North American Natural Gas:

The Opportunities of Abundance

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About ANGA

ANGA is dedicated to increasing the understanding of the environmental, economic and national security benefits of clean, abundant, dependable and efficient North American natural gas.

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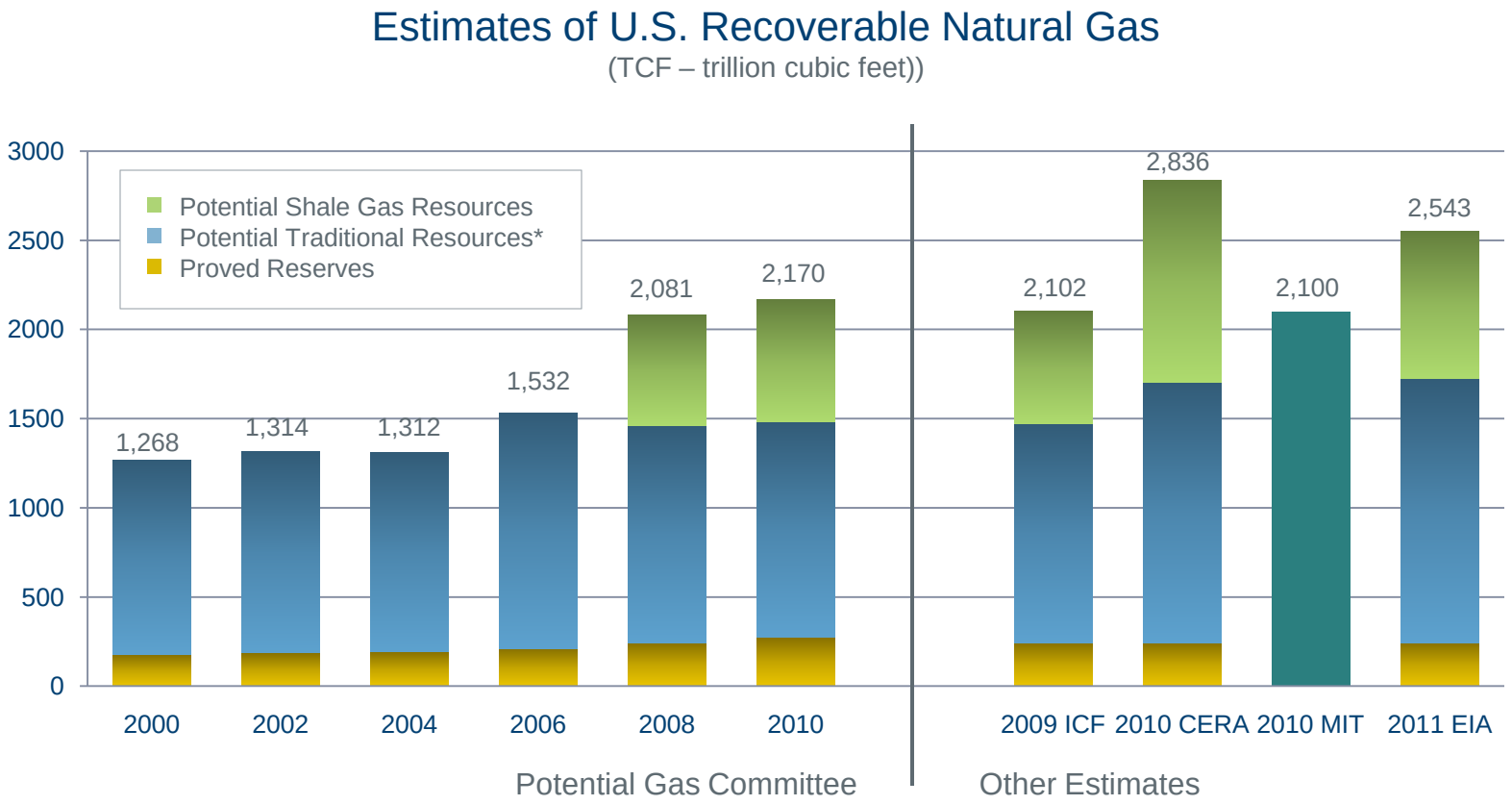
ANGA Members

Abundant by Any Estimate



Sources:
ICF: As reported in BPC: http://www.bipartisanpolicy.org/projects/energy/naturalgas (Task Force on Ensuring Stable Natural Gas Markets)
EIA: See http://www.eia.gov/analysis/studies/worldshalegas/
PGC: Potential Gas Committee's *Advance Summary* and press release of its biennial assessment; see www.potentialgas.org
CERA: IHS CERA, 2010, *Fueling North America's Energy Future: The Unconventional Natural Gas Revolution and the Carbon Agenda*
MIT: MIT Energy Initiative, 2010, *The Future of Natural Gas*, interim report

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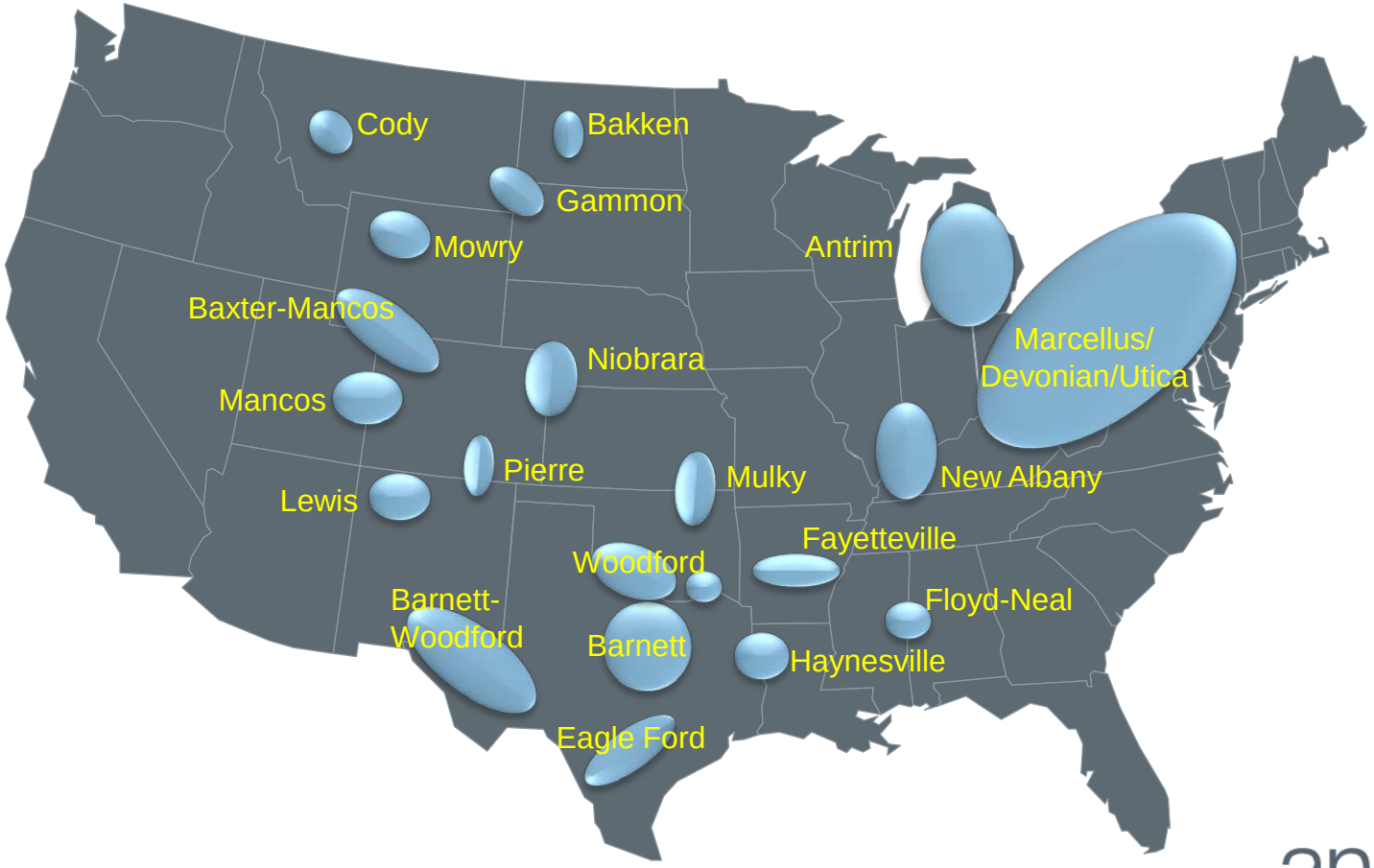
The Shale Gas Revolution



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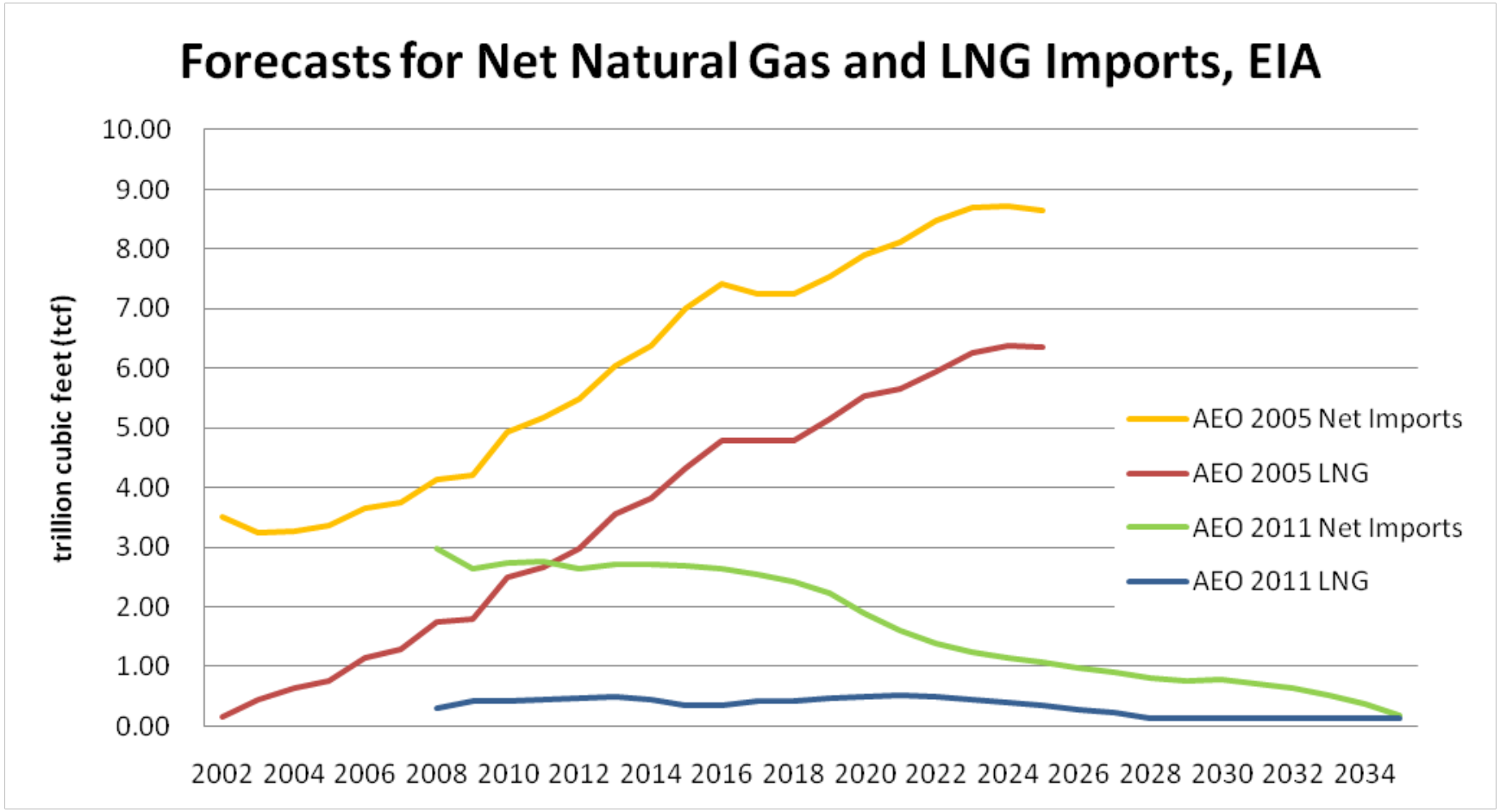
The Historical Perspective of Opportunity



Source: EIA Annual Energy Outlook 2005 & 2011

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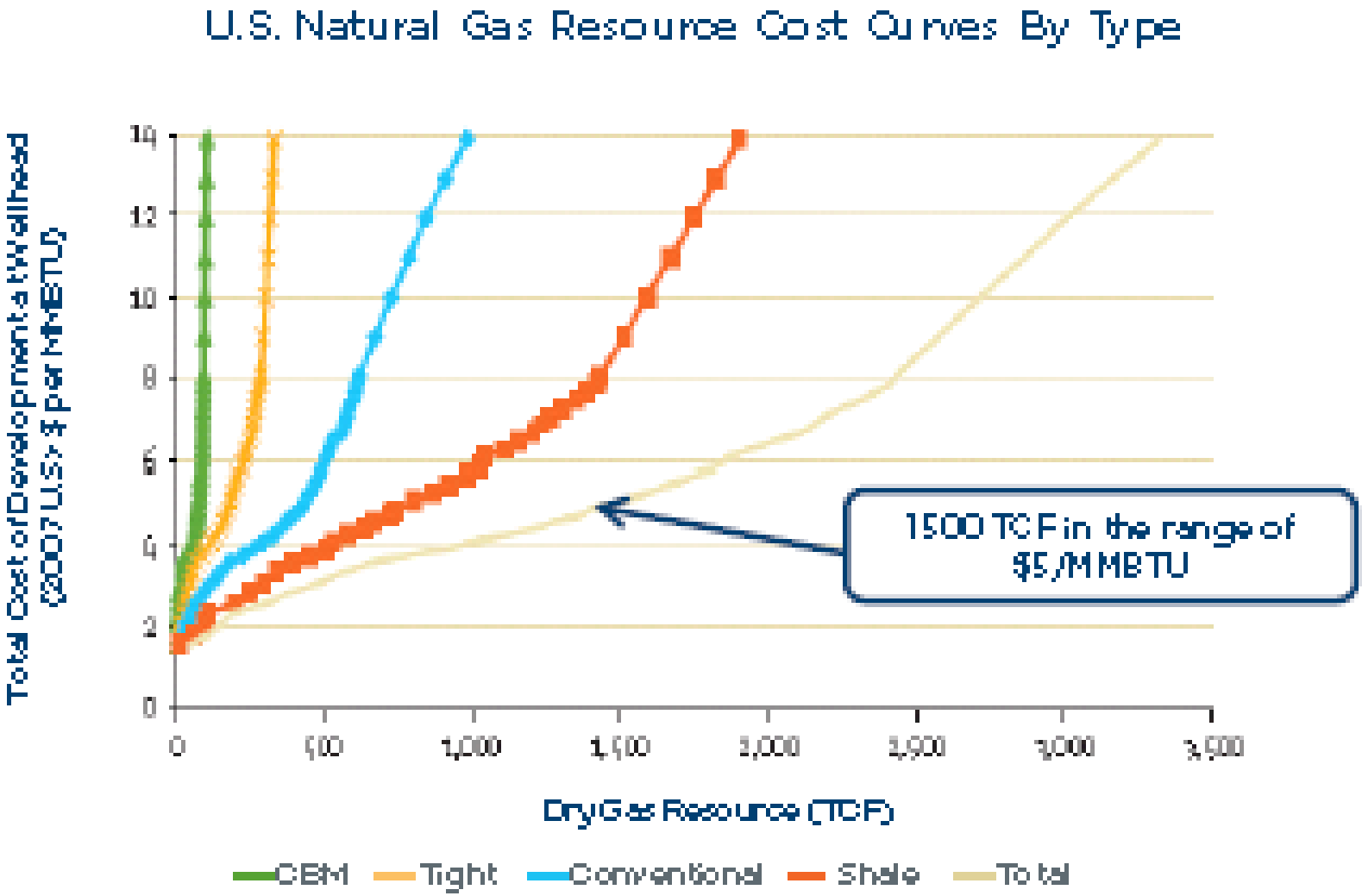
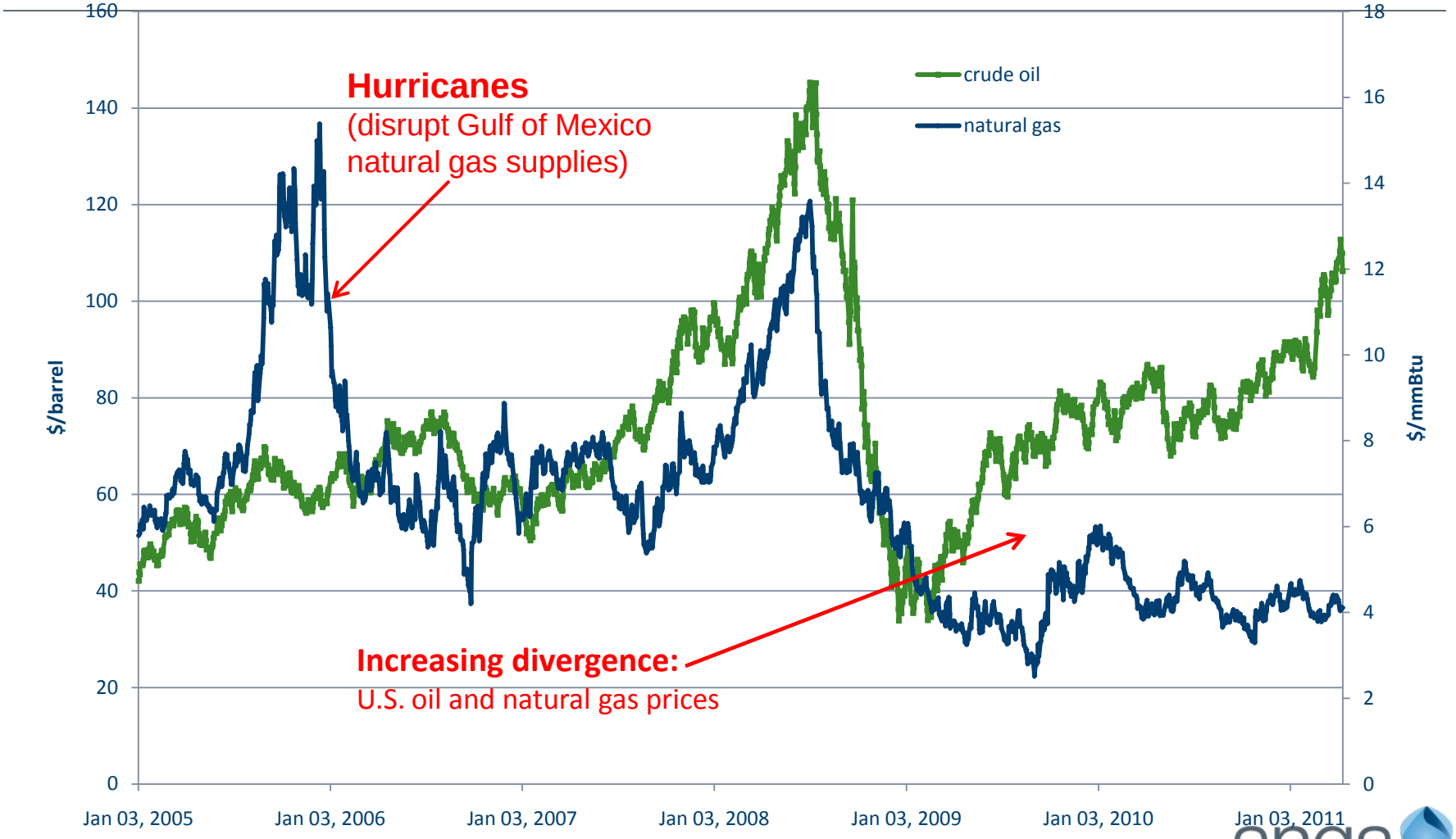
Abundance At Low Cost Is Key



Source: ICF as reported by BPC

NYMEX daily closing prices for nearest period contract



Data available from EIA.

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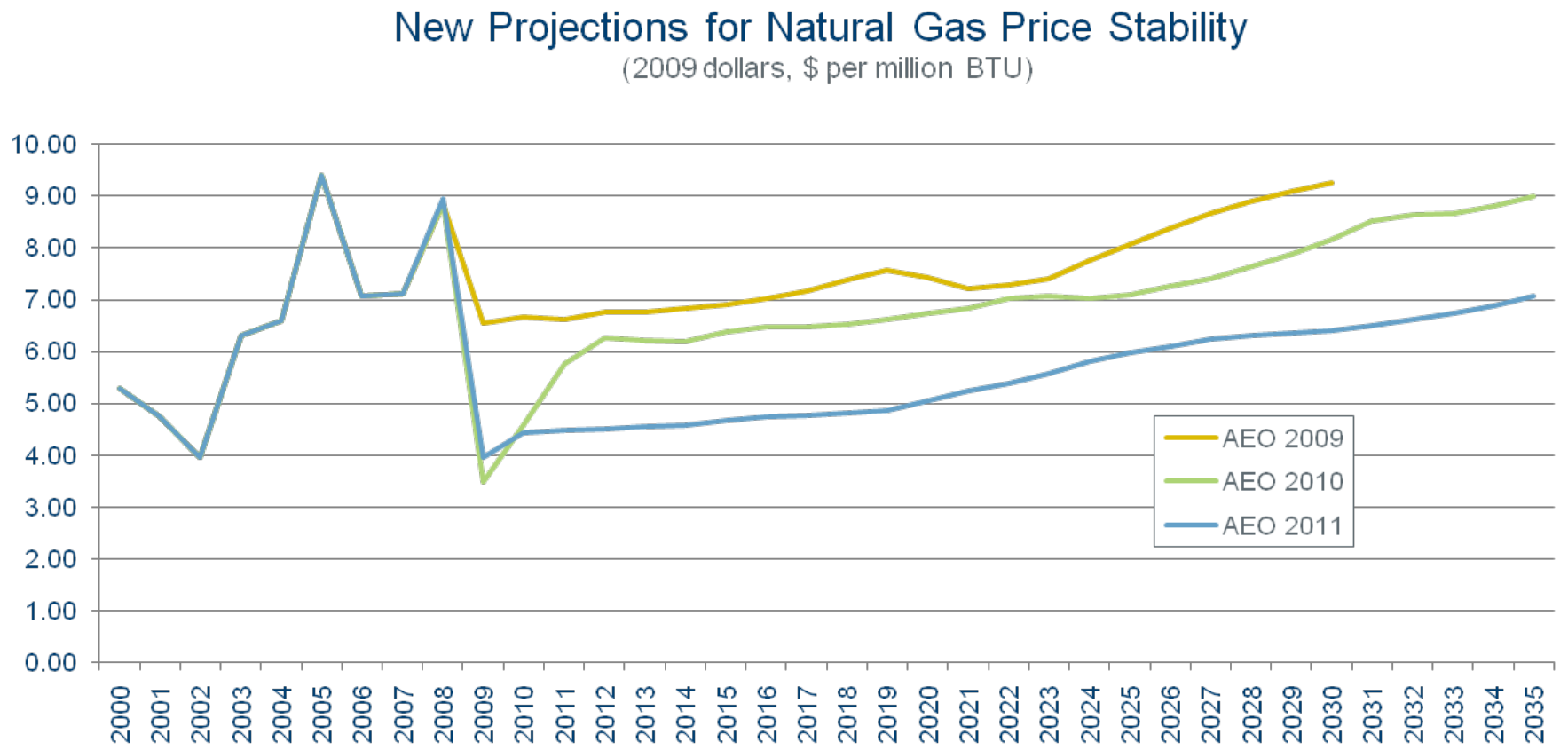
Falling Outlook for Prices



Source: EIA Annual Energy Outlook 2011; Henry Hub spot prices

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Enough for Generations

		ICF Model Reference Case		AEO 2011 Reference Case	
	2010	2020	2035	2020	2035
US Natural Gas Production (Tcf)	21.3	27.5	33.1	23.4	26.3
Net Imports (Canada+ Mexico +LNG)	2.7	1.9	0.9	1.9	0.2
US Natural Gas Supply (Tcf)	24.0	29.4	34.0	25.4	26.6
Natural Gas Consumption (Tcf)	23.8	28.9	33.8	25.3	26.6
Natural Gas Power Sector (Tcf)	7.4	10.8	14.8	6.8	7.9
Henry Hub Price (2010$/MMbtu)	$4.38	$5.59	$7.15	$5.15	$7.21

Source: INGAA ICF Study, June 2011

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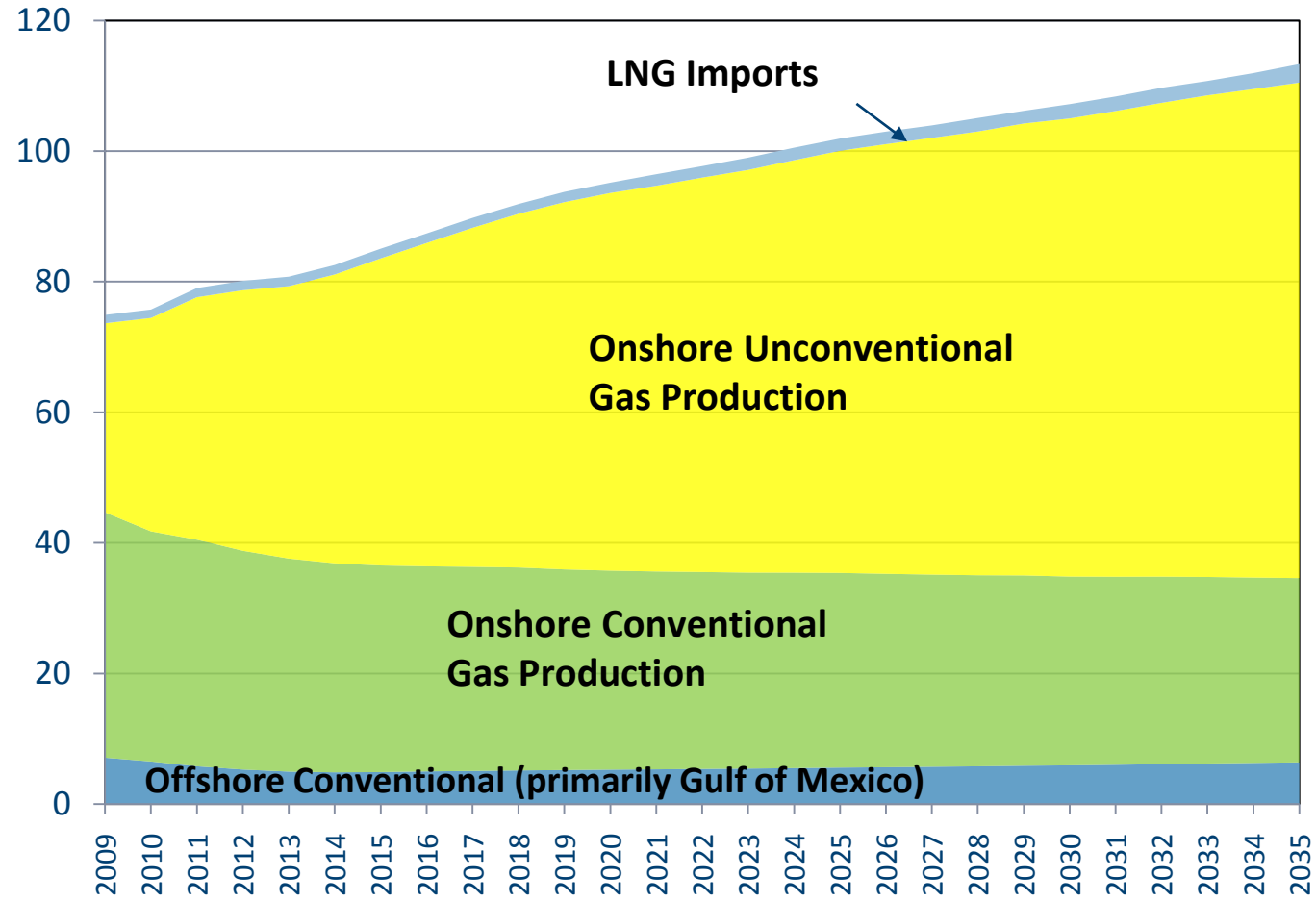
Growing Role for Unconventional

U.S. and Canadian Natural Gas Supplies (Average Annual Bcfd)



Source: INGAA ICF Study, June 2011

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Challenges and Opportunities

- Why “unconventional” will be conventional
- Why states regulate
- Fracfocus.org
  - GWPC and IOGCC
  - New fluids
- EPA Study (2012-2014)
  - August 2011: Nine companies to assist EPA with data
- DOE Advisory Panel
  - 9 areas of recommendation

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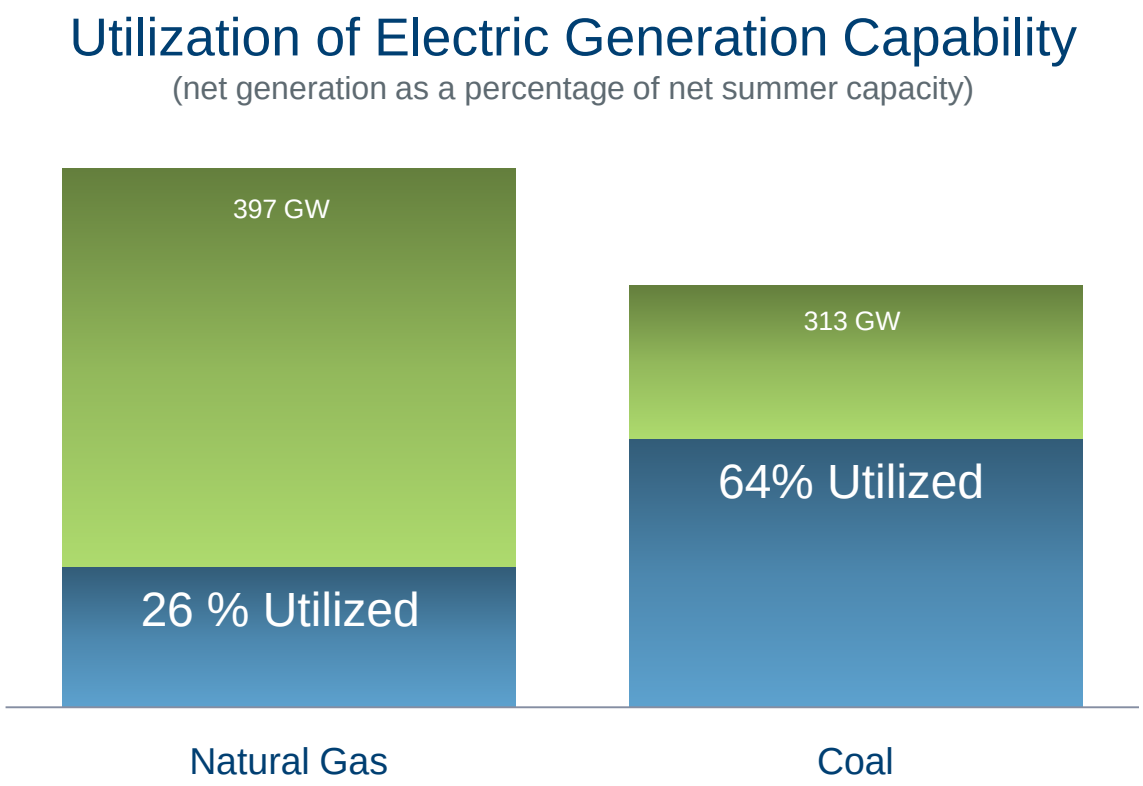
Power Sector: Ready Now



Source: EIA, 2009 Electric Power Annual

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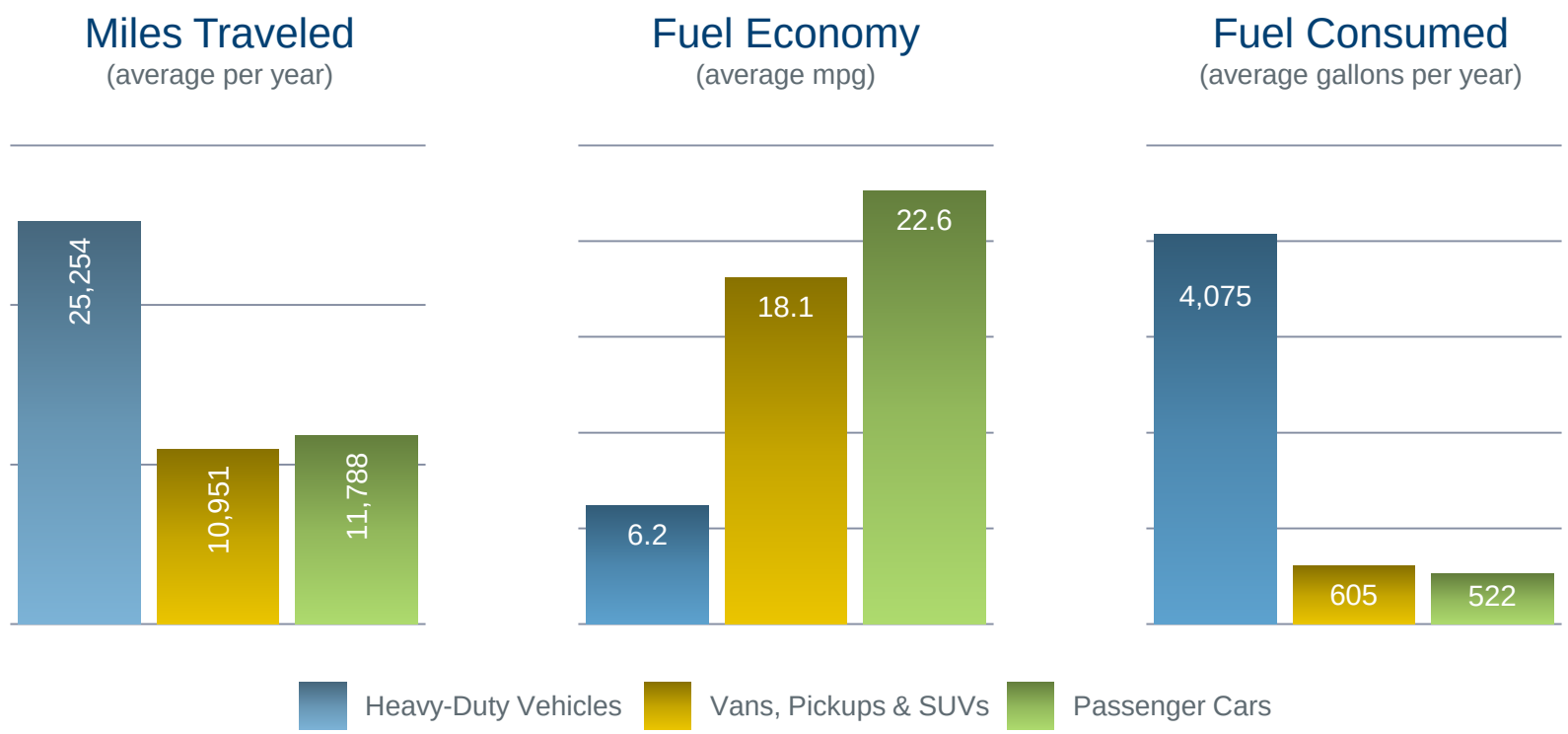
Opportunity: Heavy-Duty Vehicles



Source: EIA Annual Energy Review 2009

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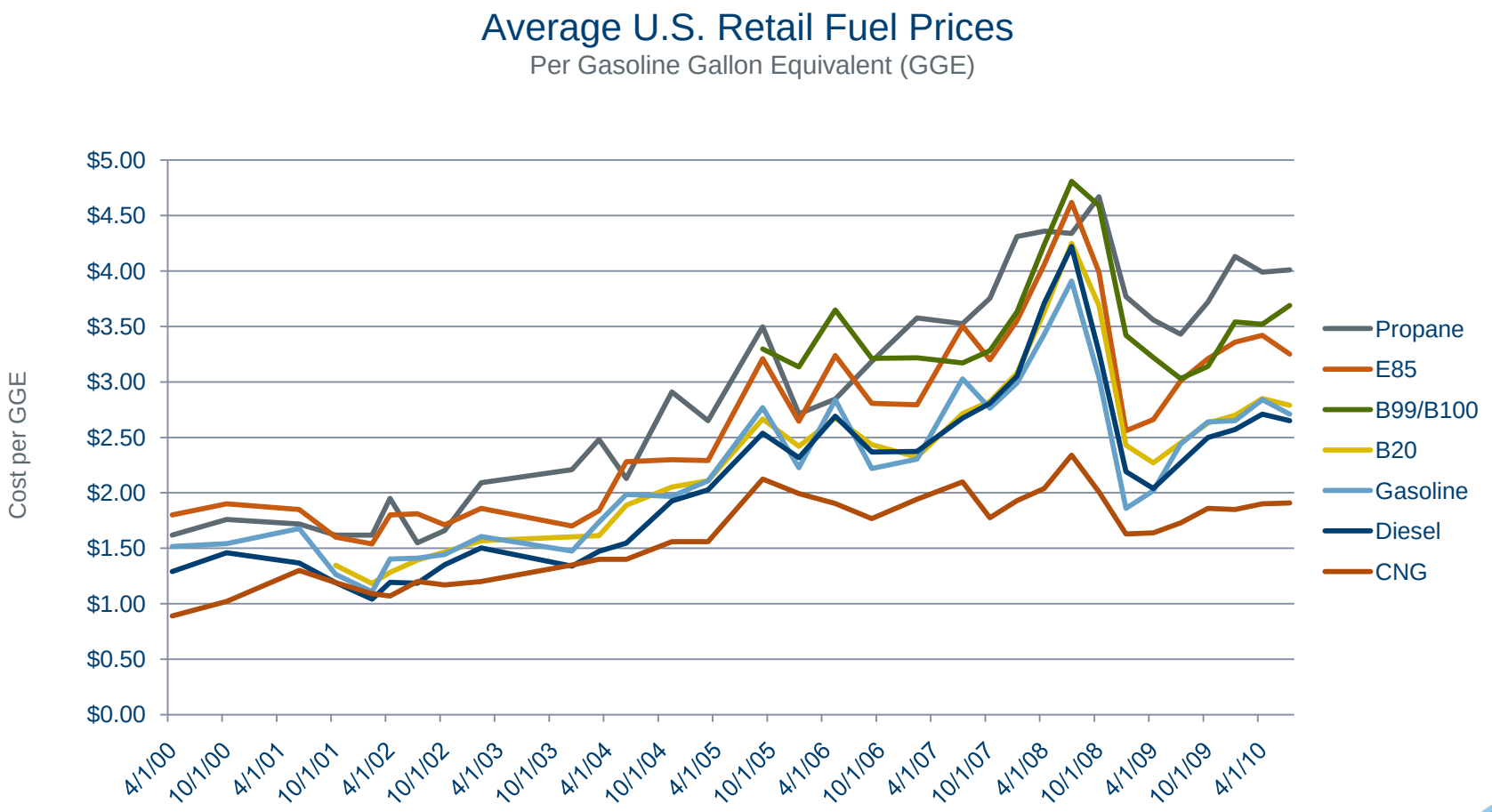
Savings On the Road and at the Pump



Source: DOE, Alternative Fuels and Advanced Vehicles Data Center

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Economic Impacts

- Natural gas companies contributed over $3.5 billion per year on average in gas royalty payments alone to the federal government between 2005 and 2010
- Overall contribution to the economy even greater:
  - $385 billion to the domestic economy in 2008
  - $180 billion in labor income alone
- Nearly 3 million American jobs
- Over 600,000 Americans are directly employed by natural gas development

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Source: IHS Global Insight, 2010

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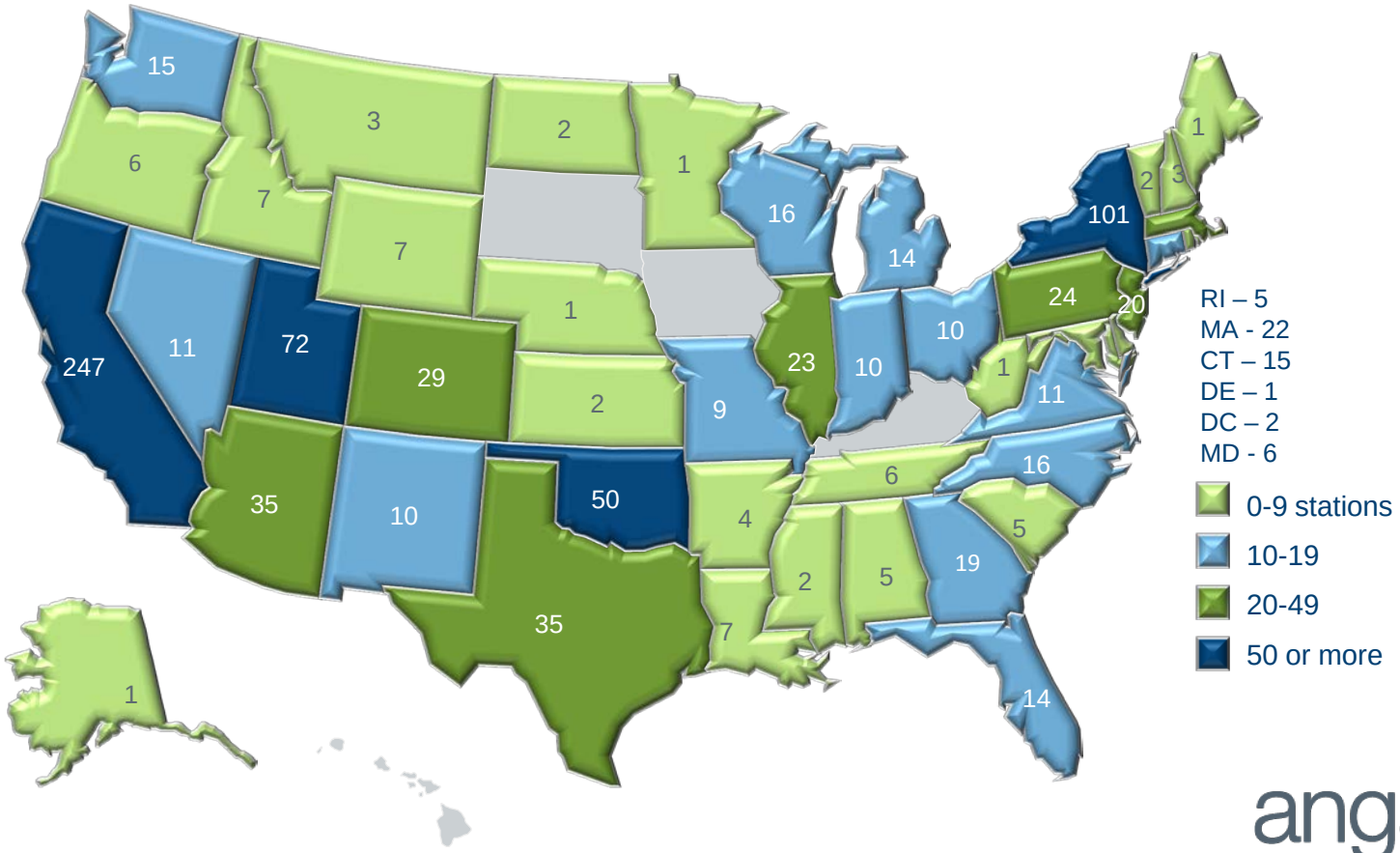
Infrastructure: Refueling Stations

Natural Gas Refueling Stations

(in operation as of 12/31/2010)



Source: http://www.afdc.energy.gov/afdc/fuels/stations.html

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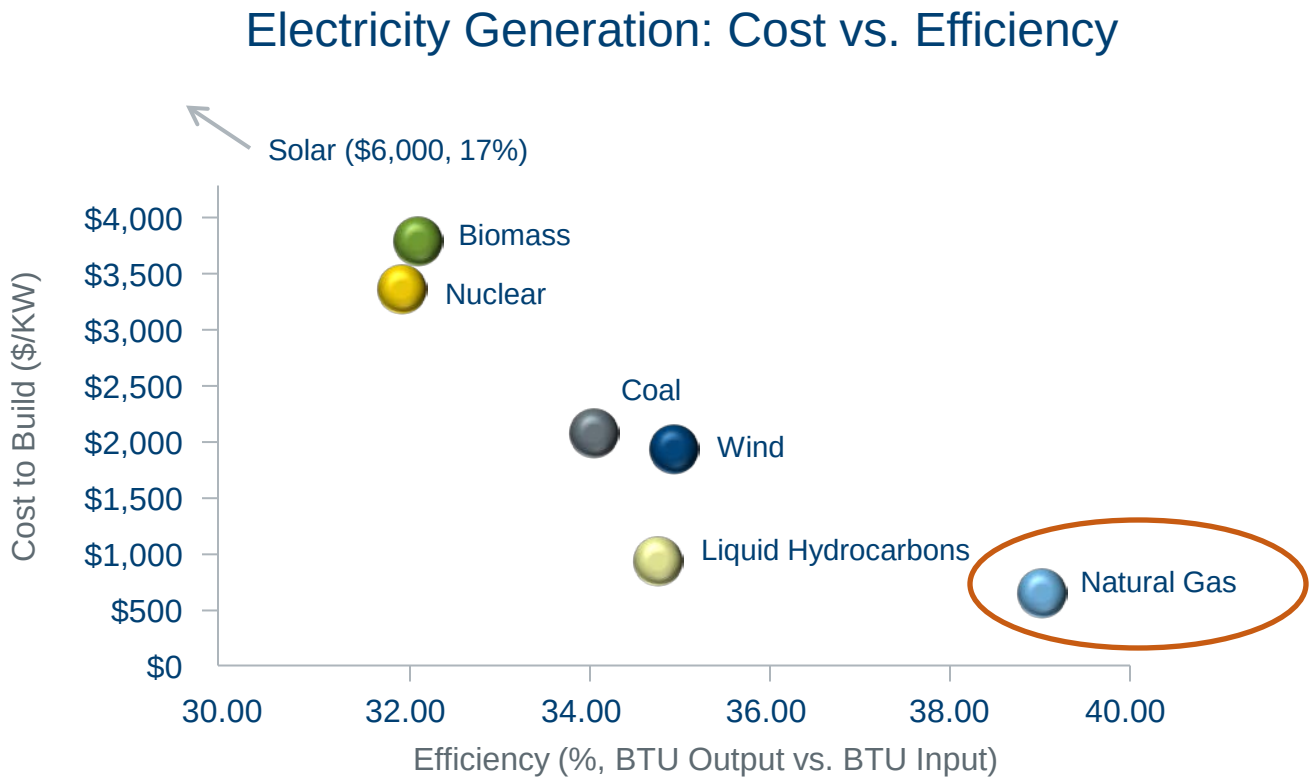
More Efficient in Every Way



Sources:
KEMA Power Generation and Sustainables: "Energy Efficiency in Power Plants" (2008)
Argonne National Laboratory-) g y Energy Systems Division: "Comparison of Power Efficiency on Grid Level "(2004)
Argonne National Laboratory- Energy Systems Division: "Fuel Cycle Comparison of Distributed Power Generation Technologies" (2008)
EIA: "Electricity Market Module" (Mar 2009)

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Differing Regional Landscapes

- **TEXAS:** 2011 Texas Triangle Bill; Clean Fleet Grants, Heavy-Duty Natural Gas Vehicle (NGV) Grants, Clean Vehicle and Infrastructure Grants, and Natural Gas Vehicle and Fueling Infrastructure Rebates
- **ARKANSAS:** The Arkansas Alternative Fuels Development Program provides grants to alternative fuel producers, feedstock processors, and alternative fuel distributors. It also provides rebates for the cost of converting diesel or gasoline school buses to dedicated or bi-fuel compressed natural gas school buses.
- **Los Angeles:** On January 12, 2011, Los Angeles officially retired its last diesel bus. Now, 2,221 of the city's 2,228 fleet vehicles run on compressed natural gas (CNG).
- **Washington, D.C.:** The Washington Metropolitan Transit Authority has 439 CNG buses in its fleet of approximately 1,500 buses.