

The Promise of **Natural Gas**

America has seen a fundamental shift in the natural gas marketplace. Technological advances, a newly accessible and abundant domestic resource, and an extensive delivery infrastructure make natural gas the foundation fuel for our economy. Production of natural gas from shale and other unconventional resources has added greatly to North American supplies in recent years. This abundance of home-grown natural gas provides an opportunity to satisfy significant new demand at affordable prices well into the future. Our nation's bullish natural gas supply outlook offers an incredible opportunity to deliver energy value to American homes and businesses, fuel a renaissance in U.S. manufacturing, and provide a cleaner, less expensive option for vehicles, thus reducing our dependence on imported oil.





Foundation Fuel

We see relatively stable natural gas prices for the next decade. America's natural gas utilities operate the 21st century infrastructure necessary for delivering the benefits of natural gas to American homes and businesses safely, reliably and at an affordable price. Natural gas is the foundation fuel that will heat our homes, run our vehicles, generate electricity, and partner with renewable energy sources for decades to come. Natural gas utilities are committed to delivering on this promise.

For the next decade and beyond, domestic natural gas supplies are expected to be sufficiently robust to meet growth in demand across all sectors

Shale Plays in the Lower 48 States



Source: Energy Information Administration based on data from various published studies. Updated: May 9, 2011

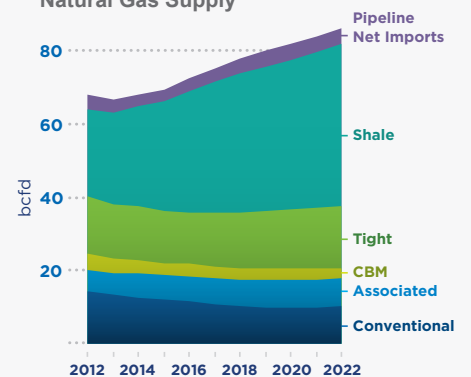
Domestic Abundance

Advances in American technology have opened the door to efficient, affordable, and responsible extraction of natural gas in North America. Natural gas production from unconventional sources, such as shale, has grown considerably in recent years. It accounted for a third of domestic gas produced in 2012. Proven reserves and yet to be developed resources are enormous, giving credence to expectations that natural gas can meet and sustain a significant share of our future domestic energy needs.

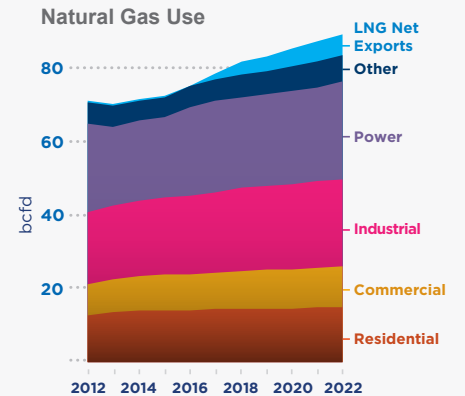
Further technological developments will help improve resource extraction efficiency, mitigate environmental and community impacts of natural gas production, and continue to increase the efficiency of natural gas use in homes, businesses and communities across the country.

Natural gas utilities believe that this North American energy endowment can be developed in a responsible and sustainable manner so that the full benefits of this clean energy source can be realized for all Americans.

Natural Gas Supply



Natural Gas Use



• Dry natural gas production averaged 53.3 Bcf per day from 2000 to 2010

• By 2012, it will likely total 64 Bcf per day

• AGA acknowledges the possibility of more than 80 Bcf per day of domestic dry gas production by 2022 if demand requirements develop sufficiently

Source: Wood Mackenzie, Spring 2012

A Future of Market Stability

Fully understanding the future of natural gas as an energy solution in the United States means taking an inventory of today's market fundamentals, infrastructure assets and burgeoning supply potential and projecting these elements forward to understand how natural gas will contribute to our future. The natural gas market today is characterized by robust supply and significant potential for expanding its use in homes, businesses, power generation, industrial plants, and vehicles as well as the export of liquefied natural gas. Investments in these energy applications can provide benefits to our nation's economy, environment and national security. Conversely, increases in demand also support the long term economic viability of domestic natural gas production.

The country has experienced a transformational shift in the perceived role of natural gas—from an energy source sometimes seen as unreliable and scarce ten years ago, to one that is now recognized as a foundation fuel for a clean and secure energy portfolio

There is room to grow natural gas demand at reasonable and relatively stable prices. Domestic natural gas demand growth during 2012-2022 is needed to establish price levels that sustain a production response from gas producers. Many of the identified shale gas resource plays and more traditional production models become economically available to the market at a projected development cost of \$5–6 per MMBtu. This is precisely the foundation that accounts for the possibility of an additional 11 to 34% increase in domestic natural gas production during the next ten years and is supported by many gas energy outlooks.

These strong natural gas supply fundamentals along with a robust and reliable natural gas delivery infrastructure suggest that over the next decade, a range of demand scenarios can be met by a diverse and responsive supply market within an estimated price band of \$4.00 to \$6.50 per MMBtu—a level well below the peak market prices of the preceding decade.

Even significant increases in demand can be supported by this large, dynamic, robust and diverse North American natural gas resource base. When coupled with expanding infrastructure and appropriate regulatory constructs, we envision relative natural gas market stability during the next ten years and possibly beyond.

Delivering the Promise of Natural Gas

Clearly, there is a new market environment for natural gas in the United States today. Creating opportunities to better optimize our nation's energy resources, supported by prudent regulation and policy making informed by science and facts, should be the goal of all stakeholders.

There is additional room for wise and efficient growth of natural gas consumption in today's domestic energy market, including significant potential for demand in residential, commercial, industrial and transportation sectors over the long-term. New market dynamics created by abundant supply resources will spur the development of additional technology to enhance natural gas utilization.

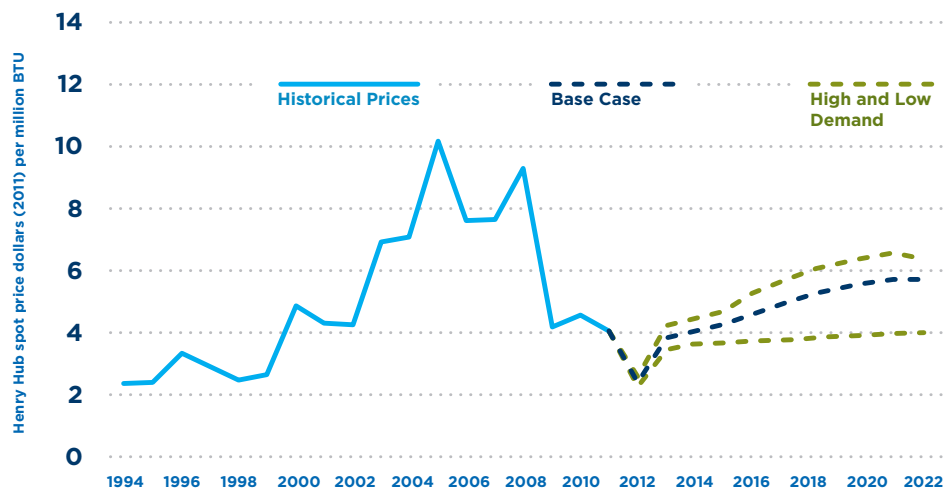
America's natural gas utilities are working with policy makers at every level to enable the expansion of the natural gas delivery network

There are tremendous advances being made in direct and distributed use of natural gas in homes, businesses, industry and vehicles

- In typical home appliances, the direct use of natural gas results in energy consumption that is 28% less than a similar home with all-electric appliances. Households that use natural gas appliances for heating, water heating, cooking, and clothes-drying spend an average of \$518 less per year than homes using electricity for those applications.
- Combined heat and power (CHP) is proven American technology that is more efficient and cleaner than traditional heat and power generation. Greater use of CHP can boost our commercial and industrial markets by making clean, affordable energy for businesses and factories.
- On average, natural gas is 47% less expensive than an equivalent gallon of gasoline. Compared to gasoline powered vehicles, natural gas vehicles can reduce greenhouse gas emissions by 29%. Automobile manufacturers will offer several new natural gas powered vehicles in the U.S. in the coming years. Natural gas producers and utilities are working together to build refueling stations throughout the country and spur advances in home refueling technology.

Integrating these applications with smart energy grid technology and energy management tools will enable communities to deliver energy more reliably and help consumers use energy more efficiently

Natural Gas Price Scenarios



Source: Wood Mackenzie, Spring 2012

Investing In Our Energy Future

Affordable prices and a future of market stability provide an opportunity to make long-term investments throughout the natural gas value chain. These investments create jobs and improve the safety and reliability of our infrastructure for years to come. Greater recognition of the benefits of natural gas in federal and state regulation, legislation, building energy codes, appliance standards and energy policy initiatives will open new doors to increased energy efficiency and energy security for our nation and its citizens.

We can see greater benefits from natural gas if we



Promote the expansion of the natural gas delivery infrastructure and enhance the operation of the energy network to provide more information to customers



Deploy energy efficiency programs that fully leverage the efficient use of natural gas for space and water heating



Expand the use of combined heat and power in commercial and industrial applications to unlock the potential for fuel cells, micro-grids and future energy innovation using natural gas



Encourage public-private partnerships to expand the network of refueling options for natural gas vehicles

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Our energy future

will be built upon the foundation of the 2.4 million miles of pipelines operated by America's natural gas industry

