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Developing North America's Hydrocarbon Resources: Recommendations from the National Petroleum Council

SUMMARY

- The National Petroleum Council (NPC) released an important report that validates the significant growth in U.S. oil and gas supplies.
- The NPC confirmed that new U.S. natural gas resources could supply over 100 years of demand at current consumption rates.
- A key subtext of the report revolves around the controversies associated with the rapid growth of shale gas production and hydraulic fracturing. The Council highlighted the importance of prudent development—especially in parts of the country that have not seen natural resource development in many decades.
- The NPC recommended five “core strategies” moving forward: the establishment of regional “councils of excellence” covering environmental, safety and health practices; a better energy efficiency strategy; proper regulation of energy markets; improvements to the industry’s workforce; and more attention paid to the environmental impacts of carbon fuels.

ANALYSIS

Over the course of 2010 and much of 2011, 400 energy experts negotiated a response to a Department of Energy (DOE) request for “a comprehensive study to reassess the character and potential of North American natural gas and oil resources” with the objective of strengthening environmental protection, economic growth, and national security.

The study was conducted by the National Petroleum Council (NPC or Council), an advisory body established by President Harry S. Truman to help policymakers understand and enhance our energy security. The Department of Energy now oversees the NPC, and the DOE Secretary

appoints the Council, which is drawn from the oil and gas industry, representatives of states, Native American tribes, universities, and financial, public-interest, and research organizations.

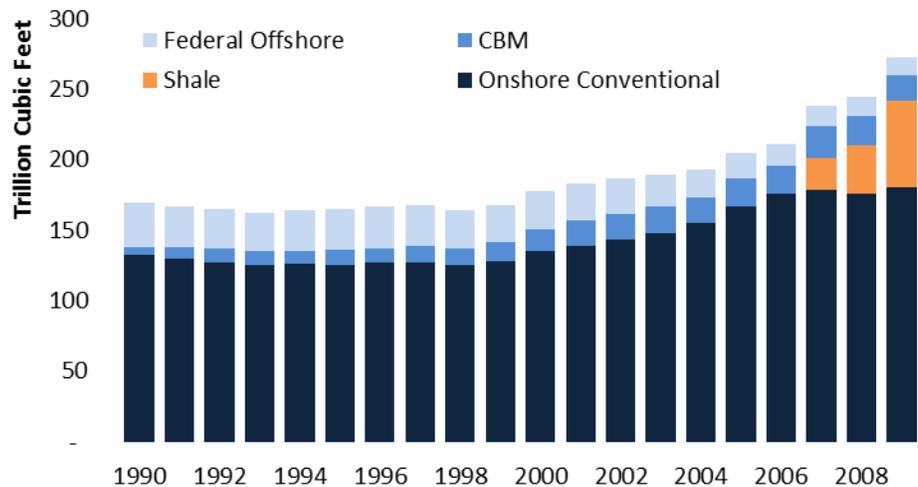
The NPC responded to Energy Secretary Steven Chu’s request by establishing a Committee on Resource Development, chaired by Anadarko Petroleum’s CEO James Hackett, three Task Groups that focused on Supply, Demand and Environment, and three analytical Subgroups looking at Policy, Emissions and Macroeconomics. These groups were populated with people serving as individuals and not as representatives of their respective organizations. Less than half (47 percent) were from the oil and gas sector; 14 percent were from the consulting/finance/legal sector; 14 percent were from federal and state governments; 12 percent were from nongovernmental organizations; 7 percent represented end users (such as industrial and utility consumers); and 6 percent were members of academia or professional societies.

The NPC’s work, which was published in September 2011 and presented at CERA week in March 2012, is premised on the view that “positive outcomes of increased North American natural gas and oil resources can only be realized if developed prudently”—a view heightened by the Macondo oil spill in the deepwater Gulf of Mexico and the natural gas pipeline explosion in San Bruno, California that killed eight people in 2010.

Study Takes into Account Shale Gas Controversies

A key subtext of the study was how to avoid negative outcomes caused by the rapid growth in shale gas production and the use of hydraulic fracturing (“fracking”) to develop those important resources. Many study participants were mindful of the controversies surrounding methyl tertiary-butyl ether (MTBE) contamination of groundwater alleged in the 1990s that led directly to a statutory ban on that gasoline additive in 2005. The release and popularity of the Academy Award-nominated documentary “Gasland” was also seen as further evidence of the need for prudence in natural gas resource development.

U.S. Proved Reserves, Natural Gas



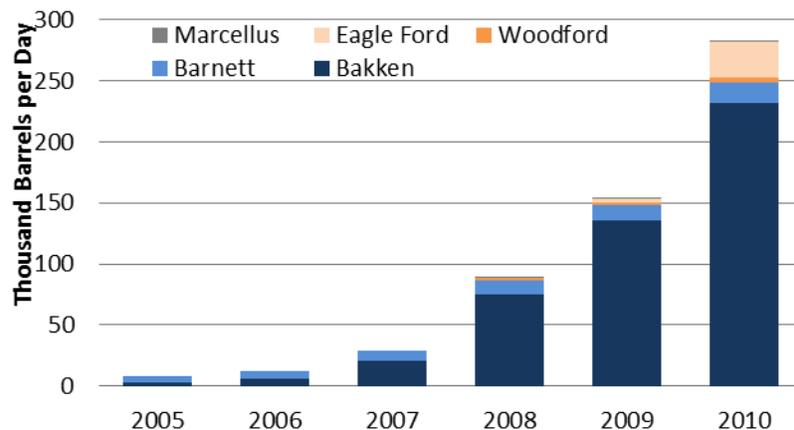
Source: DOE, EIA

Study Makes Four Main Conclusions

The study made recommendations on four “main conclusions” and five “core strategies.”

- 1) The first conclusion is that the “potential supply of North American natural gas is far bigger than previously thought.” The NPC did not do original research in this area, but instead surveyed all existing estimates, creating a “study of studies” to reach the conclusion that the natural gas resource base could supply over 100 years of demand at current consumption rates, making it “potentially transformative for the American economy, energy security, and the environment.” The U.S. is the number one natural gas producer in the world, and with Canada, accounts for a quarter of total global natural gas production.
- 2) The second conclusion was a surprise when reached, but has now become generally accepted: that “North America’s oil resources are also much larger than previously thought.” The NPC found that these supplies could help the United States reduce, but not eliminate, its reliance on imported oil. In addition, the Council found that continued technological advances “could extend North American oil production for many decades,” including in areas of the U.S. offshore, unconventional resources beyond the Bakken formation’s current tight oil production, and eventually, oil shale.
- 3) The third conclusion is that the natural gas and oil industry “is vital to the U.S. economy, generating millions of jobs, widely stimulating economic activity, and providing significant revenue to governments,” noting that natural gas and oil make up nearly two-thirds of current U.S. energy use.
- 4) The final conclusion reached by the NPC is that the benefits of abundant natural gas and oil will only accrue if the development is environmentally responsible. Participants strongly believed that the failure to do so will place the development of these economically vital natural resources off-limits. In some areas of the country, there has been little or no previous industrial activity of any kind, making the conduct of oil or natural gas production subject to even greater, if often misinformed, scrutiny.

U.S. Production of Shale Liquids



Five Core Strategies to Develop Resources

The five core strategies developed by the NPC include one extremely crucial effort and one that was somewhat surprising, given the strong participation in the study by fossil fuel industry representatives.

- i. The most crucial strategy, and one that bears watching as it develops, is **the creation of “councils of excellence covering environmental, safety, and health practices”** to support the prudent development and regulation of the natural gas and oil resources. These councils would be led by industry, but with participation from other stakeholders like environmentalists and consumer advocates. The councils would focus on promoting best practices as a way to prevent the creation of regulatory barriers. These organizations are beginning to solidify already, particularly in the Northeast’s Marcellus shale region, and focus on “operational risk management approaches, better environmental management techniques, and methods for measuring environmental performance.”
- ii. A second strategy advocated by the Council is **to better “reflect environmental impacts in markets and fuel/technology choices**, by recognizing that the United States will find it difficult to reduce greenhouse gas emissions further without a mechanism to put a price on greenhouse gas emissions.” This recommendation surprised many, and was mistaken as support for a “carbon tax” by folks who apparently didn’t actually read the report. Those who participated in the study understood the nuance: in one sense, the report simply states the obvious. If one’s goal is reducing greenhouse gas emissions, it is necessary to put a price on emissions. Given the failure to enact a carbon policy during the time when Democrats controlled both the Congress and White House, it is unlikely that this recommendation will come to fruition in the near term.
- iii. The NPC also advocated an **energy efficiency strategy** that removes disincentives for utilities to deploy efficiency measures and promotes combined heat and power plants to increase the efficiency of electricity production. The Council recommended the federal government update building codes, create energy efficiency standards for appliances, and consider incentives to make products and buildings more efficient. It will be interesting to see the extent to which NPC’s support for these programs helps attract support from policymakers who are not currently sympathetic to efficiency measures. Energy efficiency policy is one of few remaining bright spots in terms of bipartisan energy policy.
- iv. The fourth core strategy relates broadly **to effective regulation of energy markets** in three key areas: mechanisms to control price volatility; harmonization of rules for wholesale natural gas and wholesale electricity markets; and the promotion of environmental regulatory certainty. The first piece is widely recognized as important and at-risk in an era of financial re-regulation. In addition to long-term contracts and investment in storage facilities, these mechanisms must include the use of “hedging instruments.” As Dodd-Frank financial re-regulation gathers speed, the NPC’s support of hedging, at least by market participants, will be important to policymakers.

- v. The fifth and final core strategy is a common refrain from industry, **dealing with the development of intellectual capital and a skilled workforce**. NPC points out that the workforce in the natural gas and oil industry is older than other sectors and a big gap exists between the number of technical professionals retiring and those graduating with the skills to replace them. Specifically, the NPC recommended that natural gas and oil companies “review and consider increasing their financial support” for education and training activities and that Congress should provide more financial support.

Conclusion

Most informed observers have been surprised by the transformation of the U.S. natural gas market landscape in the past five years. Not long ago, policymakers saw the need to build shoreline liquefied natural gas (LNG) terminals and felt a sense of dread about the United States becoming captive to a global natural gas market dominated by Russia.

Today, we appear to be awash in an ocean of natural gas. Policymakers and industry officials realize there is a monumental opportunity, and it is critical to have sophisticated policy that maximizes benefits while minimizing the potential downsides. The NPC study validates a view of America’s oil and natural gas abundance—and provides important guidance for ensuring that those resources are developed prudently and used wisely.