American Council for an Energy-Efficient Economy
WASHINGTON, DC

Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets

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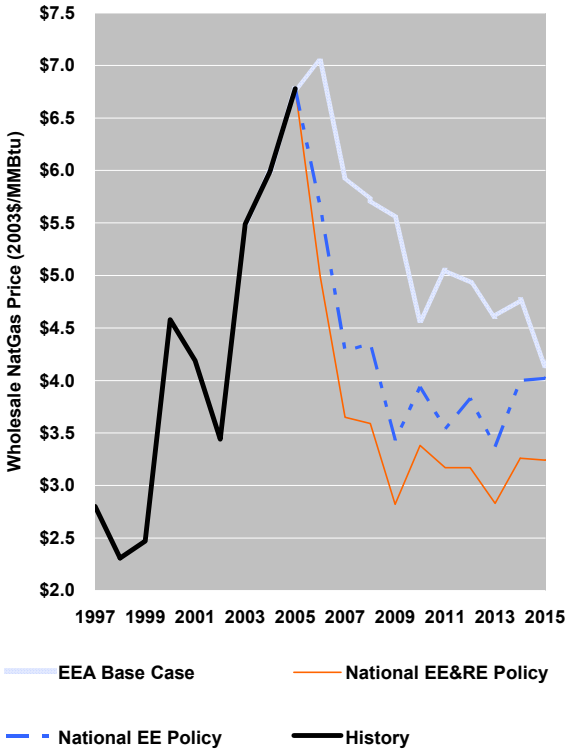
Key Findings

An updated ACEEE analysis, prepared with assistance from Energy and Environmental Analysis, Inc., shows that energy efficiency, both alone and combined with renewable energy, can reduce natural gas prices and price volatility. Deploying cost-effective, aggressive efficiency programs over the critical next few years (e.g., 4.7% electricity savings and 4.1% gas savings over five years) would cut wholesale gas prices as much at 25%, or about $1.50 per MCF. Since new gas supply options will take several years to bring on line, efficiency investments are the best available tool for balancing gas markets for the near future.

By reducing demands for electricity and natural gas, especially during peak periods, and increasing the share of renewable energy we can:

- Reduce natural gas prices (see **Figure 1**)
- Make consumer energy bills more manageable
- Avoid costly disruptions to business and to our daily lives
- Put the American economy more firmly on the road to recovery

Figure 1. Impacts of Energy Efficiency and Renewable Energy on Wholesale Gas Prices



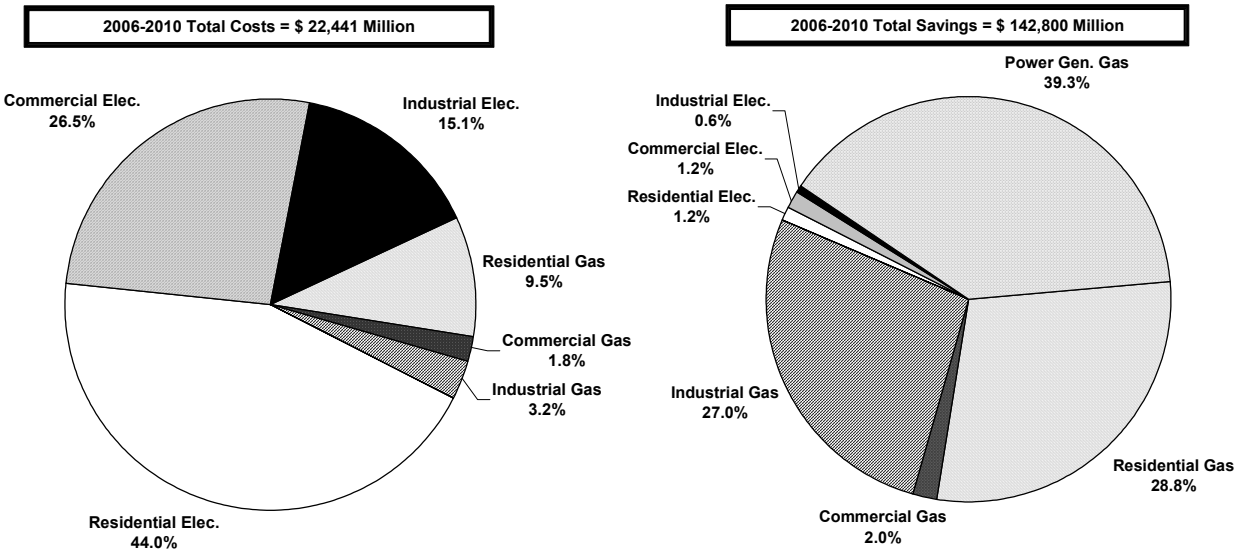
What Does this Mean for Consumers?

Residential consumers are now experiencing the full impact of price increases in their gas bills, which have increased an estimated 42% since 1999, increasing consumers' gas expenditures by almost $15 billion. Energy efficiency investments could reduce next year's bills by over 11%, reducing residential gas expenditures by almost $6.5 billion nationally, saving the average residential natural gas consumer almost $110. These savings will continue for the next five years, averaging $136 per year per residential natural gas customer. It is worth noting that changes in just one state or region can result in price reductions in the immediate region as well as the nation as a whole. These energy efficiency investments are highly cost effective, with a benefit cost ratio of 6.36.

Nationwide efficiency efforts would result in net energy bill savings to residential, commercial, and industrial consumers about **$ 121 Billion Dollars.**

At a national level, additional savings can be achieved from reductions in electricity consumption by end-users (see Figure 2). Natural gas consumption in the electric power sector is reduced by about 4 % over the next five years with expenditures reduced by $9.6 billion in 2006, and by over $ 56 billion cumulatively by 2010.

Figure 2. Energy Efficiency Benefits and Required Investments



To achieve these reductions would require an investment of slightly over $22 billion dollars over five years. As **Figure 2** shows, the investment is weighted disproportionately toward electric efficiency investments, while the benefits disproportionately occur in end-use natural gas expenditures, in large part because of the dramatic natural gas price reduction that result from reductions in demand.

Policy Solutions

Policymakers at the state and federal level can take a number of concrete actions to realize the benefits that result from expanded energy efficiency and renewable energy resources. No single policy strategy will achieve the results outlined in this analysis. Rather, a portfolio of strategies is needed to achieve quick and sustained savings from energy efficiency and renewable energy resources. These strategies include:

- Utility end-use energy efficiency performance targets and expanded public benefit funds
- Expanded federal funding for energy efficiency and renewable (EERE) implementation and R&D Programs at DOE, EPA and USDA
- Expanded appliance efficiency standards
- Insuring more efficient buildings through codes implementation and compliance funding
- Support of clean and efficient distributed generation
- Renewable portfolio standards
- Incentives for investment in energy efficiency and renewable energy
- Public awareness campaign by state and national leaders similar to what was done in California in 2001

For utility regulators, it is important that they:

- Support either the establishment of end-use energy efficiency performance targets for their natural gas and electric utilities, such as have been implemented in Texas and Pennsylvania, or the establishment or expansion of system benefit funds for both electricity and gas to fund energy efficiency and renewable energy programs
- Support renewable portfolio standards (RPS) or other initiatives that encourage renewable energy, such as clean DG performance credits as has been done in California
- Implement standard grid interconnection standards and procedures for clean DG
- Set fair and non-discriminatory supplemental, standby, and backup tariffs for clean DG

For more information and updates on Natural Gas and Energy Efficiency visit:
http://aceee.org/energy/natlgas.htm