


Bridging Our Energy Future

DIRECT USE OF NATURAL GAS

BY WILLIAM N. CANTRELL

 **THE NORTH AMERICAN ENERGY** market will face continued uncertainty for the foreseeable future, and despite increases in natural gas prices, the use of natural gas is expected to increase significantly in response to efforts to regulate greenhouse gas emissions. It is clear that no silver bullet exists to address the challenge of meeting increasing demand for energy while also reducing greenhouse gas emissions. Therefore, it is prudent to consider pursuing a number of focused opportunities that together yield a practical energy policy, which advances energy efficiency and reduces CO₂ emissions.

Of increasing concern for America's natural gas utilities and their customers is the pressure that greenhouse gas emission regulations will put on the price of natural gas due to increased reliance on natural gas to fire new electric generating capacity – especially if the tight supply/demand market conditions continue.

To assess the impact of this increased reliance, and also analyze the increased direct use of natural gas, the American Gas Foundation recently completed the "Direct Use of Natural Gas – Implications for Power Generation, Energy Efficiency, and Carbon Emissions." The study, conducted by Black & Veatch in Houston, focused on the impact of the increased direct use of natural gas for residential and commercial end uses – space heating, water heating, cooking and clothes drying. That analysis, which was based on data from the EIA Annual Energy Outlook 2007, determined the net effect in total energy use, energy costs and CO₂ emissions out to the year 2030.

The analysis considered several scenarios, which had assumptions related to natural gas supply, residential and commercial technologies – current and future – and environmental regulations related to CO₂ emissions as currently proposed in Congress. Based on evaluations of each scenario, the study found that the increased direct use of natural gas in residential and commercial applications can decrease energy consumption, reduce overall energy costs and cut CO₂ emissions

In all the scenarios the study examined, the increased direct use of natural gas produces a net decrease in overall energy consumption and energy costs. Further,



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utilizing a number of simplifying assumptions, the total energy consumption savings from the baseline forecast suggests a range of avoided generation capacity of 63 to 80 gigawatts and avoided investment costs of \$49 billion to \$122 billion in 2030.

Regarding CO₂ emissions, in all scenarios considered, a net decrease in CO₂ emissions is anticipated from an increased use of natural gas for residential and commercial applications. CO₂ emissions reduction potential represents 3 to 10 percent of CO₂ emissions growth projected for 2005 to 2030.

In summary, we do have an energy solution staring us right in the face today – natural gas. It can truly serve as the bridge to our energy future. In every venue where climate change solutions are being discussed, natural gas is acknowledged to be that bridge. However, we can never lose sight of the need to make sure we have adequate access to supply to handle the increased demand and that the necessary infrastructure is in place to ensure the continued safe and reliable delivery of natural gas.

Policymakers, regulators and consumers will face many challenging decisions as our economy is realigned to meet whatever greenhouse gas reduction targets are ultimately put into place. Direct use of natural gas can serve an important near- and long-term, positive role in helping to achieve carbon reduction goals while maximizing the productivity of this incredibly valuable domestic energy asset. ☒

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