

# Upstream Oil and Gas: The Challenges Ahead

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Prepared for:

**East Texas Gas Producers Association**

Carthage, TX

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Tulsa, OK

# Macro Environment

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## Economic

- **Slow global oil demand growth led by emerging markets**
- **Slow US gas demand growth led by the power generation sector**
- **Oil and gas prices to remain de-coupled**
  - **\$90-\$100/bbl oil; \$3.50-\$4.00/mmbtu gas**
  - **Rig activity focused on highest ROI plays – oil, natural gas liquids (NGLs)**

## Regulatory

- **Regulations addressing clean air, clean water, and/or noise levels are either being implemented or considered at the federal, state, and municipal level**
  - **net impact on the development of unconventional oil and gas reservoirs appears to be minimal**

## Technological

- **Oil and gas shale plays – horizontal drilling, hydraulic fracturing**
- **Water – access, usage, disposal, recycling**

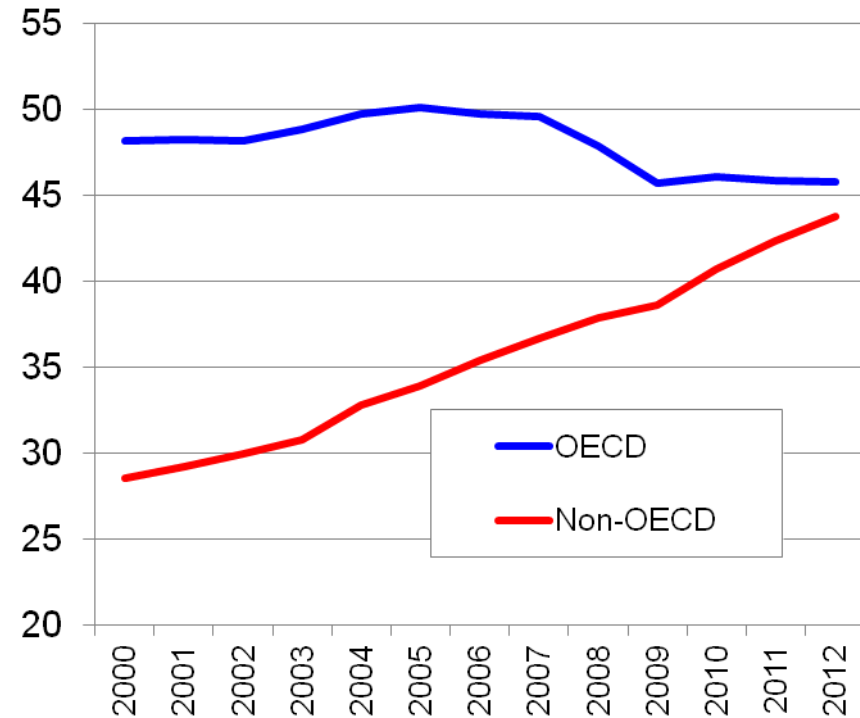
# Oil Market Outlook

**Oil demand growth over the near- and mid-term is expected to look like the (recent) past.**

**Since 2000 net growth in oil demand has been driven by emerging economies (3.6% CAGR), not industrialized nations (-0.4% CAGR).**

**Rising population, increased productivity, and stronger currencies are driving oil demand growth in emerging economies.**

**World Oil Demand (mmbpd)**

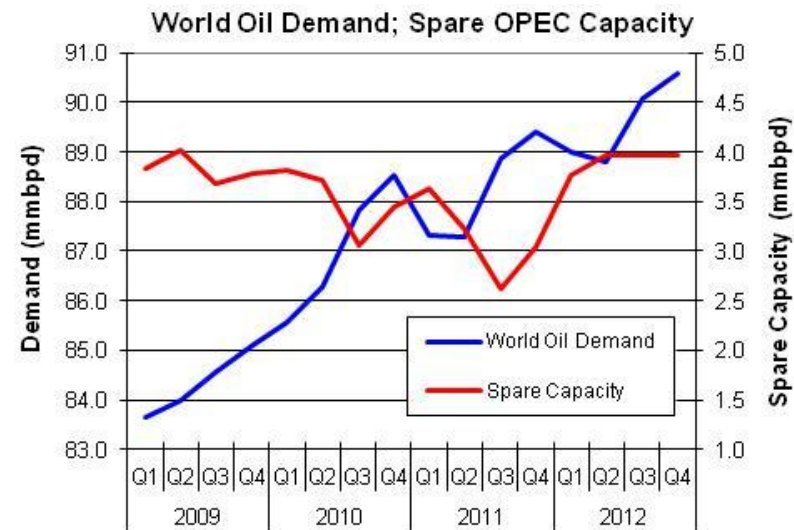
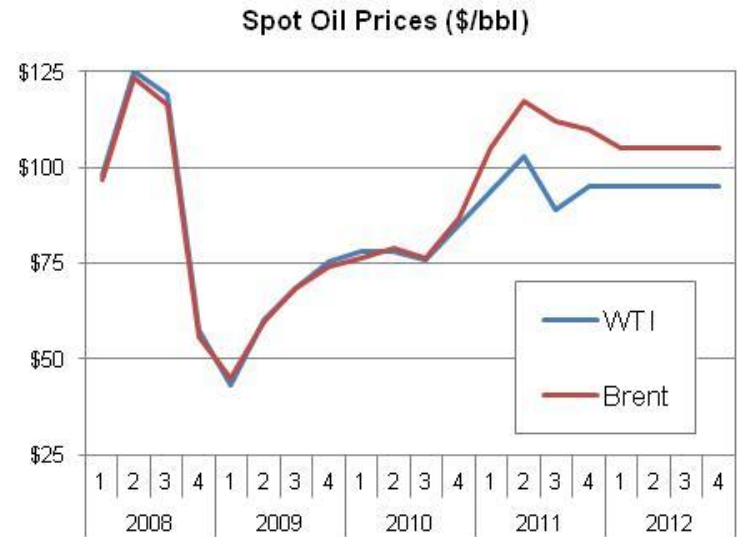


# Oil Price Outlook

**Spot WTI prices are projected to average \$95/bbl in 2012, unchanged from 2011, and spot Brent prices are projected to average \$105/bbl in 2012, down 5% for the year.**

*The WTI-Brent spread narrowed sharply following announcement of plans to reverse the Seaway pipeline connecting Cushing to the Gulf Coast.*

**Spare OPEC capacity is projected to average about 4 million bpd in 2012, its highest level since mid-2009.**

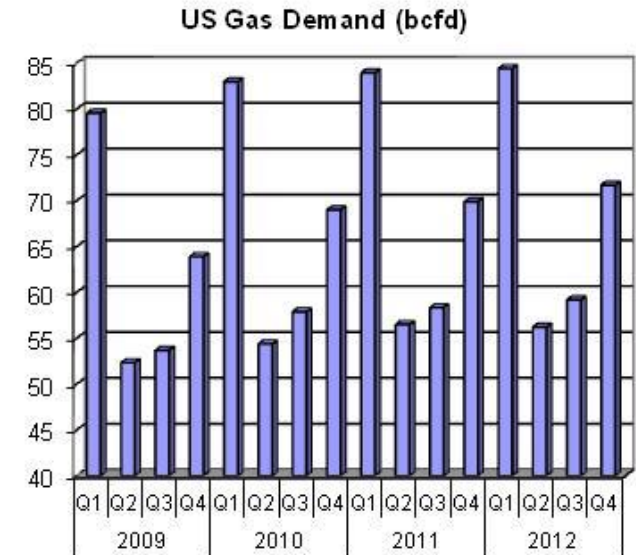


# US Gas Market Outlook

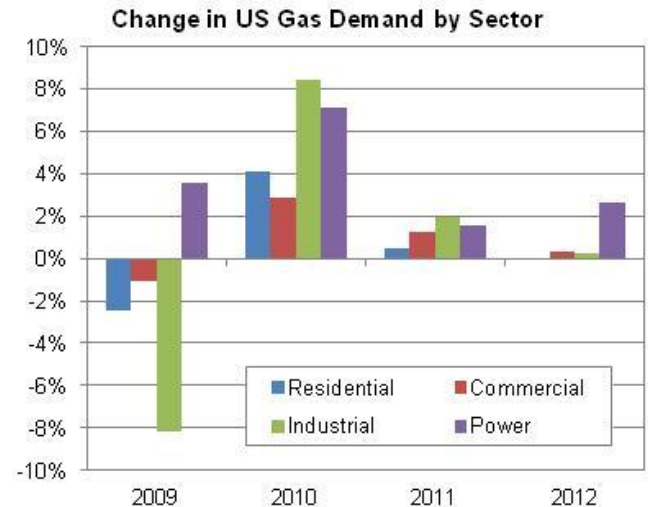
**US gas consumption is projected to grow 1.1% in 2012 – assuming normal weather - following a 1.6% increase in demand in 2011.**

**Industrial gas demand (30% of total) is projected to increase 1.9% in 2011 but only 0.2% in 2012.**

**Gas use in the power generation market (34% of total) is projected to rise 1.5% in 2011 and 2.6% in 2012.**



Source: EIA



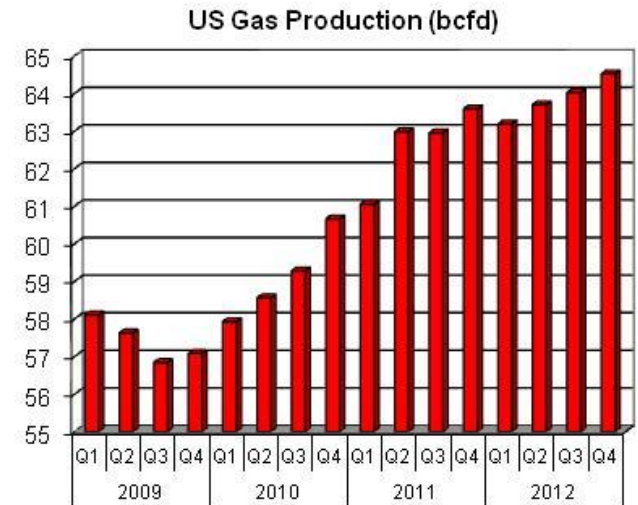
Source: EIA

# US Gas Market Outlook

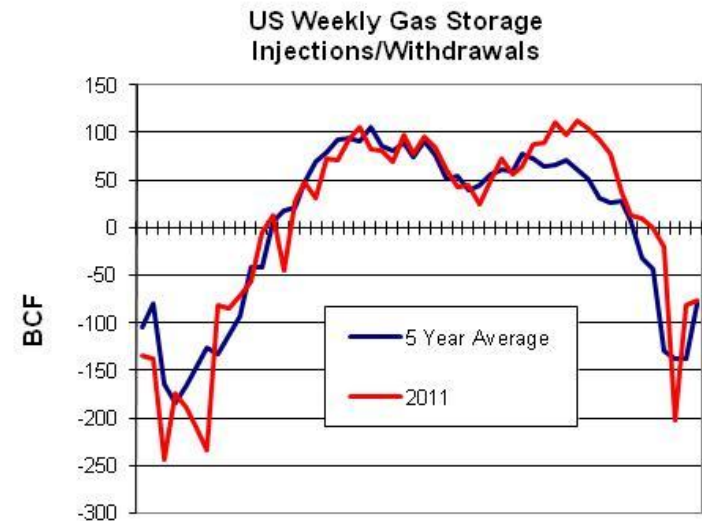
US gas production is projected to average 62.7 bcf/d in 2011 (up 6%) and 63.9 bcf/d in 2012 (up 2%).

US gas imports are projected to average 9.4 bcf/d in 2011 (down 8%) and 9.0 bcf/d in 2012 (down 4%). LNG imports are projected to fall 25% in 2012.

Weekly gas storage injections were well above average after Labor Day, and since mid-November weekly gas storage withdrawals have been well below average.



Source: EIA

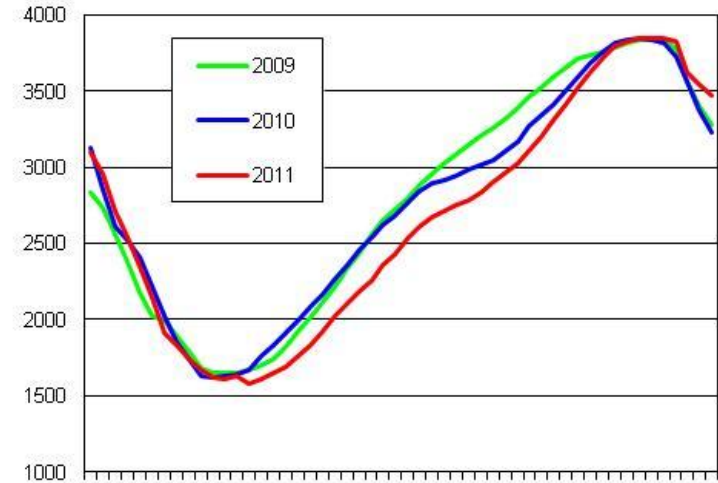


# US Gas Market Outlook

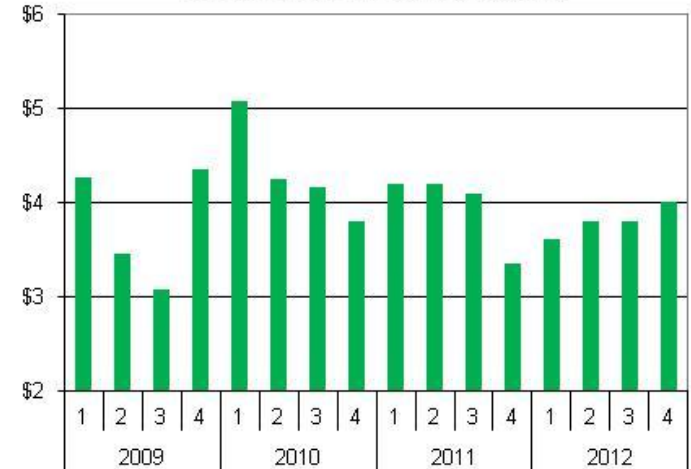
**As a result, gas inventories are currently about 240 bcf (7%) higher than last year. Gas storage is currently projected to bottom-out at about 1,800 bcf next April.**

**With production continuing to rise faster than demand, gas prices are expected to remain soft. Spot gas prices are now expected to average \$3.80/mmbtu in 2012, down 4% for the year.**

US Working Gas Storage (bcf)



US Spot Gas Prices (\$/mmbtu)



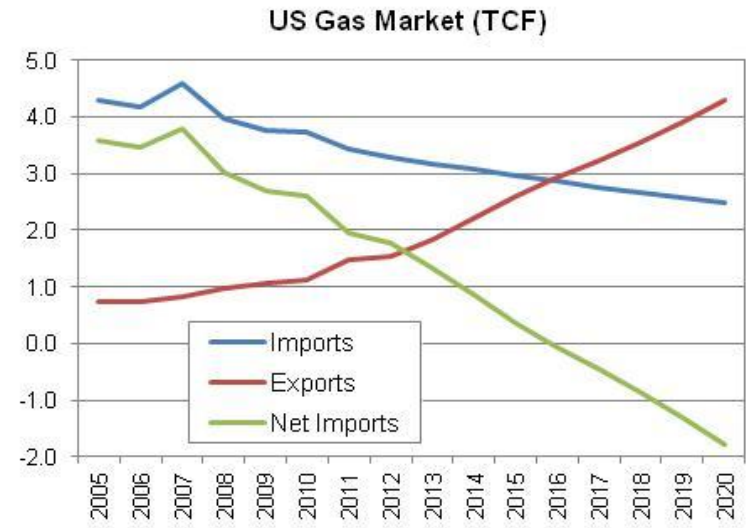
# US Gas Market Outlook

**Extending current trends indicates that the US is on pace to be a net gas exporter after 2015 – if gas demand growth remains ~1.5% per year.**

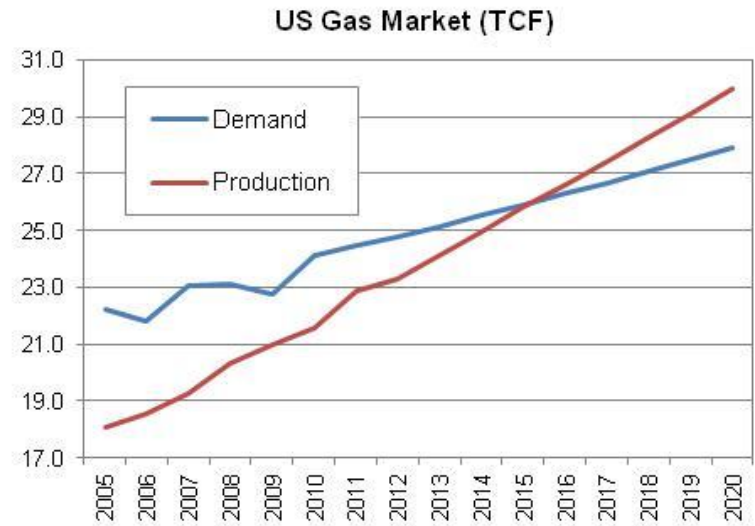
**This includes volumes of 0.5 TCF or more from new LNG export (Sabine Pass, Lakes Charles, Freeport) after 2015.**

**This example assumes US gas production grows 3.0% per year after 2011 – using an average of about 800 gas drilling rigs.**

**US gas production has increased at a 4.0% CAGR over the 2005-2011 timeframe.**



Sources: EIA; Spears

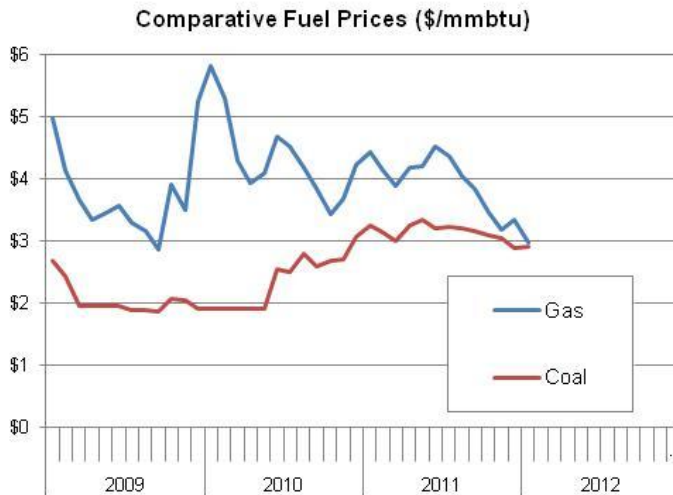


Sources: EIA; Spears

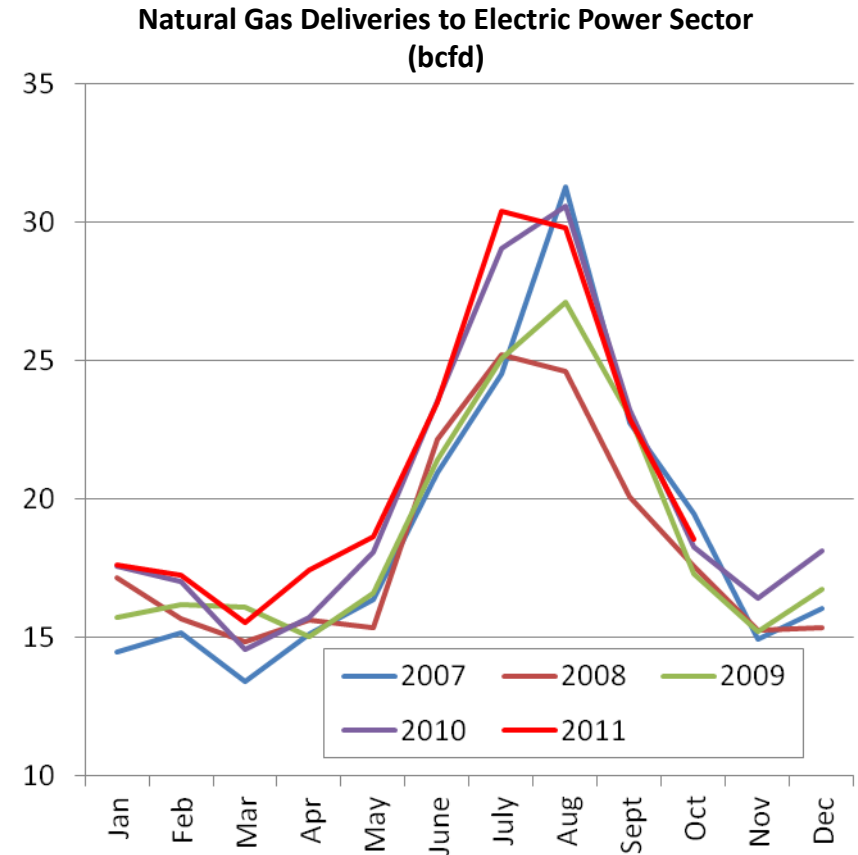
# US Gas Market Outlook

Coal prices are currently below \$3/mmbtu (\$69/ton), about 10% less than last year. The gas:coal price differential is ~\$0.06/mmbtu (it averaged ~\$0.80/mmbtu over the past year and was \$1.20/mmbtu in January 2011).

The price of coal is apparently providing a “floor” for the price of gas at ~\$3/mmbtu. Near-parity with coal prices may accelerate market share gains by gas in the power generation market.



Source: Natural Gas Week



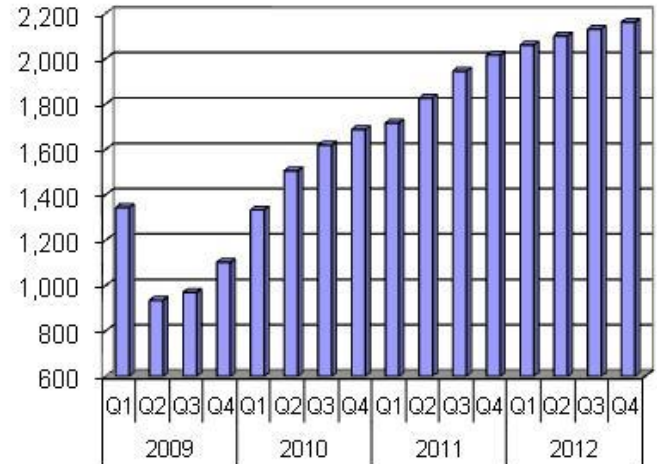
# US Drilling Outlook

**US drilling activity is forecast to rise 12% in 2012, to an average of 2,113 active rigs, following a 22% gain in 2011.**

**Operators preference for oil and “liquids-rich” gas over “dry” gas plays remains a function of relative commodity prices. Oil rig activity is forecast to rise 29% in 2012 following a 67% gain in 2011. Gas rig activity fell 6% in 2011 and is projected to decline 5% in 2012.**

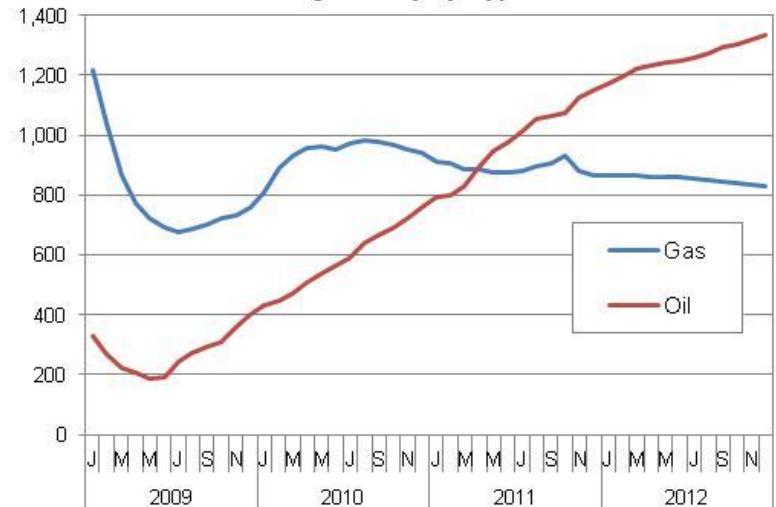
**International oil companies have accelerated their investment in US oil and gas shale plays in 2011 despite weak gas prices and rising well costs because these investments offer better returns than other alternatives. The emergence of investors willing to accept an “industrial” ROR has kept gas drilling from falling sharply and holds important implications for the oil service sector.**

US Average Rig Count



Source: BHI, Spears

US Rig Activity by Type

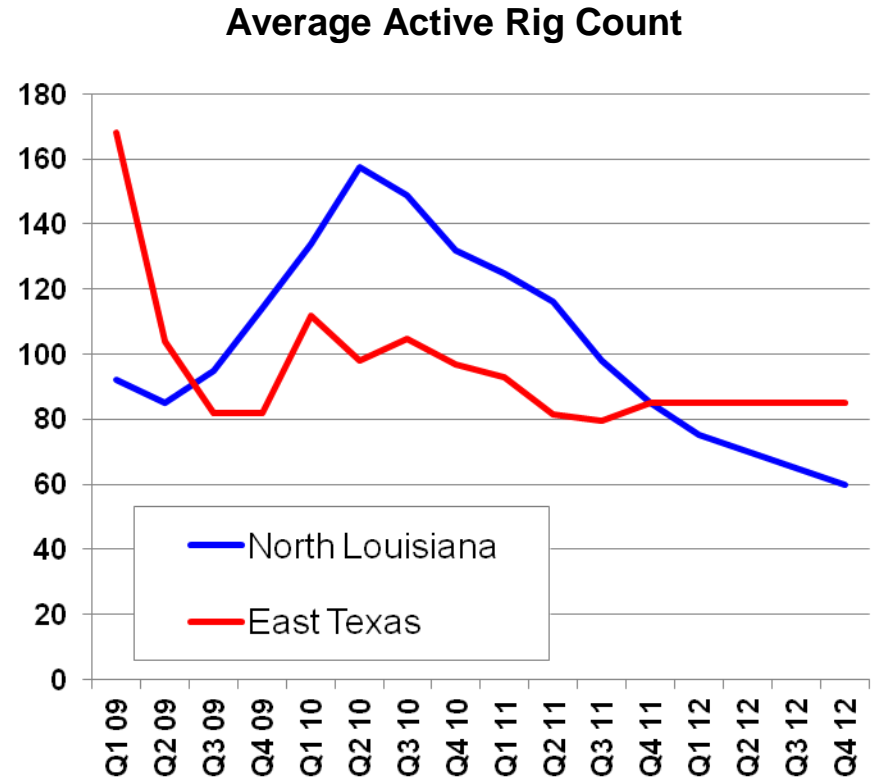


Sources: BHI, Spears

# East Texas/North Louisiana Drilling Outlook

Haynesville activity is expected to continue to fall in 2012 due to low gas prices.

Activity in East Texas has recovered slightly in recent months and is expected to hold near current levels in 2012.



Sources: Smith S.T.A.T.S., Spears

# Well Cost Trends

Well cost inflation has slowed significantly since Q1 2011.

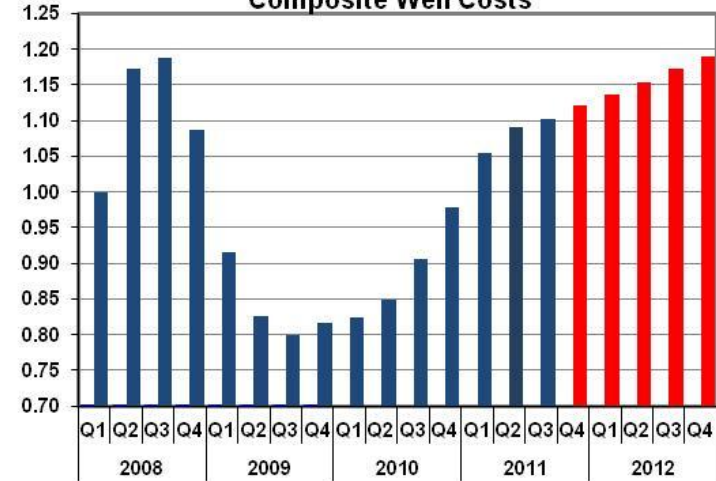
Average well costs rose 1.0% in Q3 2011 after having increased 3.4% in the preceding quarter.

However, well costs are now 22% higher on average than in Q3 2010.

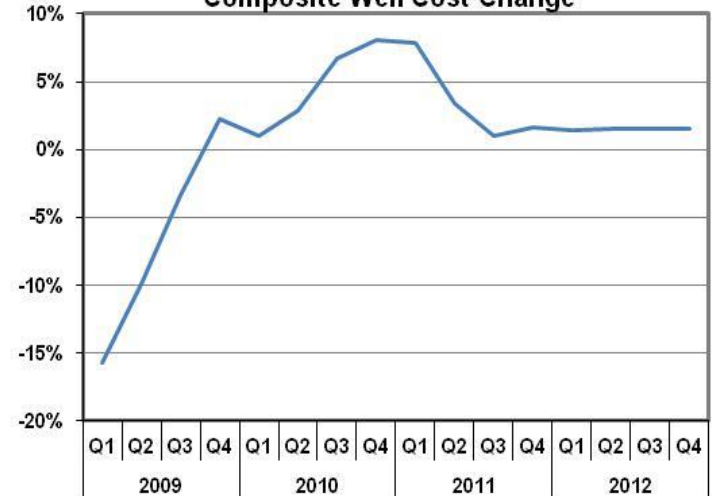
We project that well costs will rise at an average rate of 1.5% per quarter in 2012.

In order to offset falling gas prices, operators are reconfiguring their drilling and completion programs to lower well costs.

Drilling and Completion Cost Index:  
Composite Well Costs



Drilling and Completion Cost Index:  
Composite Well Cost Change



# Summary

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**Global oil demand and US gas demand will continue to grow moderately over the near-term**

**A solid increase in overall US drilling activity is expected in 2012**

**The emergence of investors willing to accept an “industrial” ROR has kept US gas drilling from falling sharply and holds important implications for the oil service sector**

**In the US capacity expansion may begin to catch up with demand growth in the second half of 2012**

**Questions?**

# Spears & Associates, Inc.

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Spears also provides independent commercial due diligence and advisory services in support of oilfield mergers/acquisitions and IPOs.

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