

Presentation Outline

- American Energy Overview
- Energy Markets
- Emission Markets
- Opportunities
- Energy Management Strategy

American Energy ®

Independent

Resources

for Energy

Management





Overview of American Energy Solutions

- Extensive Energy Industry Experience
 - Formed in 1996
 - Utility, Regulatory, Finance, Construction, and Engineering background
- Comprehensive Energy Management Services
 - We Reduce Energy Cost
 - Price Per Unit of Energy
 - Reduced Consumption
 - We Manage Price Volatility
 - We Manage Greenhouse Gas Emissions
- Privately Held. Independent. Objective

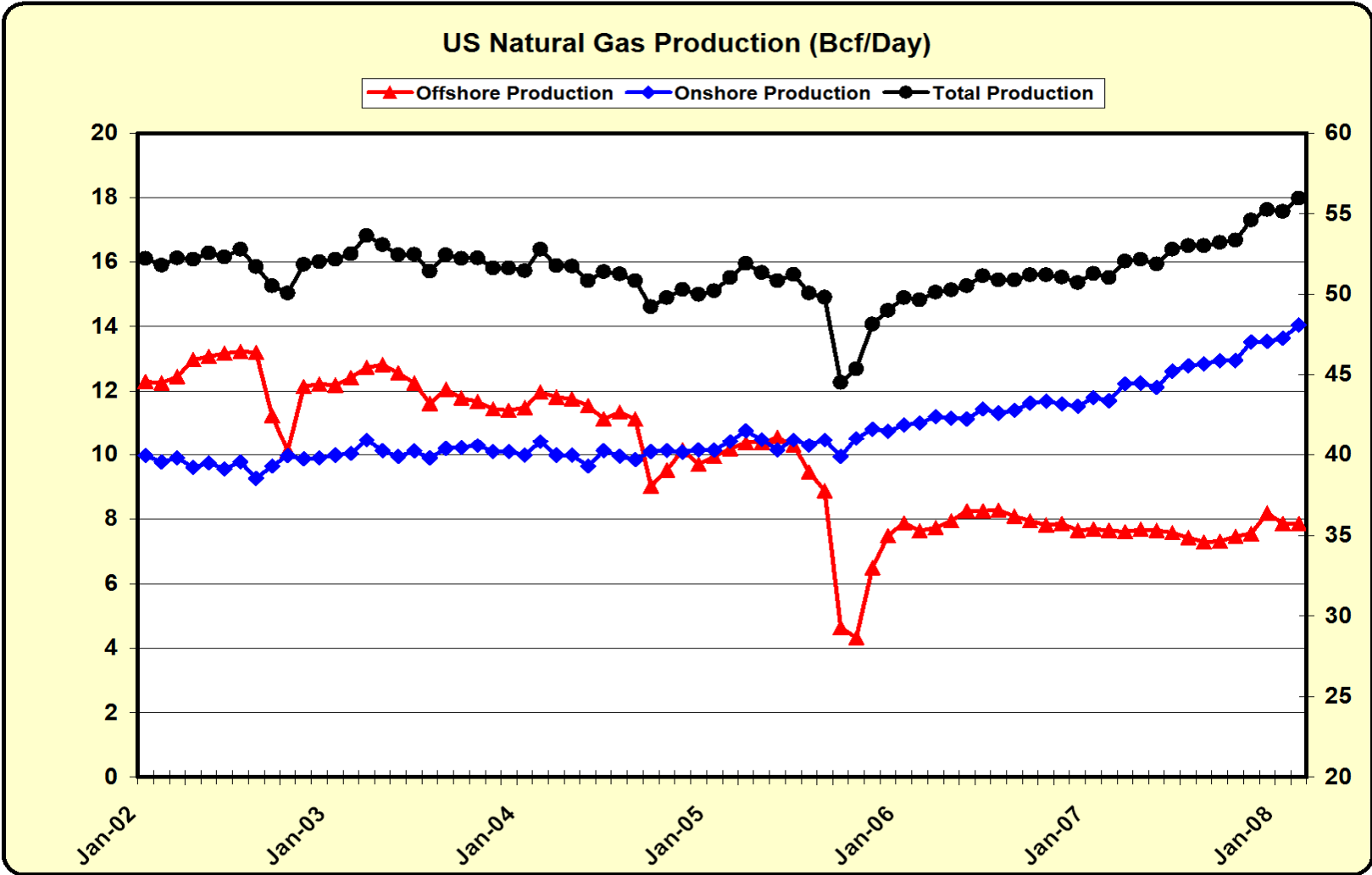


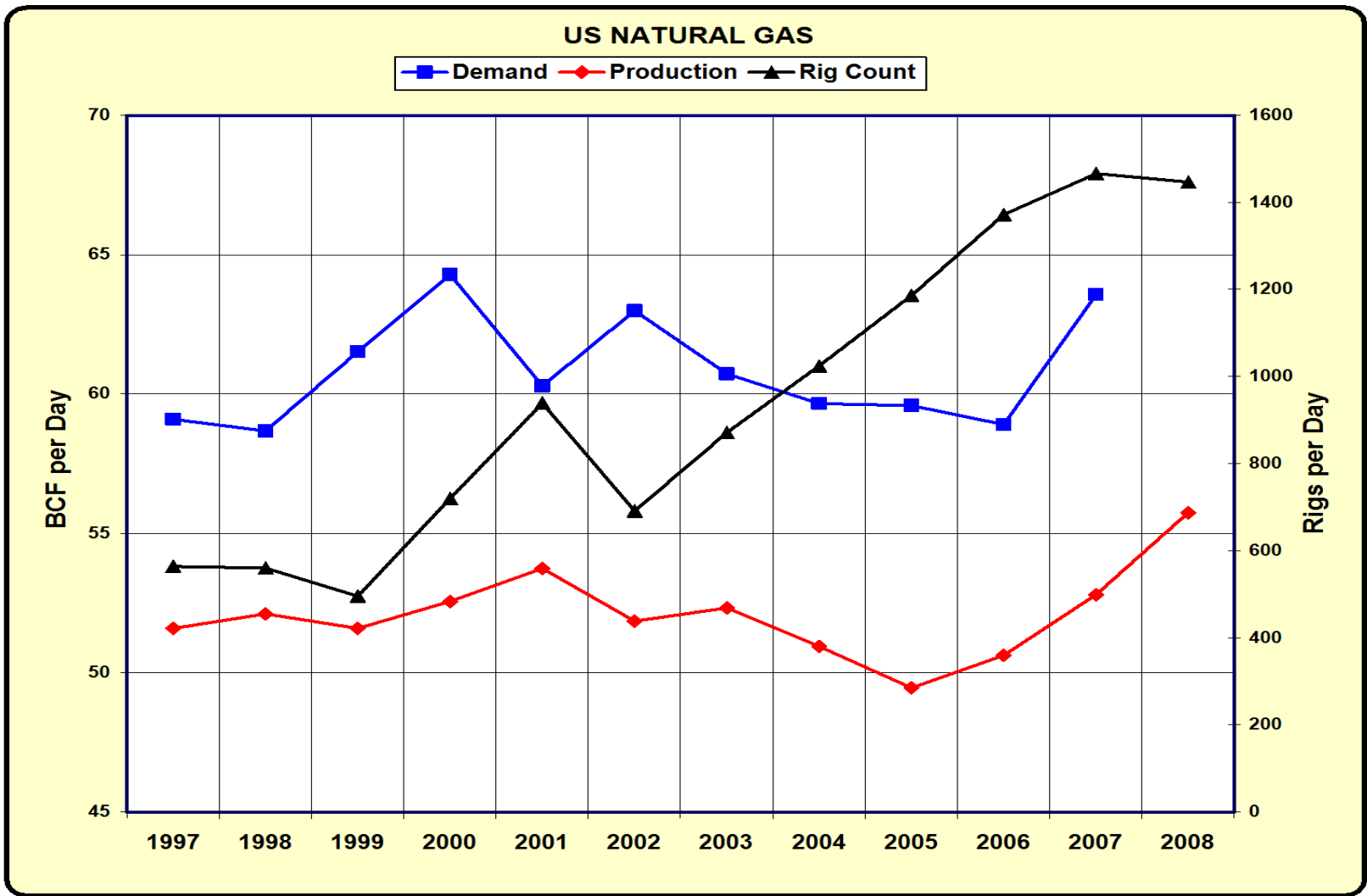


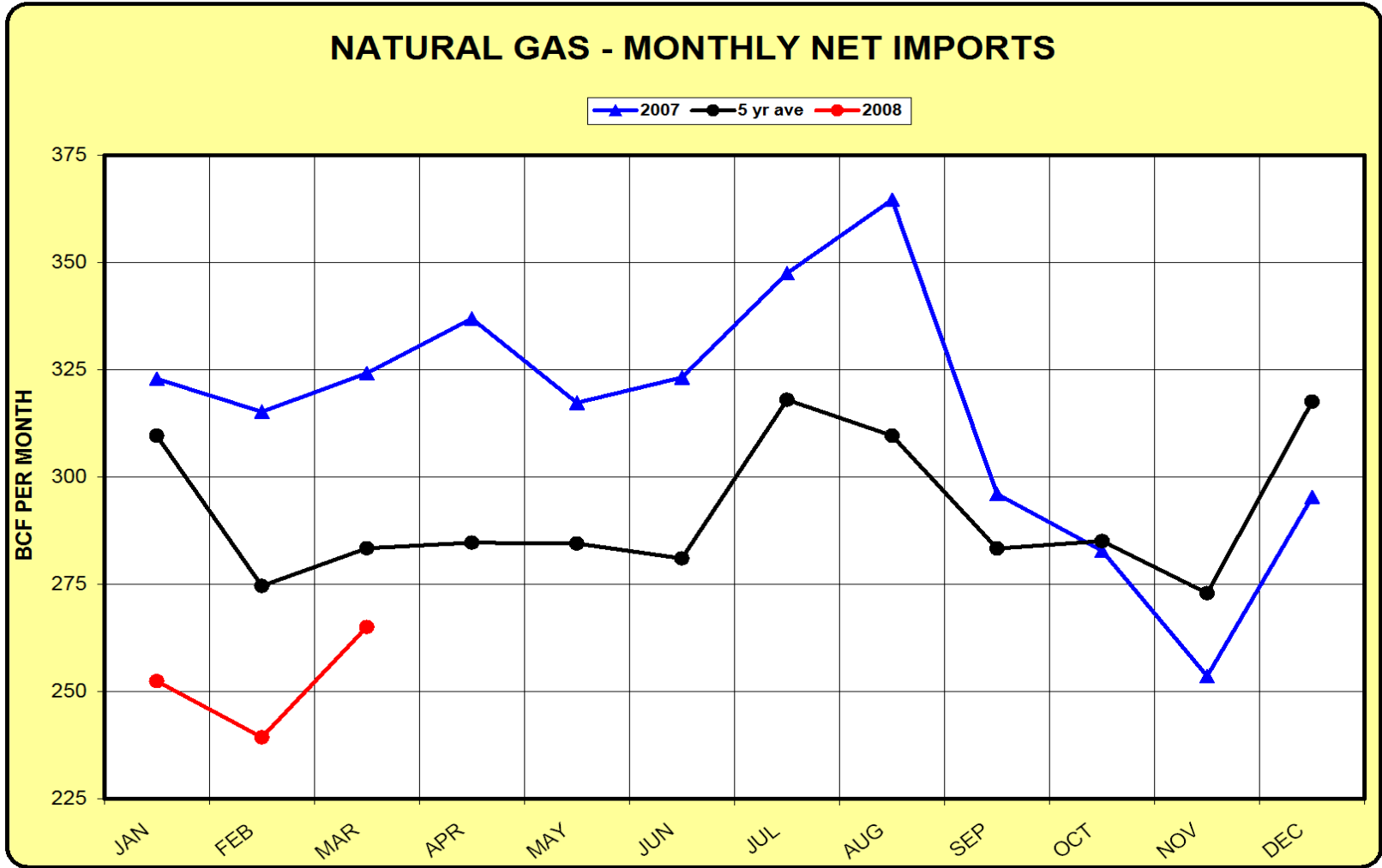
2008 Natural Gas Key Drivers

- Record high U.S. production. Up 8.3% year-on-year.
- Net imports down 21% year-on-year.
- Intense global competition for LNG.
- U.S. natural gas demand up 3.7% year-on-year.
- Global energy demand surging.
- Record high coal, crude, heating oil and gasoline prices.
- “Long only” investment fund participation.
- Summer forecast - average.
- Hurricane forecast - more active than normal.
- U.S. natural gas working storage projection.

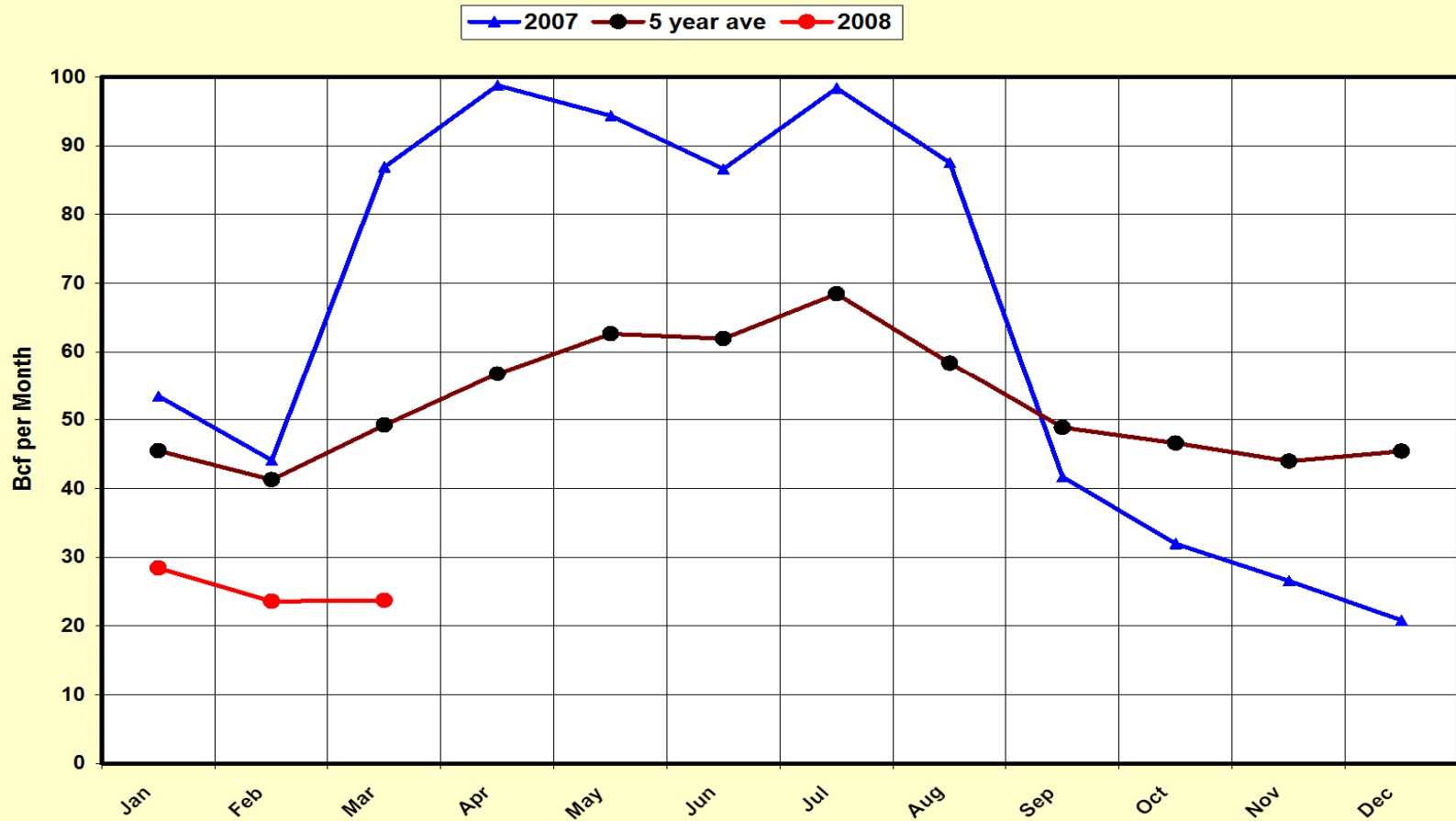




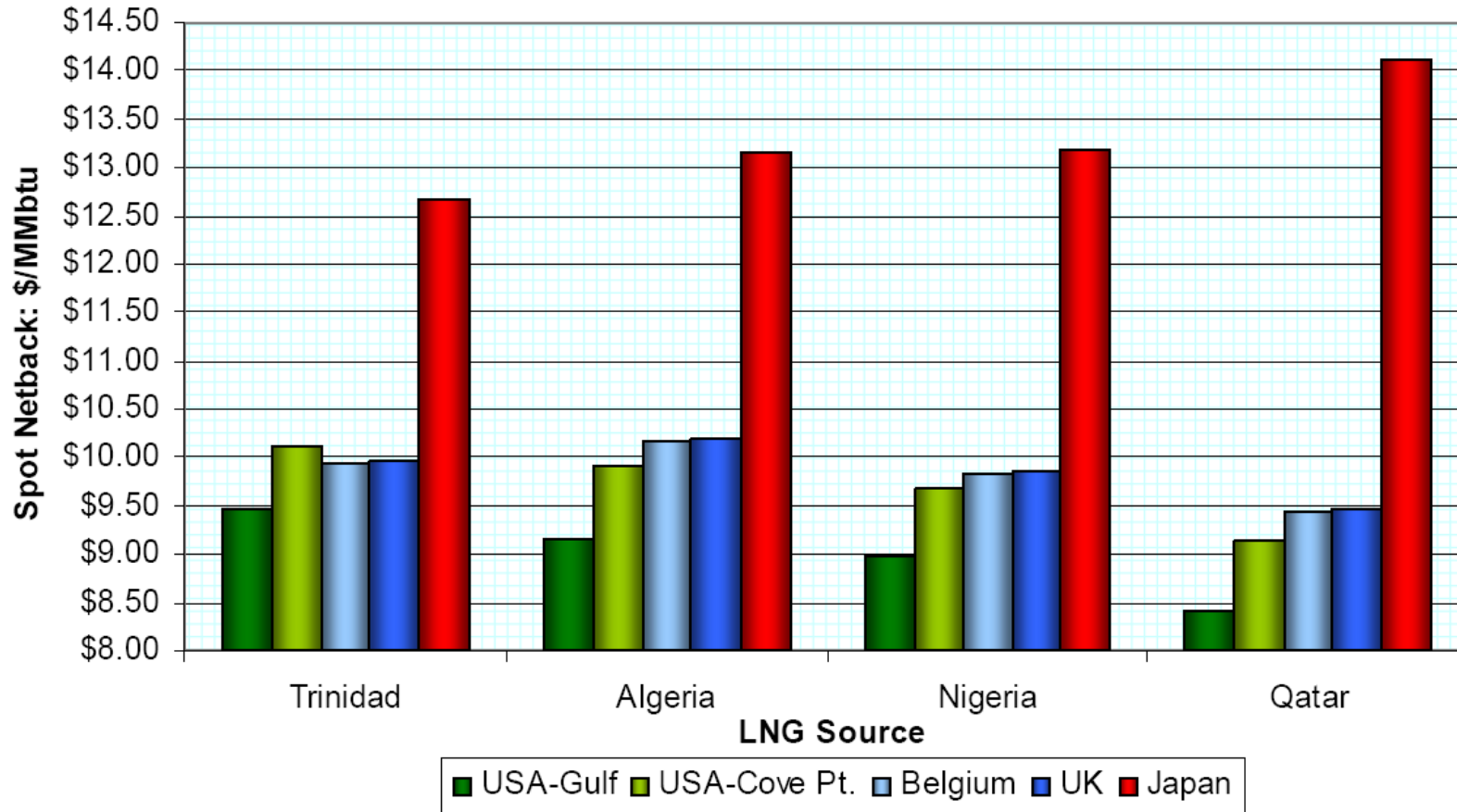


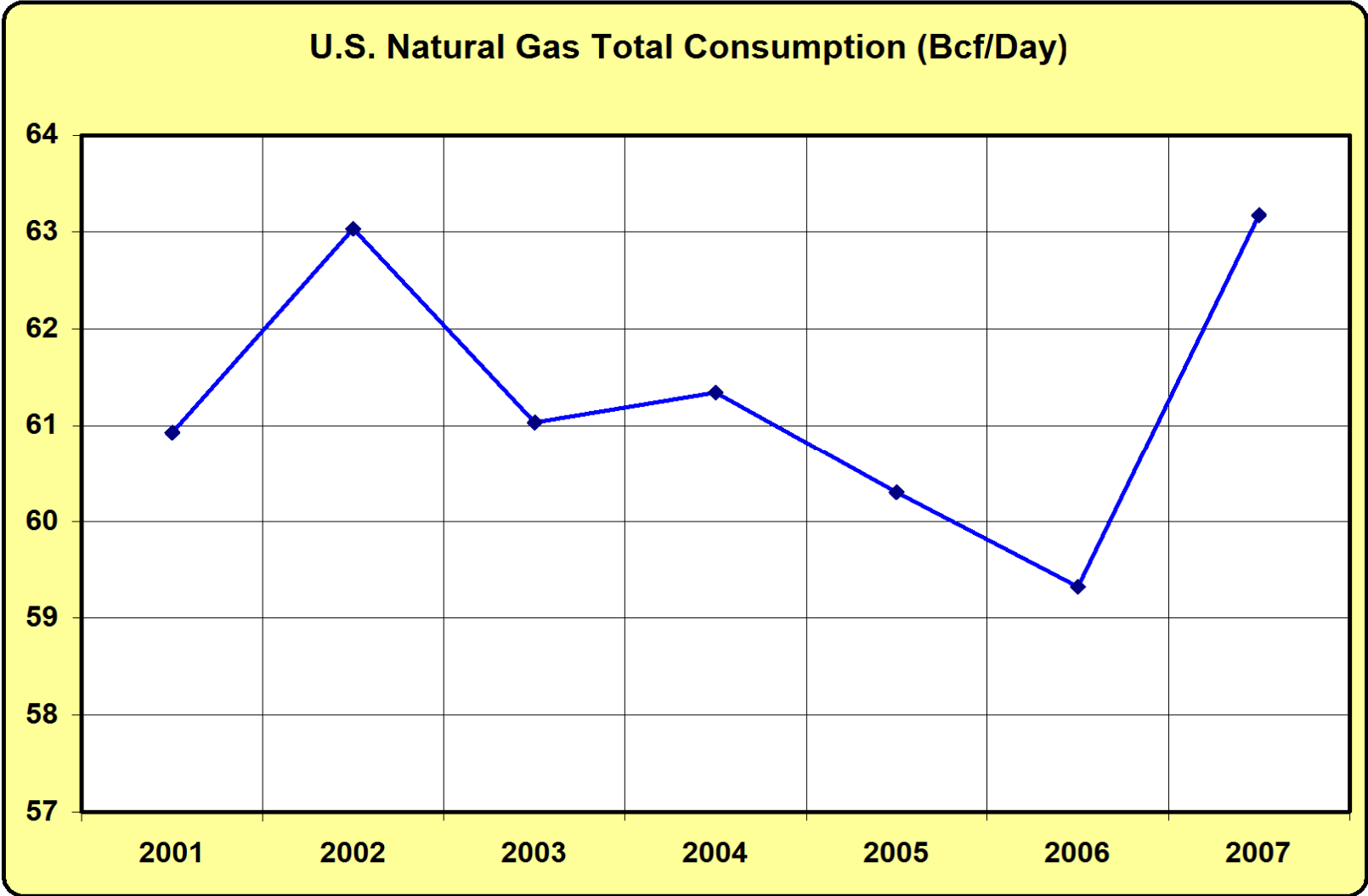


LNG Imports of Natural Gas



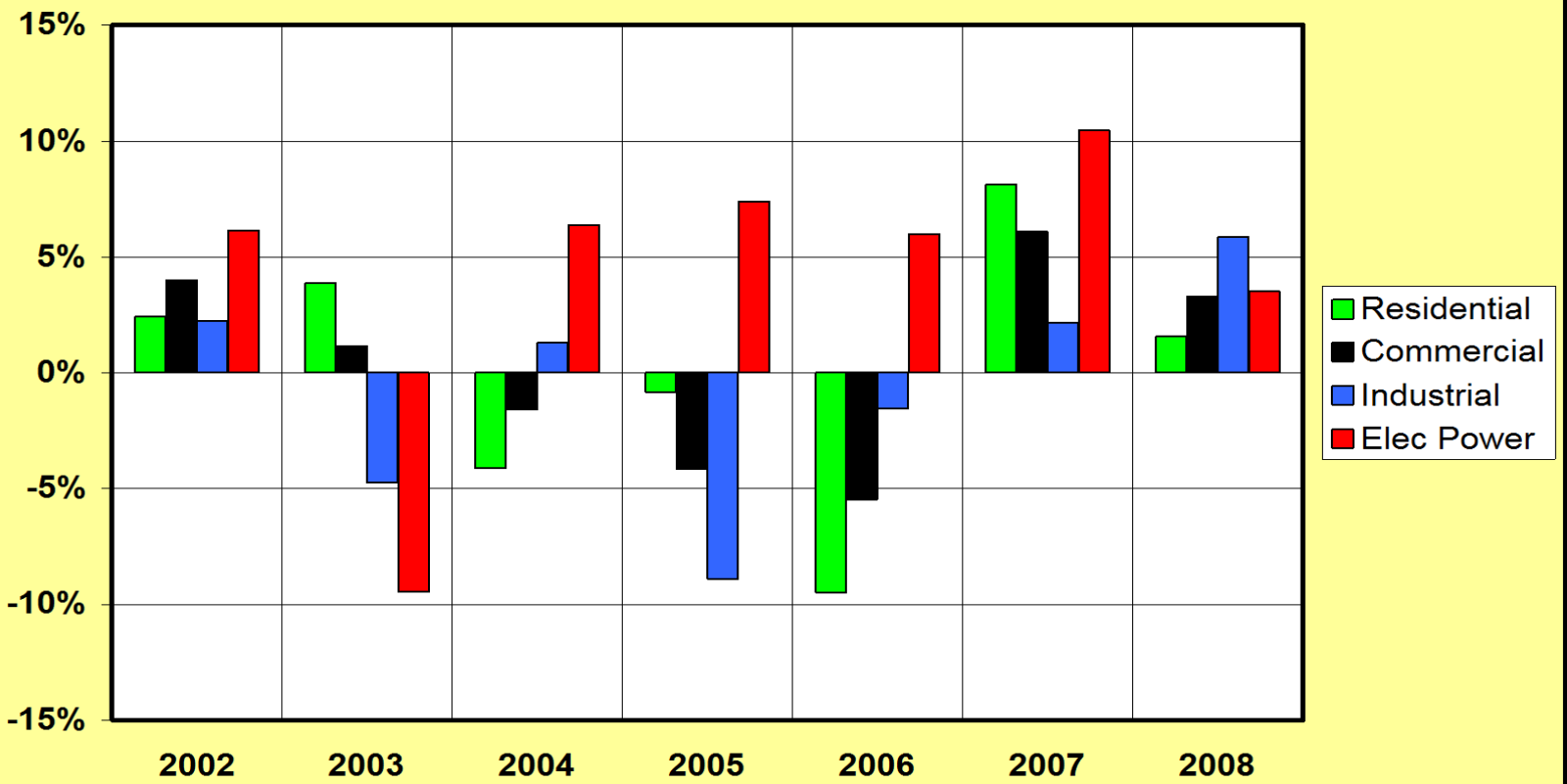
Global LNG Netbacks



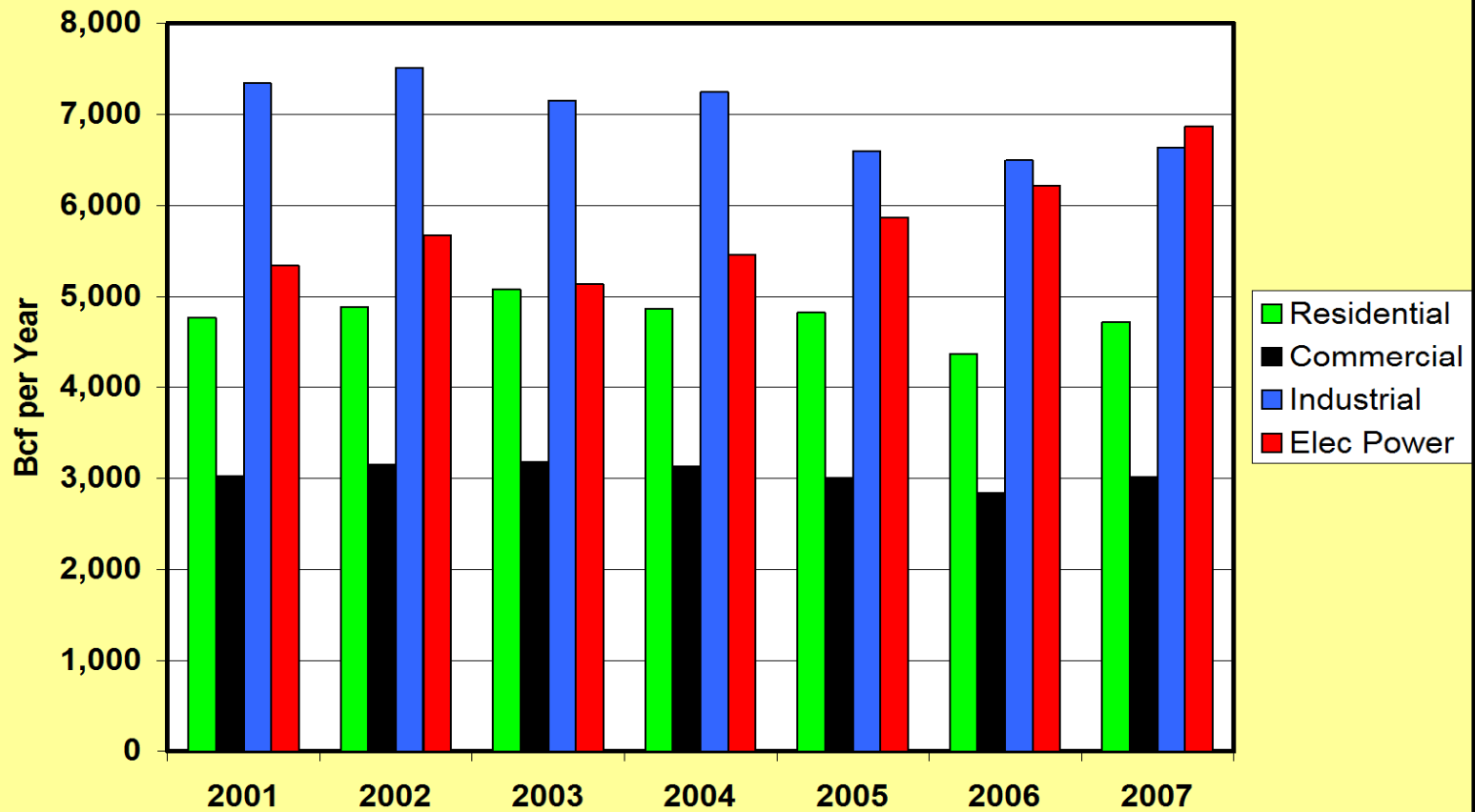




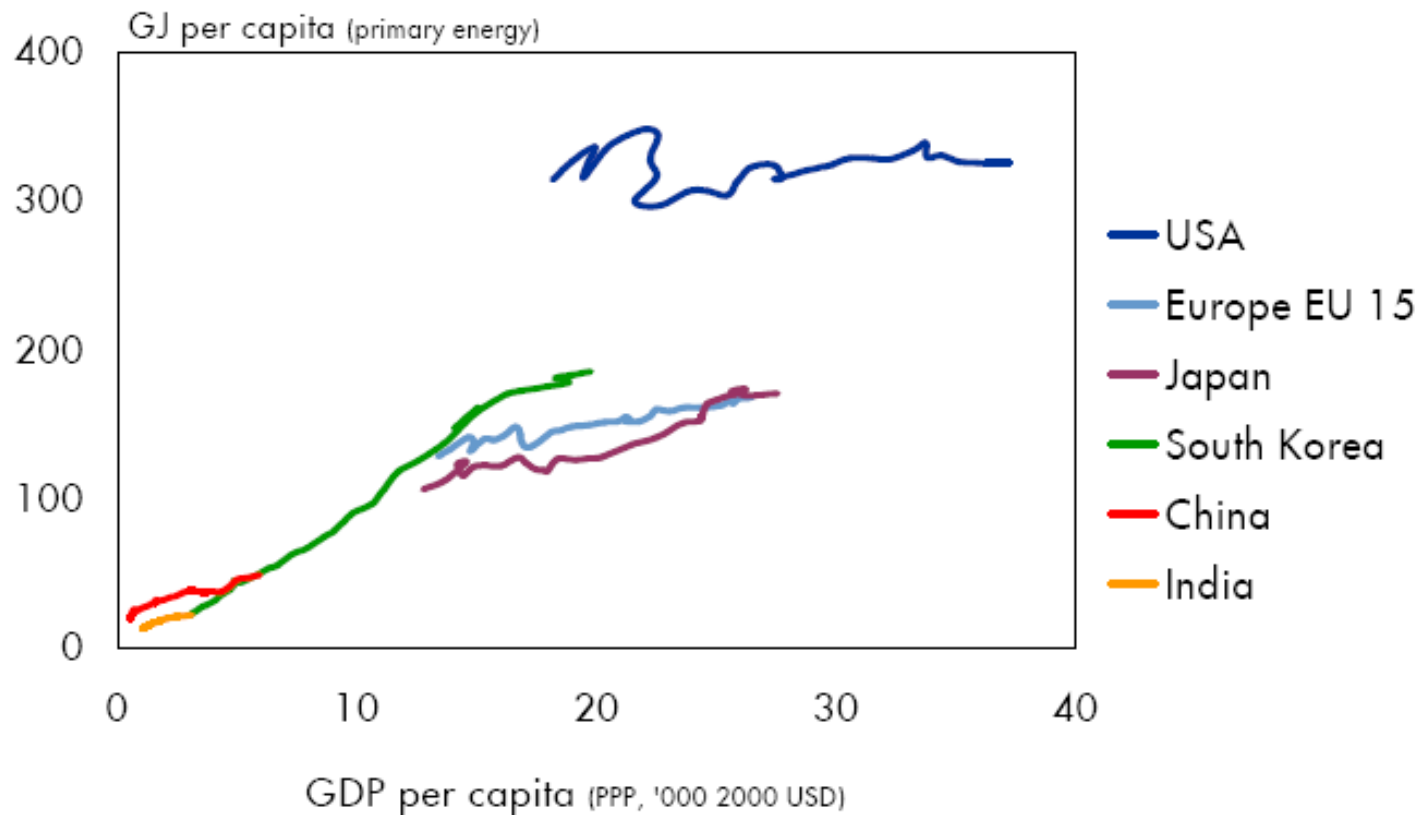
U.S. Natural Gas Consumption by End Use Year-on-Year Percentage Change



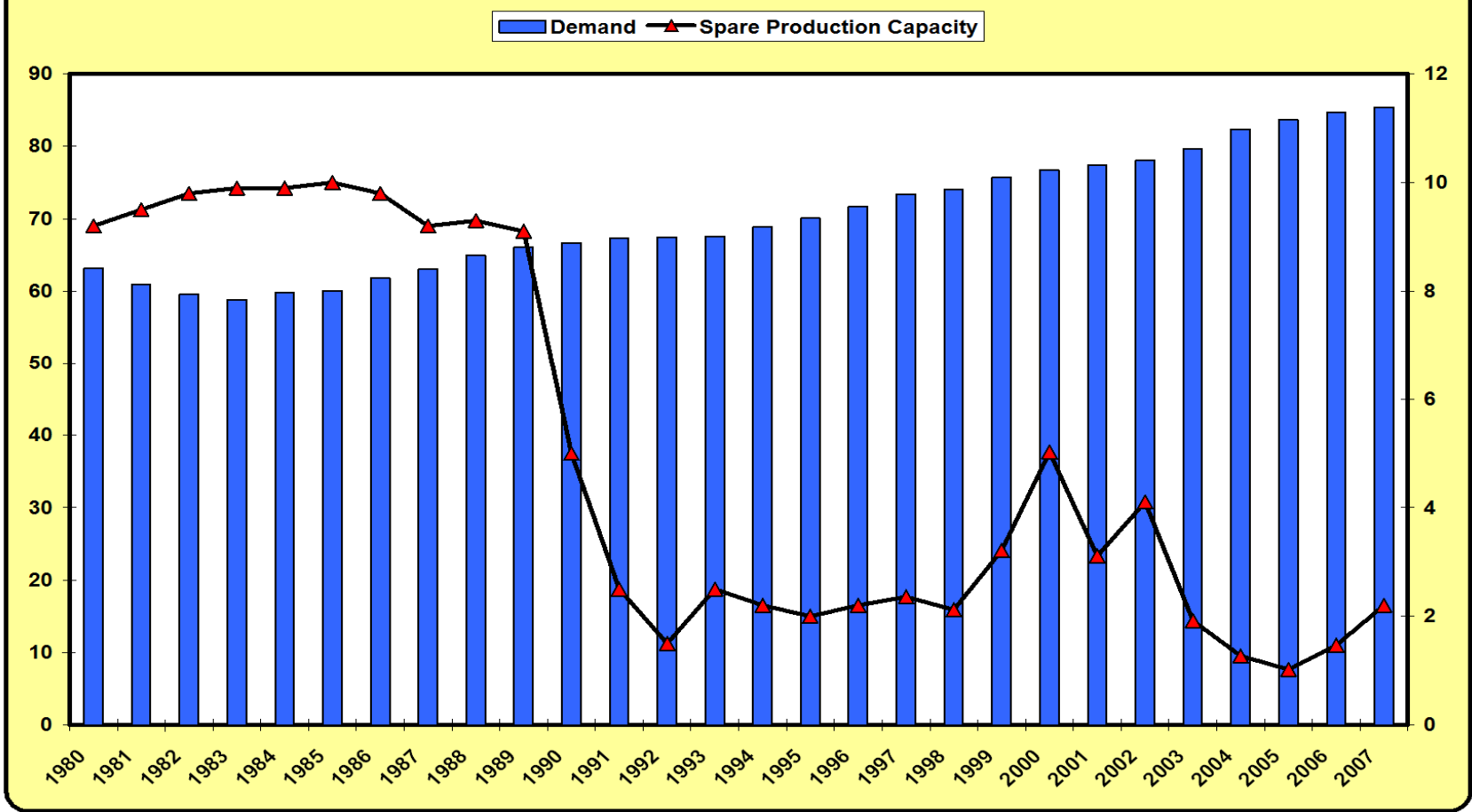
U.S. Natural Gas Consumption by End Use



Major economies are climbing the energy ladder



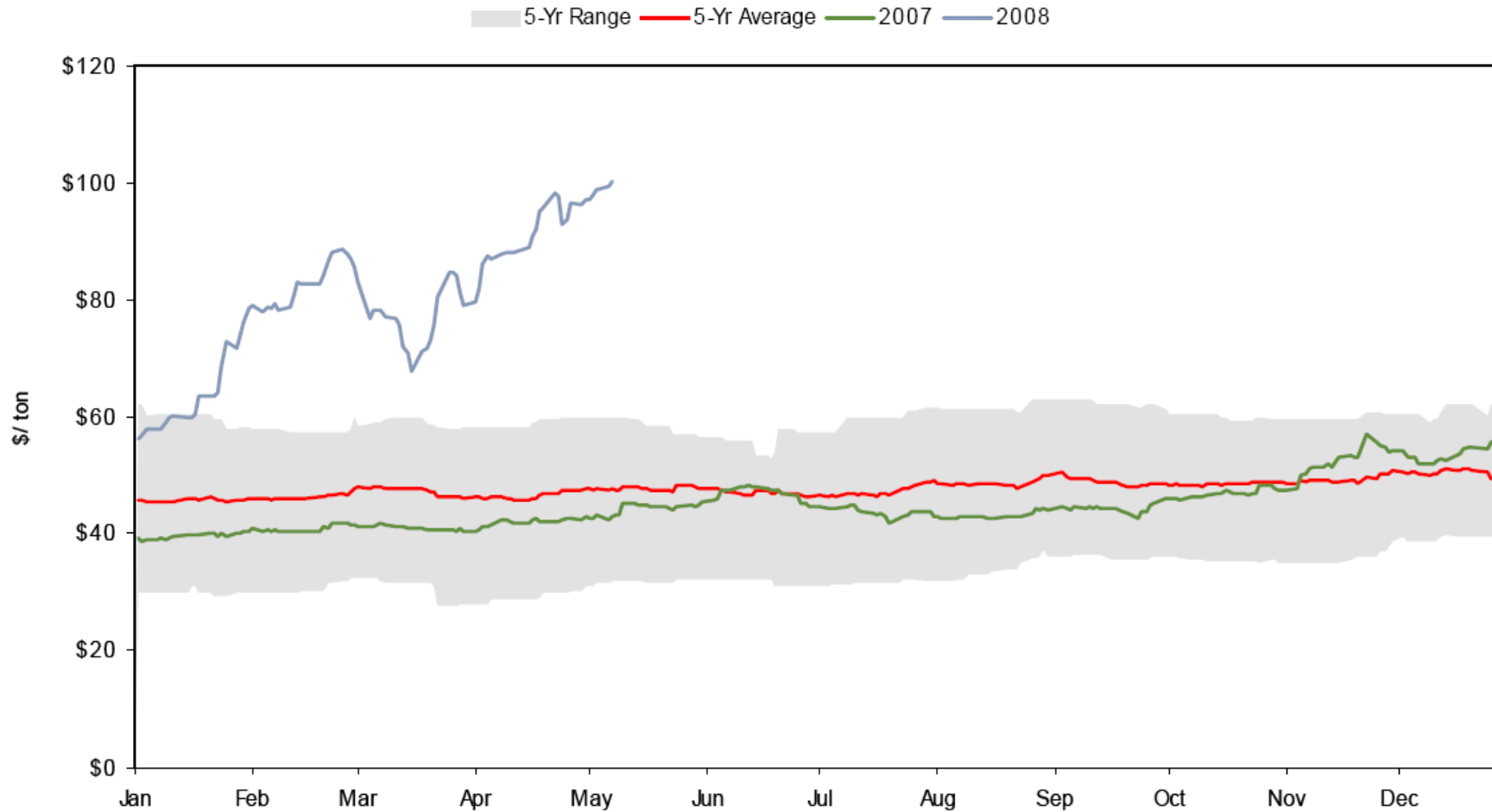
World Crude Oil mmb/d



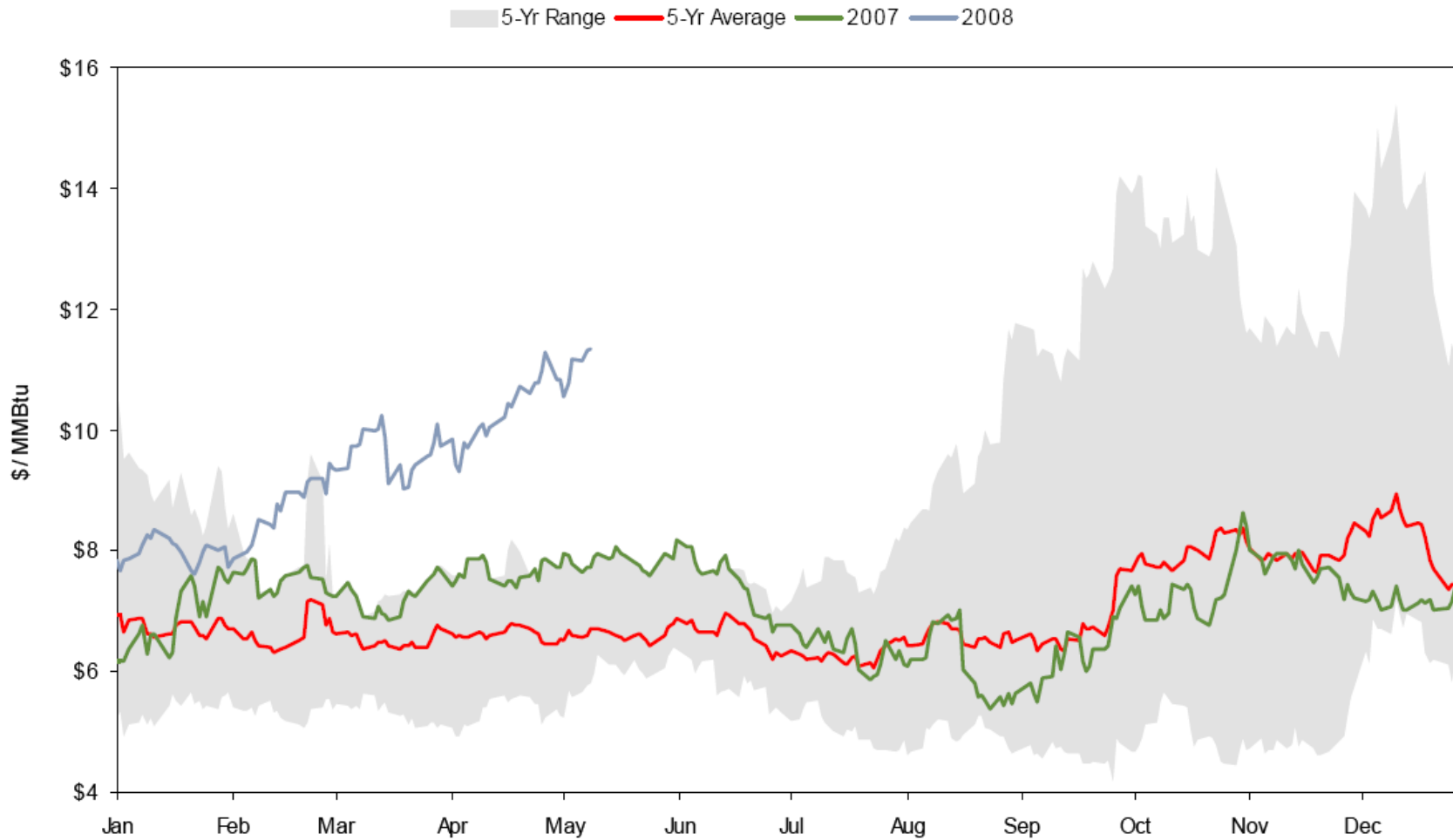
NYMEX WTI Crude Oil



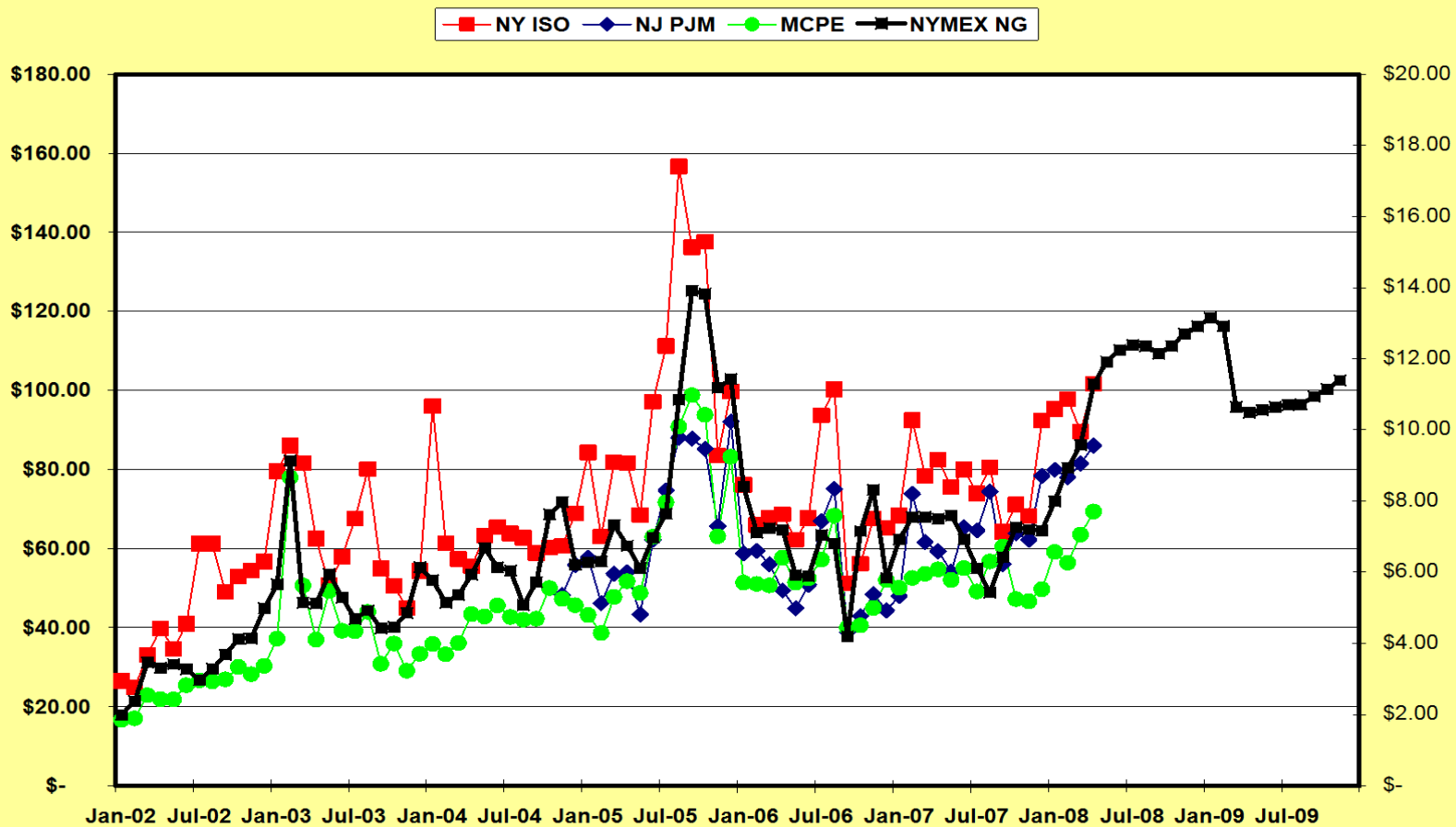
Historical NYMEX Central Appalachian Coal Prices



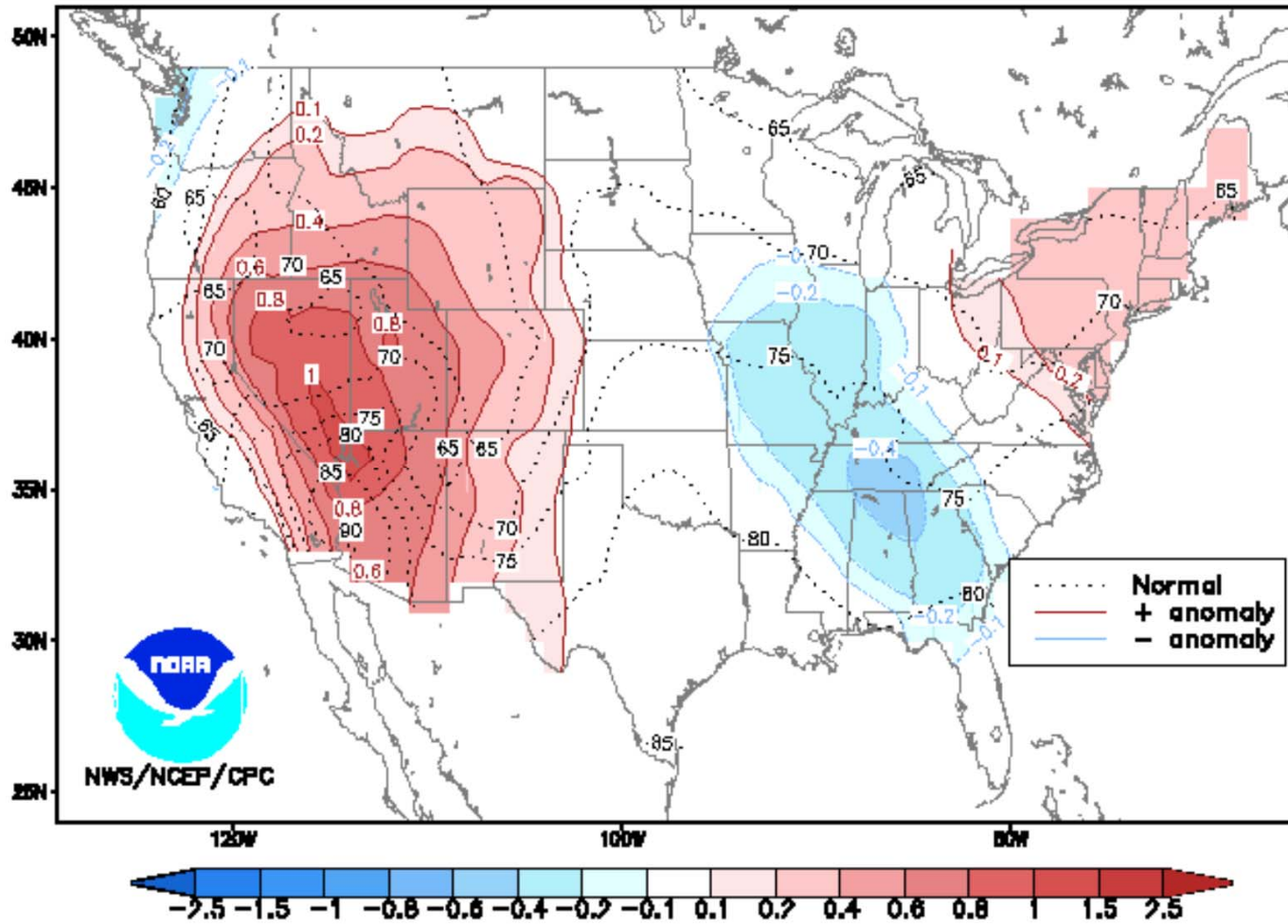
Historical Nymex Henry Hub Natural Gas Prices

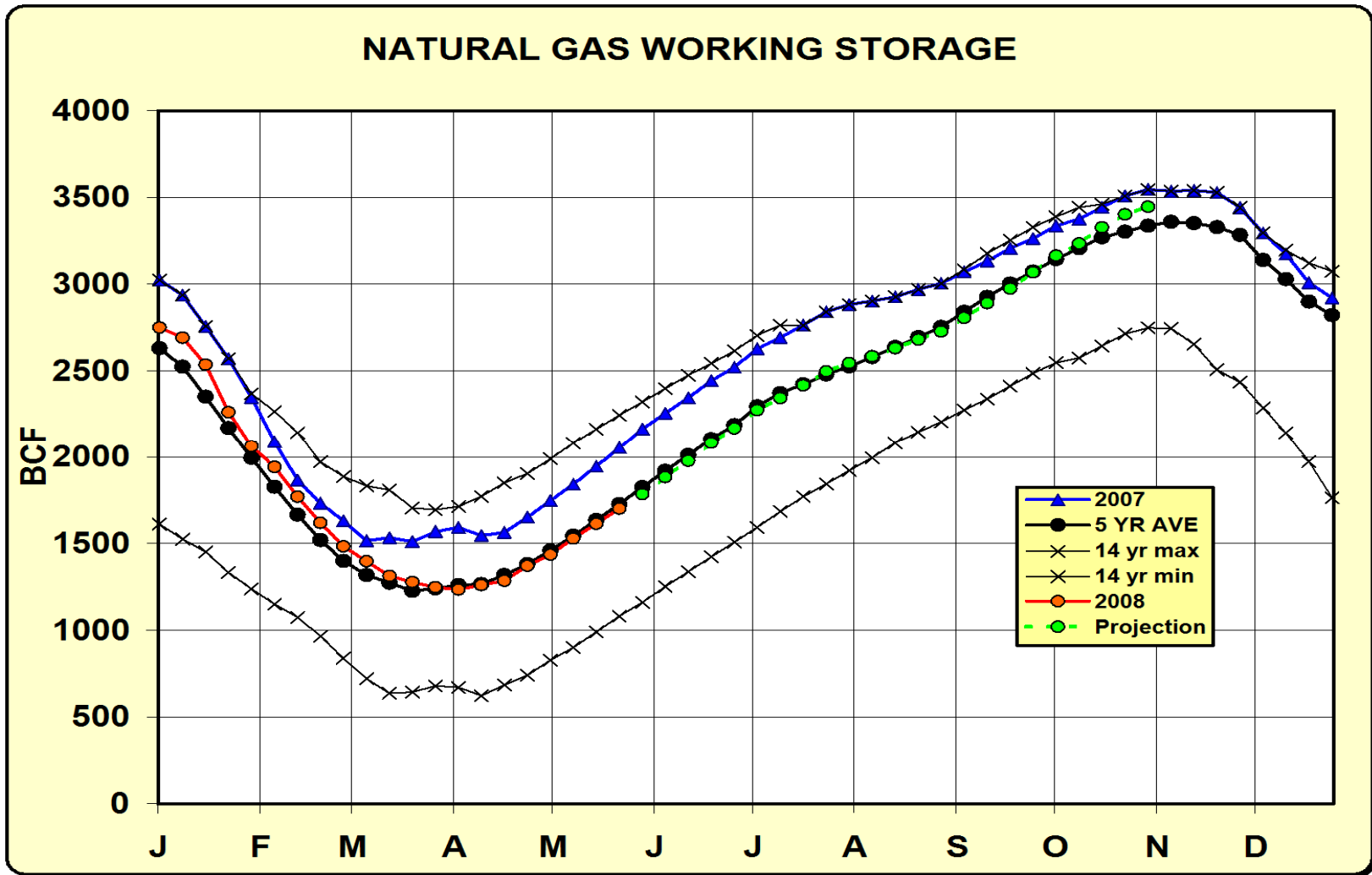


Electricity Prices



National Weather Service Summer 2008 Forecast





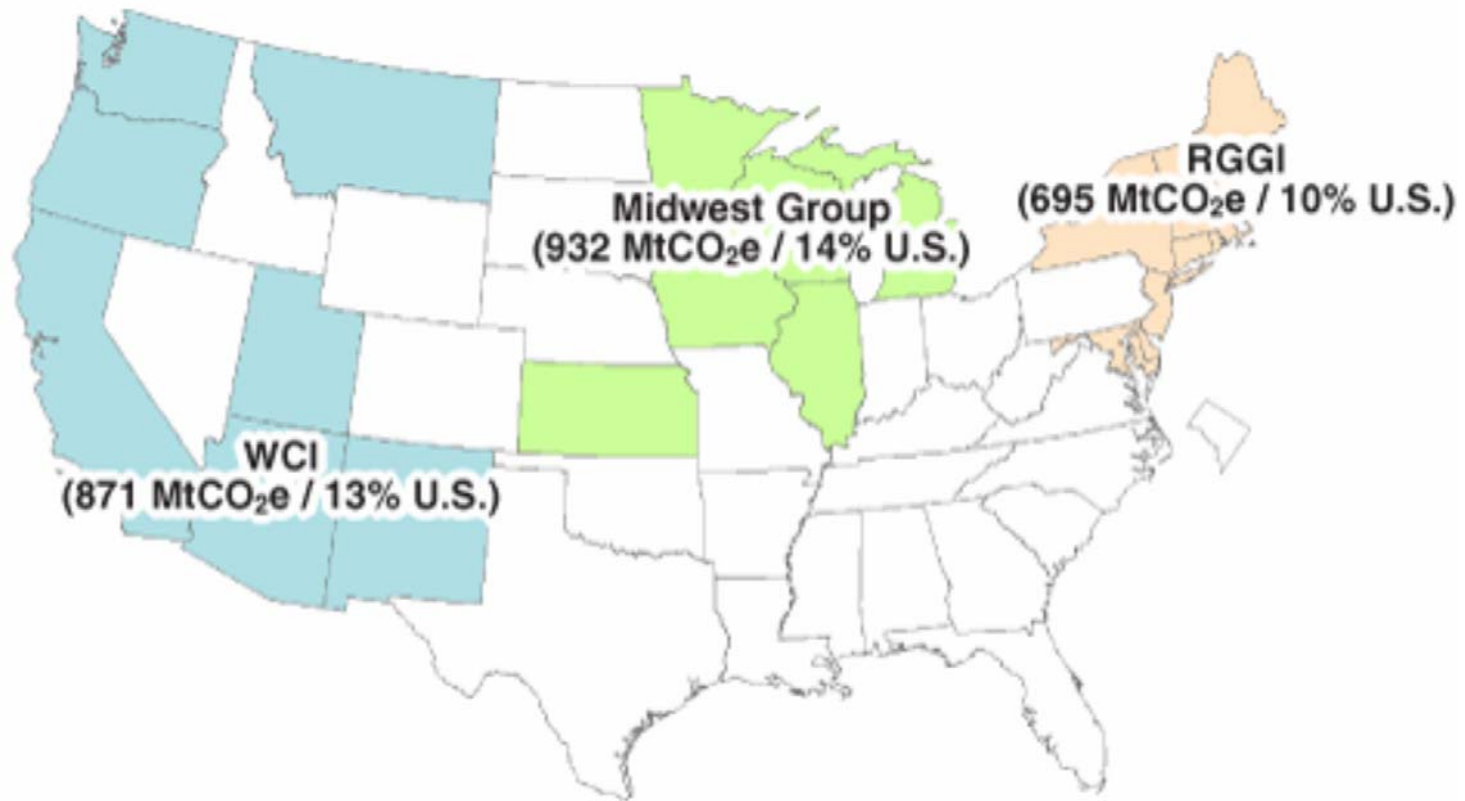
Emission Markets

- The cost of doing business is going up.
- Lieberman-Warner Climate Security Act
- Both Presidential candidates are proponents of a cap-and-trade bill.
- U.S. joins “Bali Action Plan”. Successor to Kyoto Protocol.
- “The Carbon Principles” partners estimate \$30/mt tonne for CO₂.
 - Citi, JP Morgan Chase, Morgan Stanley, Bank of America, American Electric Power, CMS Energy, DTE Energy, NRG Energy, PSEG, Sempra and Southern Company, Environmental Defense, Natural Resources Defense Council
 - Potential \$0.028/kwh increase from coal-fired generators.
 - Potential \$0.017/kwh increase from natural gas-fired generators.
- Current EUA €27.05/mt tonne, approximately \$41.50/mt tonne.
- Current U.S. voluntary market \$7.50/ton.

Emission Markets

- To date, mostly an international market (Kyoto Protocol, EU ETS)
- States and regions are developing own markets
 - RGGI – 10 northeastern states. Mandatory program focusing on utilities first
 - Western Climate Initiative - 6 states and 2 Canadian provinces have set a combined GHG reduction target for their region
 - Midwest Greenhouse Gas Reduction Accord – 9 states and 1 Canadian province to establish a multi-sector cap-and-trade system
 - Chicago Climate Exchange - facilitates the trade of standardized carbon financial instruments (CFIs), and engages its members in a voluntary but legally binding cap-and-trade program.
 - The Green Exchange - CME Globex trading platform and cleared by NYMEX. EUA's, Kyoto-based carbon credits, US voluntary carbon credits, renewable energy credits, and emissions allowances

Emission Markets



Emission Markets

- Voluntary commitments by companies and states is driving the carbon offset market in US.
- Offset projects generate these voluntary GHG emissions reduction credits (carbon offsets)
 - Energy efficiency projects
 - Waste stream beneficial reuse projects
- Companies must properly document reductions in order to receive credits and generate revenue
- Likely will have to report on corporate wide GHG emissions in future
 - The Climate Registry (voluntary) – collaboration of 39 states, 4 Canadian provinces, and 2 Mexican states. Established a GHG inventory registry that will also support reduction tracking and management.



Opportunities for Early Movers

- Better position yourself for current and future requirements
 - Know your carbon footprint
 - Able to comply with stakeholders sustainability reporting mandates
 - Understand how proposed legislation would affect your organization
- Assist in development of policy systems and criteria
 - Have a seat at the table to influence the process
- Document emissions reductions
 - Use in meeting future reduction targets
 - Generate revenue from carbon offset credit sales
- Gain a competitive advantage
 - Lower operating costs
 - Take advantage of least cost opportunities
 - Enhance corporate reputation
 - Innovate



Energy Management Strategy

- Hill & Knowlton Inc. Survey of Fortune 1000 Companies.
 - 67% of respondents said their firms have not defined an energy strategy.
 - 70% do not have anyone identified within their organization tasked with defining an energy strategy.
 - 77% of senior executives believe there is a need to expand the executive or "C-Suite" to include a chief energy officer to manage, implement and measure a company's return on investment, or return on environment (ROE).



Energy Management Strategy

- Identify Senior Energy Executive
- Assemble multi-disciplined team
 - Monitor evolving GHG policy and energy market trends
 - Establish GHG inventory
 - Identify business risks and opportunities
 - Engage with stakeholders
 - Understand corporate commitments
 - Set goals/targets to reduce energy cost, consumption and emissions
 - Develop financial mechanisms for efficiency projects
 - Determine strategic roll-out of initiatives



Energy Management Strategy

- Collect/analyze energy cost, consumption & emission data.
- Centralize major energy procurement activities.
- Coordinate energy budget and price risk management strategy.
- Develop GHG emission inventory.
- Approve an Inventory Management Plan.

Energy Management Strategy

- Identify/prioritize energy efficiency projects.
 - Typical Projects
 - Lighting
 - Boilers, Chillers, Central Plant
 - Controls, Automation
 - Compressed Air
 - Refrigeration
 - Renewable Energy and Co-generation
 - Production Equipment and Other Mechanicals
 - Maximizing Existing Energy Assets
 - Rebate Programs-Documentation and Application
- Secure capital and implement projects.
- Carbon credit trading strategy/execution.



Energy Management Strategy

- Why Consider Energy Efficiency Projects?
 - These projects help the environment and increase profitability by reducing waste.
 - Other benefits include: Lower maintenance costs, new technology, better controls, increased productivity.
 - Reduction of energy directly increases the bottom line net earnings.
 - If energy savings is \$500,000 per year and a company has a net earnings of 5% of revenue, this is equivalent to an increase of \$10,000,000 in annual revenue.
 - Many projects will have a significantly higher internal rate of return than most businesses annual profit margin. Some as high as 40% to 60%.



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*Providing our clients with a competitive
advantage through smart energy
management.*