American Gas Association

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APGA Research Foundation

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The INGAA Foundation, Inc.

April 15, 2011

Office of the Under Secretary for Science
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

RE: *Availability of Department of Energy-Quadrennial Technology Review Framing Document and Request for Public Comments*, 76 Fed. Reg. 13,607 (March 14, 2011).

Ladies and Gentlemen:

The undersigned members of the natural gas industry are pleased to submit for your consideration the following comments in response to the U.S. Department of Energy's Request for Public Comment, *Availability of Department of Energy – Quadrennial Technology Review Framing Document and Request for Public Comment*, 76 Fed. Reg. 13,607 (Mar. 14, 2011).

We believe that increased use of natural gas is essential to meeting the nation's future energy needs. Natural gas is abundant, given the dramatic technology advancements that allow access to America's vast shale resources. Natural gas utilities and their customers have reduced carbon emissions by 40 percent over the past 40 years. Natural gas is a readily available energy resource. Although technology improvements will allow for even greater emission reductions in the future, natural gas-fired power generation already is among the cleanest electric generation alternatives, featuring low emissions, a small land footprint, sustainability, and the ability to complement renewable energy sources to ensure reliability. Development of U.S. natural gas reserves also yields jobs and economic growth. The natural gas industry supports nearly 3 million jobs—direct and indirect. Natural gas companies contributed over $3.5 billion annually in royalty payments to the federal

government between 2005 and 2010. In 2008, the natural gas industry's contribution to the overall economy was $385 billion, with $180 billion in labor income alone.

Given the economic and environmental benefits of natural gas, increased gas use should be at the center of national energy policy going forward. The Department's program budgets should be reconsidered to allocate the necessary resources to natural gas program areas as detailed in the comments of Gas Technology Institute ("GTI") submitted in this proceeding. Increased gas use can help meet the Administration's national energy goals as set forth in the Request for Public Comment of reducing energy-related greenhouse gas emissions and generating electricity from clean energy sources.[1]

Natural gas produces very low emissions of NOx, SOx, and fine particulate matter, no emissions of mercury and approximately half the CO2 emissions of other fossil fuels. As a result, natural gas is a fuel that is both clean and efficient. Moreover, employing natural gas in combined heat and power and distributed generation applications is a highly efficient use of natural gas and effective in reducing emissions. In addition to the favorable efficiency and emissions effects of CHP and DG, such applications serve to improve the efficiency of the entire natural gas transmission and distribution systems, helping to lower costs for all customers. Further, the direct-use applications of natural gas (*e.g.*, space heating and water heating) can be dramatically more efficient than electricity in these applications and can produce only about half the carbon emissions. As demonstrated in the analysis by GTI included with its comments, the expanded use of natural gas coupled with increased energy efficiency and deployment of renewable resources can reduce U.S. carbon emissions from 2005 levels by 42 percent by 2030.[2]

Moreover, a recent report prepared by GTI and Navigant Consulting concluded that achieving a clean energy future where natural gas is a key component will require a number of near term actions related to policy, technology development, and implementation of capabilities in each of the energy sectors.[3] Regarding research and development, the report recommends the following:

- Include natural gas in advanced metering infrastructure development to optimize common infrastructure, interoperability and cross-compensation among all utility infrastructures including electricity and water;
- Ensure that future federal funding programs including Smart Grid encourage and allow the use of funding for dedicated natural gas projects and combined electric/natural gas projects;
- Develop a technology roadmap for natural gas in a smart energy future, including critical input from a broad group of stakeholders and the energy technology R&D community;
- Increase federal/provincial funding for basic as well as applied research in natural gas safety and reliability and smart energy infrastructure technology; and
- Establish a federal/provincial public-private research, development and deployment program for natural gas similar in size to the electric Smart Grid programs that includes component and system suppliers

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[1] 76 Fed. Reg. at p. 13.607.

[2] *How Energy Efficiency, Natural Gas and Renewables Can Substantially Reduce U.S. Carbon Dioxide Emissions*, Gas Technology Institute (2009).

[3] *Natural Gas in a Smart Energy Future*, Gas Technology Institute, Navigant Consulting, Inc. (January 2011). A copy of the report is available on the American Gas Foundation website at: http://www.gasfoundation.org/ResearchStudies/natural-gas-smart-energy-future.htm

With regard to transportation, the expanded use of natural gas can play a significant role in meeting our national energy security and environmental goals. Natural gas vehicles are commercially available today in the heavy, medium and light duty vehicle sectors, and have potential off-road and marine applications as well. Diversifying the transportation fleet to include a greater percentage of natural gas vehicles can significantly decrease our dependence on foreign oil, thus enhancing our energy security, while reducing overall emissions.

We therefore urge the Department to consider the important role that our natural gas resources can play in meeting the nation's energy goals and support policies, research and technology development that increase the use and deployment those resources. We support the comments made by GTI in its comments in this proceeding.

Respectfully submitted,

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