

Testimony of
Howard Gruenspecht
Acting Administrator
Energy Information Administration

before the

Select Committee on Energy Independence and Global
Warming

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 to discuss the short-term energy outlook for the United States, particularly for the upcoming winter.

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Winter 2008-09 Outlook

Our most recent *Short-Term Energy Outlook*, released on September 9th before Hurricane Ike hit the Gulf Coast, forecasts that residential heating oil prices during the upcoming heating season (October through March) will average \$4.13 per gallon, an increase of about 25 percent over last heating season. Residential natural gas prices over the same period are projected to average \$14.93 per thousand cubic feet (Mcf) compared with \$12.72 per Mcf during the last heating season, an increase of about 17 percent.

Natural gas is used as the primary heating fuel by a majority (52 percent) of U.S. households, while oil is the primary heating fuel for 7 percent of households. The percentages of households using electricity and propane for heating are 35 percent and 6 percent, respectively. Heating oil use is heavily concentrated in the Northeast, where it is used by nearly one-third of households.

Fuel expenditures for individual households are highly dependent on weather conditions, the size and efficiency of individual homes and their heating equipment, and thermostat settings. While cross-fuel comparisons of average heating expenditures can be misleading because of differences in the extent to which each fuel is used in colder and milder areas of the country, the change in U.S.-average projected expenditures relative to the prior winter for each heating fuel provides a broad guide to expected movements in heating costs.

Although all of the major heating fuels are expected to register sizable increases in total average expenditures, heating oil customers are likely to be particularly hard hit, with heating fuel expenditures for the average household using oil as its primary heating fuel expected to increase by \$585 (30 percent) over last winter. The corresponding average expenditure increases for households heated with natural gas, propane, and electricity are \$162 (19 percent), \$217 (13 percent), and \$86 (10 percent), respectively **(Figure 1)**.

Heating oil prices are expected to be significantly higher than last winter since crude oil prices are much higher, reflecting the limited increase in non-OPEC oil supply relative to demand over the past year. Natural gas prices are significantly higher due to high oil prices, low liquefied natural gas (LNG) imports, and the significant year-over-year storage deficit earlier in 2008. The rest of my testimony discusses these factors and others that will have an important impact on residential expenditures this upcoming winter.

Heating Oil

The main reason heating oil prices are expected to be so much higher this winter than last is because crude oil prices are expected to be significantly higher. While retail heating oil prices are expected to be about 85 cents per gallon higher this winter (October through March) than last winter, crude oil is expected to be the equivalent of about \$28 per barrel or 68 cents per gallon higher (shown graphically in **Figure 2**). After rising by about 370,000 barrels per day (bbl/d) during the first half of 2008, global oil consumption is projected to rise by about 970,000 bbl/d in the second half of 2008 and by 920,000 bbl/d in all of 2009 compared with year-earlier levels. Lower consumption in countries belonging to the Organization for Economic Cooperation and Development (OECD) is expected to be more than offset by continued non-OECD consumption growth, led by China, the Middle East, Latin America, and India. While global oil demand is increasing, supply from countries outside the Organization of the Petroleum Exporting Countries (OPEC) has not kept pace, with non-OPEC supply growth expected to be nonexistent in 2008. When non-OPEC supply growth fails to match growth in global demand, markets rebalance by OPEC countries increasing production and/or consuming countries drawing down inventory levels. Both of these actions tend to increase crude oil prices: drawing down inventory levels leaves markets more vulnerable to changes in supply and demand, while OPEC production increases cut into spare capacity unless capacity increases faster than production, which was not the case in 2008. As a result, current spare production capacity remains historically low (**Figure 3**).

Increases in heating oil prices above those due to higher crude oil costs largely reflect tighter markets for diesel fuel/heating oil worldwide. Diesel fuel and heating oil markets are connected since both products are very similar except for the fact that diesel fuel contains less sulfur than heating oil. World diesel-fuel demand growth is coming both from increasing transportation use and increasing use of distillate as a fuel for electricity generation, particularly in developing countries where electricity demand is outstripping generating capability. Generally, oil product demand in non-OECD countries, where oil demand is growing fastest, is more heavily weighted towards distillate fuel than is product demand in the United States. This has led to heating oil prices increasing even more than the sharp run-up in crude oil prices this upcoming winter compared to last winter.

In addition, as of September 22, Hurricanes Gustav and Ike have removed over 41 million barrels of production from refineries that were shut down, with additional product lost due to other refineries that have reduced inputs due to limited crude oil availability is included. Because of port closures and pipeline outages, crude oil flows through the petroleum system have been curtailed over the last few weeks and it may take another week or two to get flows moving again at normal rates throughout the entire system.

Beyond the upcoming winter, crude oil prices are expected to moderate as sluggish growth rates in consumption from OECD countries and prospects for increased supplies from non-OPEC producers in the coming year should lead to weakened market conditions. Lower demand for OPEC oil and a rebound in global surplus production capacity is expected to provide the market with a potential cushion against supply disappointments over the near term. The main upside price risk is that the slowdown in

global oil demand growth is temporary and that demand will recover. Important downside price risks include weaker demand growth due to the lagged impact of higher oil prices and weaker economic activity than anticipated.

Natural Gas Markets

Natural gas prices are also expected to be higher this winter than last. In addition to high oil prices and low LNG imports, strength in spot prices through the first half of 2008 was the result of colder-than-normal temperatures during the first quarter (particularly in the Midwest), which contributed to consumption growth and a substantial year-over-year decline in working inventories.

At the end of March 2008, working gas in underground storage was 356 billion cubic feet (Bcf) below the March 2007 level and 27 Bcf below the 5-year average. Cold weather continuing well into April contributed to a growing storage deficit. By the end of the first half of the year, natural gas price pressures peaked with the natural gas spot price reaching \$13.71 per thousand cubic feet (Mcf) on July 2, 2008. More recently, however, spot prices have declined, averaging \$8.49 per Mcf in August. Taken together, robust domestic production of natural gas (**Figure 4**) and limited consumption growth in the electric power sector due to mild summer temperatures allowed for the rebuilding of natural gas storage levels. As a result, estimated working gas inventories at the end of August surpassed the corresponding 5-year average for the first time since February, although this level was still 147 Bcf below end-of-August 2007.

Despite strong domestic production growth (actual data through June shows an increase in marketed natural gas production of 8.6 percent) and the resulting inventory

builds compared to the first half 2007, damage caused by Hurricanes Gustav and Ike remains a concern. As of September 22, production shut-ins for the Federal Gulf of Mexico totaled almost 133 Bcf, or about 86 percent of total output, and recovery could last well into October.

In 2009, domestic natural gas production growth is expected to continue, although not at the rate of growth measured in the first half of 2008. Natural gas consumption is expected to be slightly higher next year, but fragile economic conditions add significant uncertainty to the forecast. As a result of expectations for continued supply strength and moderate consumption growth, natural gas spot prices are projected to average \$8.55 per Mcf in 2009, a decrease of \$1.16 per Mcf from the expected average for 2008.

Conclusion

We will be updating the forecasts presented in this testimony in the October edition of the *Short-term Energy Outlook* (to be released October 7), which will also include an expanded discussion of the upcoming 2008-2009 winter heating season.

This concludes my statement, Mr. Chairman, and I will be happy to answer any questions you and the other Members may have.

Figure 1.

Average fuel expenditures are expected to be higher for all fuels this winter.

- Households heating with heating oil and natural gas expected to pay up to 30% more this winter compared to last winter.

Average U.S. Household Winter Heating Fuel Expenditures

Fuel	Winter 2007-08	Winter 2008-09	Change
Heating Oil (7%)	\$1,939	\$2,524	\$585 (30%)
Natural Gas (52%)	\$ 855	\$1,017	\$162 (19%)
Propane (6%)	\$1,673	\$1,890	\$217 (13%)
Electricity (35%)	\$ 858	\$ 944	\$ 86 (10%)
Average All Fuels	\$ 986	\$1,152	\$166 (17%)

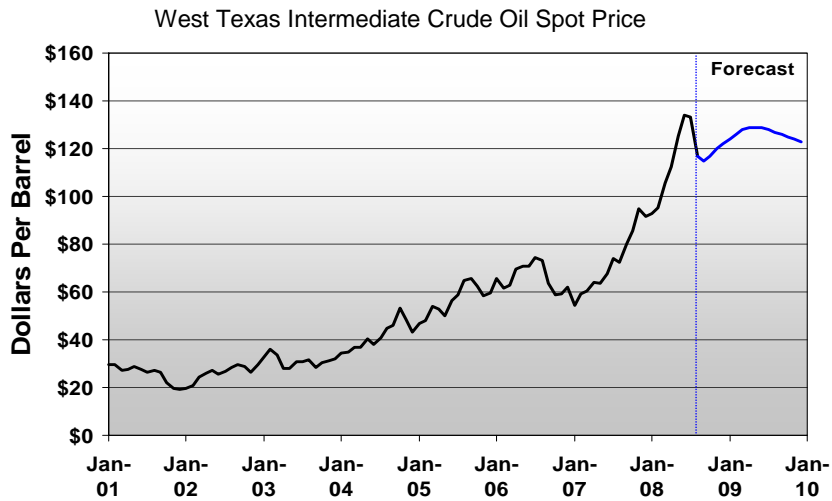
Notes: Expenditures based on average consumption of households adjusted for weather.
Percent of all households noted in parentheses by each fuel label.
Winter = October - March

Source: EIA, *Short-Term Energy Outlook*, September 2008.



Figure 2.

Projected stronger growth in world petroleum demand is expected to increase the annual average WTI price to \$126 per barrel in 2009.

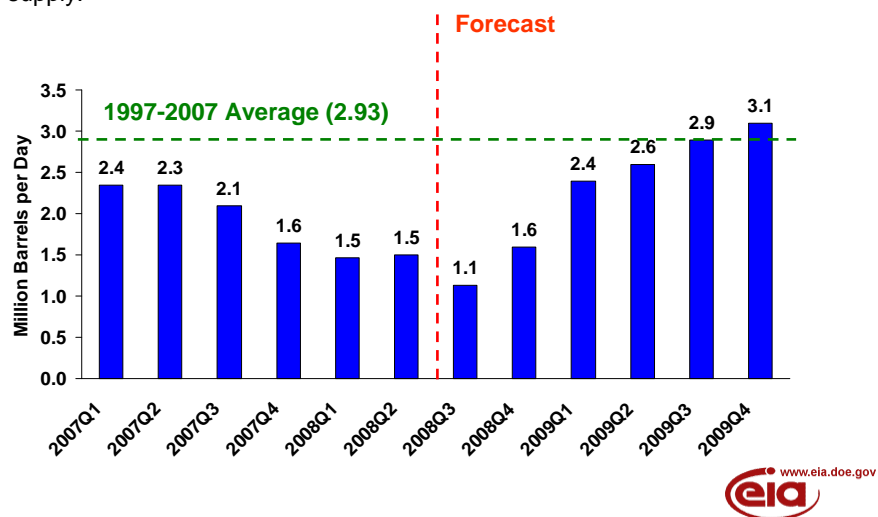


Source: EIA September 2008 *Short-Term Energy Outlook*.
<http://www.eia.doe.gov/emeu/steo/pub/contents.html>

Figure 3.

World surplus crude oil production capacity remains low in 2008, but increase substantially in 2009.

- Surplus capacity is expected to increase through 2009, as OPEC brings new capacity additions online and restricts output in response to higher non-OPEC supply.



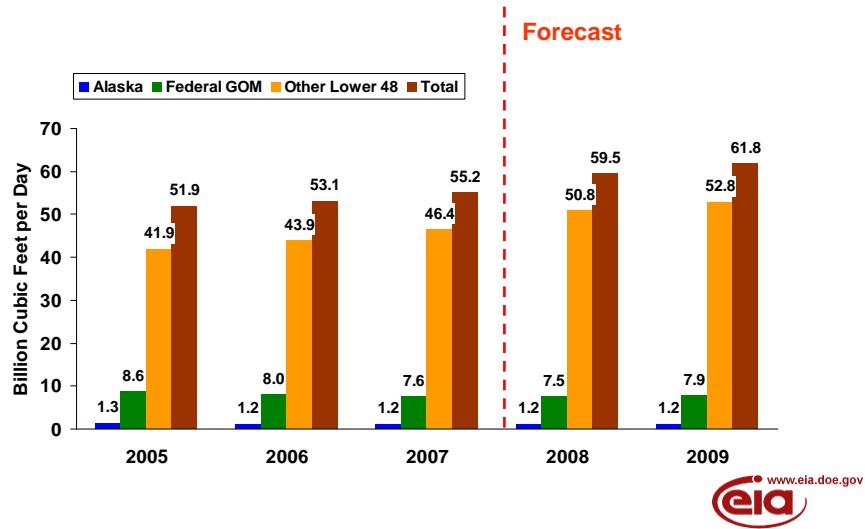
Source: EIA September 2008 *Short-Term Energy Outlook*.

<http://www.eia.doe.gov/emeu/steo/pub/contents.html>

Figure 4.

Onshore natural gas production is expected to drive the large growth in natural gas production in 2008.

- Growth in natural gas production remains subject to expectations about natural gas prices.



Source: EIA September 2008 *Short-Term Energy Outlook*.
<http://www.eia.doe.gov/emeu/steo/pub/contents.html>