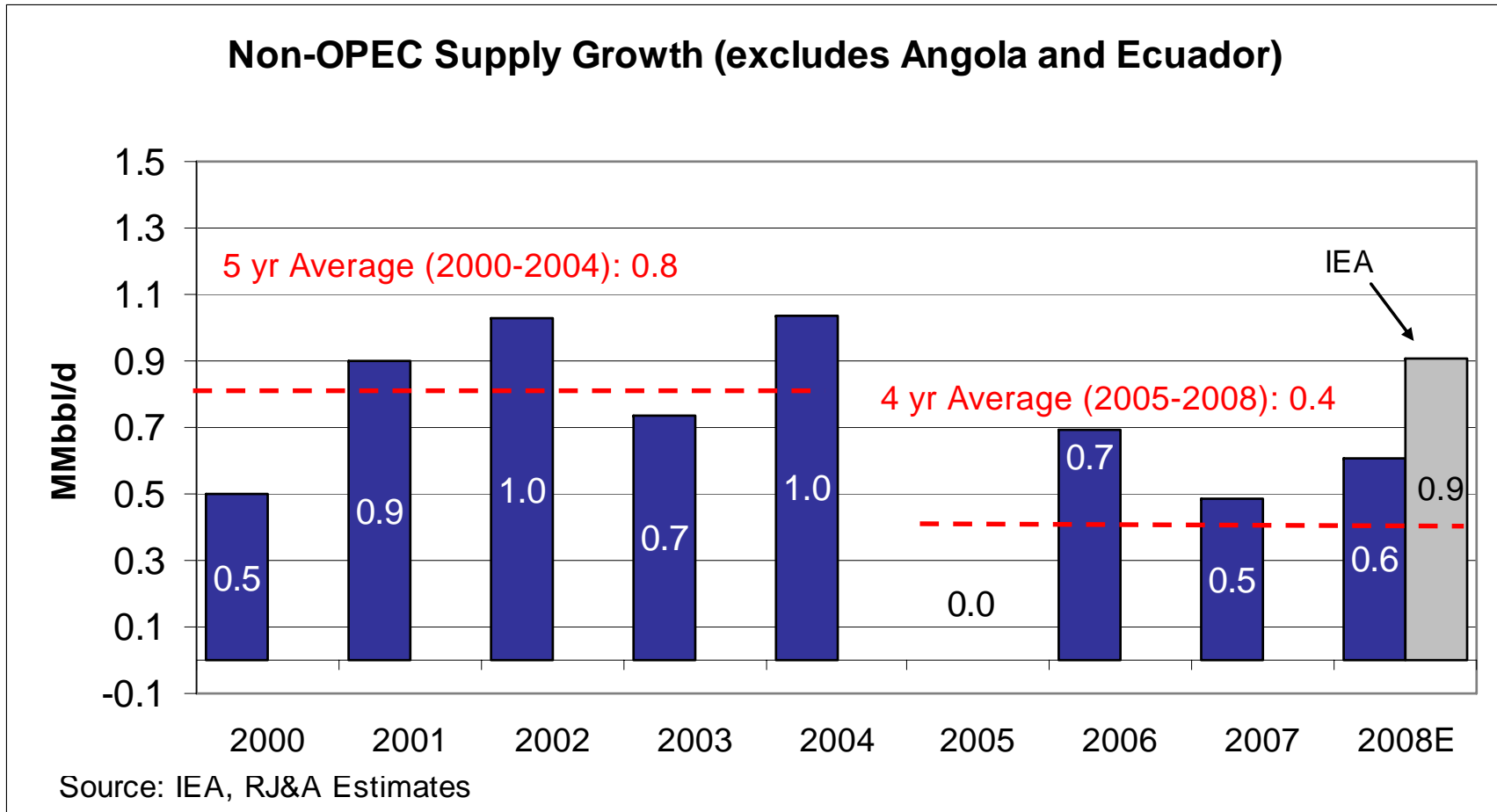
OPEC Cuts Worked, Production Headed Back Up



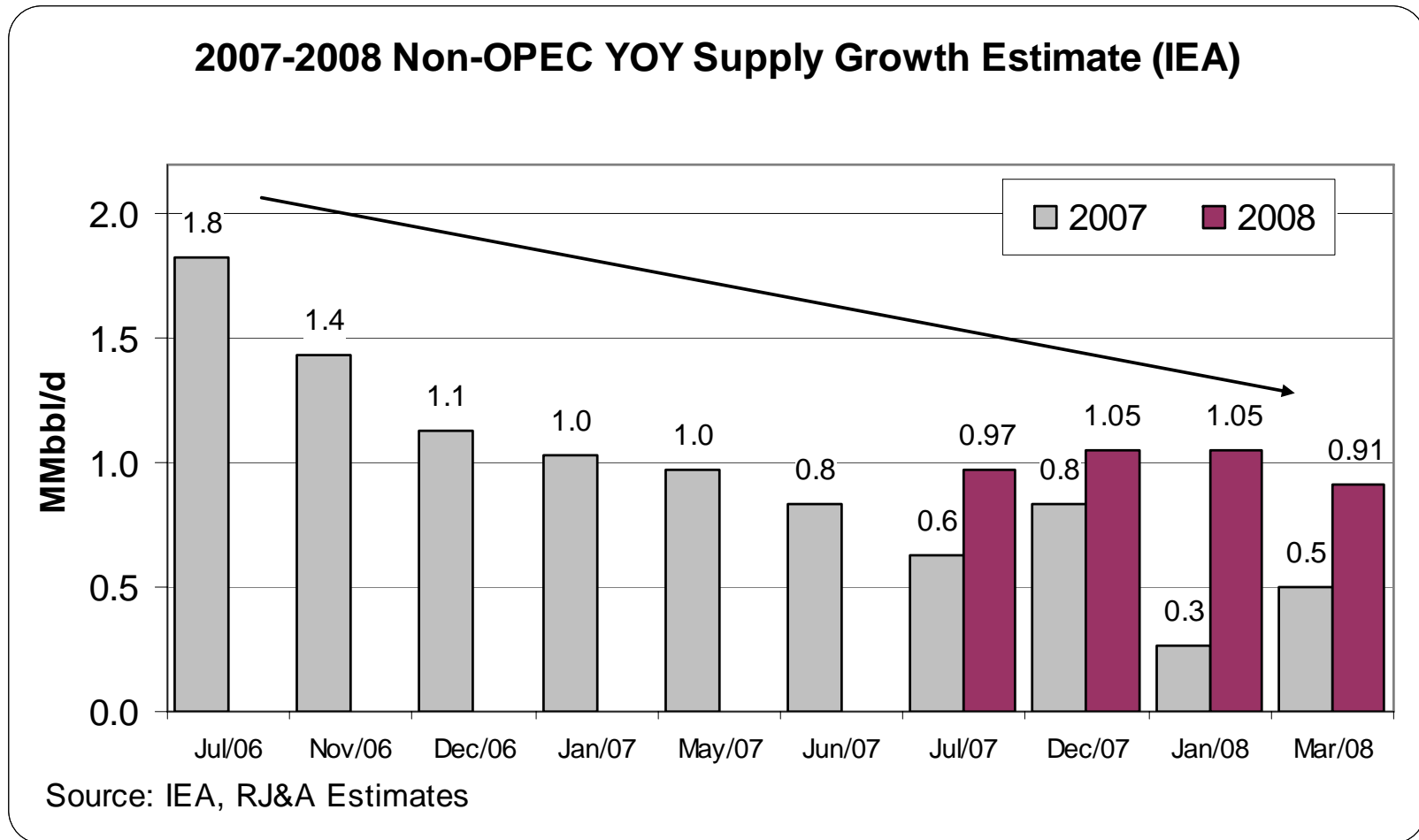
Some Cuts Were More Permanent



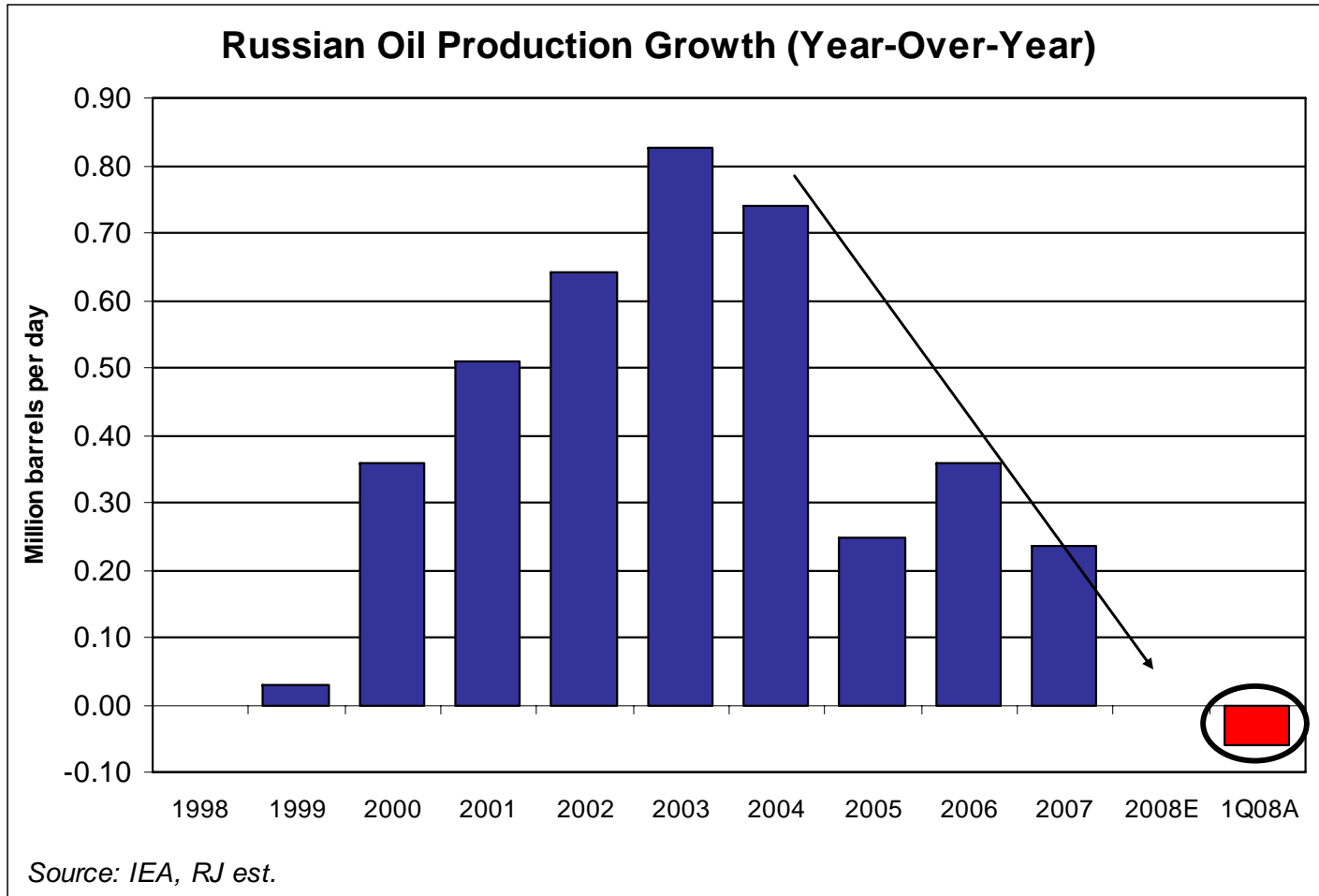
Non-OPEC Supply Still Over-Estimated



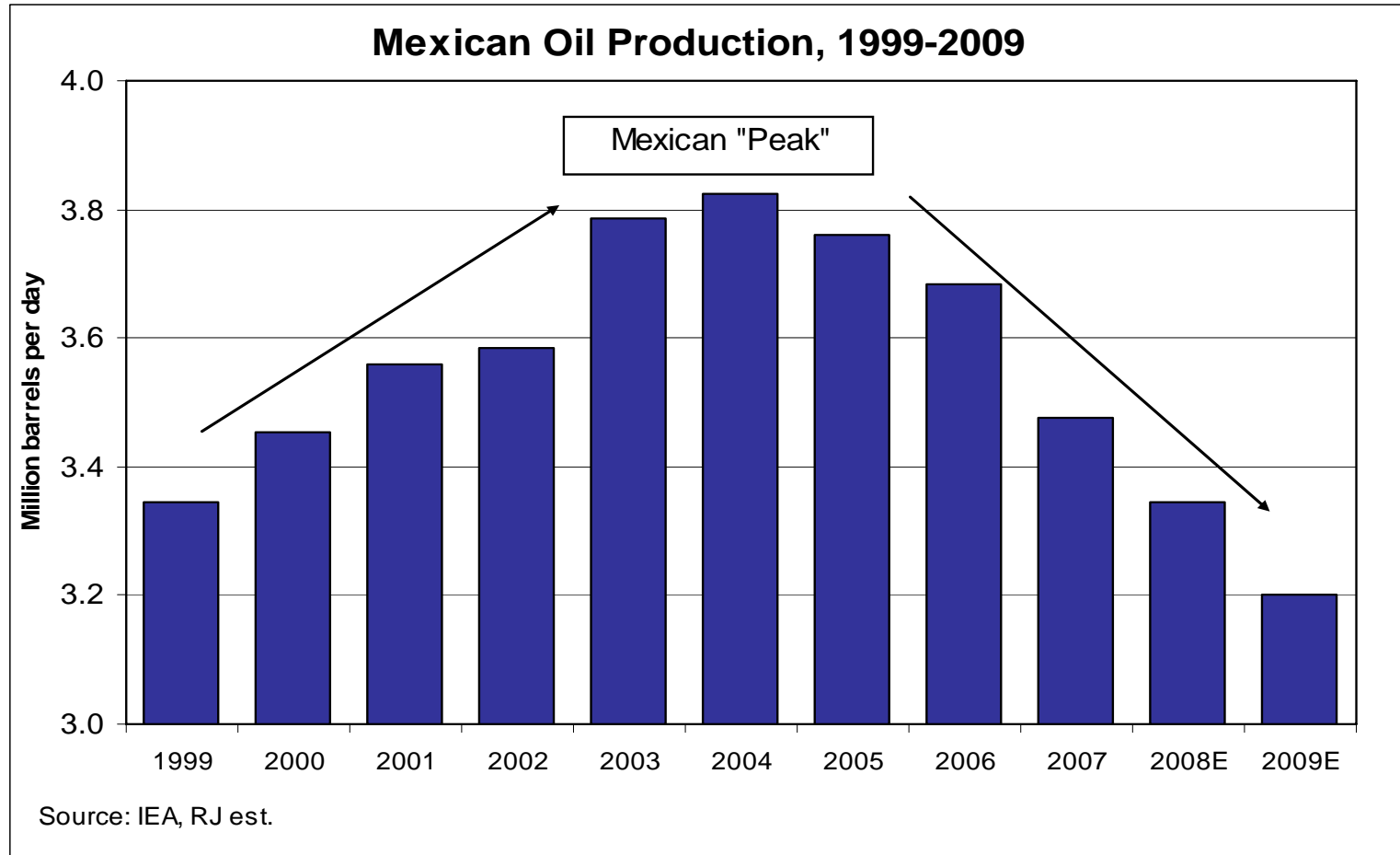
IEA Has Been Wrong on Non-OPEC Supply



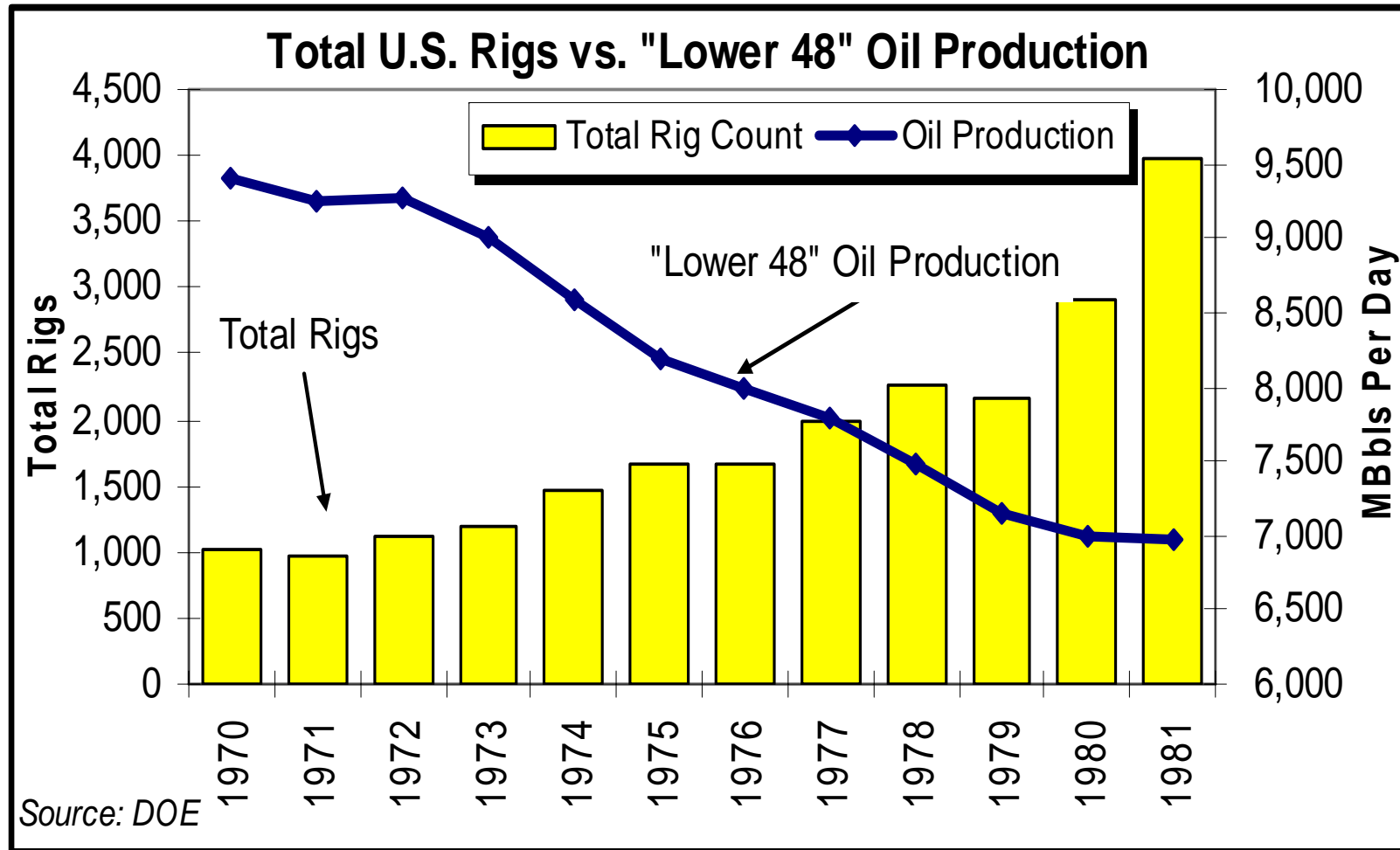
Market is Missing Slowing Russian Growth



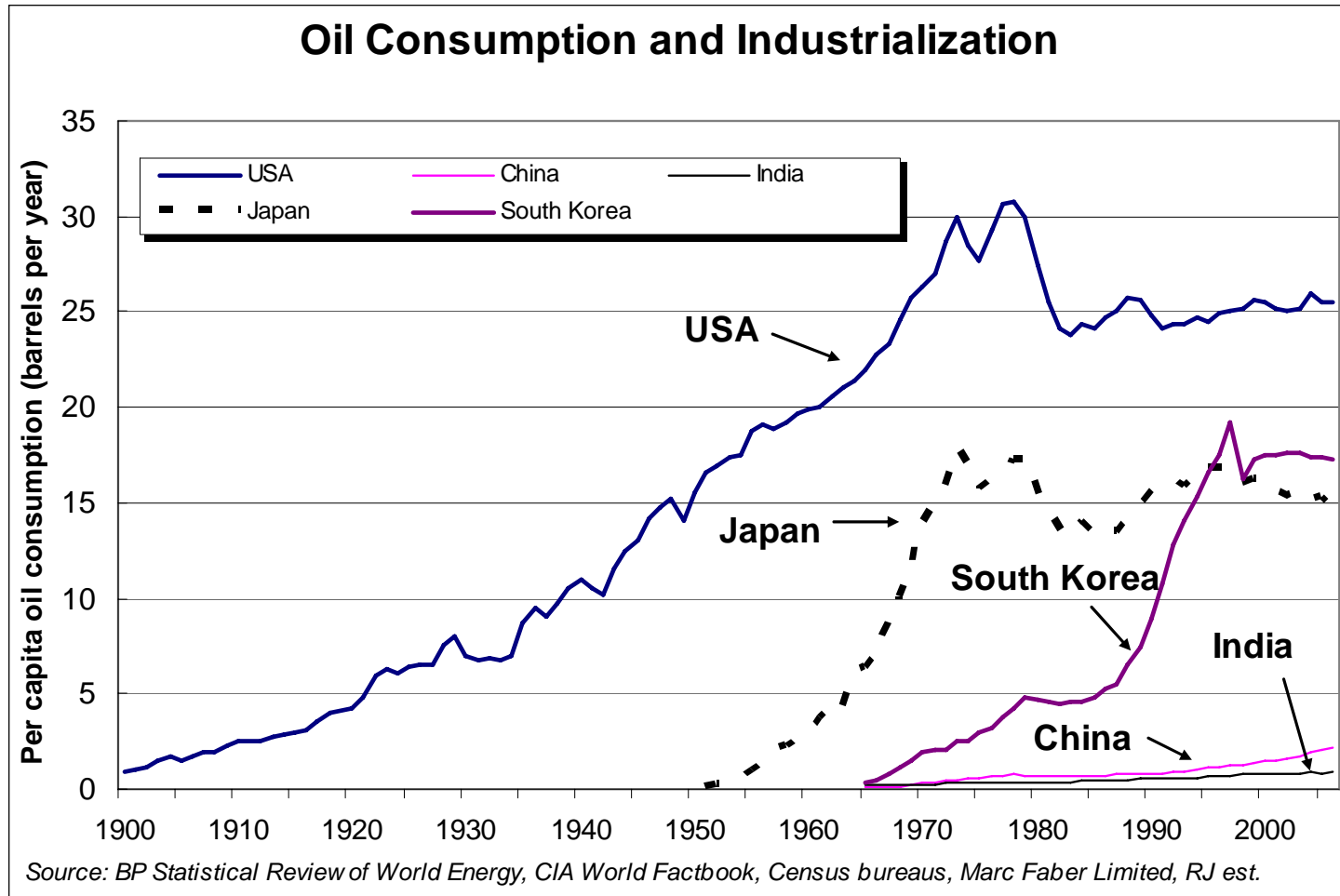
Market Missing Mexican Decline Rates Too



The "U.S. Oil Experience" is Occurring Abroad



Developing Nations Drive Consumption Growth



But, What if the Economy Slows? (Helloooo...It already is!)

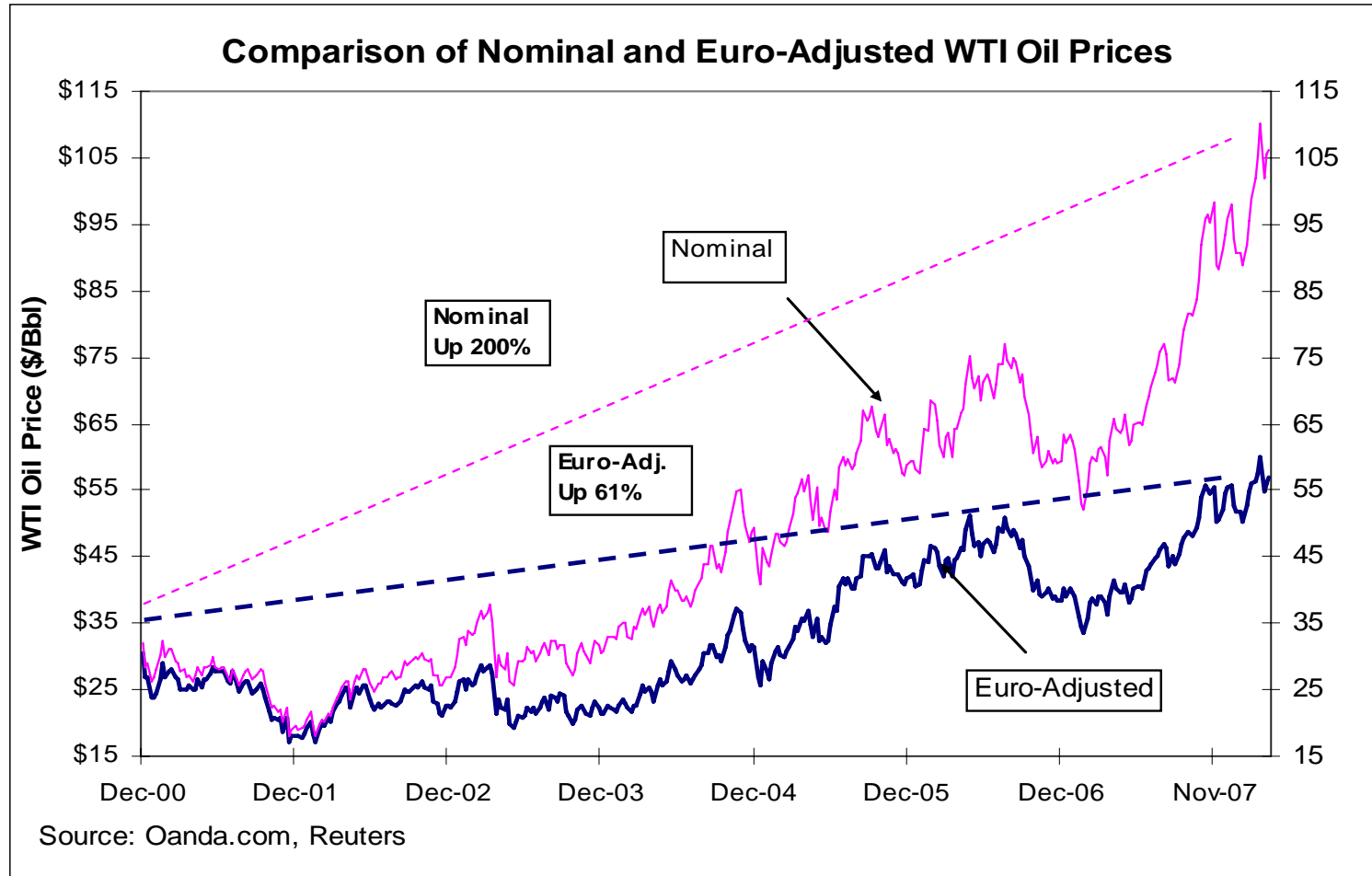
Oil Demand and GDP: Year-Over-Year Changes					
Region	Oil Demand 2003-06 Avg.	Oil Demand 2007E	2007 GDP IMF Est.	Oil Demand 2008E	2008 GDP IMF Est.
North America	1.2%	0.9%	2.2%	-2.0%	0.5%
Europe	0.5%	-2.2%	2.7%	-0.1%	2.2%
Pacific	-0.7%	-1.6%	2.3%	-0.5%	2.0%
FSU	4.5%	-4.3%	7.6%	3.9%	6.5%
China	9.9%	4.6%	11.5%	5.9%	10.0%
Other Asia	3.1%	3.7%	4.4%	2.3%	5.5%
Latin America	2.6%	4.8%	5.0%	1.9%	4.2%
Middle East	4.3%	4.8%	6.6%	4.7%	6.7%
Africa	2.1%	4.3%	6.2%	2.1%	6.9%
RJ Average	2.2%	1.1%	4.9%	0.9%	3.7%
IEA		1.1%		2.0%	

Source: IEA, IMF, RJ est.

What Oil Price Slows Demand Growth?

- ◆ **Oil market is more complex & more distorted than 30 years ago**
- ◆ **Oil subsidies distort demand reaction**
 - Middle East, Latin America, China
- ◆ **Oil taxes distort demand reaction**
 - Europe
- ◆ **Higher oil drives Middle East demand up!**
- ◆ **Dollar devaluation distorts demand reaction**

Euro Adjusted Oil Prices Not as High



Where Could We Be Wrong on Oil?

- ◆ **Upside:**
 - **Supply Interruptions**
 - **Stronger Economy**
 - **Greater Production Declines**
 - **SPR Additions**
 - **Coal Substitution?**

- ◆ **Downside:**
 - **Global Recession, Global recession, ...**

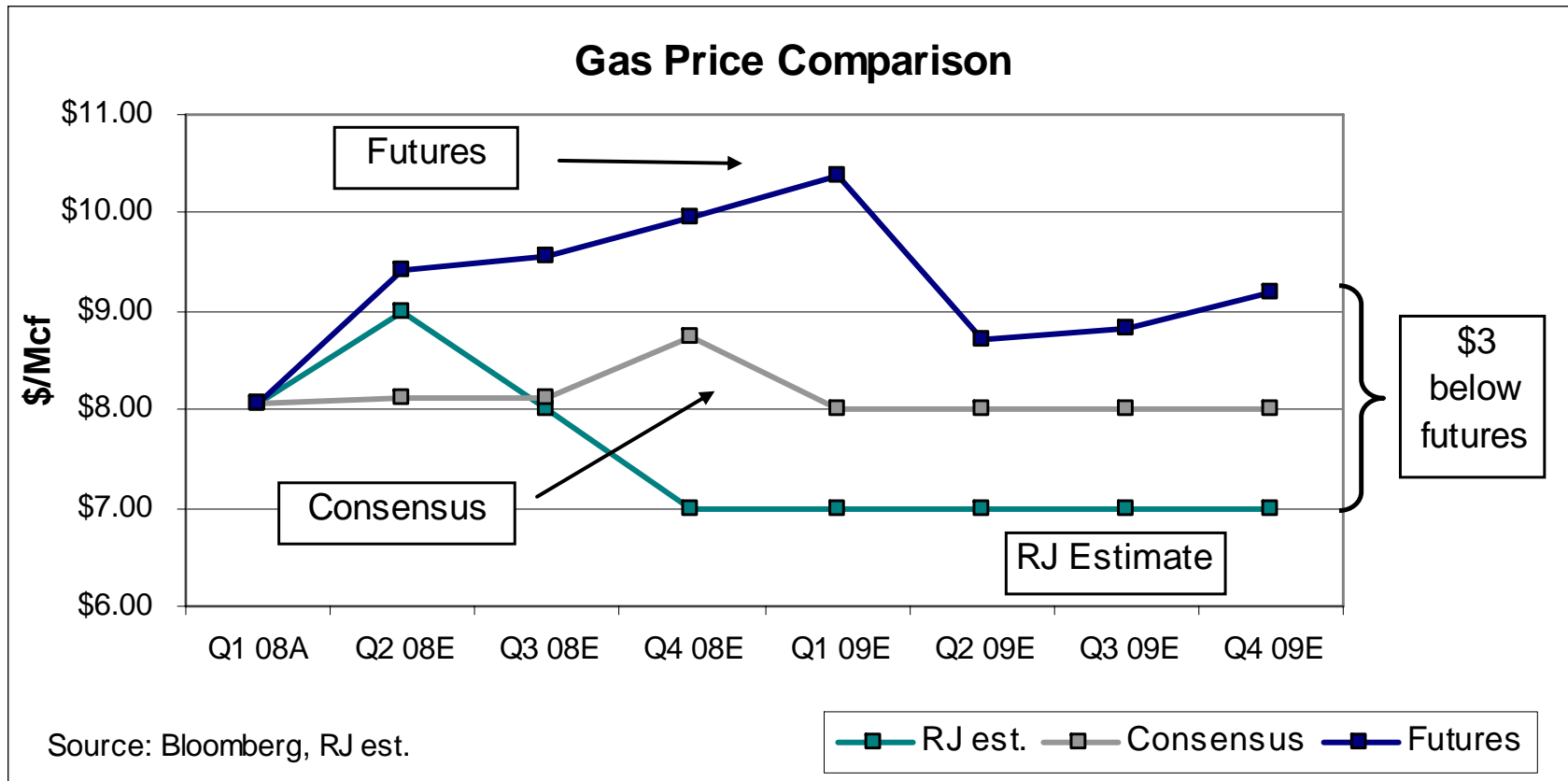
2008 Oil Forecast is \$10 Above the Street

2009 is \$25 Above Street!

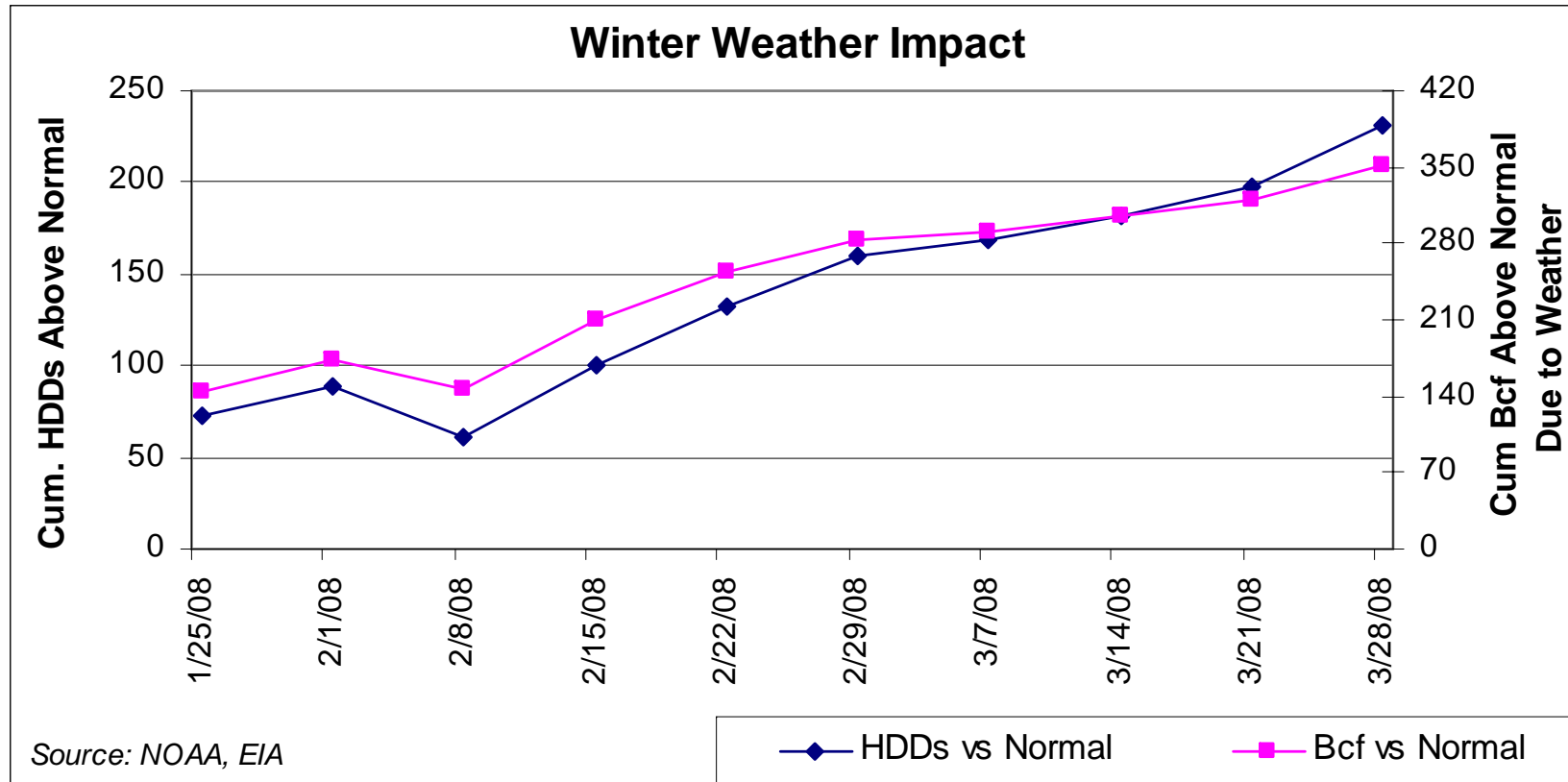
RJ&A Oil Price Estimates (as of April 2008)						
2007		Q1 07A	Q2 07A	Q3 07A	Q4 07A	2007A
WTI		\$57.45	\$61.70	\$71.00	\$88.65	\$69.70
2008		Q1 08A	Q2 08E	Q3 08E	Q4 08E	2008E
WTI	Bloomberg	\$93.70	\$86.00	\$86.00	\$88.30	\$88.50
NYMEX	Futures	\$93.70	\$105.46	\$104.49	\$102.93	\$101.65
WTI	Old RJ Oil	\$88.00	\$86.00	\$90.00	\$96.00	\$90.00
WTI	Current RJ Oil	\$93.70	\$100.00	\$100.00	\$105.00	\$99.68
2009		Q1 09E	Q2 09E	Q3 09E	Q4 09E	2009E
WTI	Bloomberg					\$83.00
NYMEX	Futures	\$101.55	\$100.35	\$99.37	\$98.66	\$99.98
WTI	Old RJ Oil	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
WTI	Current RJ Oil	\$110.00	\$110.00	\$110.00	\$110.00	\$110.00

Source: Bloomberg, Reuters, RJ est.

Where Does Gas Go From Here and Why?



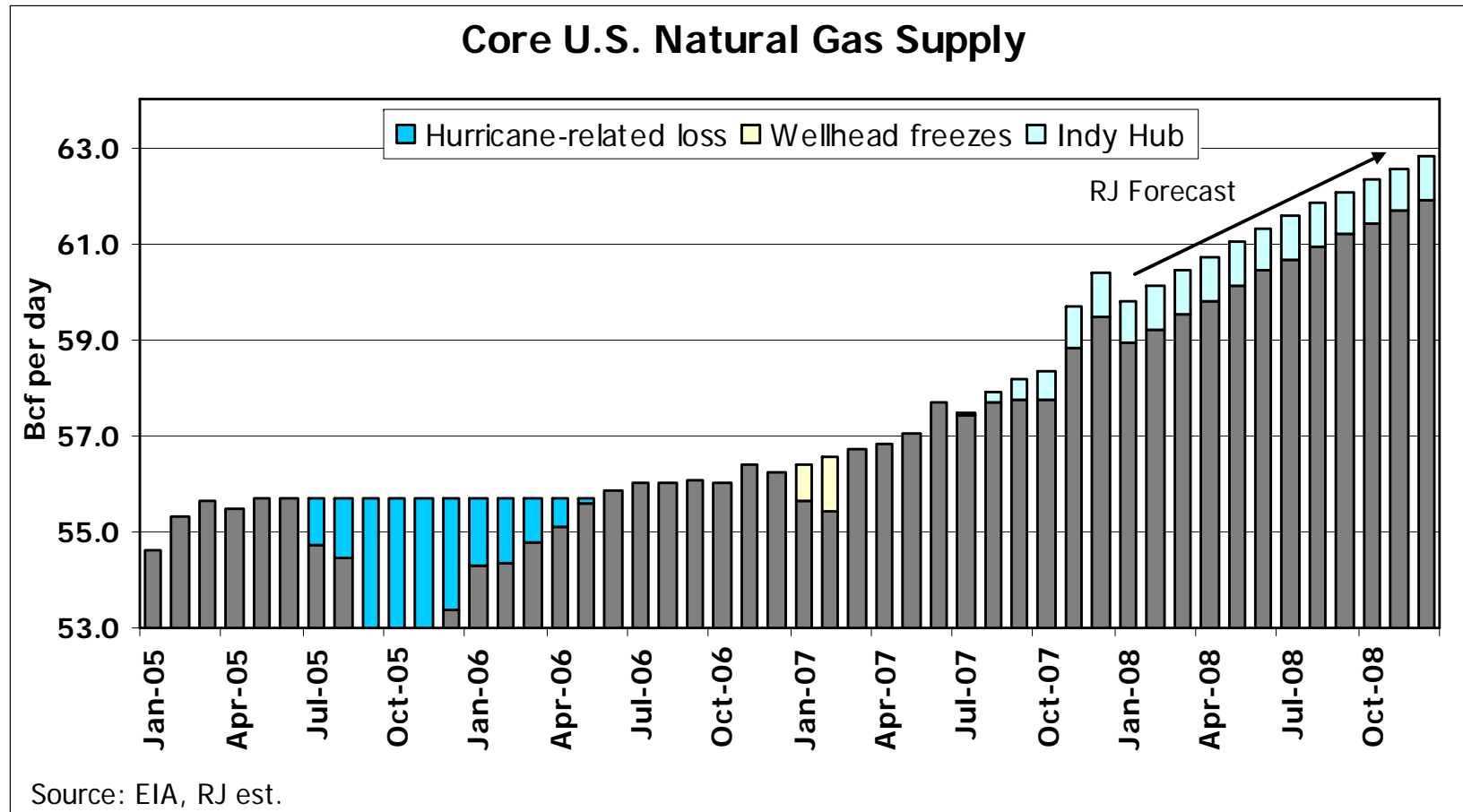
Cold Winter Bailed out Feb/March Gas



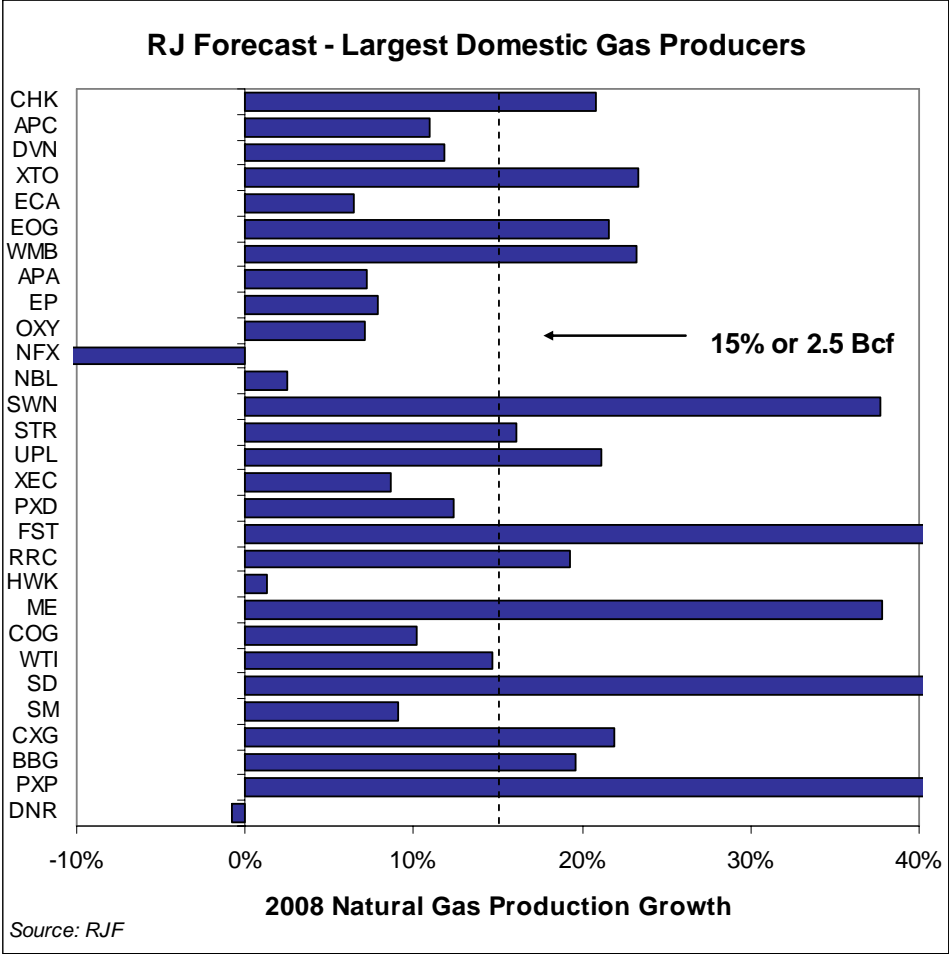
Why are We Still Worried About Gas?

- ◆ **U.S. gas supply up huge**
 - Up over 4 Bcf/day YOY!
- ◆ **Canada not falling as fast as we thought**
- ◆ **LNG imports up in late summer**
- ◆ **Increased hydro offsets gas-fired electric growth**
- ◆ **1.5 – 2.5 Bcf/day YOY summer surplus**
 - (Or up 400 Bcf from last summer)

U.S. Gas Supply is Up 4 Bcf/day (or 7%)!



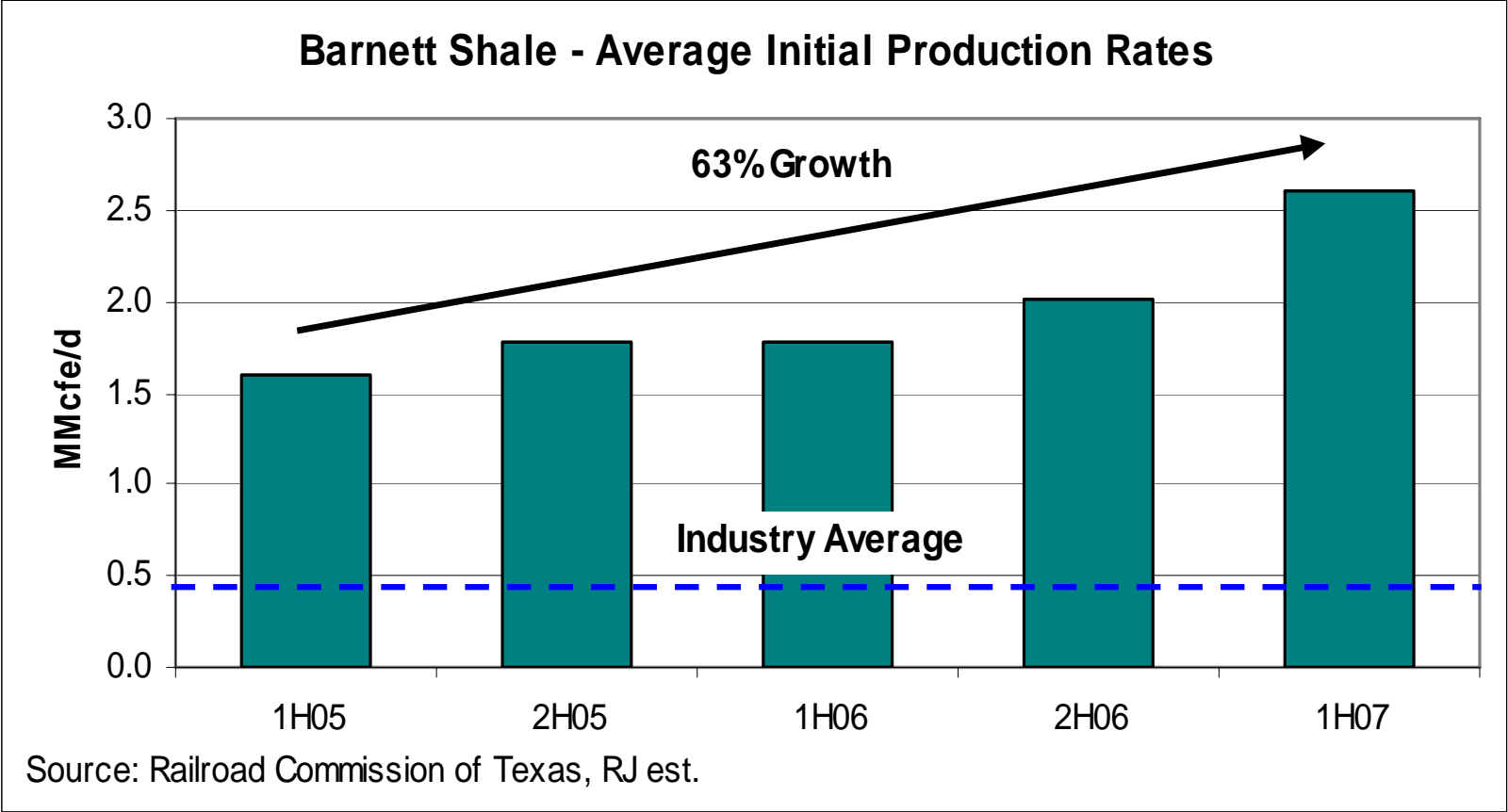
What do E&P Co. Say About 2008 Growth?



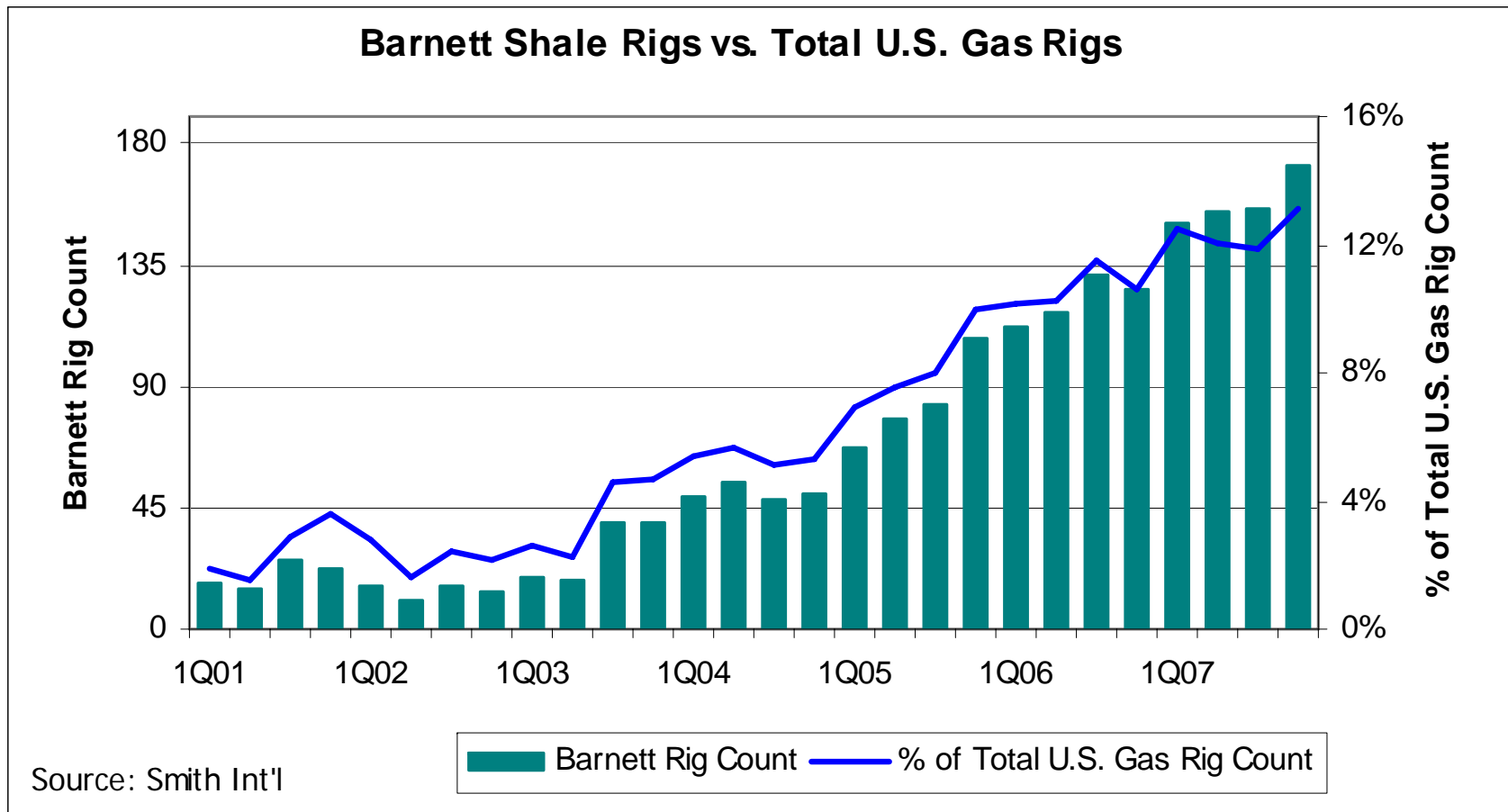
Why is Well Productivity Up This Year?

- ◆ Higher initial production in “shale” plays
- ◆ Increased drilling activity in shale plays
- ◆ Increased spending in non-rig activities
 - Fracturing, etc.
- ◆ Increased number of shale plays
- ◆ Technology is working!

IP Rates In the Barnett Keep Growing

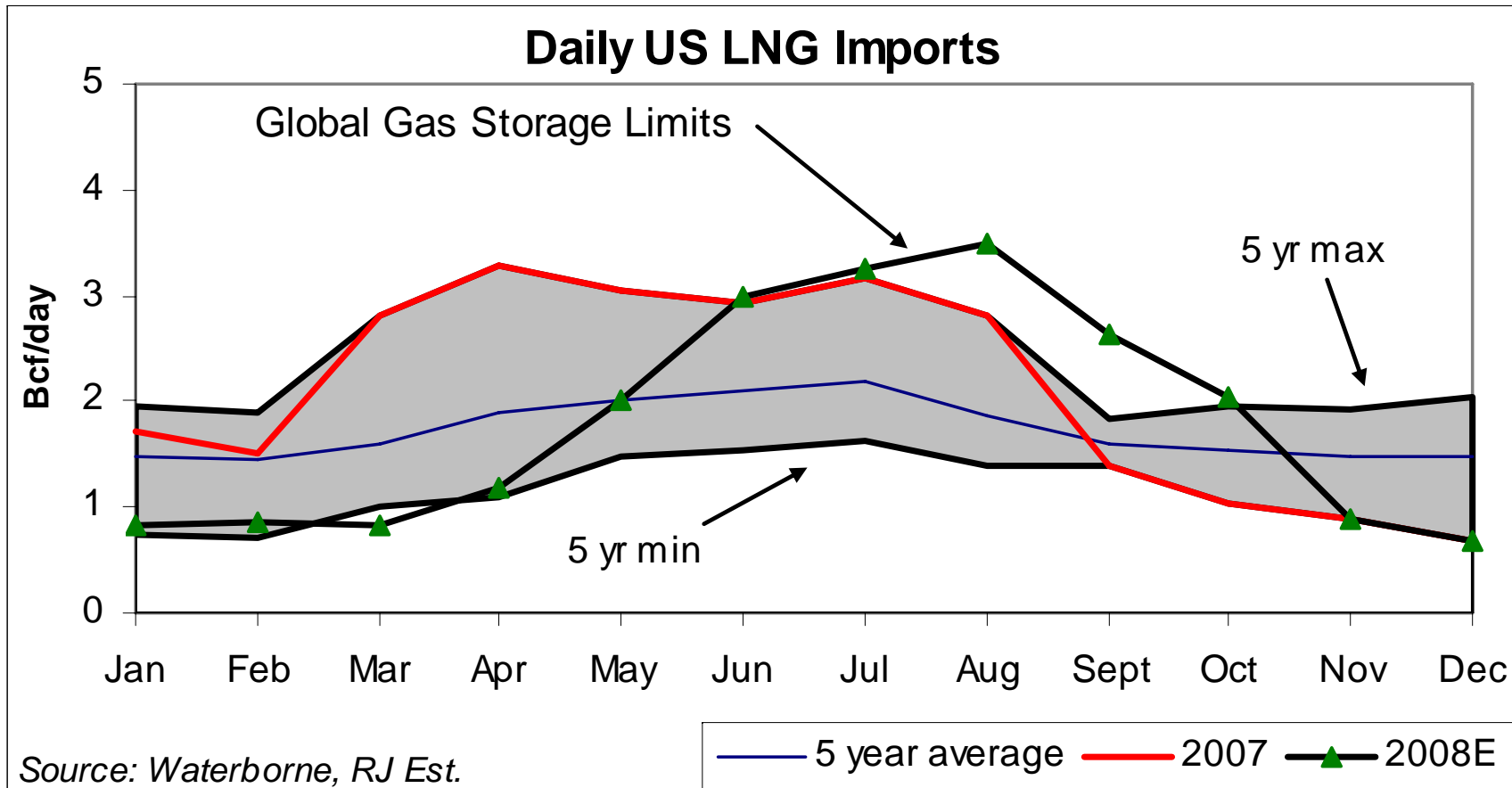


Barnett Shale Has Changed the Game

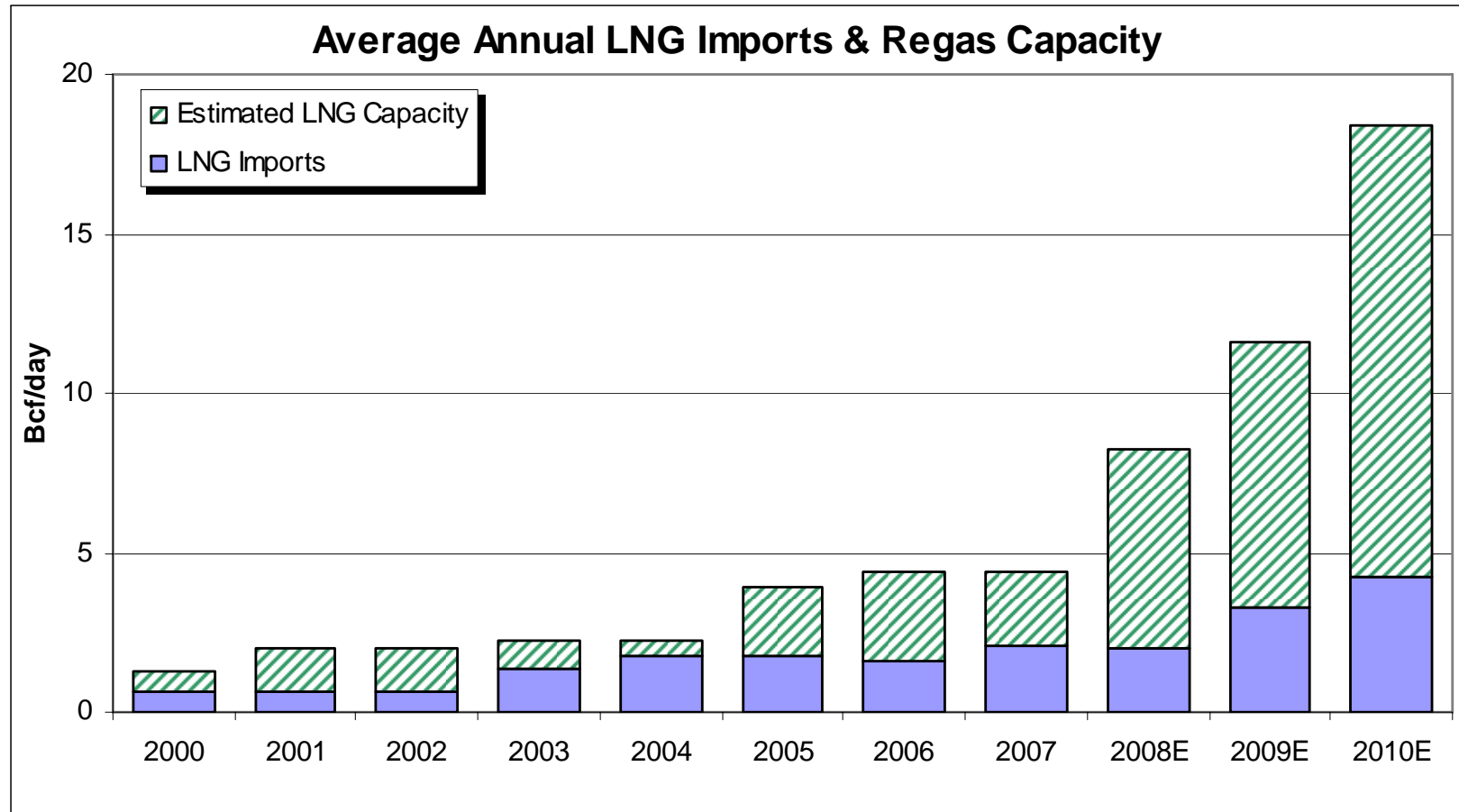


Does the “Gas Bear” Story
Depend on LNG?
NO!

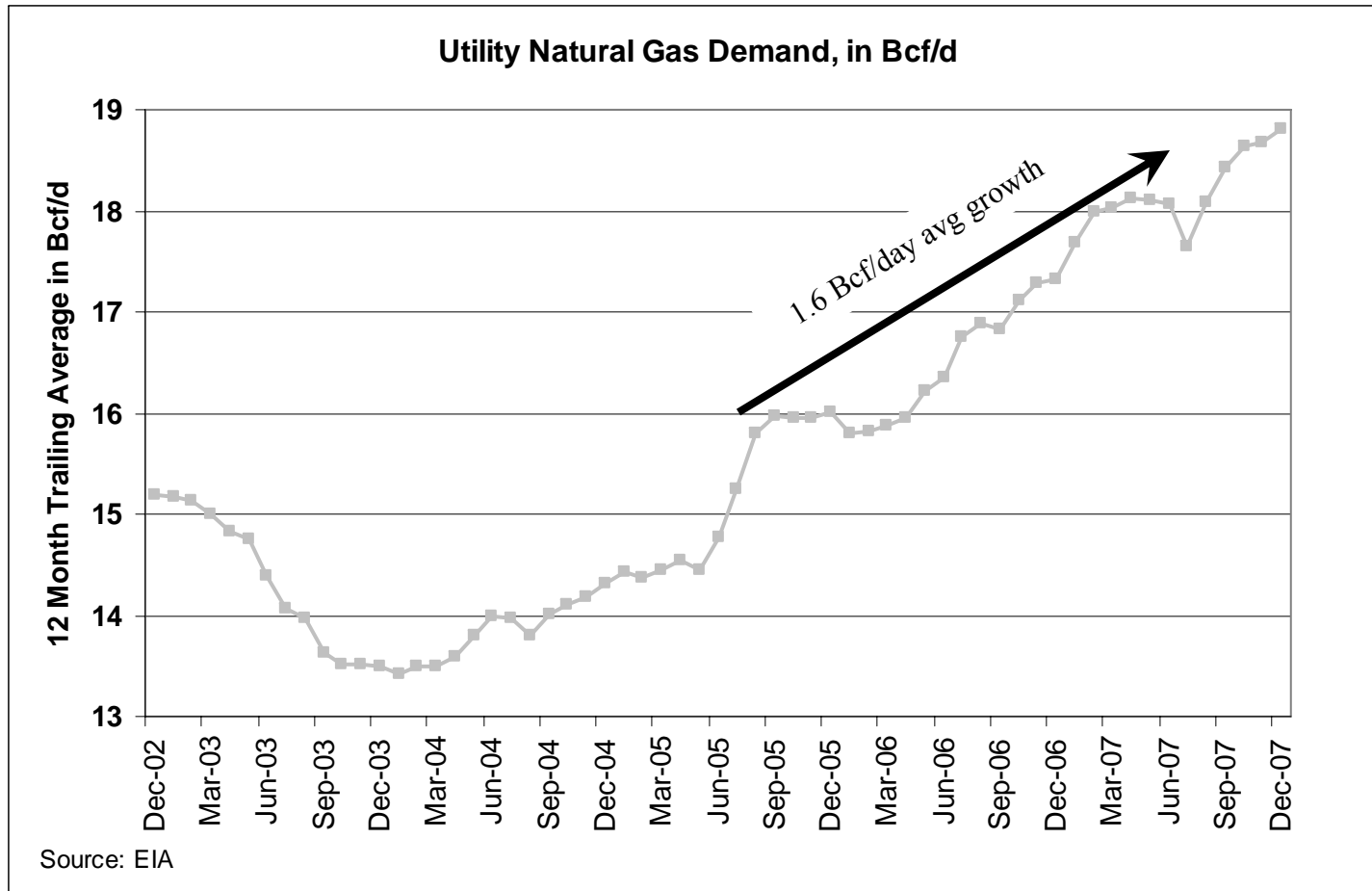
How Big Will U.S. LNG Import Increase Be?



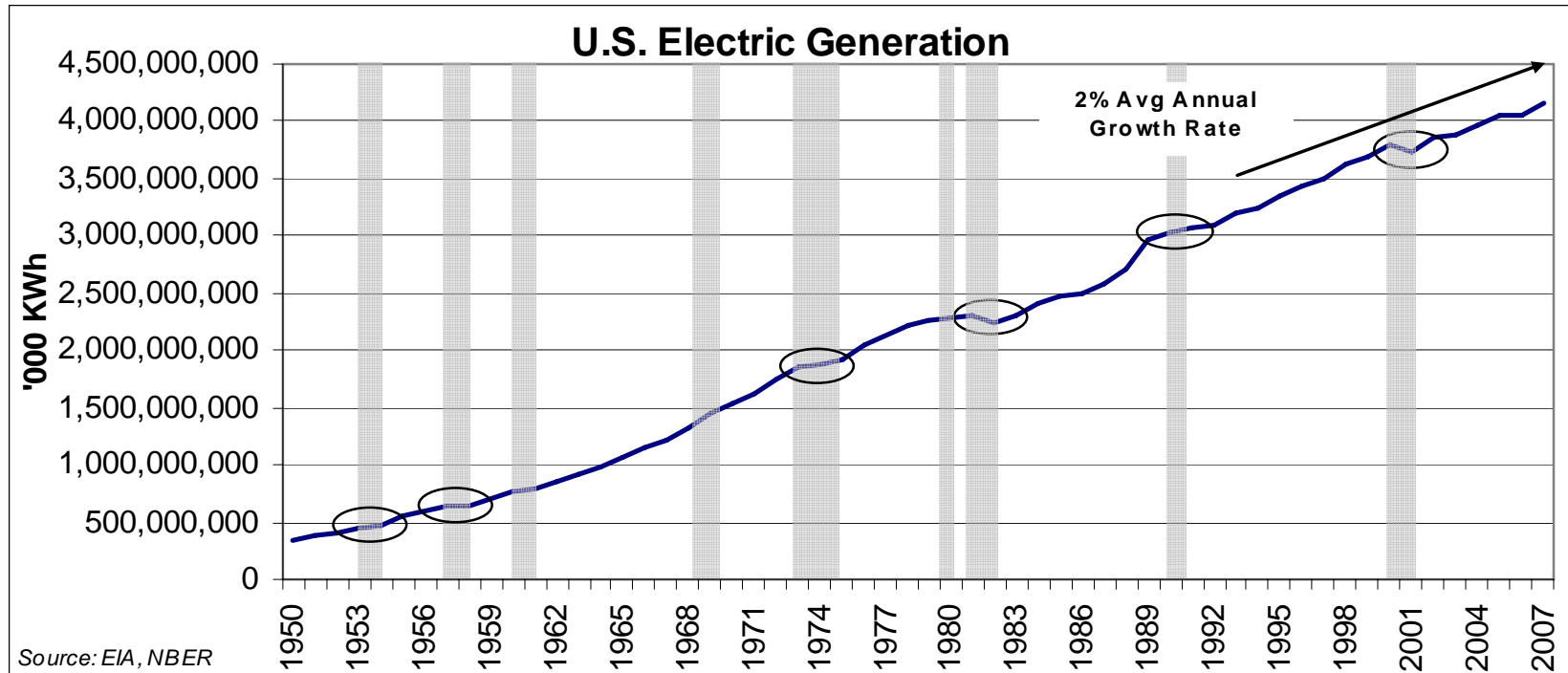
Full Year 2008 U.S. LNG Imports Down!



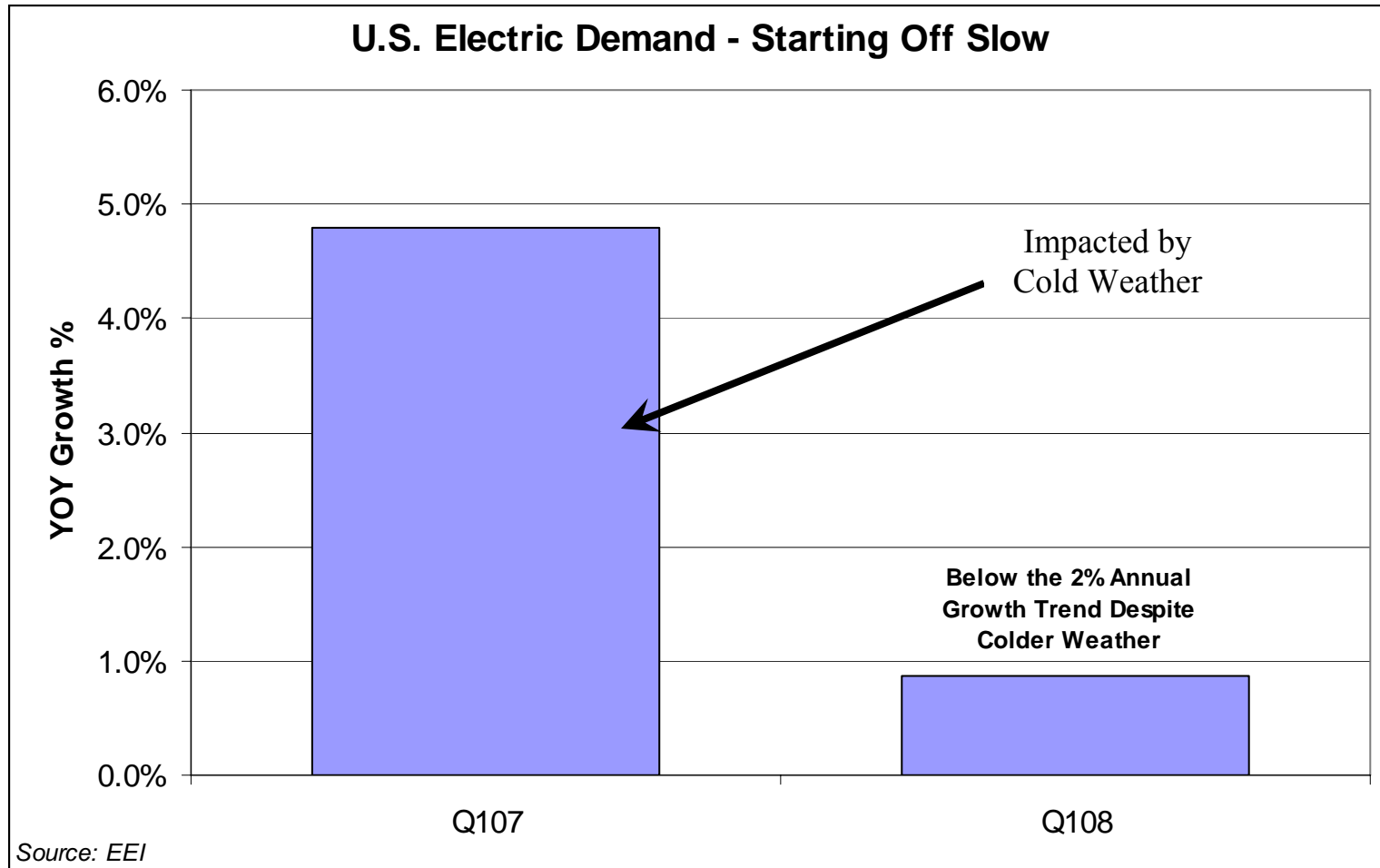
Can Gas-Fired Electric Demand Save the Day?



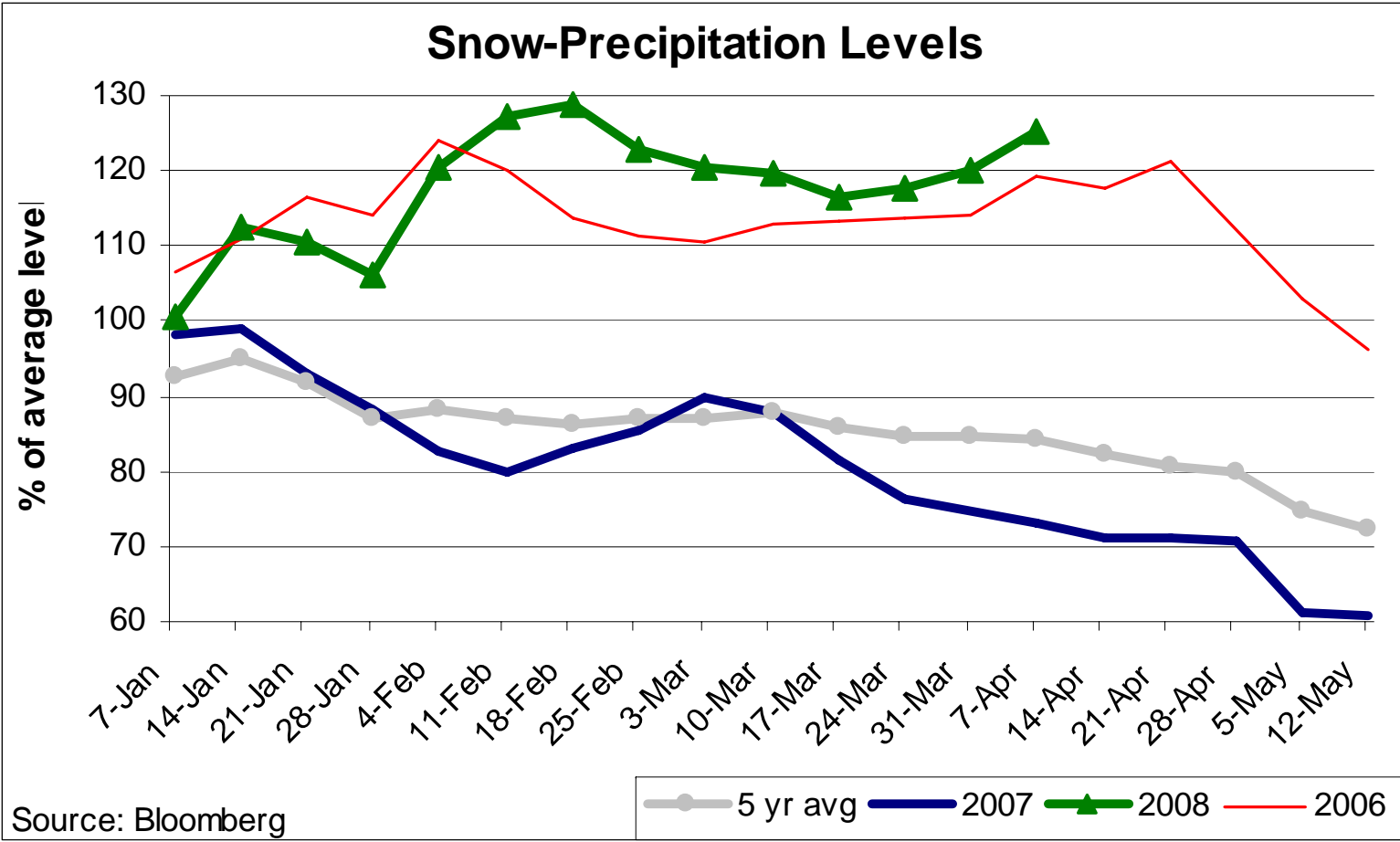
2% Growth Rate for Electric Demand (Or 2 Bcf/day if All is Gas-Fired)



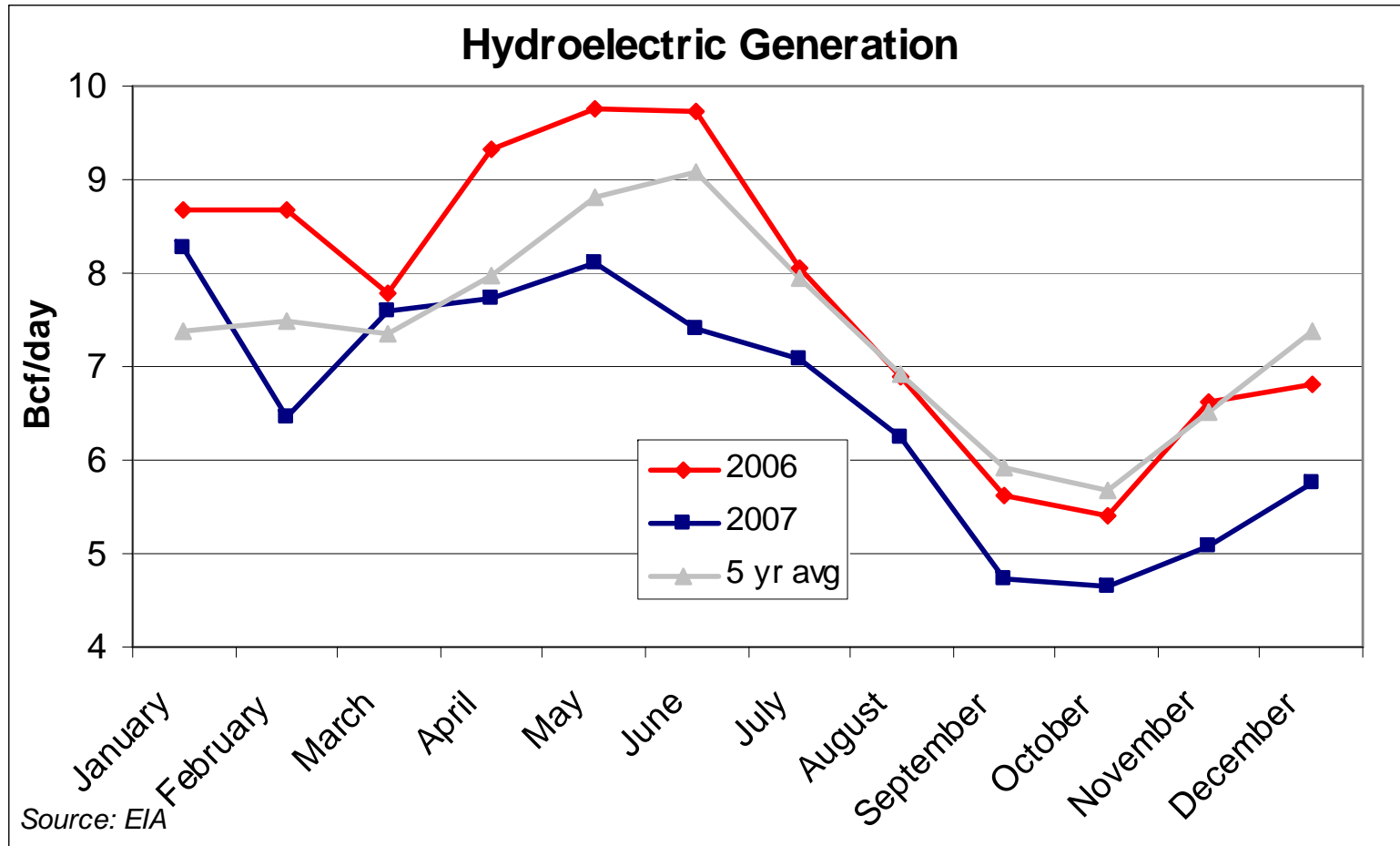
Beware Recessionary Impact on Demand (2008 Electric Growth Slows to Below 1%)



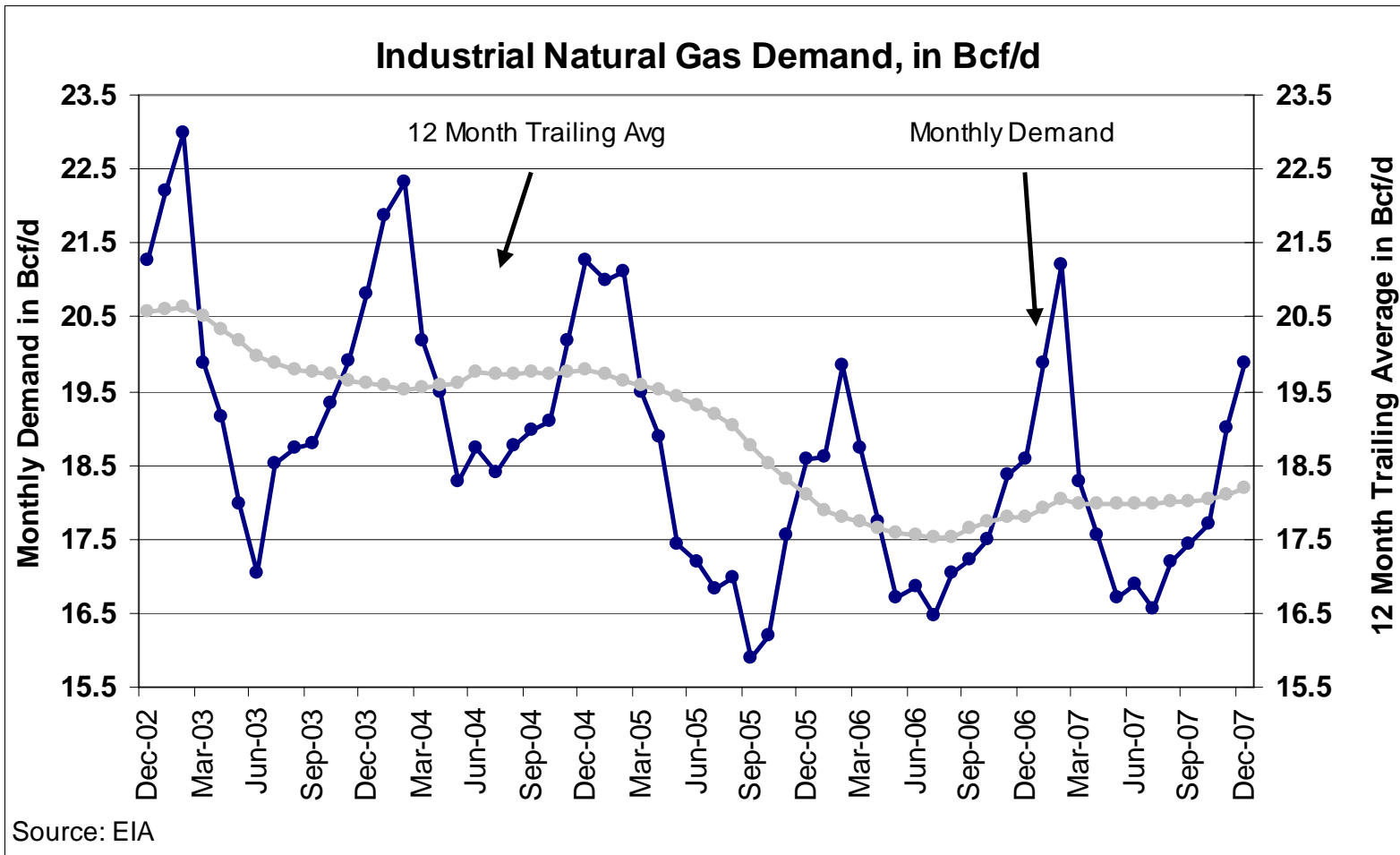
Snow Precipitation Levels Up Huge...



Market is Underestimating Hydro Impact Potential 1.2 Bcf/day less 2008 Gas Demand



Industrial Gas Demand Is Not Responding

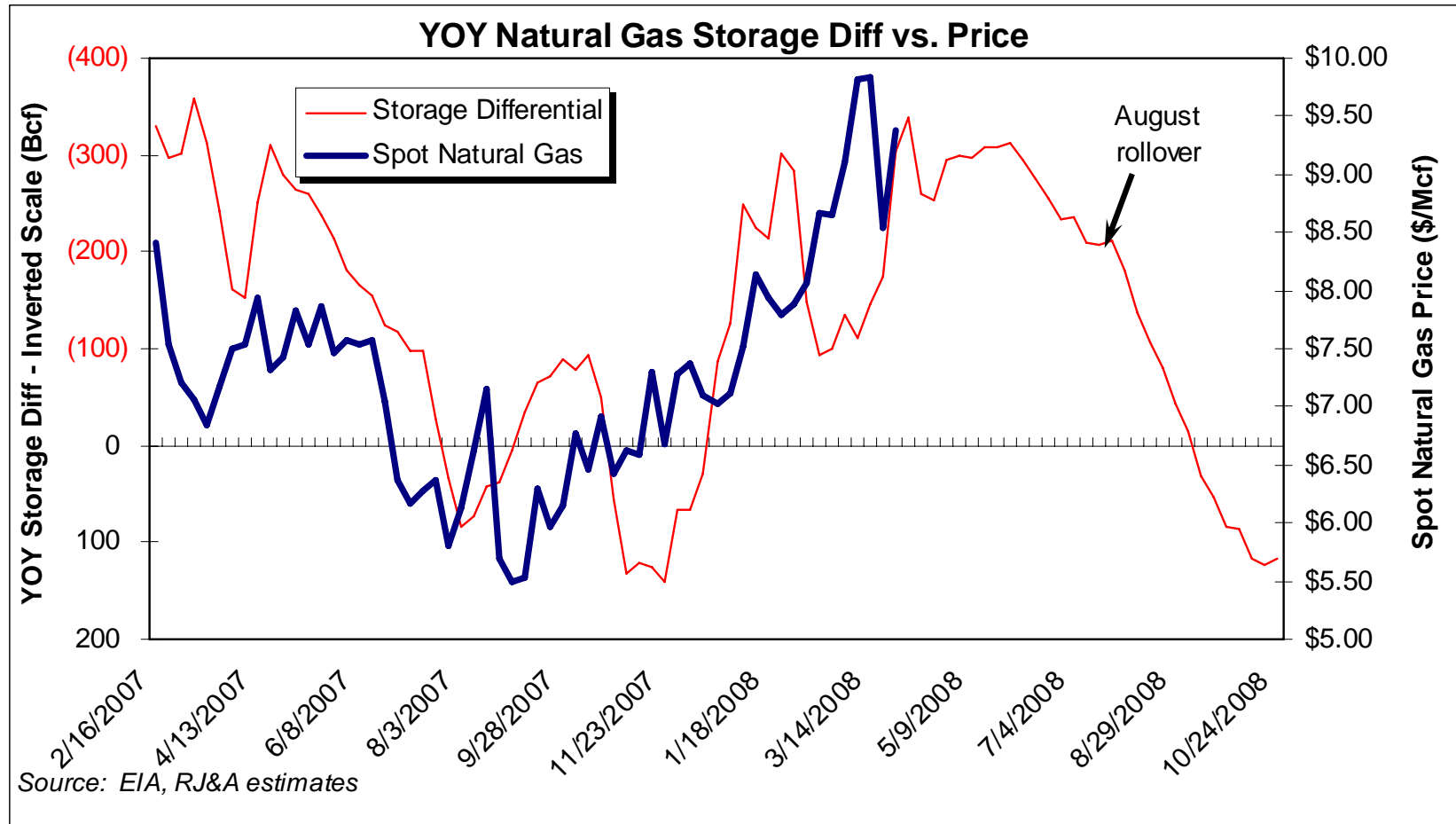


We Aren't Out of the Woods Yet!

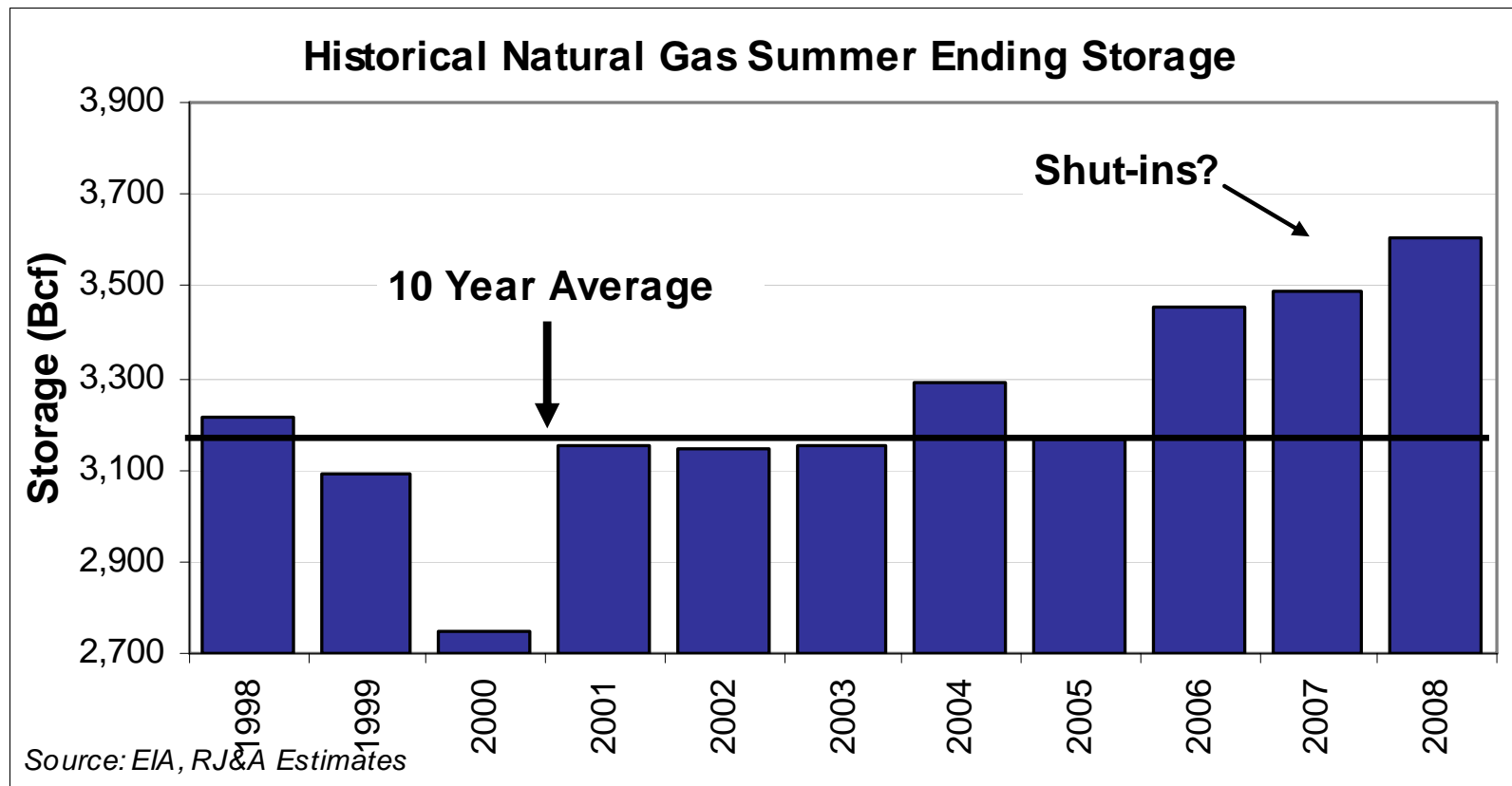
<u>2008 Revised Summer Ending Storage</u>		
	<u>Bcf/day</u>	<u>Summer (210 days)</u>
<u>2007 injections</u>	9.06 Bcf/day	1,938 Bcf
Year-over-year Estimated Supply/Demand Changes		
<u>YOY US Supply Change</u>	<u>Bcf/day</u>	<u>Bcf</u>
1) Core U.S. Supply	3.2	672
2) Independence Hub	0.8	168
3) Liquid Stripping	(0.6)	(126)
<u>YOY Import/Export Changes</u>		
4) LNG Imports	0.3	63
5) Canada Imports	(1.0)	(210)
6) Mexican Exports	0.0	0
<u>TOTAL SUPPLY INCREASE:</u>	<u>2.7</u>	567
<u>YOY Demand Change</u>		
7) Power Generation Demand (5% increase)	(1.0)	(210)
8) Summer weather impact (~60 TDDs more than '07)	(0.3)	(60)
9) Nuclear/Hydro Power Generation	0.75	158
<u>TOTAL DEMAND INCREASE:</u>	<u>(0.5)</u>	(113)
<u>Total 2008 vs. 2007 Changes</u>	<u>2.2</u>	455 Bcf
Total 2008 Injections		2,393 Bcf
Winter-Ending Storage		1,248 Bcf
<u>2008 Summer Ending Storage (10/31/08)</u>		<u>3,641 Bcf</u>

Source: RJ&A Estimates

Gas Prices Track Inverted YOY Storage Differential



2008 “Theoretical” Gas Storage Hits Record Highs

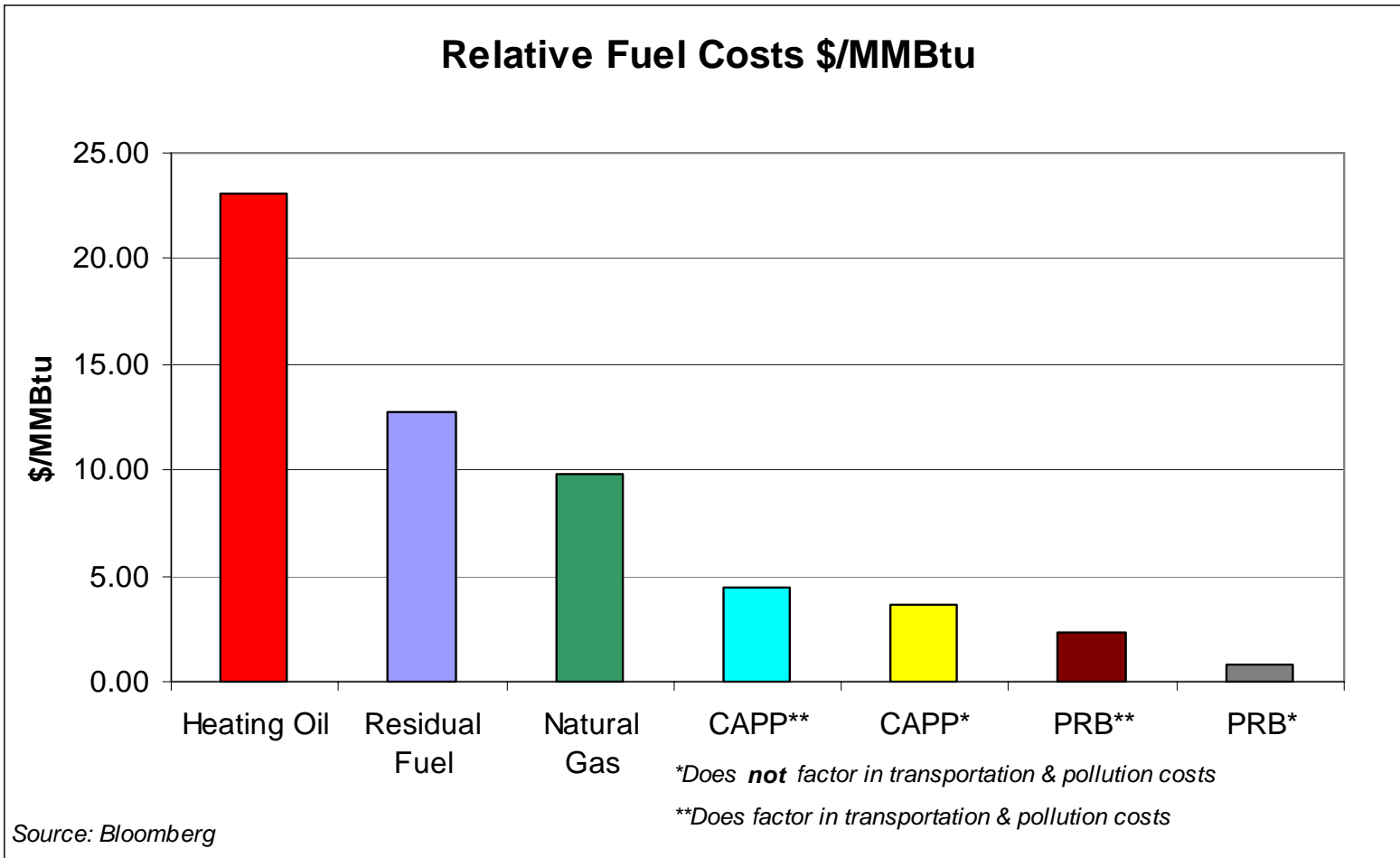


Summer 2008 Gas is Now a Weather Bet

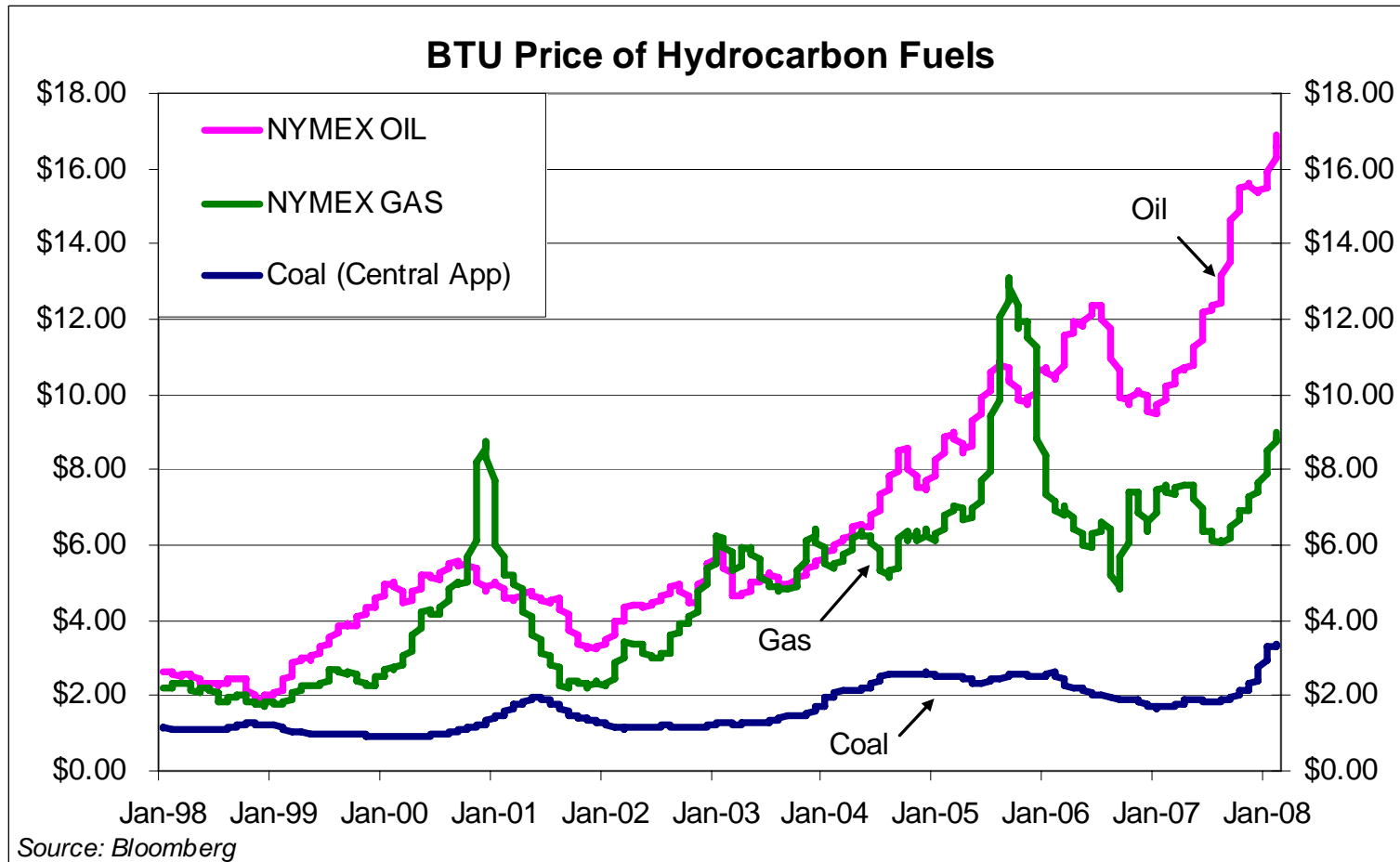
RJ&A Natural Gas Price Estimates (as of April 2008)						
2007		Q1 07A	Q2 07A	Q3 07A	Q4 07A	2007A
H Hub		\$6.75	\$7.55	\$6.15	\$7.00	\$6.86
2008		Q1 08A	Q2 08E	Q3 08E	Q4 08E	2008E
H Hub	Bloomberg	\$8.05	\$8.12	\$8.12	\$8.73	\$8.26
NYMEX	Futures	\$8.05	\$9.43	\$9.57	\$9.95	\$9.25
H Hub	Old RJ Gas	\$7.50	\$6.50	\$5.00	\$7.00	\$6.50
H Hub	Current RJ Gas	\$8.05	\$9.00	\$8.00	\$7.00	\$8.01
2009		Q1 09E	Q2 09E	Q3 09E	Q4 09E	2009E
H Hub	Bloomberg					\$8.00
NYMEX	Futures	\$10.39	\$8.71	\$8.82	\$9.20	\$9.28
H Hub	Old RJ Gas	\$7.75	\$7.00	\$5.50	\$7.75	\$7.00
H Hub	Current RJ Gas	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00

Source: Bloomberg, Reuters, RJ est.

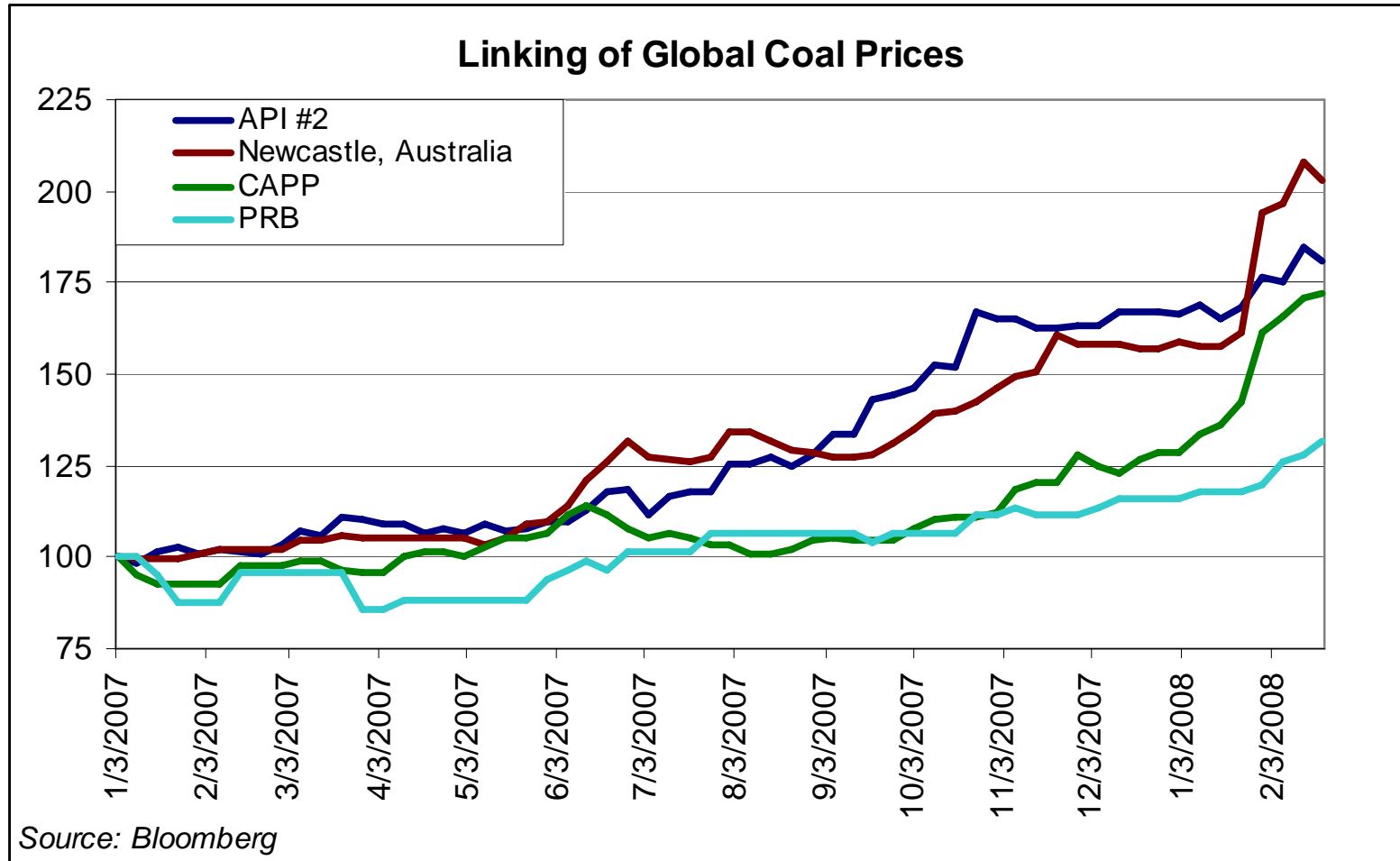
How Low Could Gas Go?



Floor Price For Gas Is Rising Rapidly



Coal Prices Soar Across the Globe



Conclusion

- ◆ **Short-term oil volatility, but...**
- ◆ **2009+ oil & coal setting up to be very bullish**
- ◆ **2008 Gas looks less bearish, but not bullish**
- ◆ **Coal Gives Rising “Floor” For Gas**

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