

Comment by Email

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Natural Gas Supply/Demand Notice of Inquiry

Sender Name: Jack Belcher

Company/Organization: Shell Exploration & Production Co.

Natural Gas Supply and Demand

Comments submitted to the Department of Energy Shell Exploration & Production Co.
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The Department of Energy has solicited comments from stakeholders and the public on the outlook for natural gas supply and demand in response to requests from Congress and in accordance with provisions of the Energy Policy Act of 2005. Shell is pleased to submit comments on this matter as an offshore and onshore producer of natural gas in both the United States and Canada; as a developer of LNG import facilities in the United States and Mexico to serve the North American market; as one of the largest gas marketers in North America and as a consumer of natural gas in oil refineries and chemical plants. Shell was also an active participant in the 2003 National Petroleum Council study "Balancing Natural Gas Policy: Fueling the Demands of a Growing Economy".

Concerns about natural gas markets in the United States have been expressed more frequently since 2000 than in the previous five years, primarily because both average and peak natural gas prices have risen substantially over the recent past, indicating a tighter supply/demand balance and raising concerns about the robustness of future supply. From 1995 to 1999, the average natural gas price at the Henry Hub was \$2.26/MMBtu, while the highest monthly average price over that period was \$4.41/MMBtu (in February 1996). From 2000 to 2005 the average natural gas price at the Henry Hub was \$5.21/MMBtu, with the highest monthly average price over that period being \$13.36/MMBtu (post hurricane Rita in October 2005). Policy makers, regulators and consumers clearly see this recent price environment as growing evidence of a threat of supply shortages and continuing high priced volatility.

Demand

On the demand side, natural gas has become an important component of the fuel mix in all sectors apart from transportation. Until 2000, natural gas was consistently price competitive with other fuels in all applications, contributing enormously to the increase in natural gas demand. In particular, natural gas was expected to be the fuel of choice in electric power generation, for its economic and environmental advantages, leading to massive investment in new gas-fired power generation capacity between 1999 and 2003. In addition, the shift to natural gas was accelerated by the introduction and development

of new air quality and emission standards as society increasingly requires a cleaner environment.

Consumers exercise their choices about fuel and combustion technology based on the total mix of fuel cost, other operating costs, investment requirements and regulatory considerations; within these constraints, the price mechanism is the most efficient means of ensuring that available gas supply is directed towards those consumers and applications that place the highest economic value on gas, such that further regulation in this regard is probably not necessary and could be counter productive.

Between 1995 and 2004, US natural gas demand grew from 21.6 tcf to 22.4 tcf. All this demand growth had been achieved by 2000 in a period of moderate prices. Since 2000, in a higher priced environment, US natural gas demand has been flat, although there has been some movement between sectors, with growth in gas use for power generation being offset by declines in natural gas use in industry.

Supply

On the supply side, since US domestic production of natural gas has remained stable over this entire period, at around 18.6 tcf, market growth has been fed by natural gas imports, primarily of pipeline gas from Canada, supplemented by more recent growth in LNG imports.

Domestic natural gas production has not been limited by a shortfall in activity or investment from the oil and gas E&P companies. The gas-directed drilling rig count in the US averaged 388 in 1995. By 2000 this had risen substantially to 720 and in 2005, up to November, the average number of rigs deployed drilling for gas was 1180. However, this increase in activity has not yielded proportional increases in production, primarily because the majority of US producing areas are mature, where new drilling targets are smaller, less productive, deeper and more technically challenging than previous wells in the same area. Accelerating decline rates in these mature fields over the past ten years have made it increasingly problematic to maintain production of natural gas in the US at reasonably stable levels. And yet industry has met this challenge by continuously increasing investment and activity in those areas where drilling activities are authorized.

Over the medium to long term the domestic natural gas industry might not be resource constrained. The 2003 National Petroleum Council study identified a total technically recoverable resource in the US of about 1450 tcf (equivalent to over 75 years of current production). A significant percentage of these resources are in areas where the natural gas industry is unable to explore for natural gas and develop new production because of legislative or regulatory prohibition, including the offshore Outer Continental Shelf. The exclusion of these resources from those available for development inevitably diminishes supply options and accelerates the need to move to higher cost gas supplies. Many resources that have not been economically recoverable under lower commodity prices, may become so under a higher price scenario.

Over the past few years the industry has also begun to prepare for greater participation in international gas markets by seeking to develop LNG regasification terminals in North America and by investing in new upstream projects in Africa, the Middle East, Latin America, Australia, Asia and Russia. It is highly likely that imported LNG will become a more important source of supply to the US over the next 10 to 15 years provided that the US can provide an equitable regulatory framework that supports investment and fully recognizes the energy dimension in its diplomatic relations with supplying countries.

Increasing energy efficiency can be an effective route to mitigating consumers' exposure to high and volatile gas prices. Industry and regulators can work cooperatively to implement consumer education programs dealing with the most effective ways of improving energy efficiency as well as the development of standards that encourage increasing energy efficiency of appliances and combustion equipment.

On balance, while the demand side responds to price signals and regulatory imperatives long-term, the key to sustaining a viable role for natural gas in the future is to ensure that robust and competitive supply options are developed, both domestically and internationally, and that policies and strategies to increase natural gas supply will be most beneficial to the entire market over the next few years. Lead times to develop new supply sources can be 5-10 years, and, unless measures supportive of supply development are implemented in the near term, high and volatile prices and constraints on consumer fuel choice could continue for many years.

This submission contains Shell's proposals for enhancing the stability and security of supply from both domestic and imported sources. Shell is making substantial investments in both North American and international gas supply and therefore has a common interest with US policy makers and consumers in promoting measures that allow market development.

Policy Considerations

The recent tight market and high prices stem from factors that have developed over time and will need to be resolved over time. For years government policy has discouraged the development of domestic energy supplies while at the same time encouraging increased natural gas use for electricity generation. Public policy changes are needed in order to ensure that we can meet future demand challenges. Maintaining the status quo will only mean that the U.S. will face higher price volatility and tighter supplies that will ultimately hurt consumers and economic security.

Promoting conservation and improved efficiency must be crucial components of any solution. Especially in the short term, efficient use of natural gas must be part of a national effort to balance natural gas supply and demand. This is particularly important since it takes time to bring additional new supplies to market. Shell is committed to continuing to reduce energy consumption in its operations and supports efforts and policies that encourage future conservation and improved efficiency.

An important initiative would be to diversify sources of supply. Government actions should not impede responsible development of “non-conventional sources” of natural gas such as tight sands gas, shale gas and oil, and coal bed natural gas. And, the government should take steps to expedite the permitting of liquefied natural gas facilities (LNG) and pipelines needed to move natural gas from Canada into the northeastern United States to ease supply pressures.

Non-conventional sources of gas supplies, such as LNG imports and coal bed natural gas, are different in composition than most of the historic gas supplies. Prior to the introduction of any new non-traditional gas, its interchangeability must be ensured. Gas quality specifications in the FERC tariffs of U.S. natural gas pipelines generally do not contain interchangeability standards. Thus the establishment of interchangeability standards is important and timely in order to: 1) ensure a seamless introduction of new supplies to U.S. markets, and 2) provide certainty relating to required gas processing.

The Natural Gas Council (NGC) submitted a White Paper to the Federal Energy Regulatory Commission (FERC) in 2005 with interim interchangeability guidelines. The NGC used historic gas compositions as the basis for establishing interim guidelines. At this time it is conservative to limit the boundaries for interchangeability ranges to gases seen historically in the US gas system. These conservative boundaries should be applicable until additional research and/or experience has clearly demonstrated that supplies above the caps do not negatively impact end-users. FERC has asked the DOE to collect additional data. Shell welcomes further data collection and has offered its support to the DOE. However, this should not deter FERC from embracing the proposed NGC interchangeability specifications and provide regulatory certainty.

Access to natural gas resources on Federal lands both offshore and onshore is critical. Recognizing that the U.S. has significant offshore natural gas resources that are currently off-limits to exploration and development, Congress and the Administration need to take steps to lift current drilling and leasing moratoria in certain offshore areas in a manner that ensures industry’s impact is minimized, and environmental resources are protected.

The Minerals Management Service (MMS) is currently undertaking the public process to develop its next 5-Year plan for offshore development. Areas currently not available for leasing are being considered in the 5-Year Plan process. The federal government should take comments on oil and gas development in new areas offshore and expand access to those areas where exploration and development can take place with minimal environmental impacts and adequate protection of resources. In general, Congress and the Administration should review the current moratoria and determine if it is appropriate given our current natural gas supply and demand. It should be noted that if new offshore areas became available for oil and gas exploration, production would not come on line for 10 to 15 years from that time.

If we are to expand the areas in which oil and gas resources may be accessed, we need to compensate states and local communities appropriately. Impacted coastal states have an

important role because they are clear stakeholders in current and future OCS development. Congress and the Administration should develop a system that provides a portion of OCS revenues to such impacted coastal states and local communities. Because any offshore development would benefit industries throughout the nation, some OCS revenue should be shared with non-impacted and inland states as well.

In the coming decades, frontier areas will play an increasingly significant role in natural gas supply if producers can economically access resources in these areas. The federal government should develop policies that allow responsible development of hydrocarbons under terms and conditions that encourage the high capital investment needed to develop these areas. Government should work with industry and other stakeholders to determine which areas should be deemed “frontier” and determine the appropriate lease terms and conditions under which acreage could be made available in these areas. Any such policy changes must be made in the context of protecting the environment while supporting U.S. energy security needs.

Shell believes that federal government should support expanded exploration, leasing and development on public lands with appropriate environmental and land use regulations to ensure that industry's footprint is minimized and that biological resources and the environment are protected.

In order to allow for more efficient development of natural gas resources on onshore federal lands, the government should take steps to improve the permitting process and improve coordination with other federal and state agencies involved in permitting. Governments at all levels – federal, state, local – should take the initiative to remove unnecessary bureaucratic barriers that inhibit investment. If the bureaucracy is too slow or too uncertain, investments will go elsewhere. Permit streamlining is an admirable goal, one that should be pursued to attract needed investment, not as a tactic to avoid responsible environmental behavior.

Shell supports a policy that would also direct a portion of oil and gas revenues (royalties, bonus bids and rental fees) from the OCS and onshore federal lands to the MMS and BLM to adequately fund environmental work necessary for oil and gas development including monitoring, mitigation, and enforcement. Revenues from the same sources should be directed to state marine and wildlife management agencies and contractors as needed to perform the same work at the state level.

The Administration and Congress should review “Energy, Fish and Wildlife,” a report of a stakeholders conference convened by the Izaak Walton League of America, Trout Unlimited and Wildlife Management Institute November 22-23, 2003. It contains a number of important recommendations agreed to by a diverse set of stakeholders on ways to cooperatively develop oil and gas on public lands while adequately protecting fish, wildlife, and water resource needs. The federal government's support of these recommendations would make a difference for natural gas development on public lands.

Adaptive management practices can ensure that environmental protections are effective at the same time energy production occurs in environmentally sensitive areas. Adaptive management is a way that industry resources can be utilized to improve habitat and help to save threatened or endangered species. The Administration should promote and clarify adaptive management practices.

The federal government needs to recognize the important role that non-conventional resources can play in meeting our energy needs. Because oil shale is an abundant resource, Congress and the Administration should insist that federal agencies such as the Department of the Interior and Department of Energy take steps to give industry the opportunity to expedite oil shale production in the U.S. DOE and Congress should champion the designation of U.S. oil shale as a strategically important domestic energy resource that needs fiscal incentives to accelerate its development. It should leverage the DOE study, "Strategic Significance of America's Oil Shale Resource."

FERC should provide regulatory certainty regarding interchangeability and gas quality specifications based on the NGC guidelines. DOE should collect further data to assess whether or not in the long-term those specifications could be further broadened.

Finally, the government should work with industry to produce a study assessing the serious impacts of the dwindling workforce of technically capable people for oil and gas development. The U.S. is suffering a serious decline in graduates in engineering and science and this is seriously impacting the energy industry. The study should offer solutions on ways to encourage and fund education in these areas.

The U.S. should not resort to failed command and control policies of the past. The President has emergency authority to allocate natural gas, however, past experience with the Fuel Use Act has shown that market intervention can create perverse results. The Fuel Use Act of 1978 was enacted following severe shortages of natural gas during the winter of 1976-1977 and several years of escalating oil prices after the 1973 oil embargo. The Act placed severe limitations on the use of natural gas by American consumers, businesses and industries. It also interfered with the market's ability to balance supply and demand and thus discouraged development of natural gas supplies. Appropriately, the law was repealed in 1987 because Congress felt consumers should be allowed to make their own fuel choices in an increasingly deregulated energy marketplace. We should learn from past mistakes. Going forward, government policies should be designed to encourage investment in new domestic production and infrastructure.