



***U.S. Natural Gas Supply:  
A View from the  
Potential Gas Committee***

***John B. Curtis  
Potential Gas Agency  
Colorado School of Mines  
November 19, 2014***

# Proved Reserves vs Resources

- Known gas reservoirs
- Existing economic conditions
- Existing operating conditions



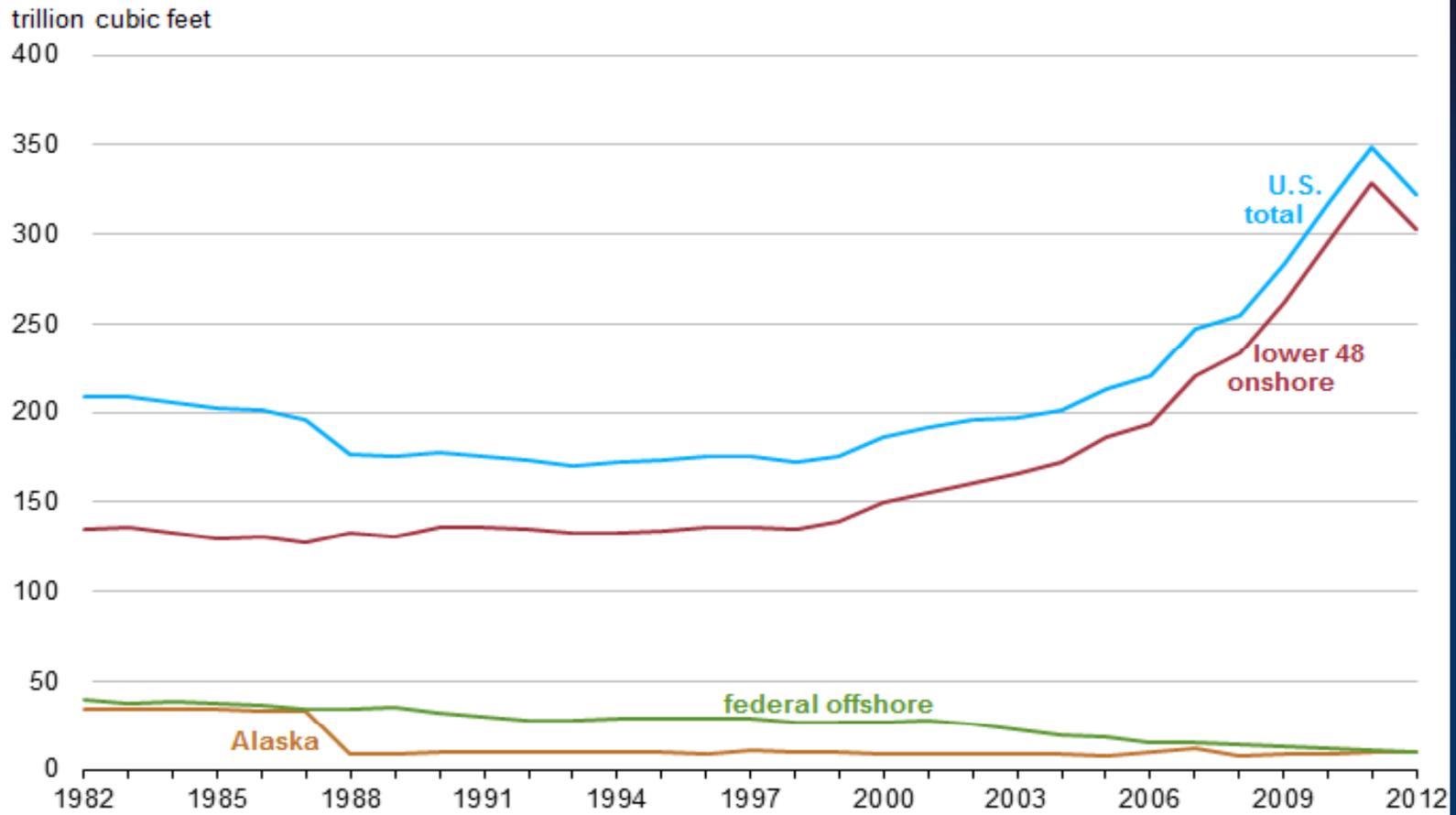
- Discovered
- Undiscovered
- Effects of technology



Potential Gas Agency

Colorado School of Mines

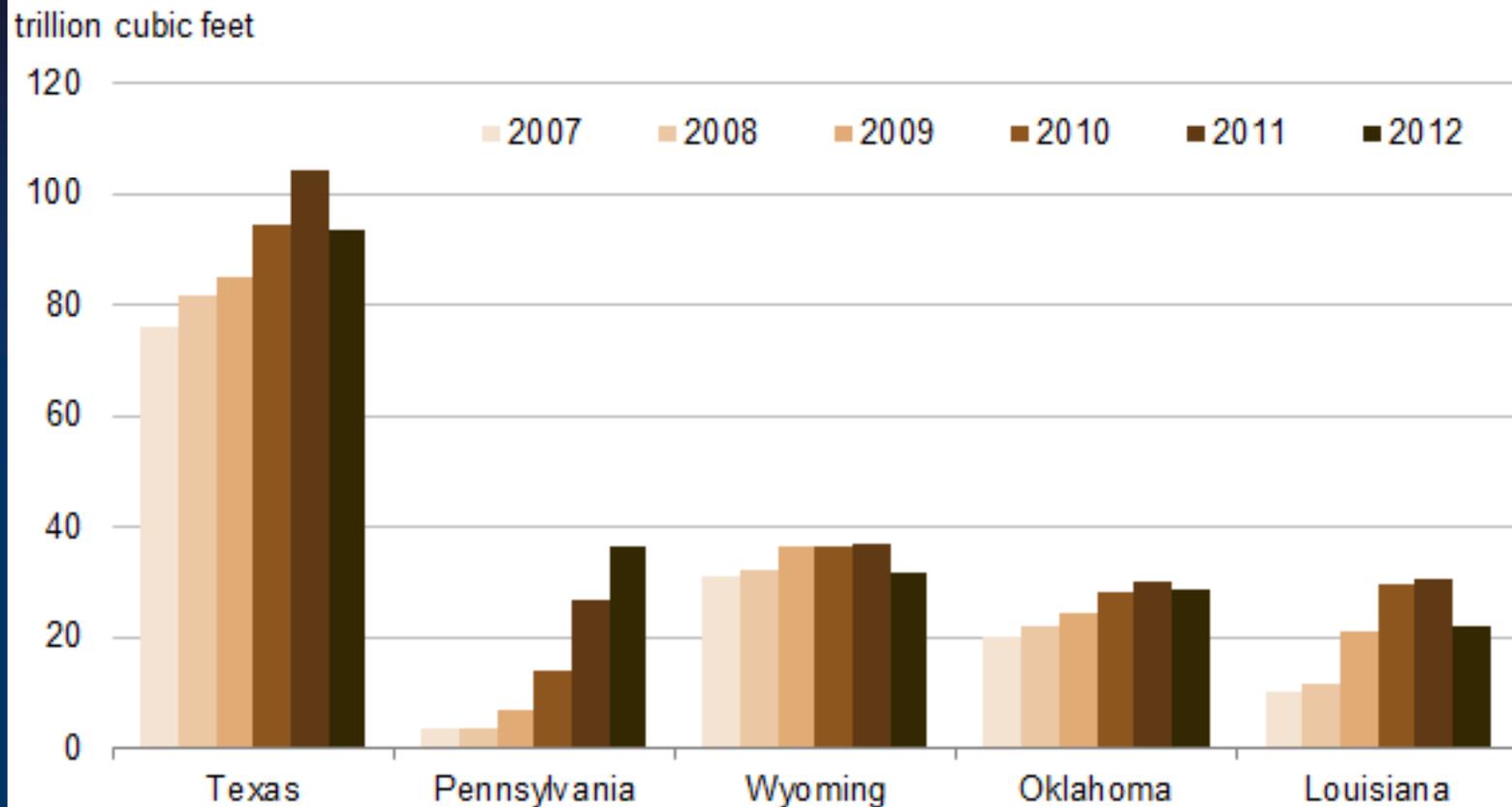
**Figure 10. U.S. wet natural gas proved reserves, 1982-2012**



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 1982-2012.



Figure 3. Proved reserves of the top five U.S. gas reserve states, 2007-12

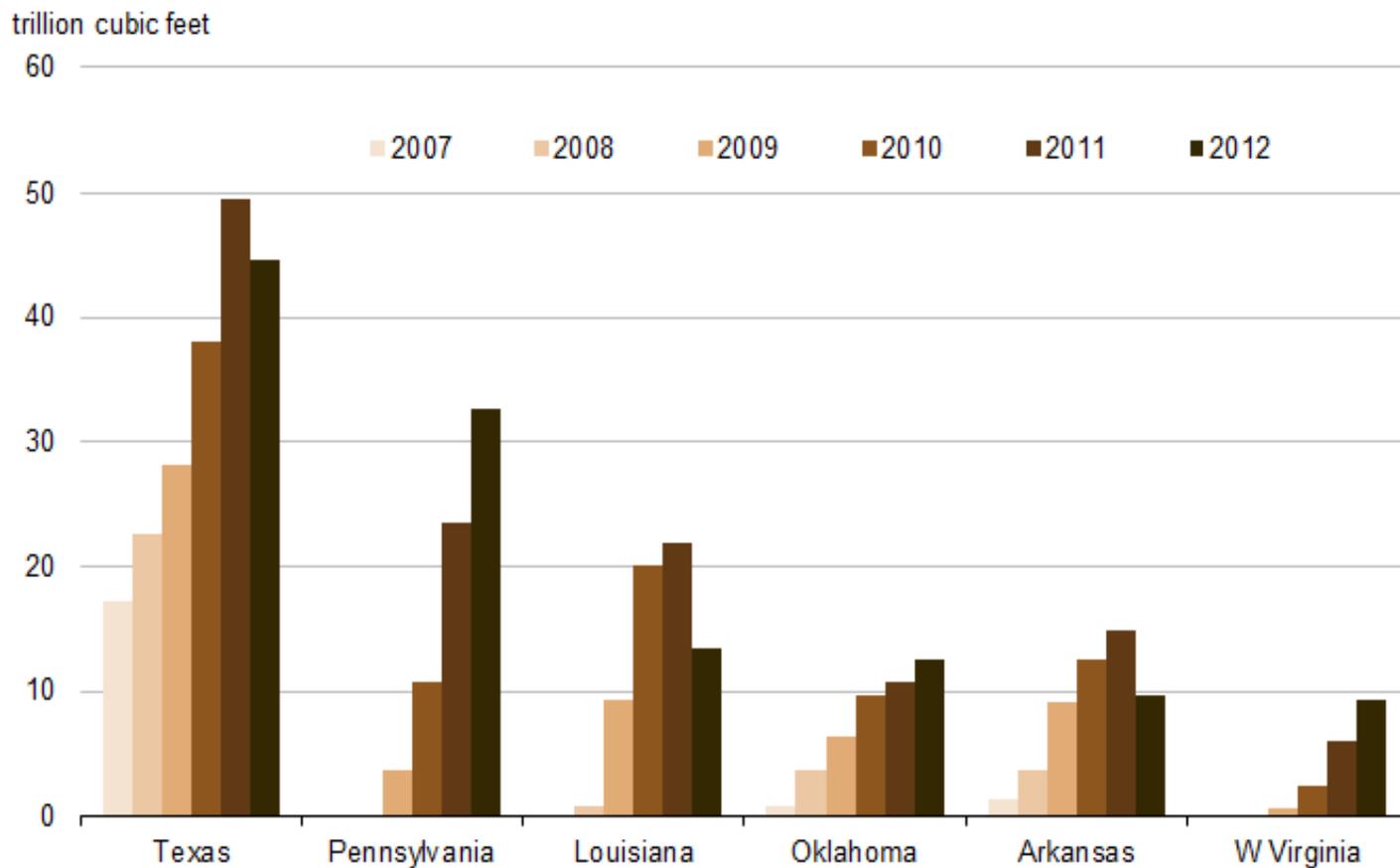


Note: Includes natural gas plant liquids.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves," 2007-12.



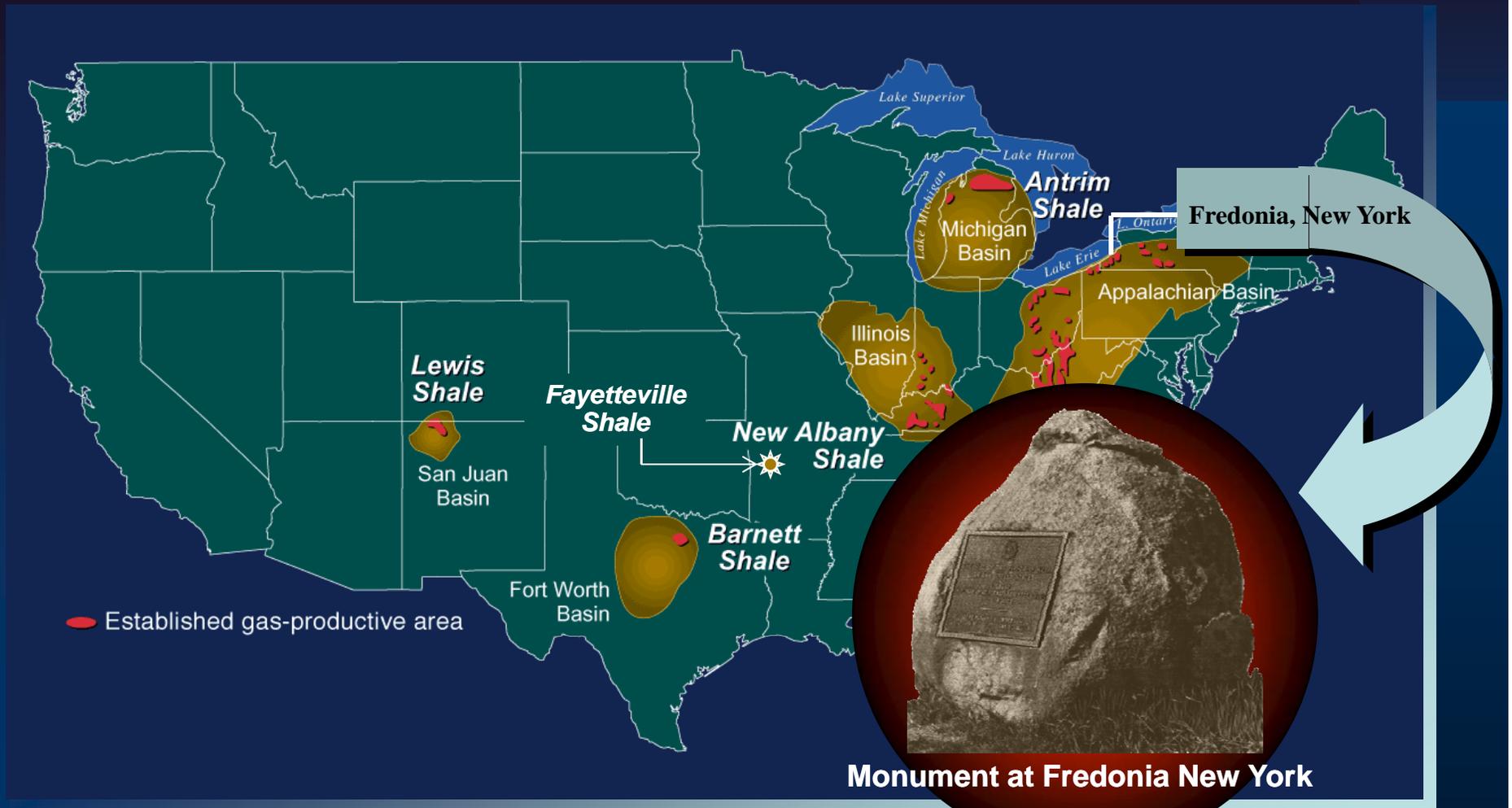
Figure 13. Proved shale gas reserves of the top six U.S. shale gas states, 2007-12



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2007-12.



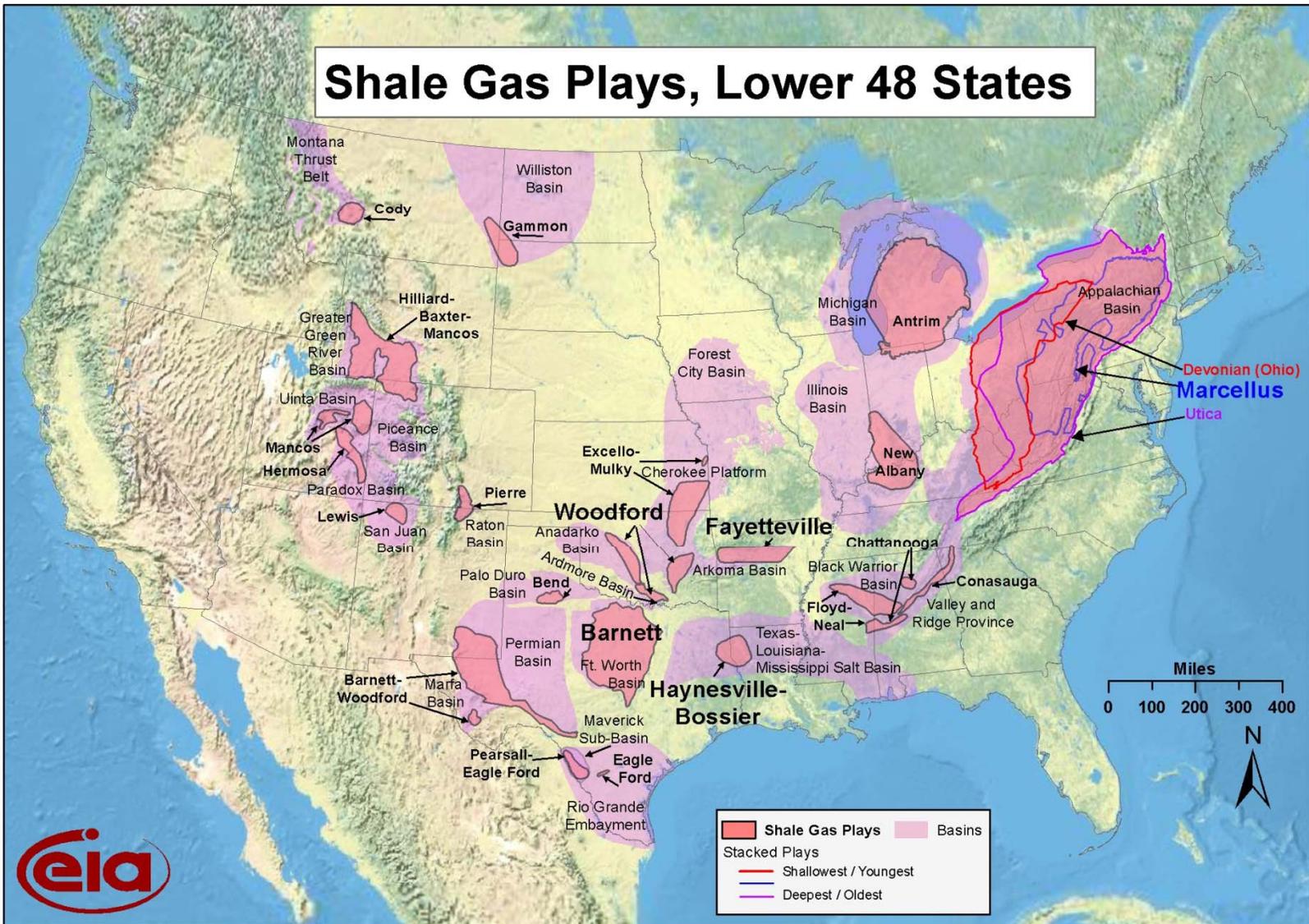
# Classic Shale-Gas Systems of the US: Where Significant Production Began



Modified from Hill and Nelson, 2000

“The Site of the First Gas Well in the United States.  
Lighted in Honor of General Lafayette’s Visit,  
June 4, 1825”

# Location of U.S Shale Gas Plays



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

**U.S. Energy Information Agency, March 2010**



# *Potential Supply of Natural Gas in the United States*

*Report of the  
Potential Gas Committee  
(December 31, 2012)*

Washington, D.C.  
April 9, 2013



## ***Potential Gas Committee:***

***100 Volunteer Geoscientists &  
Petroleum Engineers***

**Biennial Assessment - since 1964 – of  
the *Technically Recoverable U. S.  
Natural Gas Endowment***

***PGC + EIA Proved Reserves = Potential  
Future Supply***

# Natural Gas Resource Assessment of the Potential Gas Committee, 2013 (mean values)

**Traditional Gas Resources**      **2,225.6 Tcf**

**Coalbed Gas Resources**      **158.2 Tcf**

**Total U.S. Gas Resources**      **2,383.9 Tcf**

**Proved Reserves (EIA)\***      **322.7 Tcf**

---

**Future Gas Supply**      **2,706.6 Tcf**

Totals are subject to rounding.

\* Latest available value (wet gas), year-end 2012

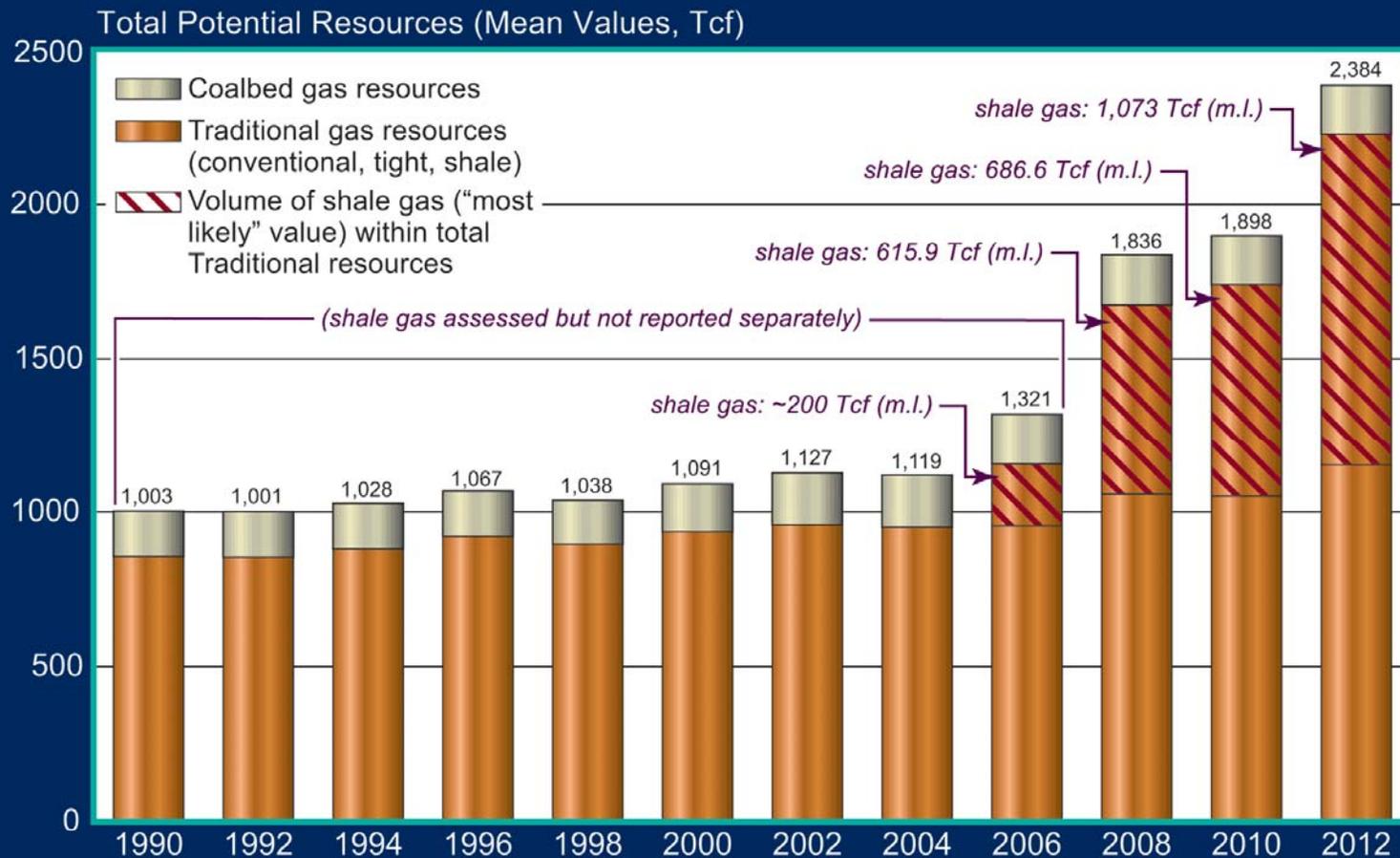


Potential Gas Agency

Colorado School of Mines

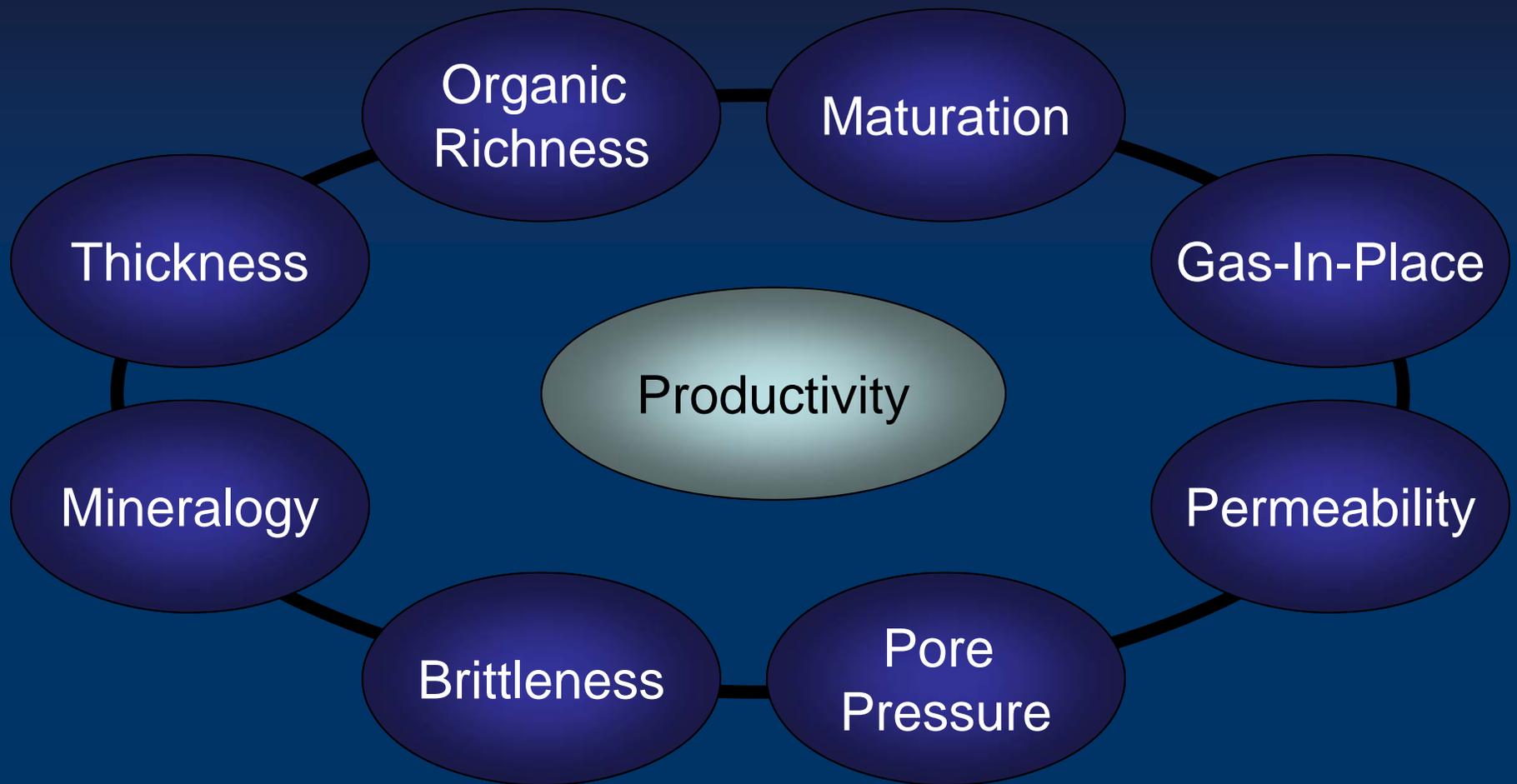
# PGC Resource Assessments, 1990-2012

## Total Potential Gas Resources (Mean Values)

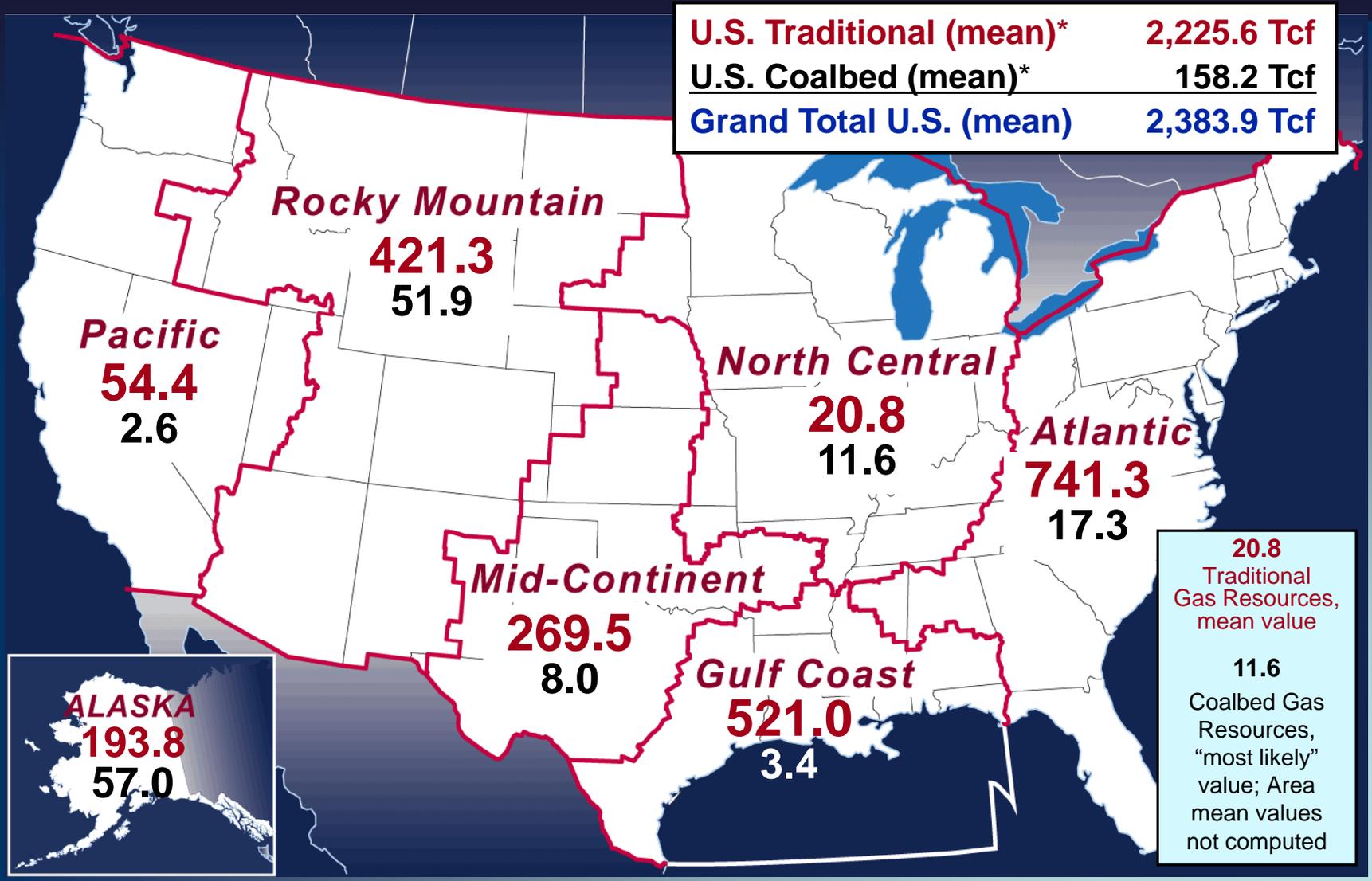


Data source: Potential Gas Committee (2013)

# Some Elements of a Successful Shale Gas Play



# Regional Resource Assessment

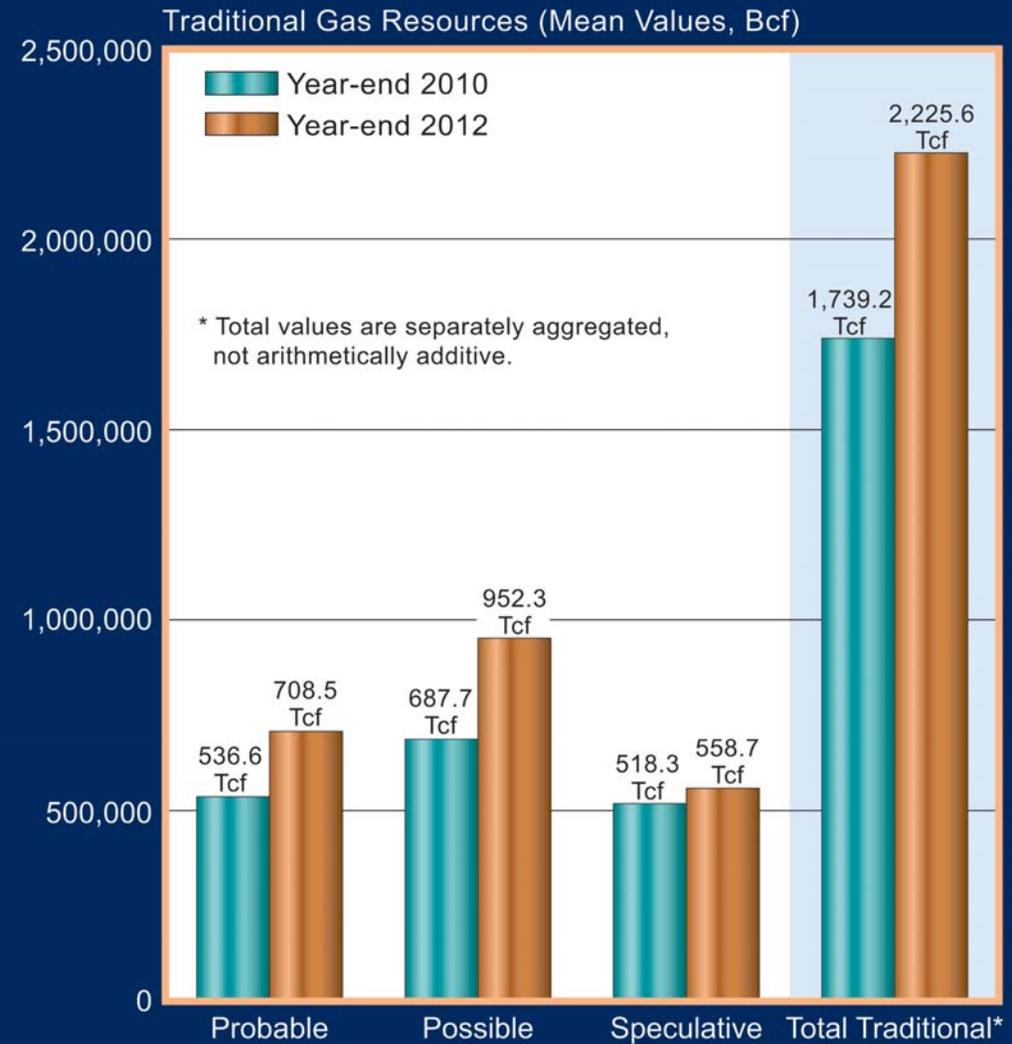


Data source: Potential Gas Committee (2013)

\* Separately aggregated from all province data.

# PGC Resource Assessment 2012

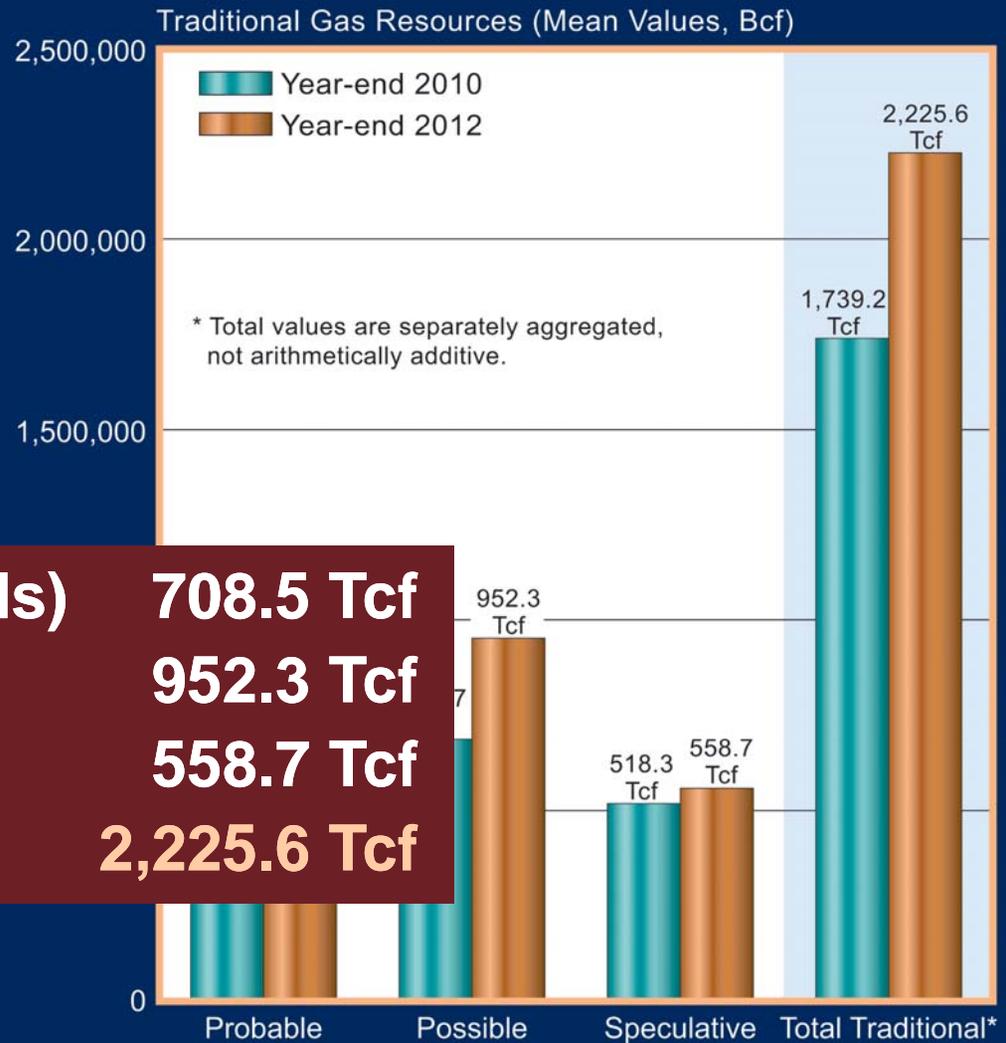
Total Traditional Resources (mean values) by category



Data source: Potential Gas Committee (2013)

# PGC Resource Assessment 2012

Total Traditional Resources (mean values) by category



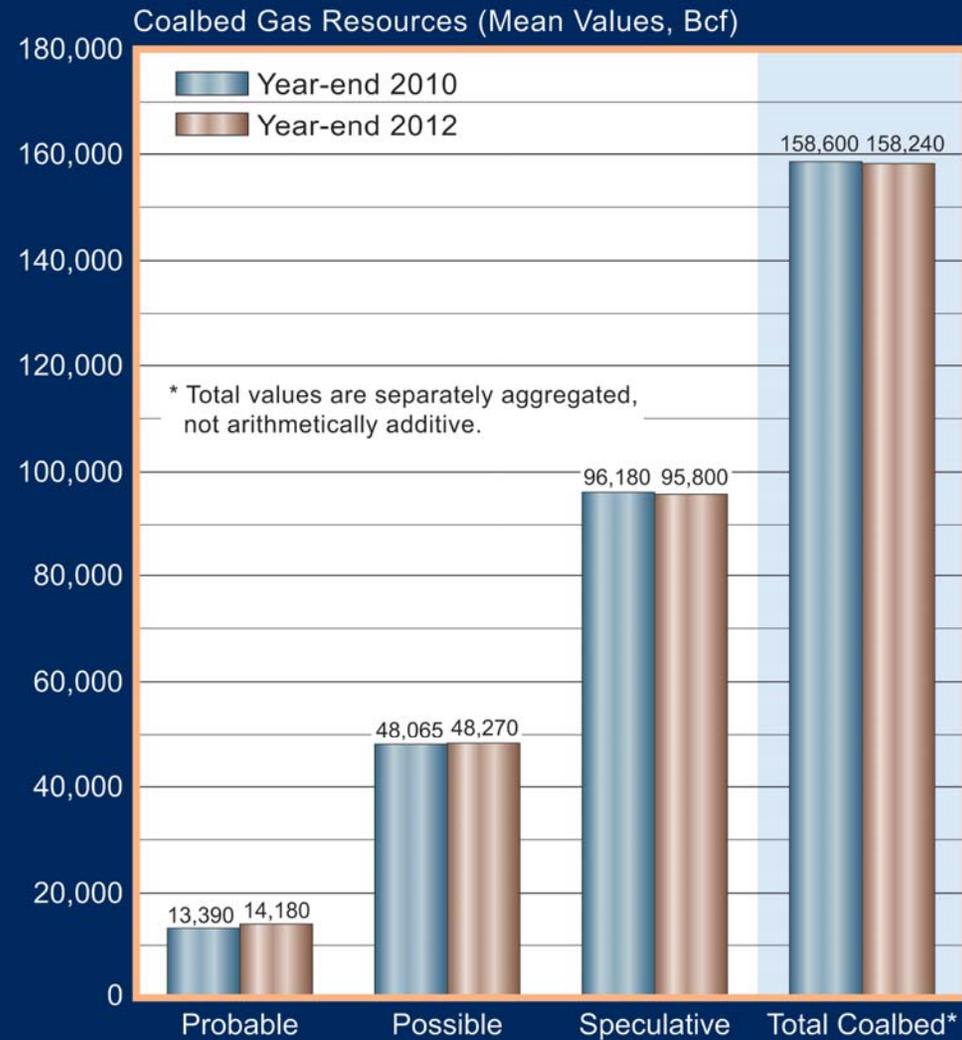
<b>Probable (existing fields)</b>	<b>708.5 Tcf</b>
<b>Possible (new fields)</b>	<b>952.3 Tcf</b>
<b>Speculative (frontier)</b>	<b>558.7 Tcf</b>
<b>Total*</b>	<b>2,225.6 Tcf</b>

\* Separately aggregated value.

Data source: Potential Gas Committee (2013)

# PGC Resource Assessment 2012

Total Coalbed Gas Resources (mean values) by category



Data source: Potential Gas Committee (2013)

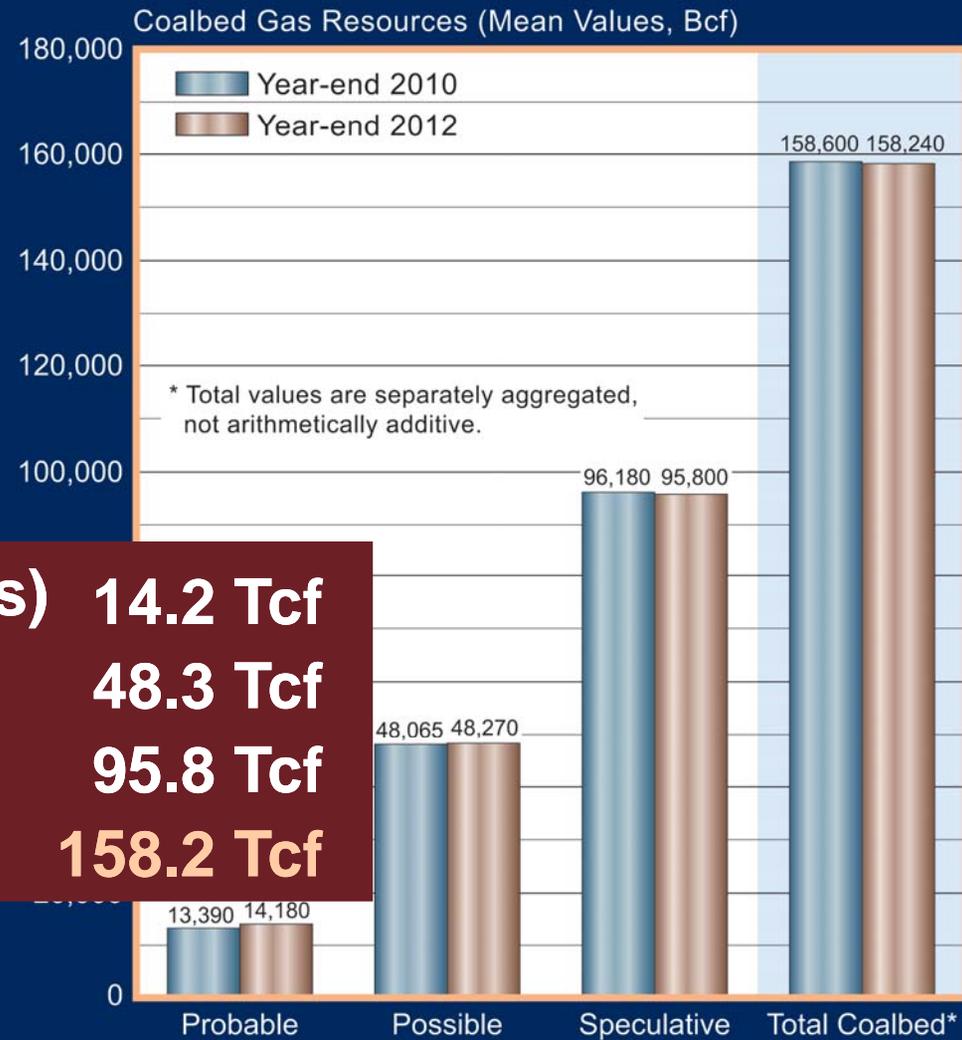
# PGC Resource Assessment 2012

Total Coalbed Gas Resources (mean values) by category

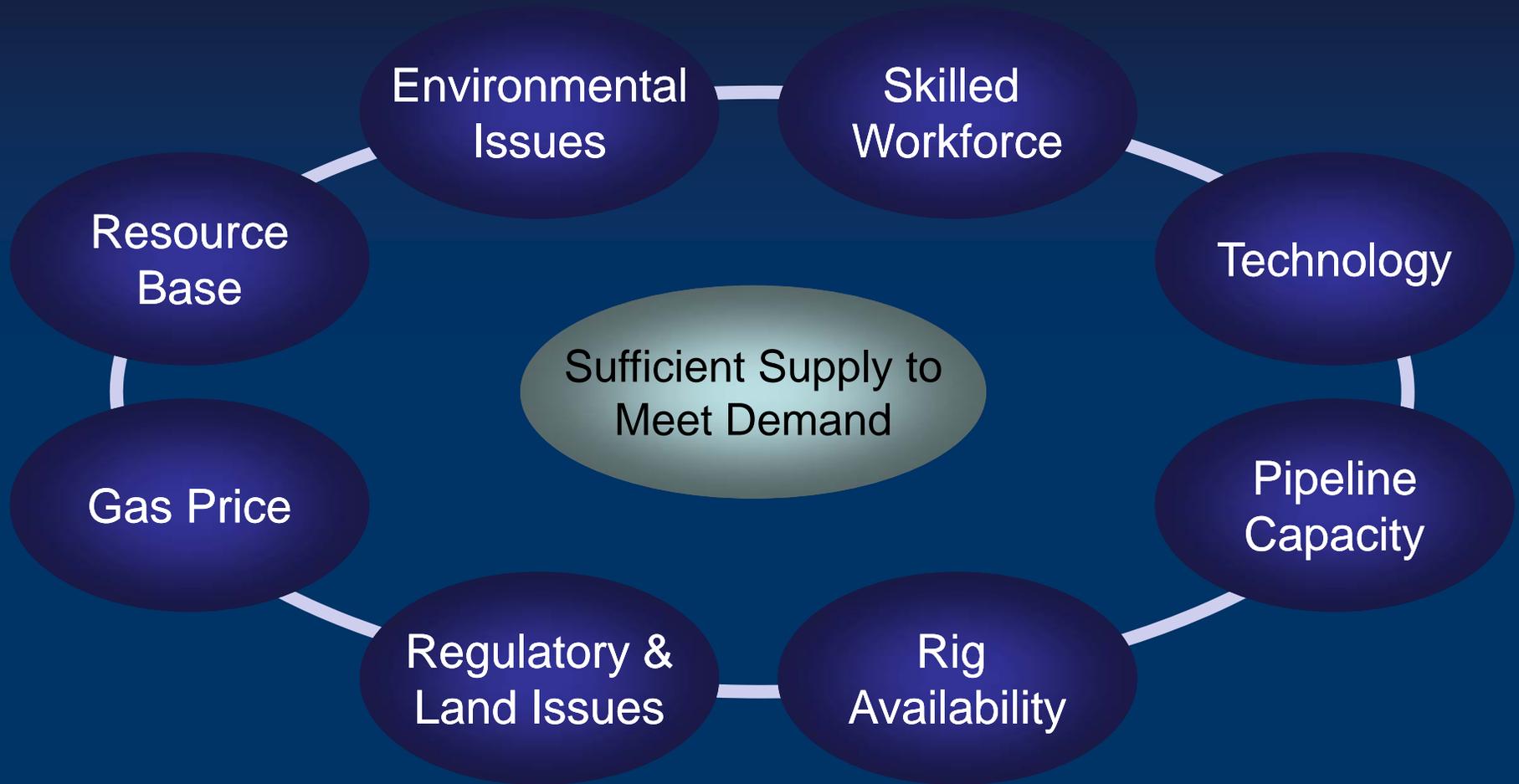
<b>Probable (existing fields)</b>	<b>14.2 Tcf</b>
<b>Possible (new fields)</b>	<b>48.3 Tcf</b>
<b>Speculative (frontier)</b>	<b>95.8 Tcf</b>
<b>Total*</b>	<b>158.2 Tcf</b>

\* Separately aggregated value.

Data source: Potential Gas Committee (2013)



# Influences on Future Gas Supply





Potential Gas Agency