

**STATEMENT OF JAMES KENDELL
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before the

SUBCOMMITTEE ON TAX, FINANCE, AND EXPORTS

COMMITTEE ON SMALL BUSINESS

U. S. HOUSE OF REPRESENTATIVES

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Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today. The Energy Information Administration (EIA) is the independent statistical and analytical agency within the Department of Energy. We are charged with providing objective, timely, and relevant data, analyses, and projections for the use of the Congress, the Administration, and the public. While we do not take positions on policy issues, our work can assist energy policymakers in their deliberations. Because we have an element of statutory independence with respect to our activities, our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

Much of my testimony today is based on EIA's weekly, monthly, and annual statistics, as well as the June 2006 *Short-Term Energy Outlook*, which was issued on June 6. Before turning to the outlook for the Fall, I will briefly review the major forces affecting current natural gas prices.

High prices continue to dominate natural gas markets, although current average annual prices are below 2005 levels (**Figure 1**). The wellhead price for 2005 was an estimated \$7.51 per thousand cubic feet (mcf)—the highest ever recorded. Wellhead prices in 2005 were nearly 40 percent higher than those in 2004 and roughly two and one-half times those in 2002. Commercial prices in 2005 were 23 percent higher than in 2004. Record high crude oil prices, increased demand from new natural-gas-fired electric power plants, depletion of natural gas resources, and major supply disruptions as a result of Hurricanes Katrina and Rita last Summer contributed to these historically high price

levels. Despite the high prices, residential and commercial natural gas consumers used about the same amount of natural gas in 2005 as in 2004. Industrial consumption declined by about 8 percent, but that was nearly offset by the 6-percent increase in natural gas use for electric power generation.

World Oil Prices

During most of the 1990s, the West Texas Intermediate (WTI) crude oil price averaged close to \$20 per barrel, but plunged to almost \$10 per barrel in late 1998 as a result of the Asian financial crisis slowing demand growth, while extra supply from Iraq was entering the market for the first time since the Gulf War (**Figure 2**). Subsequently, as Organization of the Petroleum Exporting Countries (OPEC) producers adhered to a coordinated production quota and reduced output, crude oil prices not only recovered, but increased to about \$30 per barrel as demand grew. The most recent increase in crude oil prices began in 2004, when they almost doubled from 2003 levels, rising from about \$30 per barrel at the end of 2003 to peak at \$56.37 on October 26, 2004. After falling back briefly, prices then continued to rise in 2005 and in the early months of 2006. For much of June, we saw WTI prices hover around the \$70 per barrel benchmark—ranging from a high on June 2 of \$72.73 per barrel and a low of \$68.48 per barrel on June 13. This is a significant change from what we experienced during the latter half of the 1980s and the 1990s. The elevated level of crude oil prices contributed to increased natural gas wellhead prices and, as a result, to increased end-use natural gas prices. (Natural gas and

crude oil prices are related because natural gas and crude oil are substitutes in consumption and also complements, as well as rivals, in production.)

Demand Trends, Especially for Electric Power

The level of natural gas prices that prevailed in the 1990s limited economic incentives for producers to find and produce new supplies. A series of mild winters in the 1990s limited home-heating demand and helped keep natural gas prices from rising. Natural-gas-fired electric power generation increased over 70 percent between 1993 and 2004, reflecting both growth in electricity demand and a large increase in the number of natural-gas-fired electric generators. A significant quantity of new natural-gas-fired generating capacity was built in recent years as environmental performance, ease of siting, high efficiencies, relatively low capital costs, and the level of natural gas prices experienced during the late 1990's--when many of these facilities were planned--made these facilities appear to be an attractive investment. The vast majority of new generation capacity does not have the capability to use a backup fuel. Some other facilities, which once were capable of using another fuel, now lack infrastructure or storage capacity or have other constraints affecting their ability to operate with alternative fuels. This lack of flexibility, along with the high price of oil, makes it more difficult for plant operators to respond to increasing natural gas prices by fuel switching.

Depletion of Natural Gas Resources

A key question facing producers is whether natural gas resources in the mature onshore lower-48 States have been exploited to a point at which more rapid depletion rates

eliminate the possibility of increasing—or even maintaining—current production levels at reasonable cost.

Depletion is a natural phenomenon that accompanies the development of all nonrenewable resources. Physically, depletion is the progressive reduction of the overall volume of a resource over time as the resource is produced. In the petroleum industry, depletion may also more narrowly refer to the decline of production associated with a particular well, reservoir, or field. As existing wells, reservoirs, and fields are depleted, new resources must be developed to replace depleted reservoirs.

Depletion has been counterbalanced historically by improvements in technology that have allowed natural gas resources to be discovered more efficiently, extended the economic life of existing fields, and allowed natural gas to be produced less expensively, making resources available that previously were too costly to develop. While technological progress for both conventional and unconventional recovery is expected to continue to enhance exploration, reduce costs, and improve production technology, the depletion of conventional and unconventional natural gas resources is also expected to continue as more of the natural gas resource base is developed.

Hurricanes Rita and Katrina

The Atlantic hurricane season of 2005 was the most active season since accurate record-keeping began in 1944. There were 27 named storms, including 15 hurricanes, 7 of which were classified as Category 3, 4, or 5. The paths of five of those major hurricanes

passed through the Gulf of Mexico, significantly disrupting oil and natural gas production.

Hurricanes Katrina and Rita passed through the heart of the Gulf producing region, resulting in widespread shut-in production and infrastructure damage, some of which continues to the present. At one point just prior to the landfall of Katrina, 79 percent of Gulf platforms were evacuated, and 8.8 billion cubic feet per day of natural gas production (88 percent of production, relative to the Minerals Management Service (MMS) base level) was shut in. Hurricane Katrina destroyed 44 platforms as it passed over the Outer Continental Shelf producing region, including some of the deepwater projects that are still under initial construction. As Hurricane Rita subsequently passed over the producing region, up to 93 percent of platforms were evacuated, and 81 percent of natural gas production was shut in. Sixty-nine platforms were destroyed by the hurricane-force winds. As of June 19, 2006 (latest MMS data), total production of natural gas has been reduced by 804 billion cubic feet since Katrina approached landfall 10 months ago. That reduction amounts to more than 20 percent of yearly natural gas production from the Federal offshore fields in the Gulf of Mexico, according to MMS data. Additional volumes of natural gas production were lost in areas under Louisiana State jurisdiction. As of June 19, 2006, almost 940 million cubic feet per day of natural gas production still remained offline. While most of that production will ultimately be restored, some part it may be permanently lost.

Immediately following the landfall of Hurricane Katrina, natural gas prices increased sharply, and Hurricane Rita further exacerbated the already high prices (**Figure 3**). The

Henry Hub spot price increased to its all-time peak of \$15.40 per million Btu (mmBtu) by December 13, 2005. Similarly, commercial prices averaged \$15.51 and \$14.62 per mmBtu in November and December, respectively, which were 49 and 38 percent higher, respectively, than the previous year's levels. Since the beginning of 2006, natural gas prices have decreased. The Henry Hub spot price is currently well below the pre-storm price levels and is about 20 percent lower than the spot price last year at this time. The current outlook for the upcoming Winter, however, reflects expectations that natural gas spot and commercial prices will be somewhat higher throughout the remainder of the *Short-Term Energy Outlook* forecasting period ending in December 2007, compared with current levels, but will not reach the peak levels of 2005.

Thus Far in 2006

Natural gas spot prices trended downward between mid-December 2005 and early-March 2006, likely reflecting the repairs made to natural gas infrastructure damaged by the 2005 hurricanes and an improved natural gas supply situation. This past Winter was relatively mild, resulting in unusually high storage inventories. On the whole, temperatures during the 2005-2006 heating season were warmer than normal and warmer than last year for the same 5-month period, as measured by natural-gas-customer-weighted heating-degree days (HDDs) published by the National Weather Service. As of March 31, 2006, at the end of the heating season, working gas in storage was an estimated 1,692 billion cubic feet (bcf) or about 59 percent above the 2001-2005 average of 1,066 bcf. Storage inventories continued to grow, resulting in a June 16, 2006 (latest available data), volume

for working natural gas in storage of 2,476 bcf. Stocks are 451 bcf higher than last year at that time and 643 bcf, or about 35 percent, above the 5-year average of 1,833 bcf.

Because of storage capacity limitations and uncertainty about the possibility of high temperatures and hurricane-related production disruptions later this Summer, however, current high storage levels relative to seasonal norms may not persist through the 2006-2007 heating season.

Uncertainty with respect to longer-term supply is reflected in the June 21, 2006, futures contract prices for the upcoming heating-season months (November 2006 through March 2007), which are about \$3.50 per mmBtu higher on average than the Henry Hub spot price on that date. Overall, the average of 12-month-ahead futures prices (July 2006 through June 2007) traded at a premium of roughly \$2 per mmBtu relative to the Henry Hub spot price, averaging \$8.57 per mmBtu as of Wednesday, June 21. These differentials provide suppliers with a strong economic incentive to inject natural gas into storage. However, the elevated levels of working natural gas stocks provide operators increased flexibility in the timing of their storage injections.

The current market price of natural gas is well below the price of crude oil on an energy equivalent basis. For example, at a price of \$6.50 price per mmBtu of natural gas, the price of a barrel of crude oil would need to be below \$40 for the two fuels to have the same price per unit of energy content. With the market price of WTI crude oil currently above \$70, natural gas users today are enjoying significantly lower energy costs than oil users. While oil prices are set in a global marketplace, natural gas prices still primarily reflect the balance of supply and demand within North America.

The Short-Term Energy Outlook

According to the Energy Information Administration's (EIA) latest *Short-Term Energy Outlook (STEO)*, released on June 6, natural gas prices are projected to be lower through the rest of this year relative to the corresponding 2005 levels. The expected average for 2006 for Henry Hub spot prices of \$7.74 per mcf is down \$1.12 from the 2005 average, partly as a result of weak heating-related demand this Winter and the resulting high levels of natural gas in storage. For 2007, the Henry Hub average price moves back up to average \$8.81 per mcf, assuming sustained high oil prices, normal weather, and continued economic expansion in the United States. The monthly average WTI crude oil price is projected to average \$68 per barrel in both 2006 and 2007.

The price of natural gas to commercial users reflects the market price of gas, which is passed through into commercial rates based on the cost of acquiring gas, as well as the costs of transmission and local distribution. Commercial natural gas prices on a delivered basis for 2006 are expected to average about 5 percent higher than the average of \$11.58 per mcf in 2005. Average prices in 2007 are projected to remain close to the 2006 level. The situation of individual commercial users is likely to vary widely across regions and suppliers.

Total U.S. natural gas demand in 2006 is expected to fall about 0.2 trillion cubic feet (tcf), or 0.9 percent, below the 2005 level and then increase by about 0.8 tcf, or 3.8 percent, in 2007 (**Figure 4**). With weak electric heating load due to the warm January and weaker expected cooling load this Summer compared with 2005, the consumption of natural gas for generation of electricity is expected to increase only slightly, by 0.3

percent in 2006, then increase by 0.7 percent in 2007. Also, because of the exceptionally warm January this year, residential consumption in 2006 is projected to fall by 6.0 percent from 2005 levels and then increase by 7.7 percent in 2007. Recovery in natural-gas-intensive industrial output following the 2005 hurricanes will likely contribute to growth in industrial natural gas consumption this year (up 2.2 percent) and in 2007 (up 3.6 percent).

Domestic dry natural gas production in 2005 declined by 2.7 percent, largely in response to hurricane-induced production shut-ins and infrastructure disruptions in the Gulf of Mexico. Dry natural gas production is projected to increase by 0.7 percent in 2006 and 1.2 percent in 2007. Total net liquefied natural gas (LNG) imports are expected to increase from their 2005 level of 630 bcf to 710 bcf in 2006 and 950 bcf in 2007.

As mentioned above, as of June 16, 2006, working natural gas in storage was an estimated 2,476 bcf, which is higher than ever before recorded for that date since industry and EIA began collecting weekly data in 1994. Stocks are 451 bcf above the year-ago levels and, according to the latest *STEO*, the level of working natural gas in storage in each of the remaining months of 2006 is expected to exceed the 2005 comparable levels. The level of working natural gas in storage at the onset of the upcoming heating season (November 1) is expected to reach 3,462 bcf, which is 268 bcf or 8.4 percent higher than the level on November 1, 2005. However, the 2006-2007 heating season (November 1 - March 31) is projected to be more than 6 percent colder than the 2005-2006 heating season, as measured by natural-gas-customer-weighted HDDs.

Mr. Chairman and Members of the Committee, this completes my testimony. I would be happy to answer any questions that you might have.

Figure 1. Wellhead and Commercial Natural Gas Prices, 1990-2007

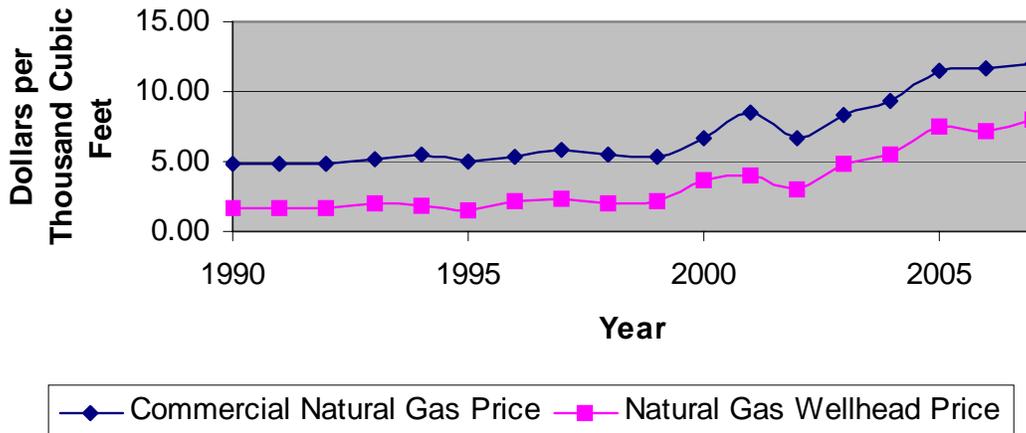


Figure 2. West Texas Intermediate Spot Crude Oil Prices, 1990-2007

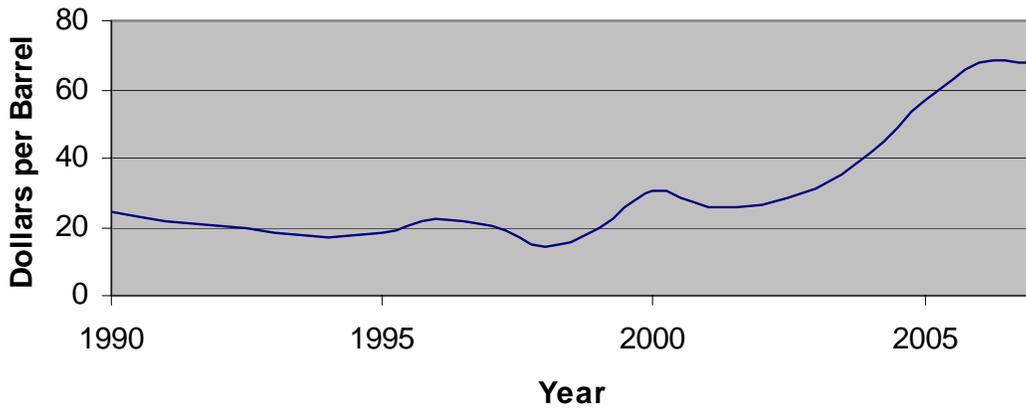


Figure 3. Average Daily Henry Hub Spot Price, June 2005 - Present



Source: NGI's Daily Gas Price Index

Figure 4. Annual Change in Natural Gas Demand by Sector, 2004-2007

