

## **National Petroleum Council Report**

### ***Prudent Development:***

### ***Realizing the Potential of North America's Abundant Natural Gas and Oil Resources***

Summary Prepared by AGA Staff for AGA Members

On September 15, the National Petroleum Council (NPC) [released the executive summary](#) of its comprehensive study on the prudent development of North American natural gas and oil resources. The study was requested by the Secretary of Energy Steven Chu to assess the North American resource potential and the contribution that natural gas can make in a transition to a lower carbon energy portfolio. The 18-month study resulted in key findings and recommendations of the NPC to the Secretary of Energy.

Based on the findings of the study, the NPC reached the following conclusions:

- The potential supply of North American natural gas is far bigger than was thought even a few years ago.
  - Advances in technology have made economically accessible North America's massive natural gas resources.
  - This resource base could supply over 100 years of demand at today's consumption rates.
  - The range of recoverable resources estimated from approximately 1,500 Tcf to over 3,700 Tcf.
  - The natural gas resource could support supply for five or more decades at current or greatly expanded levels of use (i.e. roughly double today's levels).
- Existing natural gas technologies can help reduce greenhouse gas emissions.
  - There are opportunities for residential, commercial, and industrial fuel switching to natural gas to reduce greenhouse gas emissions with a low degree of difficulty for implementation.
  - Other options include combined heat and power, fuel cells, new natural gas power plants, refuel or repower existing coal- or oil-fired plants, and natural gas with carbon capture and sequestration.
- America's oil resources are also proving to be much larger than previously thought. The North American oil resource base offers substantial supply for decades ahead and could help the United States reduce, but not eliminate, its requirements and costs for oil imported from outside of North America.
- Natural gas and oil resources will be necessary even as efficiency reduces energy demand and renewable alternatives become more economically available on a large scale.
  - Life-cycle GHG emissions for natural gas are about one-half of coal.
  - Excluding transportation, the potential reduction in GHG emissions from natural gas use ranges from 126 - 864 million metric tons of CO<sub>2</sub>-equivalent per year by 2030, or 2 - 12 percent of total 2005 U.S. GHG emissions.
- Realizing the benefits for natural gas and oil depends on environmentally responsible resource development. The critical path to sustained and expanded resource development includes effective regulation and a commitment of industry and regulators to continuous improvement in practices to eliminate or minimize environmental risk.

Based on its findings and conclusions, the NPC presented the following core strategies:  
(Page number references the executive summary)

- Reflect environmental impacts in markets and fuel/technology choices.

**The NPC recommends for full fuel cycle analyses to enhance the evaluation of the environmental impact of energy choices to provide information about the environmental footprints and full fuel cycle energy and emissions impacts.** They note that, “a full fuel cycle (FFC) analysis is a tool that can help inform choices about end-use technologies, such as a natural gas versus an electric water heater.” They recommend the federal government to “complete development of and adopt consistent methodologies for assessing full fuel cycle effects. As sound methodologies are established, regulators and other policy makers should use full fuel cycle analyses to inform regulatory decisions and implementation of other policies where fuel and technology choices involve energy and environmental trade-offs.” (p. 37)

- Support prudent development and regulation of natural gas and oil resources.

NPC recommends the establishment of regional councils of excellence for sharing effective environmental, health, and safety practices. It recommends the adoption of policies for more effective regulation of natural gas and oil production and operations, and to increase community engagement by natural gas and oil companies. It calls for actions to measure and reduce methane emissions through industry-government partnerships and greater adoption of technologies and practices within all sectors of the natural gas industry. (p. 28)

- Enhance the efficient use of energy through policies that:
  - Support continued progress for cost effective efficiency standards for buildings and appliances.
  - Remove disincentives for utilities to deploy efficiency measures. Ratemaking policies should align the financial interests of both electric and gas utilities with those of their customers in providing cost-effective energy efficiency measures. (p. 39)
  - Eliminate barriers to combined heat and power. (p. 40)
- Enhance the regulation of markets. This includes:
  - Changes in regulatory policy that remove barriers from utilities managing their natural gas investment portfolios using appropriate hedging approaches, including long-term contracts. Regulators (such as state utility commissioners) and other policy makers should allow market participants such as utilities to use mechanisms to mitigate and manage the impacts of price volatility. (p. 41)
  - Continue the efforts to harmonize the interaction between natural gas and electric markets.
  - Provide more environmental regulatory certainty affecting the power sector.
- Support the development of intellectual capital and a skilled workforce through increased public and private financial support for educational and training activities.

The full report contains detailed chapters on oil and gas resources and supply, operations and environment, natural gas demand, carbon and other emissions in the end-use sectors, and macroeconomics. The full report, and individual white papers such as the residential/commercial report, will be released in the coming month.