



Representing America's natural gas utilities

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## FREQUENTLY ASKED QUESTIONS ABOUT NATURAL GAS SUPPLY AND PRICES Winter 2005-2006

### **NATURAL GAS: AMERICA'S MOST POPULAR HOME-HEATING FUEL**

#### **Q: How many homes are heated with natural gas?**

A: Natural gas is America's most popular home-heating fuel – heating more households than all other energy forms combined. In all, 52 percent of all heated U.S. households have natural gas heat. Of the remainder, 31 percent heat with electricity, 9 percent use fuel oil, 6 percent use propane and 2 percent use wood, kerosene or other fuels.

### **WINTER HEATING OUTLOOK**

#### **Q: What is the outlook for natural gas prices this winter?**

A: No matter what energy source you use to heat your home, you should expect to pay more this winter. Prices for natural gas, fuel oil, electricity and propane have all risen since last year.

On average, customers who rely on natural gas for home-heating should expect to pay an average 35percent more to heat their homes during the winter of 2005-2006, according to the U.S. Energy Information Administration's January 2006 *Short-Term Energy Outlook*.

Natural gas customers' home-heating bills will vary nationwide, depending on local weather, utilities' natural gas purchasing practices, the size and efficiency of individual homes, and other factors. Here is EIA's latest forecast:

	<b>U.S. Average Fuel Expenditures: Winter of 2005-2006 (SOURCE: EIA)</b>	
	<b>Average Household Winter Heating Bill 2005-2006</b>	<b>Percent Increase From Winter 2004-2005</b>
<b>Natural Gas</b>	\$1,000	+ 35% (about \$257 more)
<b>Propane</b>	\$1,286	+ 17% (about \$184 more)
<b>Heating Oil</b>	\$1,474	+ 23% (about \$275more)

### **HURRICANES**

**Q: How have the recent hurricanes affected wholesale natural gas prices?**

**A:** Approximately 20 percent of all the natural gas produced in the United States is produced in the Gulf of Mexico. The severe disruptions to natural gas production in this region caused by Hurricanes Katrina and Rita contributed to higher wholesale prices, according to the U.S. Energy Information Administration. In its October 2005 *Winter Fuels Outlook*, EIA said:

“The impact of the hurricanes on oil and natural gas production, oil refining, natural gas processing and pipeline systems have further strained an already-tight natural gas and petroleum product markets on the eve of the 2005-2006 winter heating season. . . . The natural gas market is likely to stay tight over the next couple of months, particularly in light of the supply impacts from Katrina and Rita.”

In all, more than 3 percent of the total amount of natural gas produced in the United States in 2005 was lost (“shut in”) as a result of Hurricanes Katrina and Rita, according to EIA. To put this in perspective, the total amount of natural gas shut-in from the Gulf of Mexico region (585 billion cubic feet, as of Jan. 11, 2006) was close to the total amount of liquefied natural gas brought to the U.S. via tanker ships in 2005 (650 Bcf), EIA figures show.

Even when full natural gas production is restored in the Gulf region, supplies of natural gas will remain tight – as they have been for the last five years -- until elected officials take active steps to promote increased domestic production of natural gas and additional imports of liquefied natural gas.

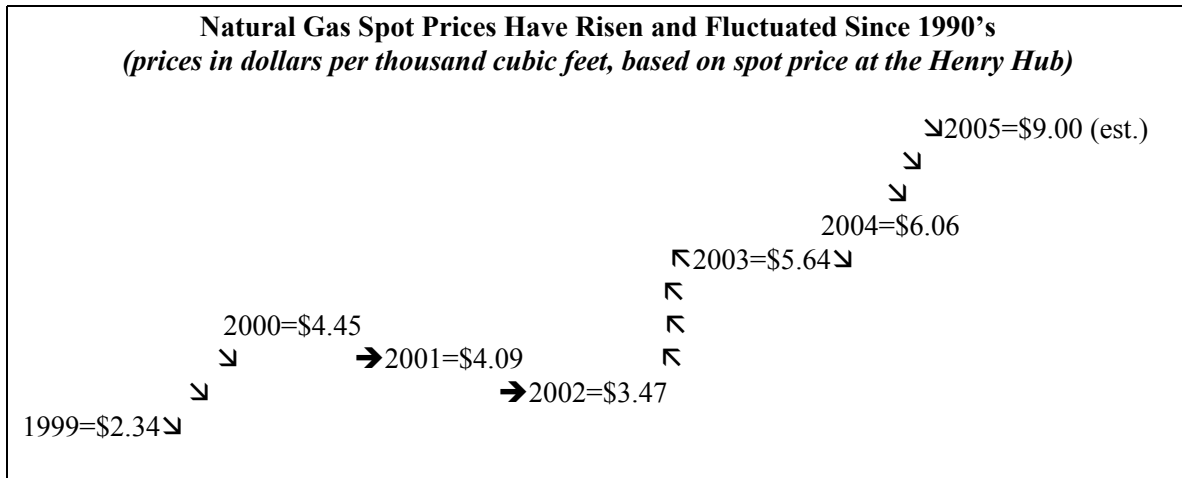
**NATURAL GAS PRICE VOLATILITY**

**Q: The nation’s 68 million natural gas customers have ridden a roller coaster of price swings in recent years. What’s happening?**

**A:** Natural gas is increasingly popular for use by homeowners, schools, businesses, factories and electric power-generation plants because it is efficient, clean, and reliable. However, natural gas production has struggled to keep pace with demand. As a result, the market price of natural gas reflects an extremely tight balance between natural gas supply and demand.

The wholesale price of natural gas was relatively stable during the 1990s – around \$2 per thousand cubic feet (Mcf) – because natural gas supplies were in balance with demand. Since 2000, however, wholesale natural gas prices have risen and averaged \$9 in 2005 due to a number of factors, according to EIA. Factors that have resulted in higher natural gas prices include increased use of natural gas to generate electricity, especially during this summer’s warmer-than-normal weather, disruptions to natural gas production caused by Hurricane

Katrina and public policies that have made it increasingly difficult for energy producers to keep up with consumer demand.



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, November 2005

<sup>1</sup> *The term “spot market” refers to a market in which natural gas is bought and sold for immediate or very near-term delivery, usually for a period of 30 days or less. A spot market is more likely to develop at a location with numerous pipeline interconnections, thus allowing for a large number of buyers and sellers. The Henry Hub in southern Louisiana is the best-known spot market for natural gas; for example, natural gas futures traded on the New York Mercantile Exchange (NYMEX) are based on the Henry Hub price.*

<sup>2</sup> *The “wellhead” price of natural gas reflects its value as it comes out of the ground, before any processing or transportation occurs.*

## WEATHER IS THE BIGGEST VARIABLE IN NATURAL GAS BILLS

### Q: What impact does weather have on natural gas prices?

A: Weather is often the biggest factor in how much residential customers pay for natural gas during the winter. Natural gas prices remain quite sensitive to weather, for three main reasons:

- (1) Heating demand: The weather is a major factor in how much energy people use to heat their homes. If it's colder, people tend to use more energy and thus experience higher bills.
- (2) Cooling demand: An increasing amount of natural gas is being used to generate electricity. This summer, temperatures were about 17 percent warmer than normal. This compelled the operators of numerous power plants to buy larger volumes of natural gas in order to power air conditioning. The increased cooling-related demand pushed wholesale natural gas prices up.

- (3) Natural gas production: About 20 percent of U.S. natural gas production comes from the Gulf of Mexico. In late August, Hurricane Katrina temporarily reduced natural gas supplies by an estimated 8.8 billion cubic feet per day (about 15 percent of total daily U.S. natural gas production). This worsened the natural gas price increases that resulted from summer's hot spells. After much of that production had been restored, Hurricane Rita hit the western Gulf of Mexico, shutting down even more natural gas production. In all, nearly 12 percent of the natural gas normally produced from the Gulf of Mexico in a full year has been shut in as a result of Hurricanes Katrina, Rita and Wilma, according to the U.S. Minerals Management Service.

## UTILITIES HELP THEIR CUSTOMERS

### **Q: What steps are utilities taking to manage natural gas price volatility?**

**A:** Utilities want what their customers want: an adequate supply of natural gas at affordable prices. Consumers love natural gas – but they do not like surprises. So natural gas utilities take a number of actions to stabilize natural gas prices and help consumers deal with fluctuations in their energy bills:

- Billing plans – Most utilities offer balanced-billing plans that allow customers to spread their natural gas costs over many months, which makes it easier for people to handle winter heating bills.
- Storage – Natural gas utilities often purchase natural gas during warm-weather months, and store it for use on cold winter days. Many utilities use underground storage areas (such as salt caverns or depleted aquifers), while some others (including those in New England, where the geology is different) use above-ground tanks that store natural gas in a super-chilled, condensed form known as liquefied natural gas. Storage can account for half of some utilities' natural gas supplies on winter's coldest days – contributing to reliable service. In addition, storage is often a way to hedge against potential run-ups of prices on winters' coldest days: Instead of purchasing gas supplies on the daily winter spot market when prices can be high, utilities may purchase some gas for storage at a lower cost during the summer and pass those savings on to customers.
- Hedging – More than half of the states allow utilities to use financial tools such as futures contracts and weather risk insurance to stabilize natural gas prices. Prior to 1995, few natural gas utilities used such financial tools. By the 2004-2005 winter heating season, 70 percent of the gas utilities surveyed by the American Gas Association used financial instruments to hedge at least a part of their gas supplies.

- Contract terms – Just as homeowners shop around for food and household items, gas supply managers obtain their gas supplies from a variety of sources and under different contract terms.

## **ECONOMIC IMPACT**

**Q: What is the impact of natural gas price fluctuations on the U.S. economy?**

**A:** Energy is the lifeblood of our economy, and natural gas meets one-fourth of the United States' total energy needs. Natural gas is the backbone of American manufacturing, used to make steel, glass, chemicals, textiles, automobiles, food and many other products. Higher natural gas prices put America at a competitive disadvantage, since natural gas costs less in many countries.

## **THE MAIN SOLUTION**

**Q: How do you bring natural gas prices down?**

**A:** You can reduce demand, increase supplies or do both. With U.S. demand for natural gas projected to increase nearly 40 percent by 2020, reductions in demand (through energy efficiency and fuel-switching) are vital to helping to ease prices, but it is clear that natural gas supplies must increase. It is in consumers' best interest to do so.

## **PRODUCTION TRENDS**

**Q: Why is it so hard for natural gas producers to keep up with demand?**

**A:** The thousands of companies that produce natural gas in the U.S. face some stiff challenges:

- Many wells that have produced abundant natural gas for years are becoming depleted. The number of producing gas wells has tripled since 1971 (from approximately 100,000 to more than 300,000) but production has declined – indicating that many natural gas basins are maturing.
- It is sometimes difficult and more costly to pull natural gas from mature producing areas. That's why it is important for producers to be able to move to fresh supply areas, and use the best technologies to find and produce more natural gas.
- Even when producers hold valid leases, they often face months of delays and red tape when getting federal or states permits to start working on bringing energy supplies to consumers.

## SHORT-TERM OPTIONS

### **Q: What can be done to alleviate the price crunch?**

**A:** Options are pretty limited for the next few years. Efforts that can be taken in the short-term include:

1. Use energy more efficiently – Encouraging natural gas customers to use energy more efficiently can help, too. Before the winter, residential consumers can take steps such as replacing older furnaces with more efficient models, insulating or replacing windows, installing programmable thermostats or adding insulation. While efficiency alone can help, it cannot solve the problem on its own. Additional natural gas must be produced to keep up with significant increases in consumer demand.
2. Expand low-income energy assistance – In anticipation higher winter heating bills, Congress should increase funding for the Low-Income Home Energy Assistance Program (LIHEAP) to its authorized spending limit of \$5.1 billion. At its current (\$2 billion) funding level, LIHEAP assists only one of every seven eligible households. Most LIHEAP beneficiaries do not receive welfare or other forms of public assistance. Instead, they are typically working, retired or disabled persons with below-poverty income who receive \$300 per year, on average, to pay toward a natural gas, fuel oil or electricity bill that averages \$1,000. More than half of LIHEAP beneficiaries use natural gas heat.
3. Increase natural gas supplies: – Even a marginal increase in natural gas supplies could help dampen price increases. One of the best short-term options is to increase imports of liquefied natural gas (LNG). Currently, LNG meets a small (3 percent) but important part of U.S. natural gas needs. Licensing and building more import terminals is vital during the next few years.

## LONG-TERM SOLUTIONS

### **Q: What long-term steps can be taken to ensure that natural gas supplies are there when customers need them?**

**A:** Congress and state officials must continue to pass laws and regulations that align proper stewardship of the United States' abundant natural gas supplies with the increasing consumer demand for energy. The Energy Policy Act of 2005 (which became law in August 2005) will encourage more natural gas production in areas currently available for development, while also promoting more efficient use of natural gas and other forms of energy. Previously, Congress voted to

encourage construction of a pipeline to bring natural gas from Alaska's North Slope to customers in the lower-48 states. Alaska holds enormous amounts of natural gas – enough to support all of the United States' natural gas needs *by itself* for more than a decade.

In the meantime, additional policy steps that can and should be taken include:

- Reassessing current restrictions on energy production on federal land and water areas, in light of growing natural gas demand as well as innovations in exploration and production technology;
- Building new marine terminals and related facilities (such as pipelines) where shipments of liquefied natural gas (LNG) can be received and sent along to market areas where additional natural gas is needed; and
- Increasing funding for the federal Low-Income Home Energy Assistance Program.

*For monthly updates on natural gas supply, demand and prices, view the U.S. Energy Information Administration's Short-Term Energy Outlook, at [www.eia.doe.gov/steo](http://www.eia.doe.gov/steo).*

*For additional information on natural gas supply and demand, energy efficiency, low-income assistance and other topics, go to AGA's website at [www.aga.org](http://www.aga.org) .*