



WCLI 2012

**28th Street**

**Blackies**

**Newport Pier**















**BLACKIE'S**  
BY THE SEA INC.

**TAP BEER**





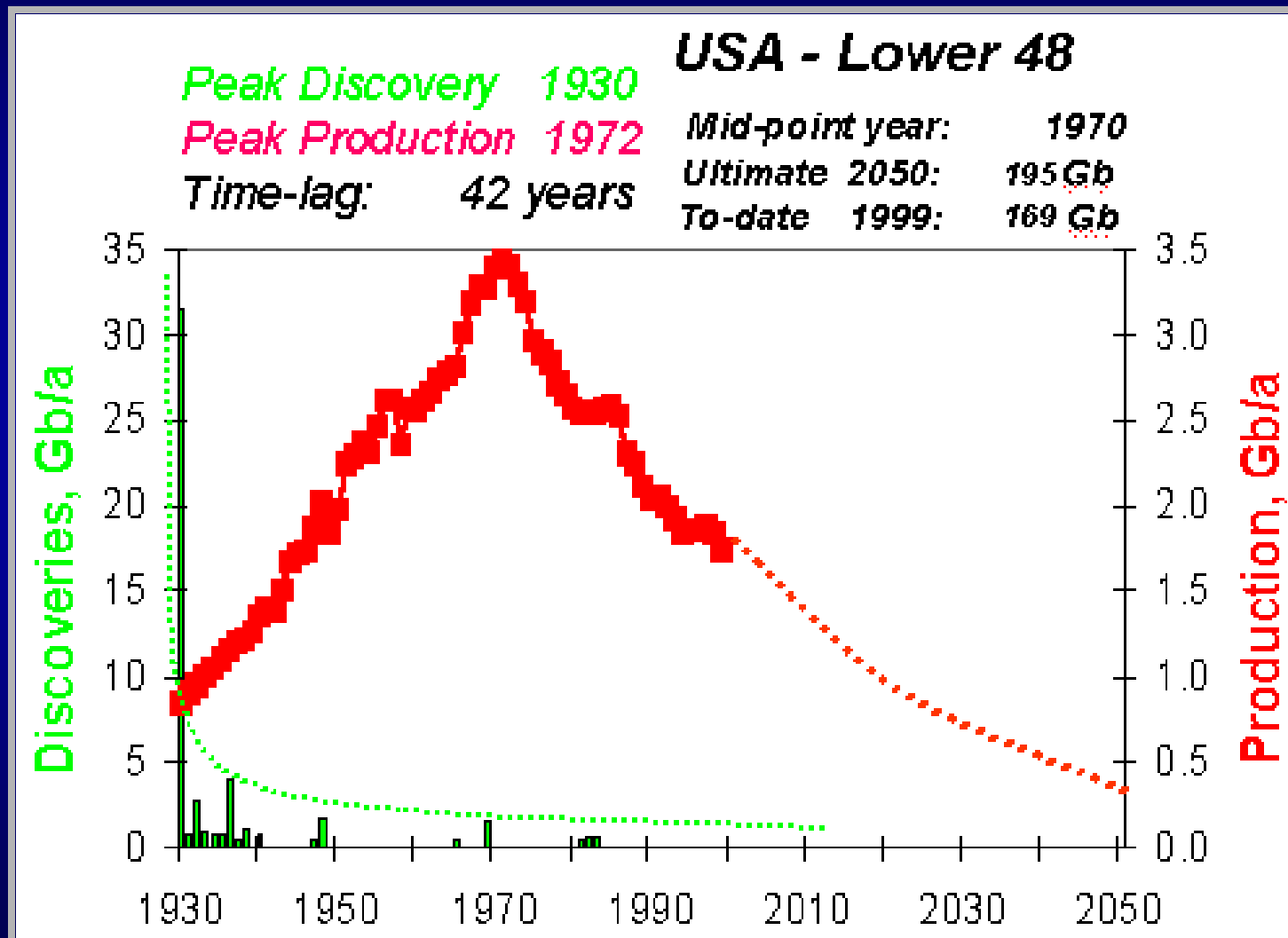
# Today's Agenda

- **Peak Oil – Not So Much....**
- **Energy Policy in the United(?) States – What a Fracking Mess!**
- **The Most Amazing Comeback in the Energy Biz**
- **Uhh...Some Thoughts on Prices**

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# Great Idea, but Many Unknowns

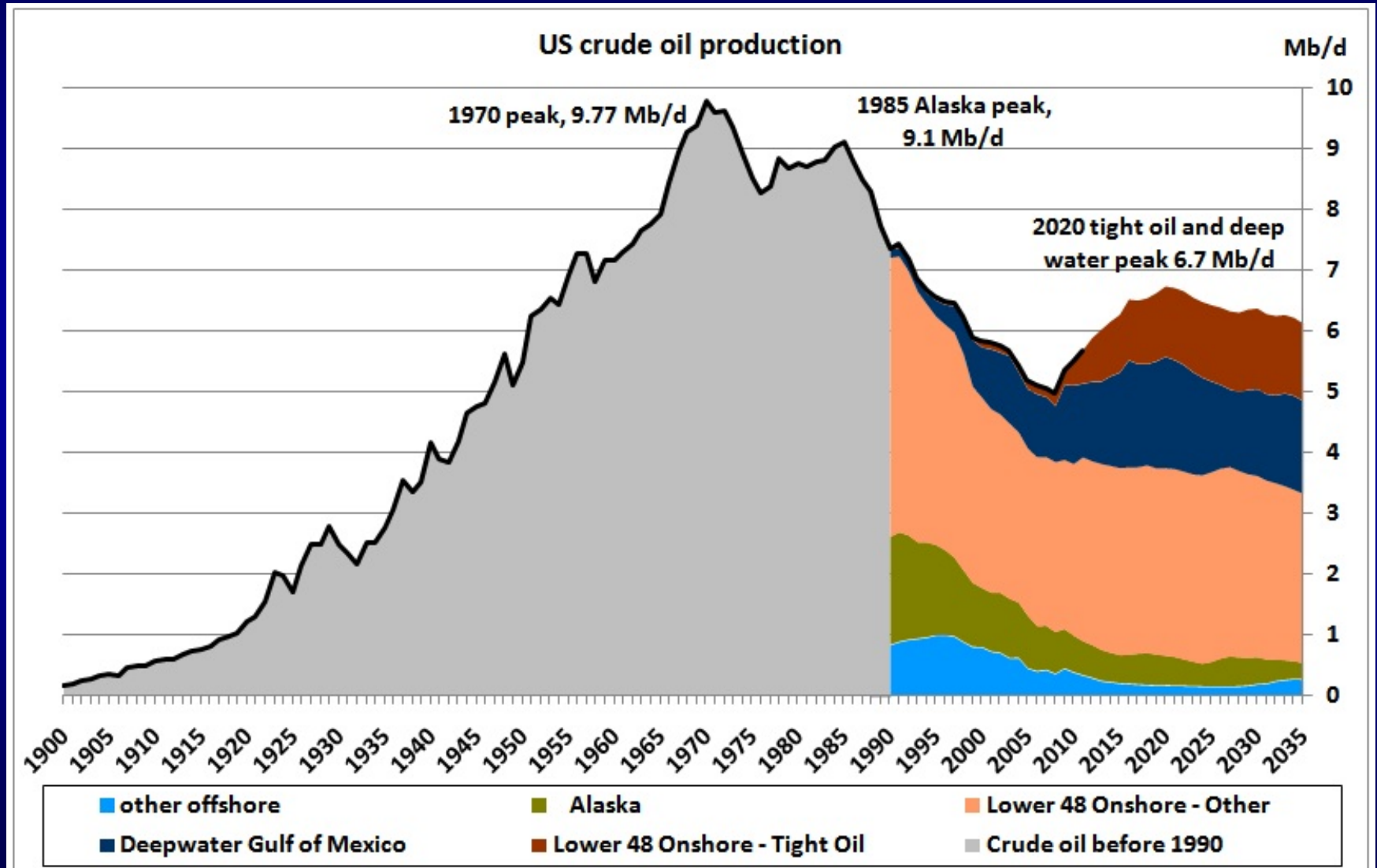


# Resource Plays – New “Reservoirs”

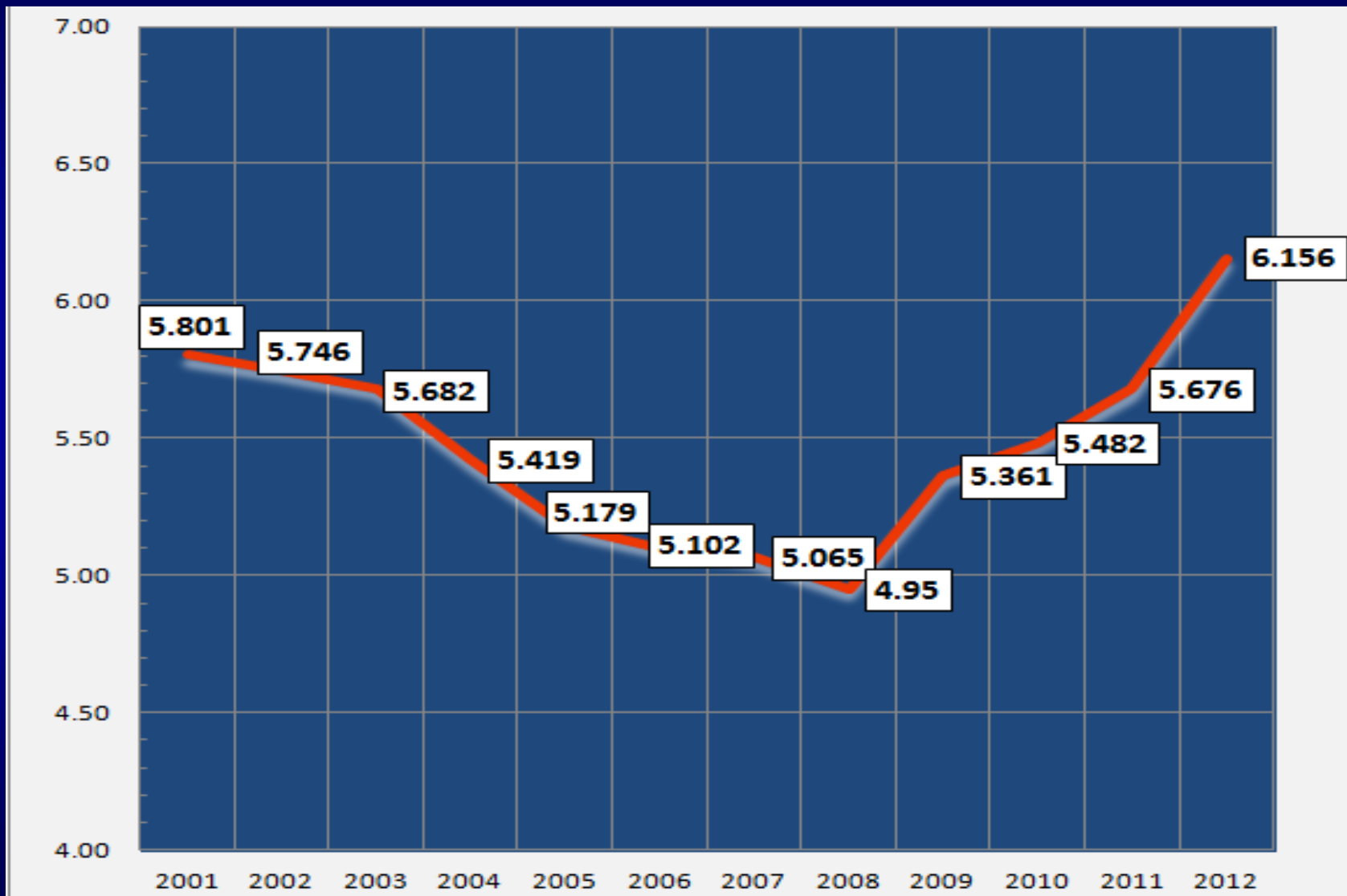


# New Thinking about Peak Oil

Tight Oil already over 1 mm BOPD



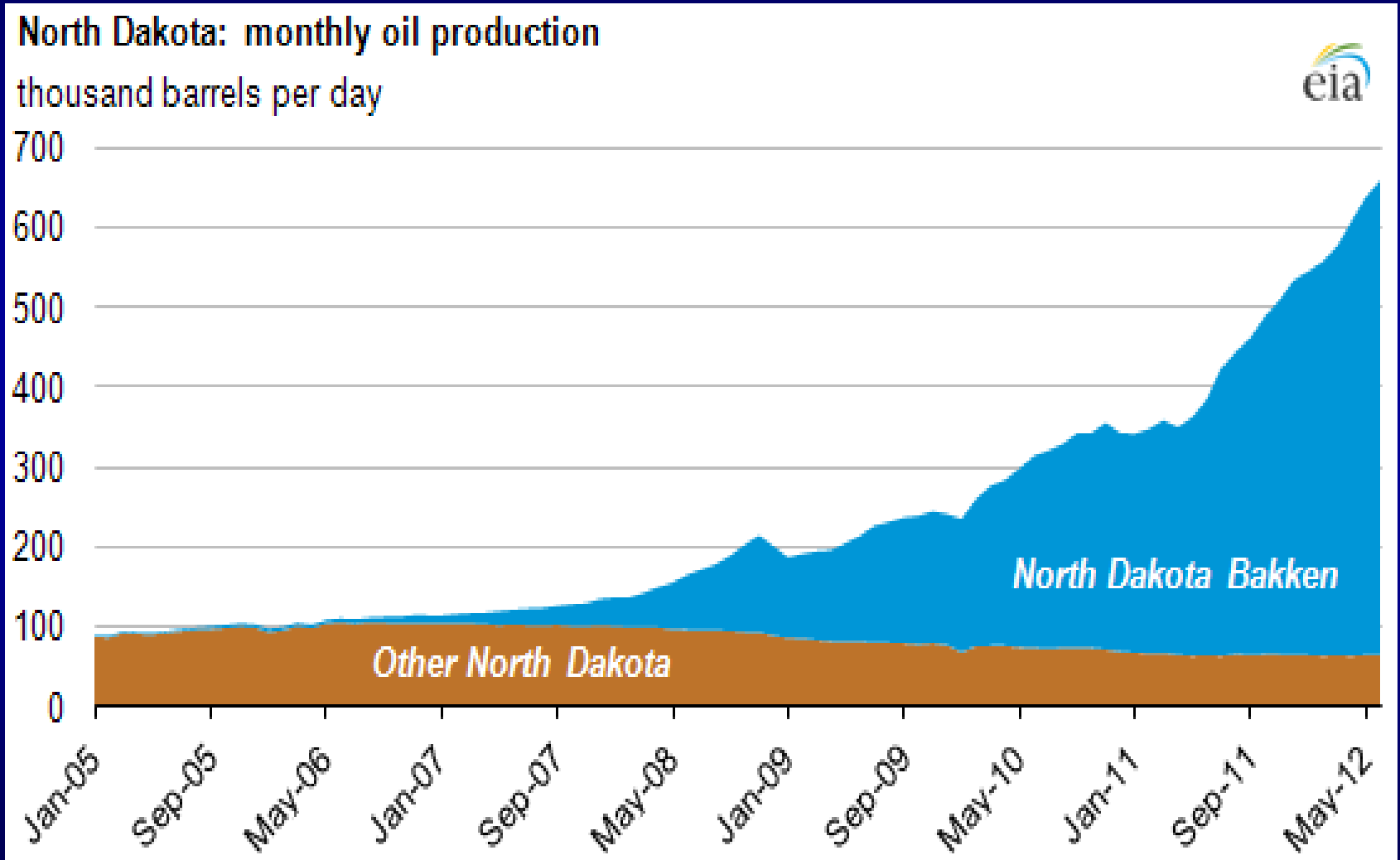
# Amazing Rebound in U.S. Oil Production



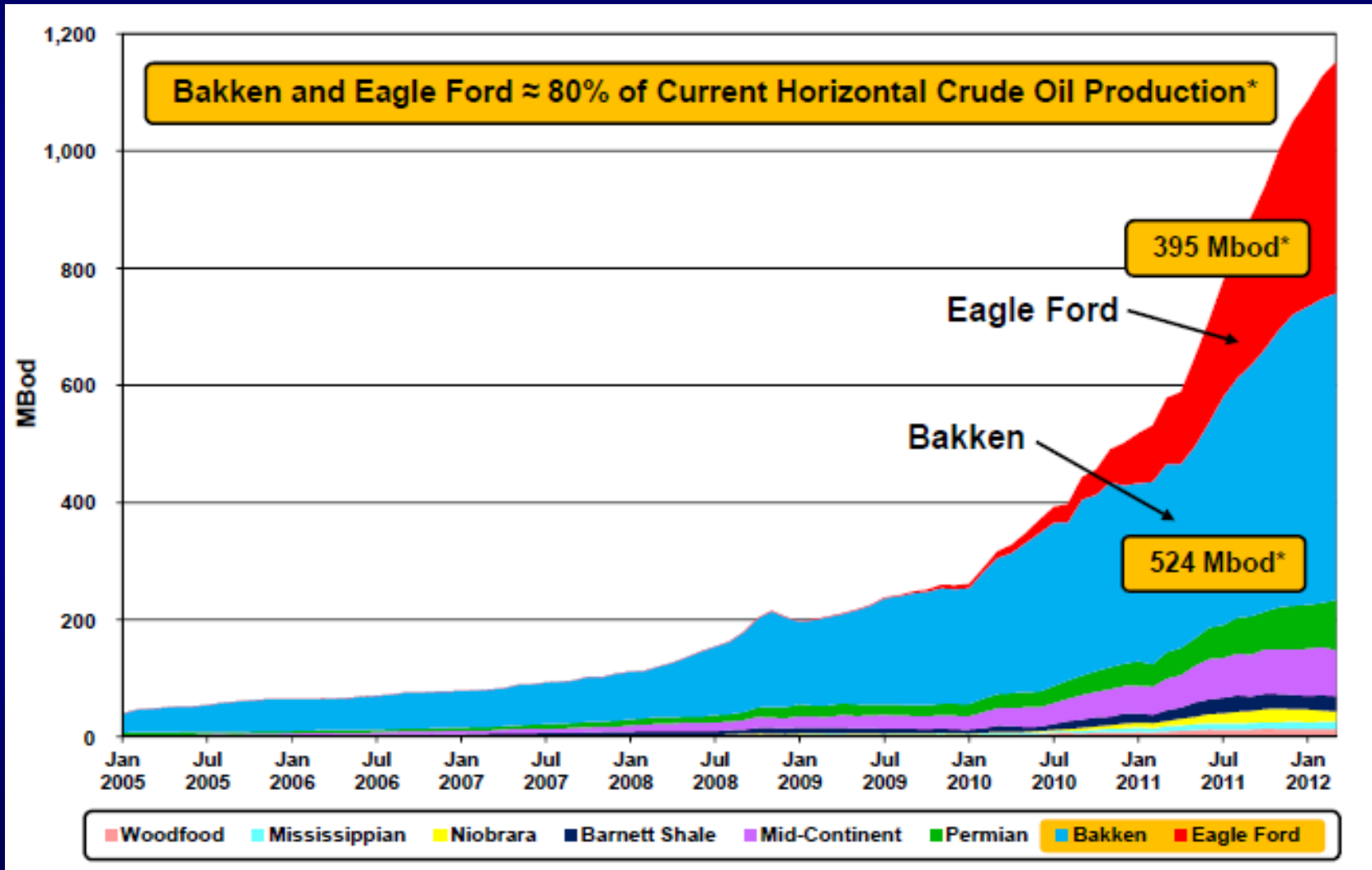


# North Dakota Bakken exceeds 600,000 BOPD

Leaving California in the Dust!



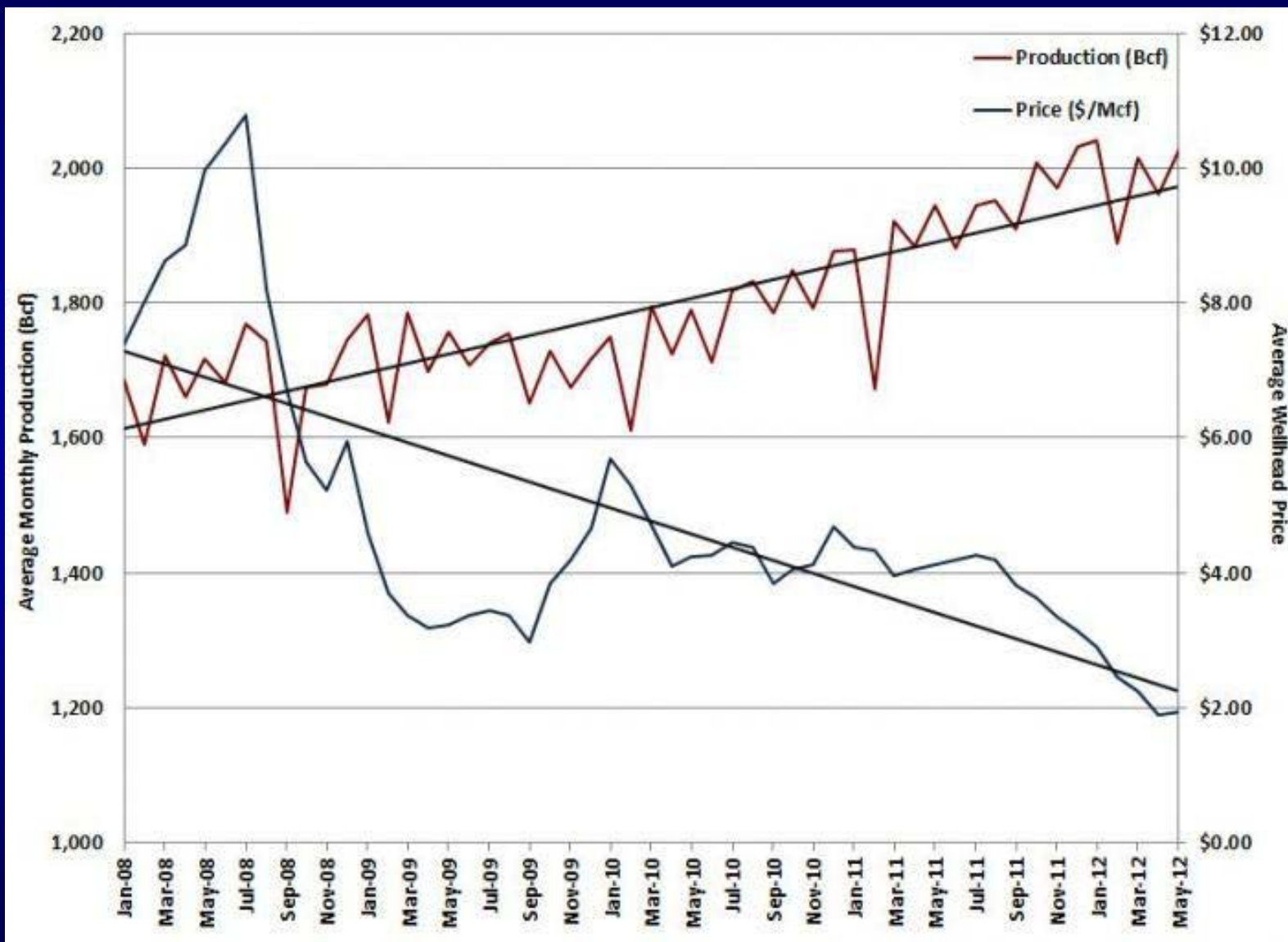
# Eagle Ford over 400,000 BOPD



# New Study (proprietary)

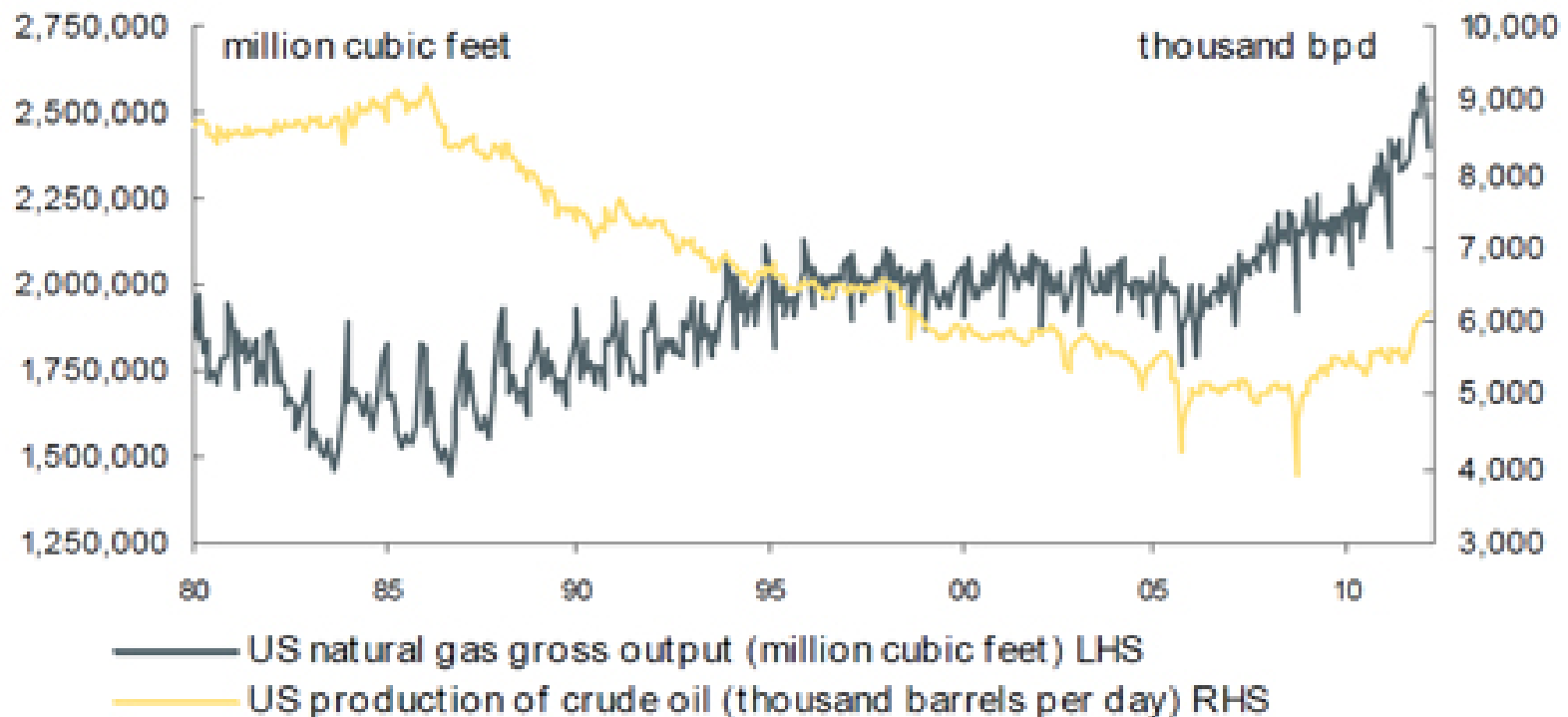
- U.S. Production will rise by 5 million BOPD in the next ten years
- By 2022, the U.S. will be producing 12 million BOPD
- Waterborne Imports will drop from 7 million BOPD to day to less than 1 million
- Crude Prices will drop by 15-20%

# U.S. Gas Production Surging



# Both Oil and Gas Production are Rising!

**US oil production is growing for the first time in a generation; natural gas has been rising since 2005**



Source: US Energy Information Administration

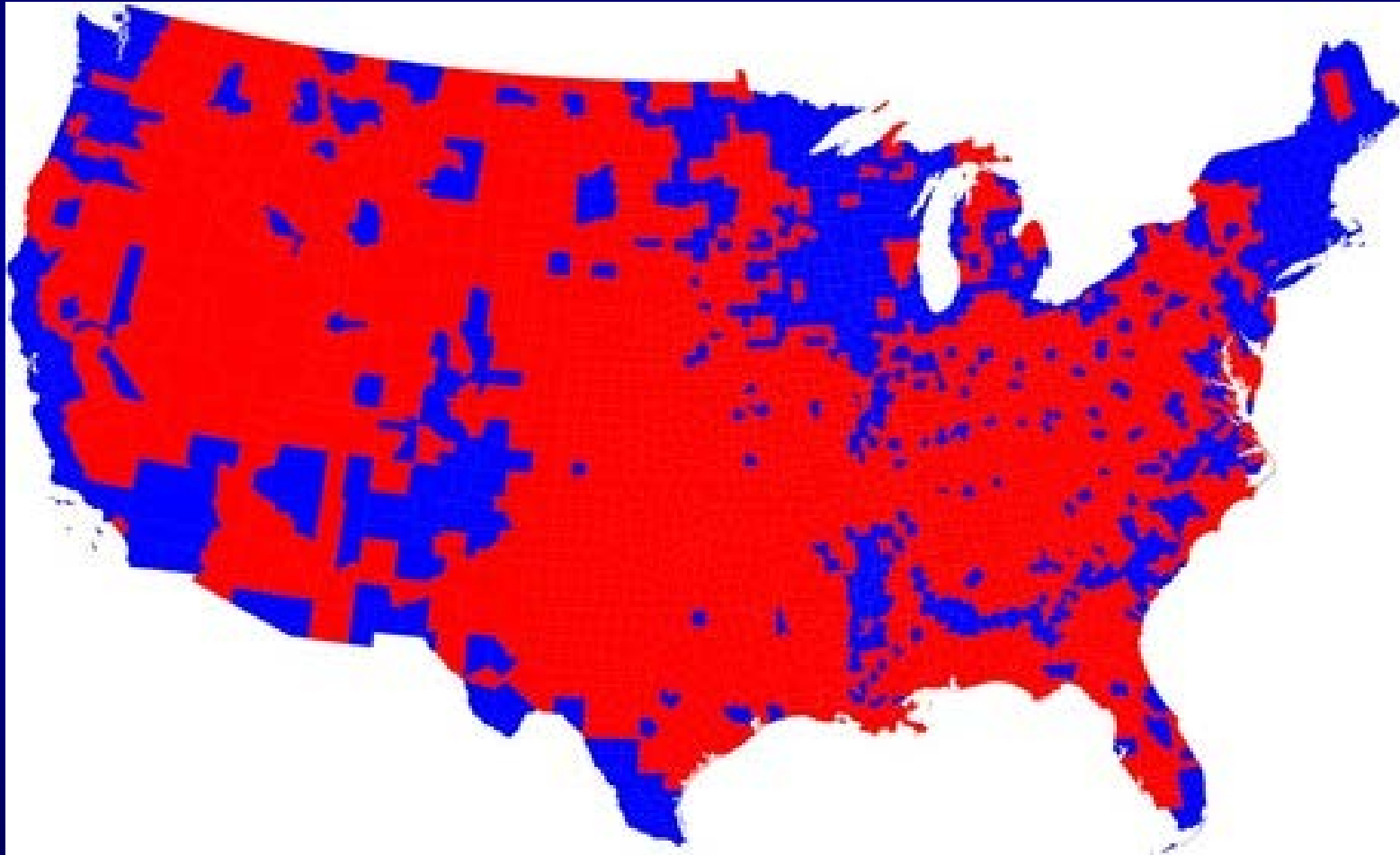
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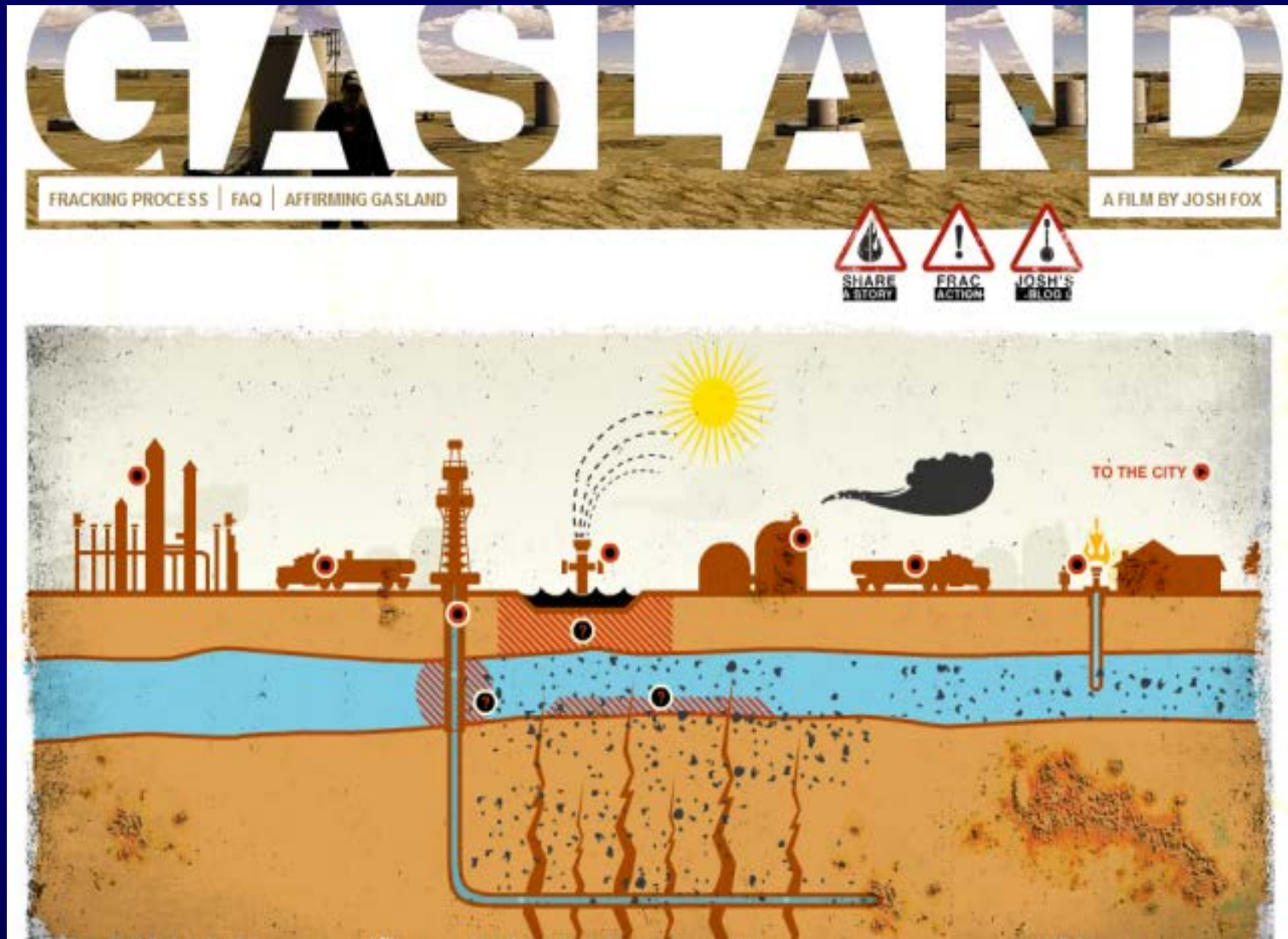
# The New Map of the USA

The Joys of the Internet and Social Networking



Politics by County – 2008 Election

# A Michael Moore Wannabe Strikes Pay Dirt



# An Unforgettable Image



Biogenic Gas – But Who Cares about FACTS?

# “Fracking” – the Evil Culprit

- **Hydraulic Fracturing** is the propagation of fractures in a rock layer as the result of the action of a pressurized fluid.
- The main purpose of hydraulic fracturing is to extend fractures into the reservoir to improve the production of oil and natural gas
- The first use of hydraulic fracturing was in **1947**
- About **One Million Wells** have been hydraulically fractured in the U.S.

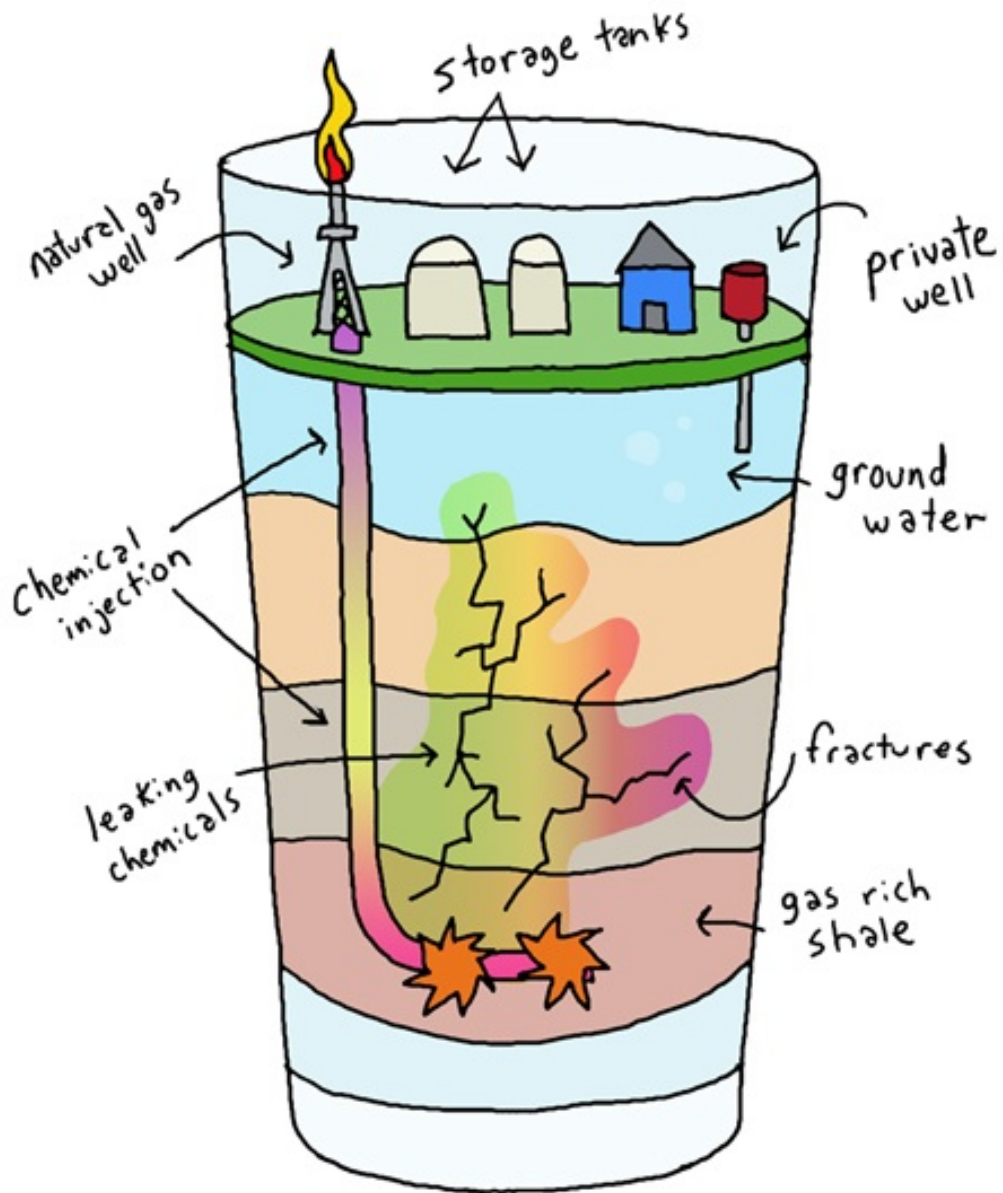




# Amazing Opposition



But  
Do They  
Understand  
Fracking?



Answer:

NO



# Anti-Fracking Mass Hysteria



# Countries Against Fracking



# States Against Fracking





# Artists Against Fracking



# Animals Against Fracking!!!





Did You Miss the Party??

**BAN FRACKING NOW!**

**JOIN THE**

**#GLOBAL  
FRACKDOWN**



**GLOBALFRACKDOWN.ORG SEPT 22 2012**





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# Remember Global Warming??



**Fracking** -- the replacement issue for the Enviros



**Never Forget the Enviro's Real Goal – No Fossil Fuels**

Where is the leadership when we really need it?



JFK on leadership— “to lead is to choose”

# “Blueprint for a Secure Energy Future”

White House – March, 2011

- Develop and Secure America’s Energy Resources
- Provide Consumers with Choices to Reduce Costs and Save Energy
- Innovate Our Way to a Clean Energy Future

# Actual Goals of the Blueprint?

- Develop and Secure America's Energy Resources (punish the oil and gas producers)
- Provide Consumers with Choices to Reduce Costs and Save Energy (as long as it is a green energy choice)
- Innovate Our Way to a Clean Energy Future (loan money to solar companies)



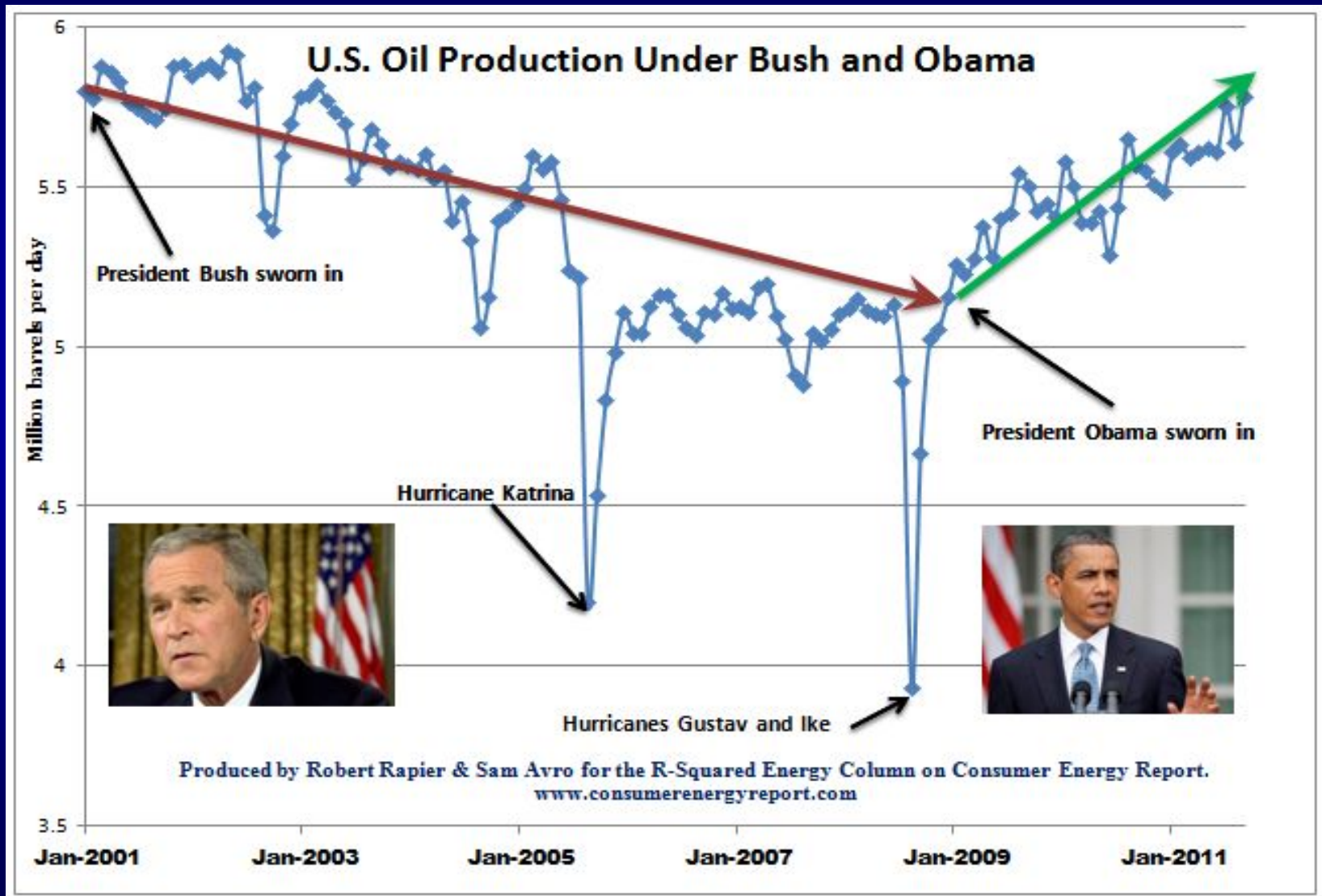
# REAL Goals of the Blueprint

- Satisfy the Environmental Wackos that you tried to limit the growth of oil and gas
- Do Everything to Damage the American Oil and Gas industry (taxes, regulations, etc.)

**THEN.....**

- Take Credit for the SUCCESS of the American Oil and Gas Industry
- Get Re-elected in 2012

# Oh, Noooo!!!

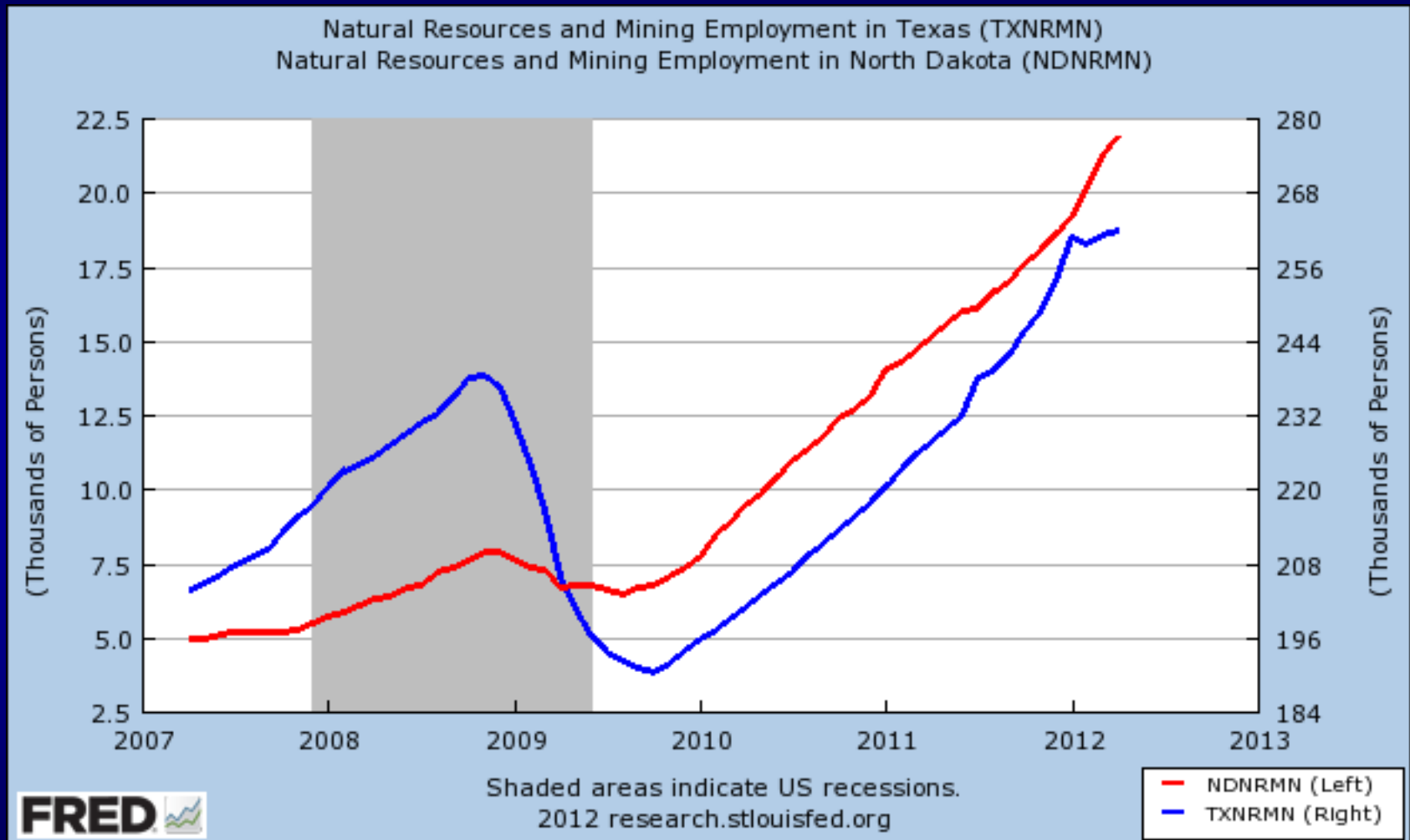


# A Clear Domestic Energy Plan

- Simple – Encourage Domestic Production
- Easy to Implement – get out of the way!
- Government Role – Get the Enviro Wackos out of the way!
- Creates Jobs
- Creates Tax Revenues
- Reduces Green House Gases

# 150,000 New Jobs Created

## Texas and North Dakota



1,500,000 jobs Nationwide by 2015

# Remember My “*Top Secret Canadian Plan*” from 2011?

- Be Nice to the Canadians
- Approve their Pipeline Projects
- Cut out the Chinese
- Be Nice to the Canadians

# Obama's Results with Canada

- Be Nice to the Canadians
  - Obama makes them Mad!
- Approve their Pipeline Projects
  - Express still not approved
- Cut out the Chinese
  - Buying Nexen for \$15 billion

0 for 3 batting average to date!!!

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# An Amazing Turnaround....



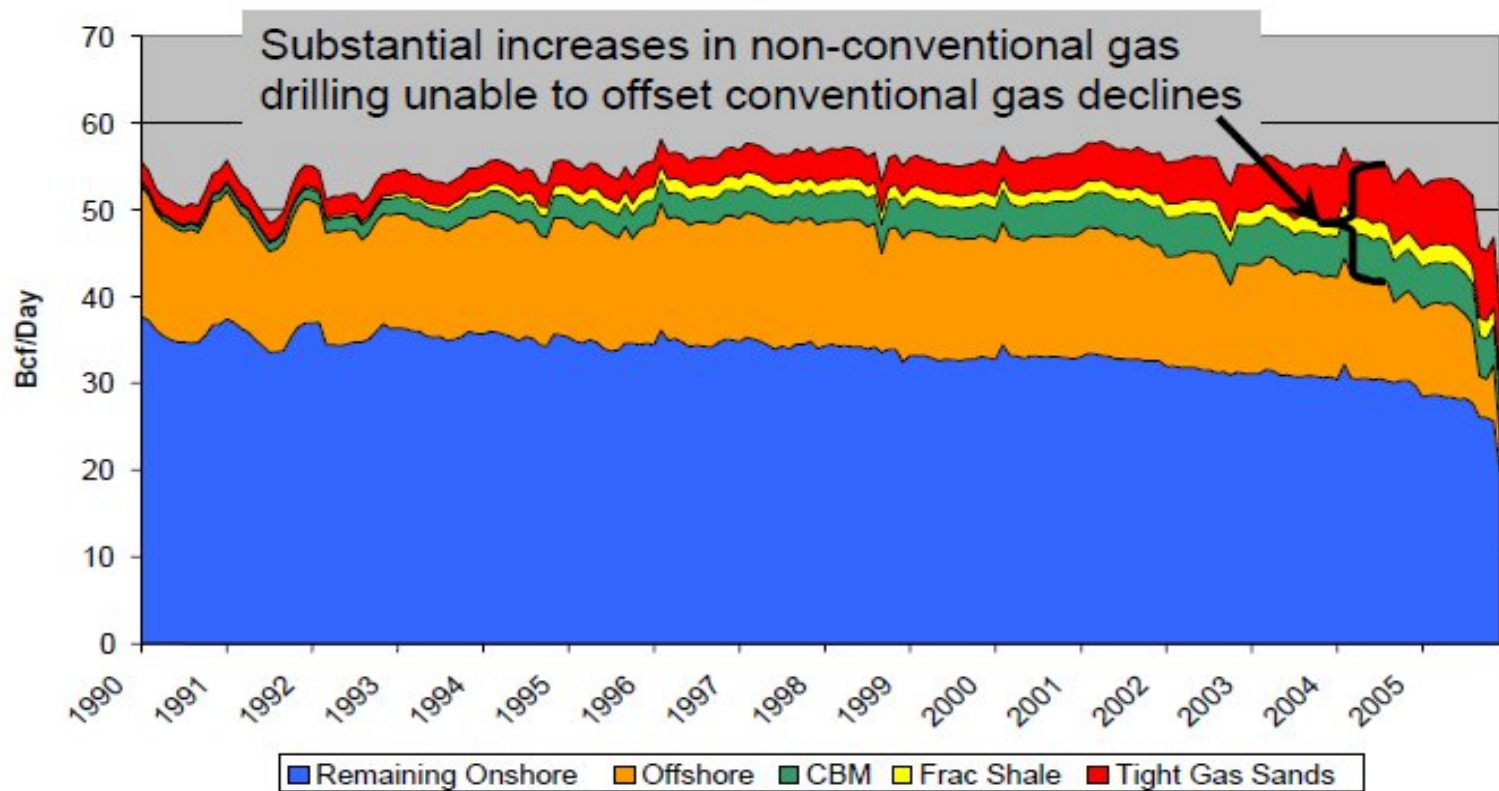


# Denver Airport -- March, 2003



# Falling U. S. Gas Production

Historical Gas Production  
By Resource Type – U.S. Lower 48 States



We Thought U.S. Gas Production had peaked and would forever fall

# LNG Carrier = Giant Refrigerator





# Sabine Pass LNG Import Facility

\$4 Billion Investment – World Class – Chevron/Total customers



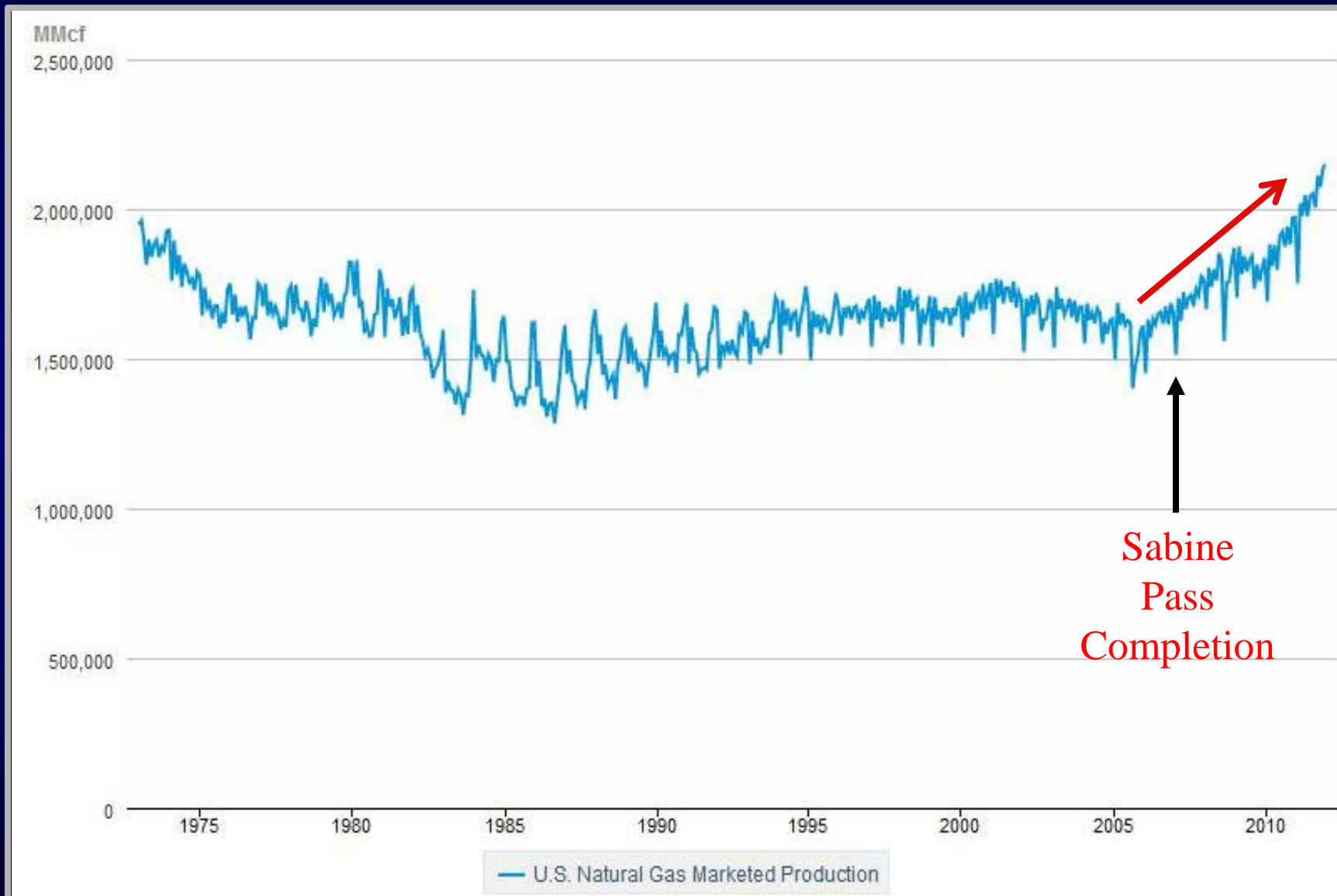
# Most Expensive Tug Boats in the World



OOPS!!!



# A Bit of Bad Timing!





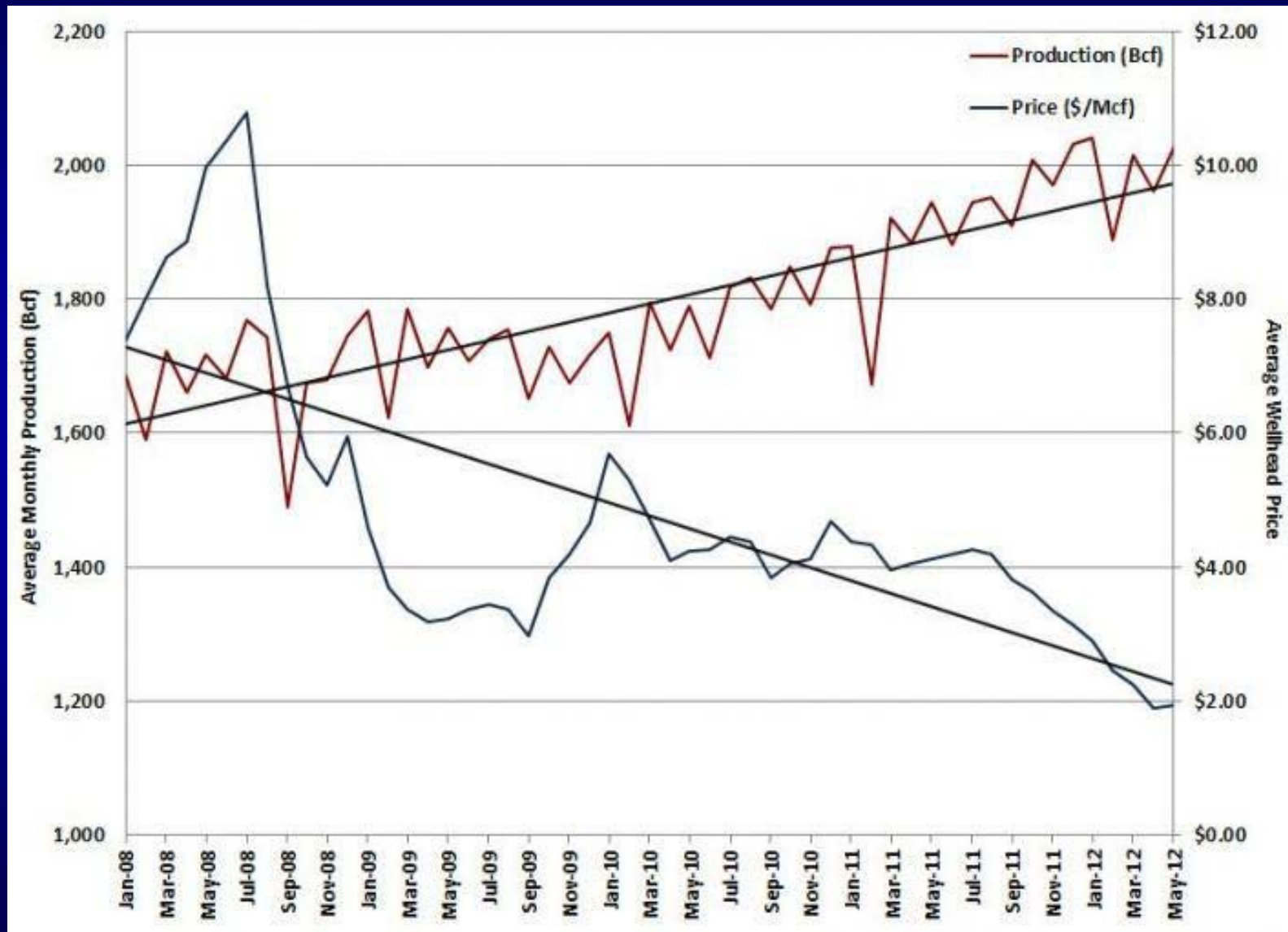
# 2500 Tcf gas reserve potential



# What Now??



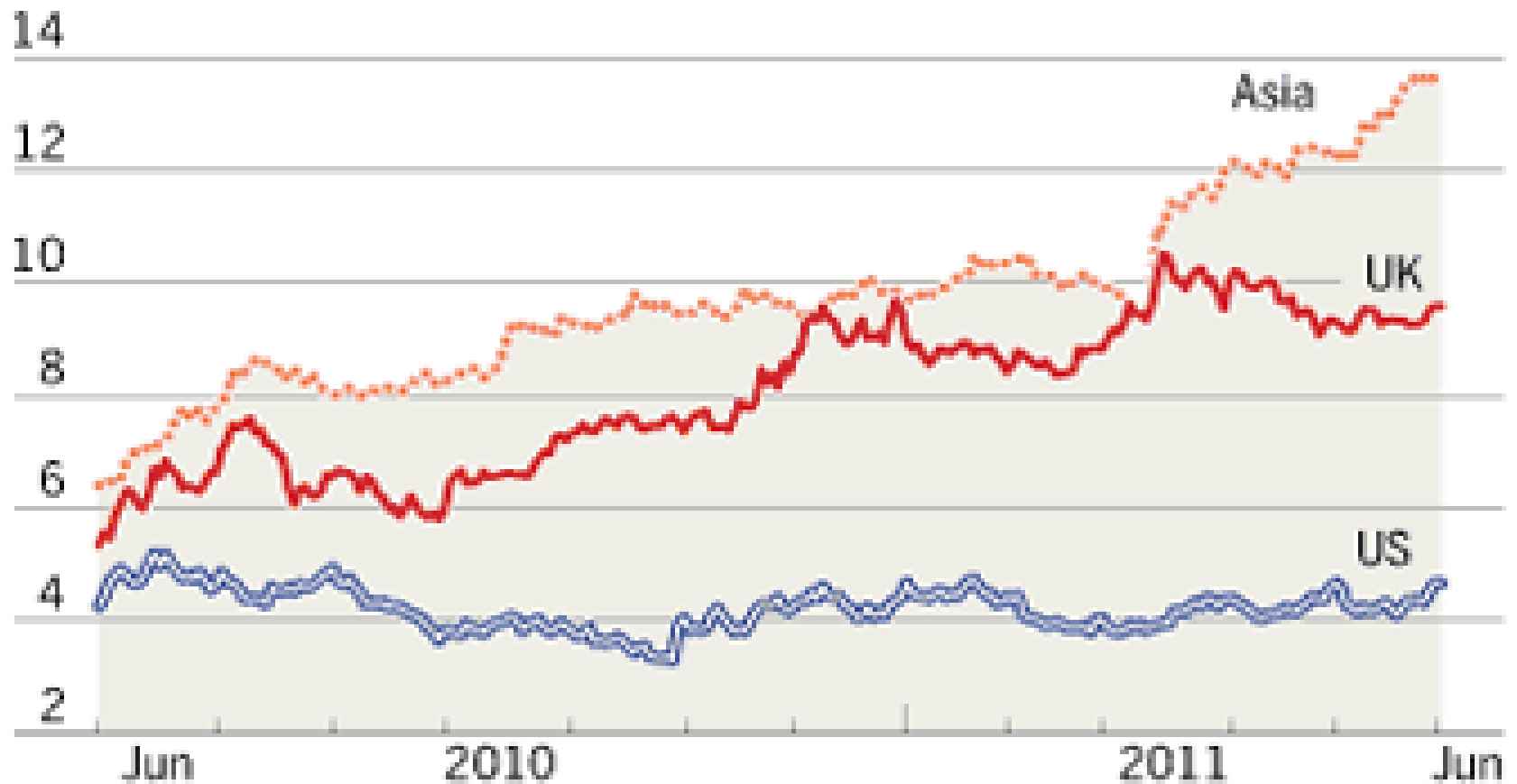
# Supply goes Up, Price goes Down



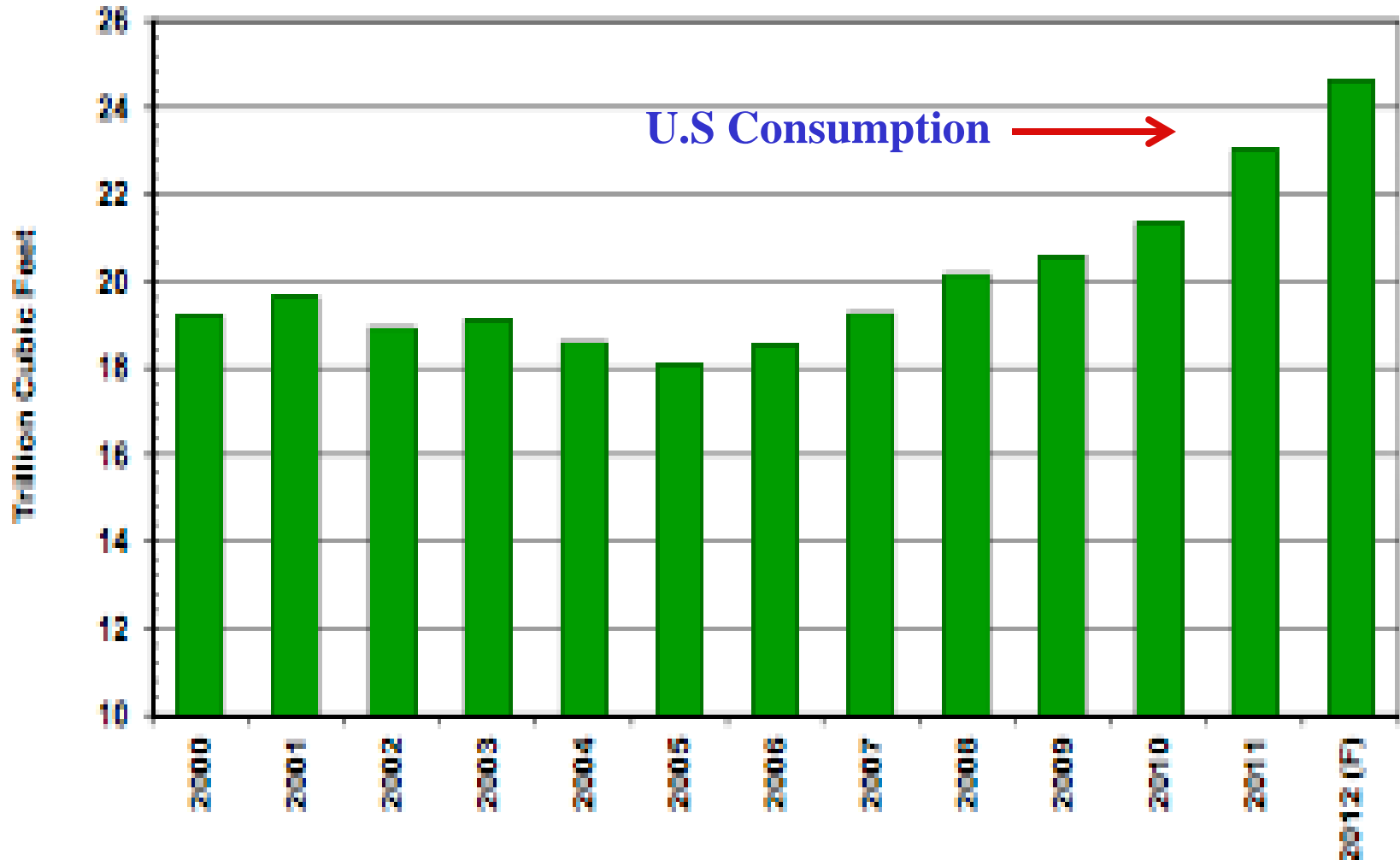
# Global Natural Gas Prices

## Global natural gas prices

\$ per million British thermal units



# Surplus of Gas in U.S. – Let's Export!



# Export Gas from the United States??

- DOE Permit to Export Gas
- FERC Permit to Build Liquefaction
- EPC Contract with Bechtel
- Contracts with High Quality Customers
- One More Thing -- **\$10 billion dollars**

# Serious Headwinds

- "It's kind of like turning around a battle ship," said Jeff Wright, director of the FERC's energy projects office.
- Rex Tillerson, CEO of ExxonMobil – 2010  
-- “gas will not be exported from U.S.”
- Rex Tillerson – 2012 – “we are filing for a permit to export natural gas”



**Trains 3 & 4: Commercial contracts complete**

**r to commencing construction**







Done

Done

# Contracted Capacity at SPL

## Sale and Purchase Agreements (SPAs)

Long-term, “take-or-pay” style commercial contracts equating to ~16 mtpa

	 <b>BG GROUP</b> BG Gulf Coast LNG	 Gas Natural Fenosa	 Korea Gas Corporation <sup>(1)</sup>	 GAIL (India) Limited <sup>(1)</sup>
Annual Contract Quantity (MMBtu)	286,500,000	182,500,000	182,500,000	182,500,000
Annual Fixed Fees <sup>(5)</sup>	~\$723 MM	~\$454 MM	~\$548 MM	~\$548 MM
Fixed Fees \$/MMBtu <sup>(2)</sup>	\$2.25 - \$3.00	\$2.49	\$3.00	\$3.00
Term <sup>(4)</sup>	20 years	20 years	20 years	20 years
Guarantor	BG Energy Holdings Ltd.	Gas Natural SDG S.A.	N/A	N/A
Guarantor/Corporate Credit Rating <sup>(3)</sup>	A2/A	Baa2/BBB	A/A1	Baa2/NR/BBB-
Fee During Force Majeure	Up to 24 months	Up to 24 months	N/A	N/A
Contract Start Date	Train 1 + additional volumes with Trains 2,3,4	Train 2	Train 3	Train 4

(1) Conditions precedent must be satisfied by June 30, 2013 for KOGAS and GAIL (India) Ltd. or either party can terminate. CPs include financing, regulatory approvals and positive final investment decision.

(2) A portion of the fee is subject to inflation, approximately 15% for BG Group, 13.6% for Gas Natural Fenosa and 15% for KOGAS and GAIL (India) Ltd.

(3) Ratings may be changed, suspended or withdrawn at anytime and are not a recommendation to buy, hold or sell any security.

(4) SPAs have a 20 year term with the right to extend up to an additional 10 years. Gas Natural Fenosa has an extension right up to an additional 12 years in certain circumstances.

(5) BG will provide annual fixed fees of approximately \$520 million for trains 1-2 and \$203 million for trains 3-4.

# Sabine Pass Bi-Directional LNG Facility



Existing  
operational  
facility

Permitted  
Expansion

12 Jet Engines powering Refrigerant Plants



# Stay Tuned the Next Three Years.....

**CHENIERE**



# LEADERSHIP

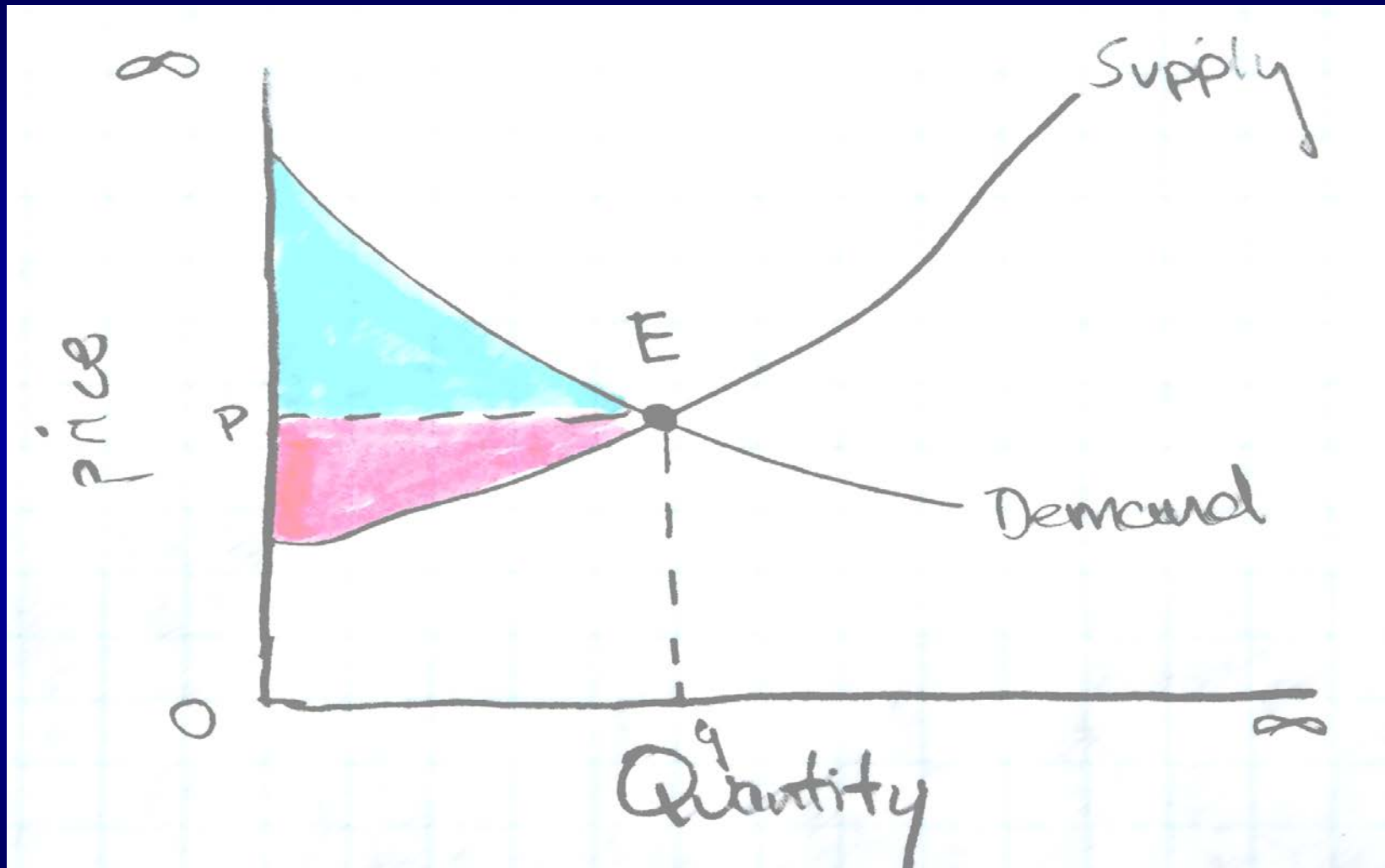


No New Export Licenses – “Under Study” by DOE

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# It's all about Supply and Demand



Or the PERCEPTION of Supply and Demand??

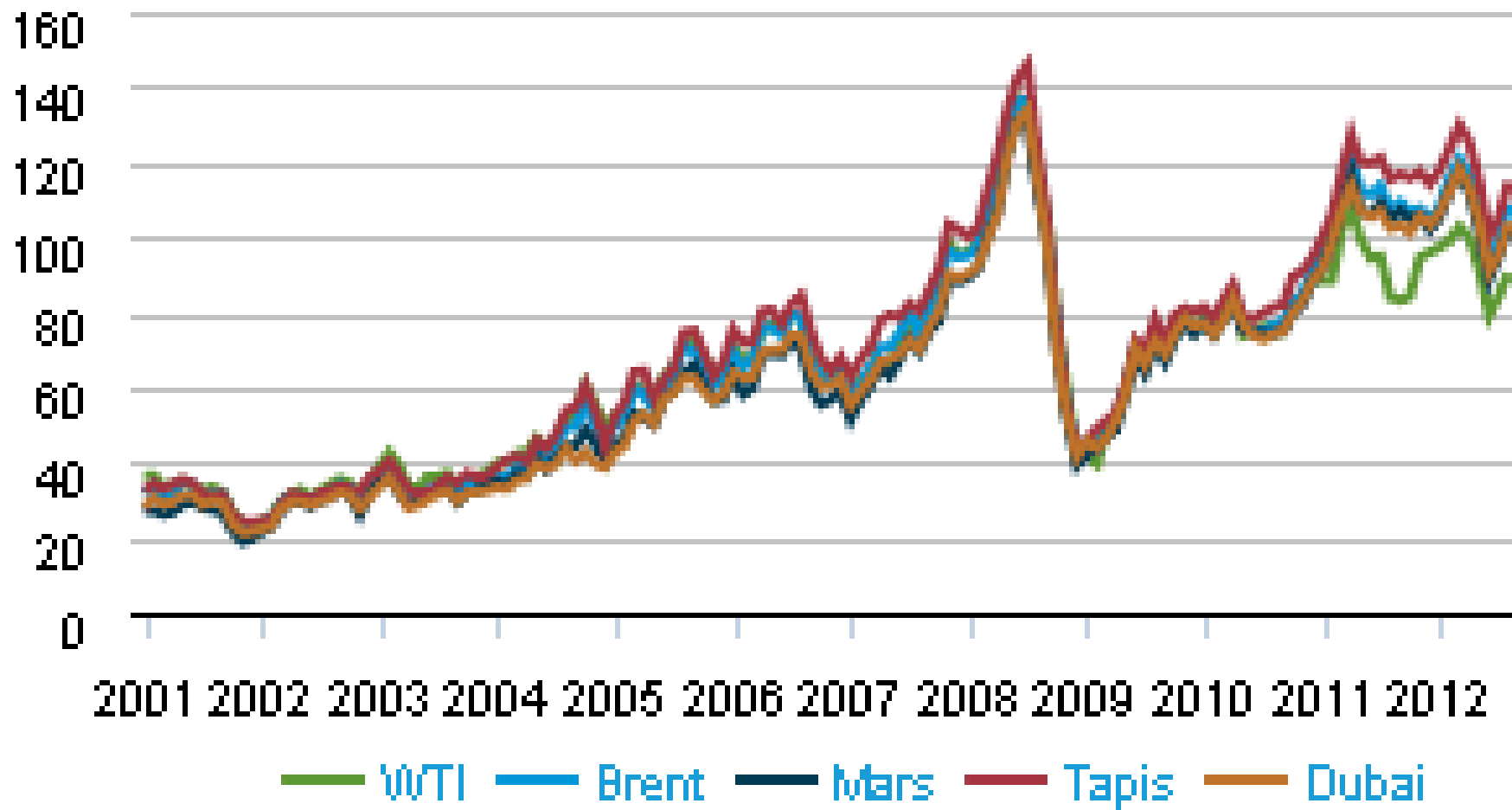


# DBK Predictions – Fall, 2009

- Oil – As usual, the near-term market is focused on inventories, so oil has fluctuated in the \$65 to 75 range. Long-term supply could be tight so prices should climb to \$100 in the next few years. NOC's control the majority of conventional sources.
- Gas – huge potential supplies in North America. Even bigger supply of stranded gas in the world. New LNG investments starting to send out cargos. Overall price picture looks bearish.

# World Crude Oil Prices

dollars per barrel (real 2010 dollars, monthly average)



Sept 25, 2012 – Brent = \$110, WTI = \$90

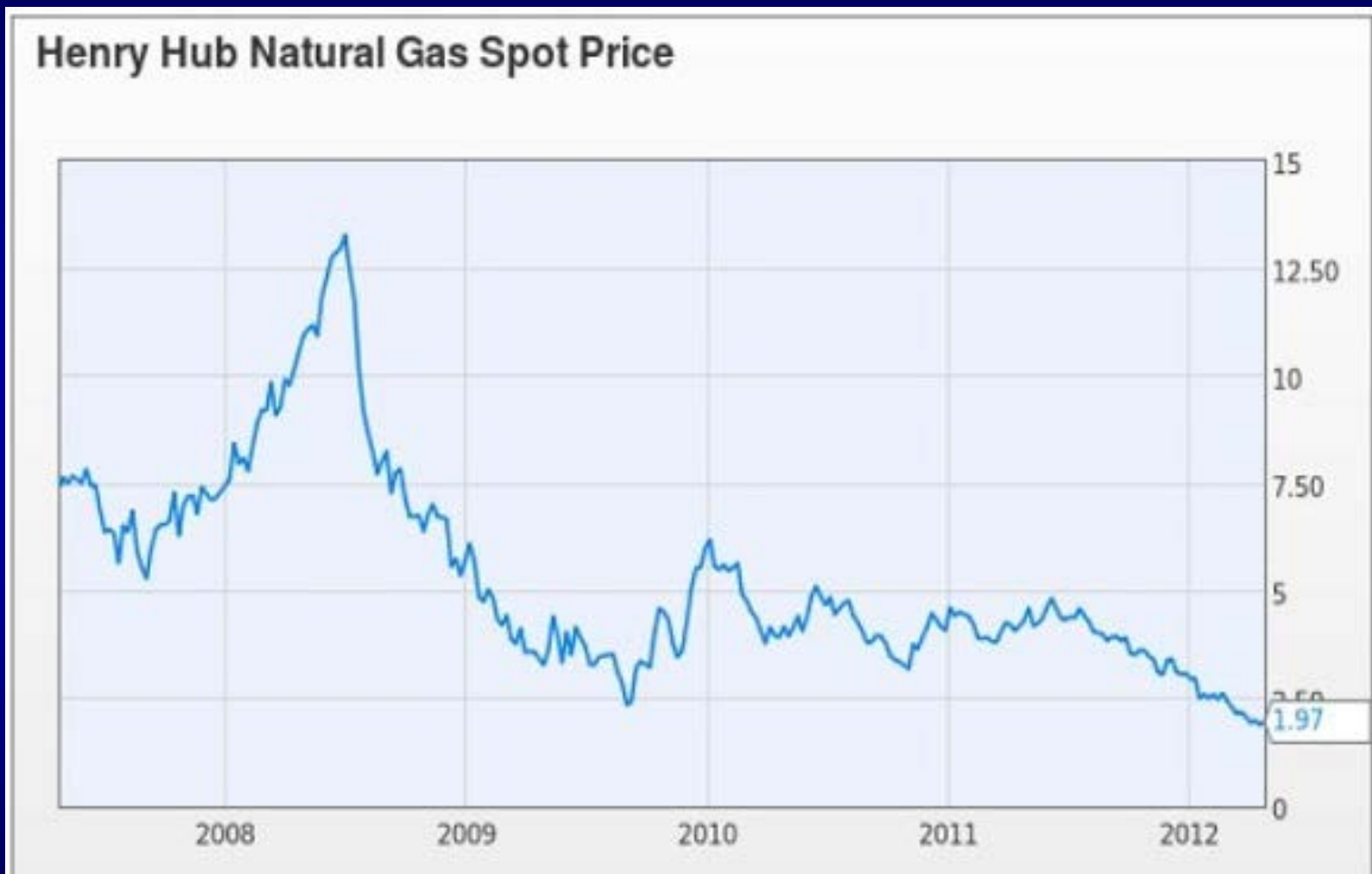
# Recent Events are Bearish

- Slowing World Economy – even the Asian Tigers
- Saudi Arabia announcement – plan to offer “extra supply” thru year end 2012
- Iraq is a Wild Card – recent discovery well tested 42,000 BOPD

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# Last Five Years -- U.S. Natural Gas Prices



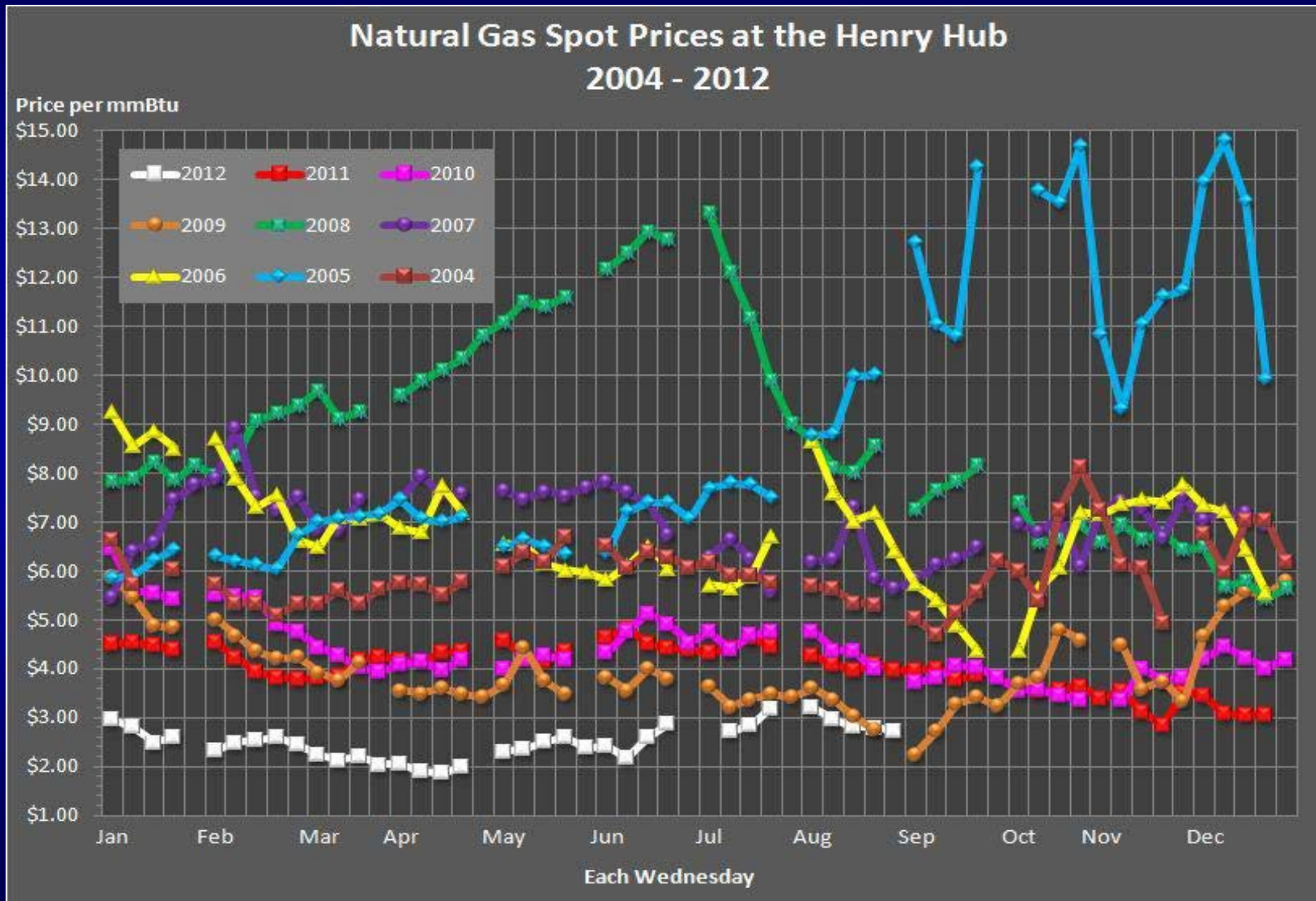
Early 2012 – dipped below \$2.00 per mcf

# Recent Natural Gas Prices



Current Price @ 9-26-12 -- \$3.21

# U.S. Natural Gas Prices – All Over the Map!





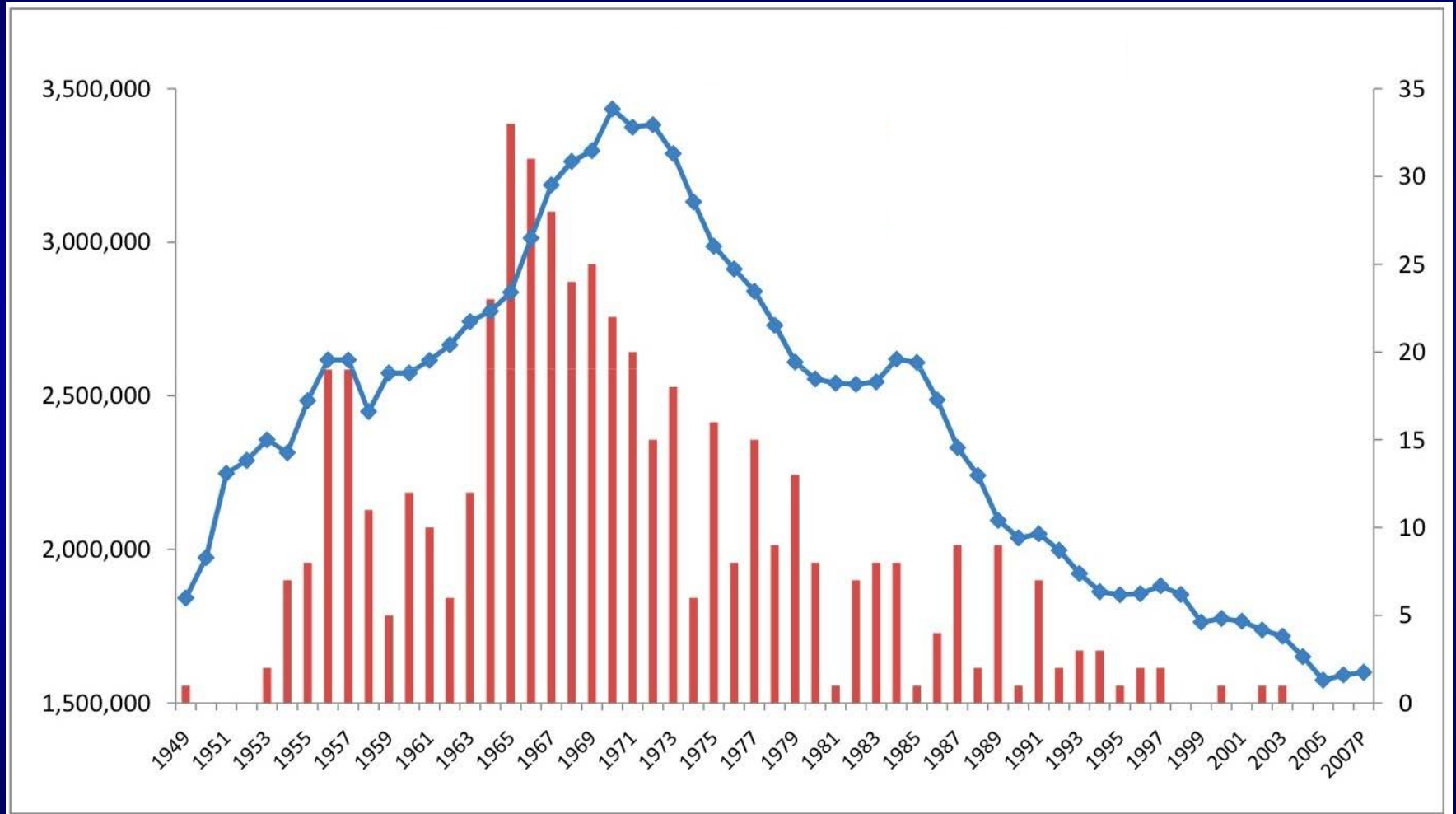
# Big Bets on Cheap U.S. Natural Gas

- Dow Chemical -- \$4 billion ethylene plant in Texas
- Shell -- \$2 billion petrochemical plant in Pennsylvania
- CF Industries -- \$2 billion fertilizer plant in Illinois
- Orascom (Egyptian Co.) -- \$1.4 billion fertilizer plant in Iowa

# One Last Thought

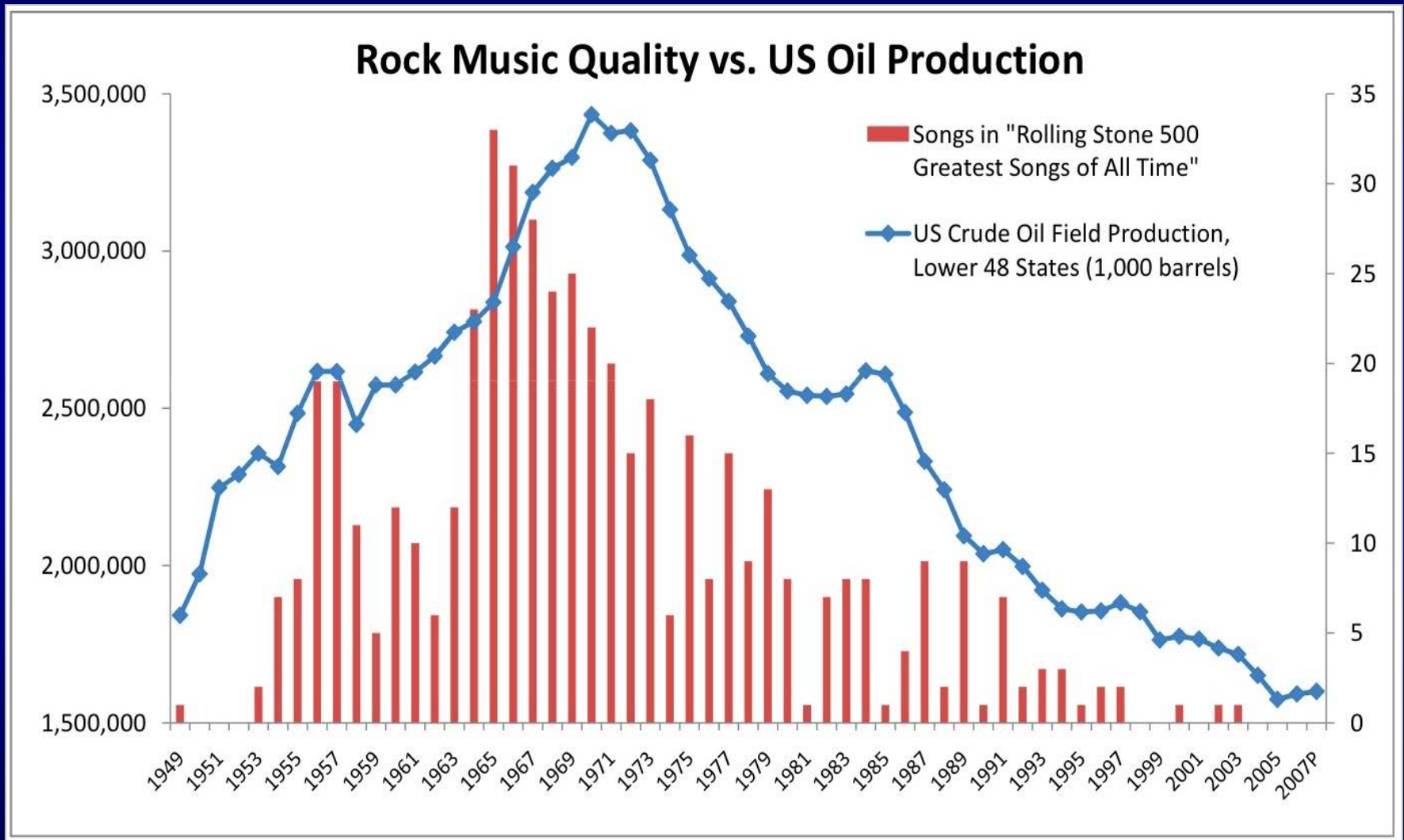


# Good Correlation, Right?



Blue Line – U.S. Oil Production 1949 - 2007

# Good, but Relevant ???





WCLI 2012







# Sabine Pass LNG Import Facility

