

DOE Seeks Comments on Natural Gas Supply and Demand

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Specifically, the Department of Energy is seeking comments on:

1. What is the outlook for balancing natural gas supply and demand through 2015 to ensure reliable and affordable energy for American consumers, economic growth and prosperity in the United States, and a healthier environment? This outlook is not constrained and could, for example, include demand side management practices and uses of alternative sources of natural gas and synthetic gas or other energy resources.

- It is important to treat North America as a single (partially integrated market. For example, we are currently exceptionally dependent on Canadian gas due to the impacts of the hurricane season. However, the increasing winter Canadian demand for Canadian gas is largely core residential and commercial demand for heating (little industrial demand) and is not readily interruptible). A significant Canadian supply interruption (e.g., a fire in a major natural gas processing plant) combined with a cold weather period could cause serious supply issues below the border this winter.
- Consider all imports and exports of natural gas from other countries (example: Canadian, Mexico and other LNG sources).
- Review technologies that provide and encourage conservation in all industry and consumer demands of natural gas.
- The outlook of balancing natural gas supply and demand through 2015 appears to depend upon the bulk of North American increases in gas demand being met by imported LNG in facilities constructed and operated in the U.S., Canada, and Mexico.
- The impact of falling future U.S. production of natural gas may mean significant market adjustments will be necessary, primarily in the industrial sector. These will likely take the form of fuel switching from gas to other fuels. Electric power generators may be pressured to reconsider their reliance on natural gas (which is already happening in the Midwest and the Northeast).
- By 2015, expect a seasonal “twist” in the timing of natural gas demand due to climate change. The attached analysis suggests that by 2020, temperature-sensitive consumption of energy in buildings would decrease about 3-12% for heating (mostly natural gas) and increase about the same for electricity (the peak end of which is mostly generated with natural gas). By 2015, part of this shift will have occurred.

2. *What data and analyses – other than the Energy Information Administration’s (EIA) Short-Term Energy Outlook and Annual Energy Outlook and reports of the National Petroleum Council (an advisory body to the Secretary of Energy), such as the Council’s 2003 report on Balancing Natural Gas Policy: Fueling the Demands of a Growing Economy – provide valuable insights on:*
- *annual natural gas demand in the United States through 2015;*
 - *annual natural gas supplies from domestic and international sources for meeting U.S. energy needs through 2015; or, the relative economic and environmental impacts associated with Federal policies for decreasing natural gas demand and increasing natural gas supplies?*
- Conduct analyses working directly with the natural gas producers and transport companies using natural gas data and operational experience that can provide a realistic demand and supply picture for the nation’s natural gas inventory, supply, and demand. Include utilities, transmission pipelines, and producers, as appropriate. An example is the recent (February 2005) study by the American Gas Association entitled “Natural Gas Outlook to 2020” (URL: <http://www.gasfoundation.org/ResearchStudies/2020.htm>).
 - Review supply and demand of Canadian, and Mexico natural gas, production, processing, and transport capacities and constraints to better understand the availability of the natural gas from Canada, Mexico, and the Caribbean.
 - Conduct analyses of LNG import from other countries and impacts of regulatory restrictions.
 - Work directly with DOE/EERE to understand the impacts of energy efficiency programs, which are not necessarily included in EIA forecasts but have been included in analyses for compliance with the Government Performance and Results Act. See <http://www.eere.energy.gov/ba/pba/gpra.html>
 - Potential alternative data sources include the following:
 - International Energy Information (IEA) data on the United States and foreign countries such as Canada (URL: <http://www.iea.org/Textbase/subjectqueries/index.asp>) can be used as a baseline and to anticipate future growth in natural gas supply and demand as a function of country.
 - The Natural Gas Division of the Natural Resources Canada (URL: <http://www2.nrcan.gc.ca/es/erb/prb/english/View.asp?x=117>) contains information on natural gas issues and policies in Canada. One recent publication that may be of interest is the “North American Natural Gas Vision” which provides information on Canadian supply and demand values, underground storage field data, etc. (URL: <http://www2.nrcan.gc.ca/es/erb/CMFiles/GasVision206PDZ-25022005-708.pdf>).

- Information on future natural gas demand in Canada is provided by the National Energy Board (NEB; URL: http://www.neb.gc.ca/energy/EnergyReports/index_e.htm#NaturalGas)
- Information on future natural gas demand in Mexico is provided by the Secretaría De Energía (SENER; URL: <http://www.energia.gob.mx/wb2/>).
- Impacts of this year's severe weather on U.S. energy supply can be found at: Hurricane Katrina: Profile of a Super Cat. Lessons and Implications for Catastrophe Risk Management. See: www.rms.com. Also see: Post Katrina and Rita. Outlook on Fuel Supply Adequacy and Bulk Power Security in New England. See: http://www.iso-ne.com/pubs/spcl_rpts/2005/wntr_assess/post_hurricane_outlook.pdf

3. *What actions should the Federal government undertake for balancing natural gas supply and demand to achieve positive, national economic, energy and environmental outcomes? These actions may include those that industry, States and consumers would primarily implement but could be facilitated by Federal government actions.*

- Consider large-scale supply disruptions in future analyses as risk factors. This could be hurricane strikes, terrorism, or other factors.
- The Federal Government should consider creating a Strategic Natural Gas Reserve similar to the current Northeast Heating Oil Reserve (for petroleum) and the Strategic Petroleum Reserve (for crude oil).
- It should support the construction and operation of additional pipeline interconnects for greater supply flexibility.
- Demand side management for industrial customers using alternative energy sources should be explored (in 2004, industrial customers consumed 35% of the annual natural gas demand, followed by electric utilities at 26%).
- Expand research on higher-efficiency gas-fueled equipment.
- Conservation measures such as more energy-efficient building materials as well as mandatory usage restrictions for all natural gas customers should be considered and implemented, if needed.
- It also should support and assist in the research for expanding the current storage capacity of aquifer and other storage reservoirs used in the natural gas sector, such as those identified in the report "Underground Gas Storage Technology Consortium R&D Research Needs" (URL: http://www.netl.doe.gov/scngo/NaturalGas/publications/t&d/2_Feb04_GasStorageAtlantaFinal.pdf)
- Unbundling started a process that has fundamentally changed the way storage is used and valued. As an unbundled service, the value of storage in minimizing overall costs to consumers is increasingly being recovered at rates that reflect its value. The U.S. and state governments should consider introducing legislation that provides incentive to the

- natural gas sector in developing storage (example; ROR; expenses recovered through commodity and transportation rates, etc).
- The cost of developing remote and unconventional North American gas resources (e.g., Alaska) and of transporting gas over longer distances from frontier areas, coupled with the cost of environmental and regulatory compliance in such remote or potentially sensitive areas could have important implications for North American natural gas prices. The U.S. government should consider providing relief in pipeline construction rules and regulations including environmental impact studies that at times stifles growth in the natural gas pipeline infrastructure.
 - Access to imported gas appears to play an increasing role in the price of gas in the future for the United States. With the assumption that the bulk of North American increases in gas demand will be met by imported LNG, the U.S. government should provide incentives to industry in developing LNG storage facilities strategically located around the nation to overcome supply shortfalls during catastrophic situations. The U.S. government should facilitate more LNG imports when there is local opposition to terminals in many places.
 - The construction of new LNG terminals could entail lengthy and difficult regulatory delays. However, two recent developments – the FERC’s “Hackberry” decision and the amendment of the Deepwater Port Act – are expected to reduce the regulatory delays associated with constructing new U.S. LNG terminals. The report should consider additional future legislation that would expedite LNG construction.
 - Support the development of new supplies of North American natural gas, including
[\[http://www2.nrcan.gc.ca/es/erb/CMFiles/GasVision206PDZ-25022005-708.pdf\]](http://www2.nrcan.gc.ca/es/erb/CMFiles/GasVision206PDZ-25022005-708.pdf):
 - o increased development of unconventional gas (coalbed methane, shale gas, tight gas);
 - o construction of synthetic natural gas (synfuels) plants, similar to the Dakota Gasification Company and the Great Plains Synfuels Plant;
 - o U.S. Rocky Mountain development (which includes much unconventional gas);
 - o U.S. Midcontinent development;
 - o the onset of production from Alaska; and
 - o increased offshore gas development near Florida and California.

This may require the U.S. government resolving the conflict between public desire for preserving certain lands or resources and natural gas producers’ desire for access to those lands for drilling.