

**STATEMENT OF**  
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**before the**

**GOVERNMENT REFORM SUBCOMMITTEE ON ENERGY**  
**POLICY, NATURAL RESOURCES AND REGULATORY AFFAIRS**  
**UNITED STATES 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 what drives crude oil supply, gasoline demand and the effects on prices. 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, analysis, and projections for the Department of Energy, other government agencies, the U.S. Congress, and the public. We do not take positions on policy issues, but we do produce data and analysis reports that are meant to help policymakers determine energy policy. Because the Department of Energy Organization Act gives EIA an element of independence with respect to the analyses that we publish, our views are strictly those of EIA. They should not be construed as representing those of the Department of Energy or the Administration.

During the first 5 months of 2004, prices for gasoline and crude oil rose steadily. At the beginning of June, the price of West Texas Intermediate (WTI) crude oil was over \$42 per barrel, and the national average retail price of regular gasoline was \$2.05 per gallon, more than 50-cents-per-gallon higher than prices at the beginning of this year or in May 2003 (Figure 1). While gasoline prices in real, inflation-adjusted terms remain well below their historical peak level (gasoline prices in 1981 were closer to \$3.00 per gallon in today's dollars), there is little doubt that the recent rapid runup in prices constitutes a drain on disposable income and a challenge to planning for many businesses and consumers.

The very latest data show some price relief. Retail gasoline prices fell by more than 14 cents per gallon from May 24 through June 28. More significantly, wholesale

gasoline prices fell by 32 cents per gallon from their peak on May 19 through June 28, which should result in further reductions in retail prices in coming weeks. Crude oil prices have fallen about 13 percent (\$5.40) from mid May through June 28.

Looking ahead, any projection of oil markets is highly uncertain given the present situation of tight crude oil and product inventories at a time when recent attacks in Saudi Arabia and Iraq have heightened concerns regarding the potential for unexpected disruptions. As has been the case for some time, price uncertainties are higher on the upside than the downside.

The July 2004 Short-term Energy Outlook (STEO), released today, shows the average retail gasoline price in June at \$1.97 per gallon and falling further in July:

The latest STEO reflects our view of an improved balance between supply and demand in gasoline markets from earlier this spring, as well as for crude oil. Our STEO scenario projects that WTI prices will likely stay higher than \_\_ for the remainder of this year. While our forecast has crude oil prices easing slightly through third quarter, the world market will still be tight as world petroleum demand picks up seasonally in the fourth quarter, increasing the potential for unexpected upward price pressure this winter. We continue to expect that the additional crude oil production, which producers with excess capacity have recently committed to provide, would allow for building of crude oil and product inventories. The additional supply will play an important role in reducing future volatility by making more inventory available to cover any unanticipated supply or demand developments. As noted above, price uncertainty is higher on the upside than the downside as we look ahead through the end of this year.

With that overview of the bottom line, the remainder of my testimony addresses the issues raised in your invitation – the driving forces behind crude oil supply and gasoline prices.

### **Retail Gasoline Price Components**

Retail gasoline prices can be decomposed into four components: the cost of crude oil, refining costs and profits; distribution and marketing costs and profits, and taxes (Figure 2). Crude oil represented on average 40 percent of the gasoline price in May, refining costs and profits represented another 31 percent, distribution and marketing costs and profits were 8 percent, and taxes added 21 percent.

The crude oil and refining components, which together determine the wholesale price of gasoline, are by far the most important in explaining recent changes in retail gasoline prices. Each \$1 per barrel, or 2.4 cents per gallon, increase in the price of crude oil increases the price of gasoline and other products by a comparable amount, holding other market factors equal, when fully passed through. Changes in the refining component, which is sensitive to the supply and demand balance in the gasoline market, are also significant. Tight crude oil markets result in tight product markets. When product markets are tight, as has been the case this year, product prices increase an additional amount over and above crude oil price changes. As discussed below, crude oil market conditions over the last 18 months have played a key role in driving decisions that have led to tight product markets.

All changes in the wholesale price of gasoline are ultimately reflected in retail gasoline prices, but the full passthrough of prices from the wholesale to the retail level

occurs over a period of weeks, rather than instantaneously. Therefore, after wholesale gasoline prices peak and start to decline, as has recently occurred in the U.S. gasoline market, retail prices may still be "digesting" the effects of the earlier increase, even while starting to reflect the decrease as well. Ultimately, however, retail price changes do not reflect any additional price premium beyond wholesale price changes.

With this background, I will now examine in more detail the recent situation in crude oil and wholesale gasoline markets.

### **Crude Oil Markets**

The current state of the gasoline market in the United States has been created largely by world crude oil market conditions. Thus, how these conditions develop going forward is critical in determining whether or not price relief at the pump is likely through the rest of this year and beyond.

A combination of rising world oil demand growth and oil supply restraint by the Organization of Petroleum Exporting Countries (OPEC) has kept oil supplies tight, as reflected in low petroleum inventories worldwide since early last year. The price of West Texas Intermediate (WTI) crude oil rose by more than \$12 per barrel from early December 2003 to reach over \$42 at the beginning of June. Since then, the WTI price has dropped to \$36.25 per barrel as of June 28 as signs of increasing crude and gasoline supplies are emerging.

How did we get here? On the supply side, the Venezuelan strike at the end of 2002 removed about 180 million barrels of supply from world markets from December 2002 through February 2003. Other OPEC countries were slow to respond to the loss of

supply, and world inventories were drawn down precipitously during this time. We had further losses from strife in Nigeria and the Iraq War as well. While OPEC increased production in 2003 and Venezuela and Iraq slowly recovered, the former to production levels that are still substantially below pre-strike output, the supply increases were not enough to allow world inventories to return to normal levels, given strong demand.

As world economies began recovering from the earlier downturn, world demand in 2003 grew about 1.3 million barrels per day, compared to the depressed 0.2 million barrel per day growth seen in 2002. This year, world demand is expected to increase 2.2 million barrels per day, with the U.S. and China making up half of that increase. Non-OPEC supply is expected to increase only about 1.0 million barrels per day, indicating OPEC must increase production at least 1.2 million barrels per day to just stay even and not allow for any inventory recovery.

World petroleum commercial inventories, which reflect the balance between production and demand and thus act as a good barometer of price pressure, have been at or below the bottom end of the normal range for most of 2003 and 2004 to date. The most recent IEA inventory data for April show lower levels than most analysts estimated, reinforcing how tight the market had become. The United States has followed world markets in this regard. For most of 2004, U.S. total petroleum inventories have been at the bottom of the normal range, at or below 2000 levels (Figure 3). With WTI prices significantly above those experienced during the 1998-2002 period, and above OPEC's stated target price band for half of 2003 and all of 2004 to date, the prevailing view has been that prices were bound to fall. This view that future prices will be lower (referred to

as backwardation in the futures market) has provided a disincentive for refiners to hold any more crude oil in storage than was absolutely necessary.

Current supply/demand balances reflected in inventories may not explain all of the current oil price increase. This year, concerns such as limited excess crude oil production capability, instability in the Middle East, and less available excess refining capacity than in the past may be contributing to higher prices. For example, if an abundance of excess crude oil production capacity were available, the level of inventories would be less critical, as new supply could be brought online quickly as needed. And with nearly all available excess capacity located in Saudi Arabia, markets are especially sensitive to unrest in that country. Still, despite the fact that doing so would at least temporarily reduce the amount of excess capacity in the world, increased production now from Saudi Arabia and other countries with some excess capacity would have the effect of reducing prices in the near-term and would help to replenish inventories, thereby creating a cushion to help withstand unexpected supply problems in the future and thus reduce risk premiums that may be in the market.

### **Gasoline Markets**

When global crude oil markets tighten, product markets also tighten and prices increase. Between the most recent low point on December 1, 2003 and the peak spot gasoline price on May 19, 2004, the average spot gasoline price rose by 68 cents per gallon. Over the same time period, crude oil prices increased about 28 cents per gallon. This implies that 40 cents per gallon of the increase in spot prices was related to developments in gasoline markets. Some of the increase reflects seasonal influences.

Over 2000 through 2003, the difference between wholesale gasoline and crude oil prices increased by an average of 15 cents per gallon between December and May, which leaves another 25 cents per gallon of the increase attributed to the especially tight gasoline market experienced this year.

As with crude oil inventories, gasoline inventories have been low this year (Figures 4 & 5), both due to strong demand and tight supply relative to demand. Gasoline demand January through June has grown about 2.3 percent over the same period last year. Some of that strength reflects relatively low first half demand in 2003 due both to weak economic growth and bad weather that likely interfered with driving. Despite high prices, growth in vehicle miles traveled continued to push gasoline demand higher.

While over 90 percent of U.S gasoline is produced domestically, gasoline imports play an important role in meeting demand. Although demand is higher this year, imports are lower so far, with total gasoline imports averaging 885 thousand barrels per day compared to 925 thousand barrels per day last year. Although lower imports are partly due to the effect of required sulfur content reductions under the Tier 2/Gasoline Sulfur regulations as well as other changes in U.S. requirements for higher-valued, cleaner products, the reduction in imports is also due to world market conditions in general. With high world demand and competition for gasoline driving up both prices and freight rates, imports would be less economical even if our sulfur requirements had remained unchanged. We are seeing less imports from regions like Latin America where many refineries cannot produce our low sulfur gasoline, while imports increased from regions like Western Europe, which have similar sulfur specifications to those in the U.S. This

has occurred even though European inventories are also low, and implies extra premiums must be paid to attract those extra volumes.

Through June 25, U.S. gasoline production has averaged 8.6 million barrels per day in 2004, an increase of 3.4 percent over the same period last year. As we move into the summer driving season, refineries have emerged from their spring maintenance programs and are increasing gasoline production towards maximum levels, averaging about 8.7 million barrels per day in June.

With strong demand relative to supply keeping inventories low, the gasoline crack spread (the difference between wholesale spot gasoline and crude oil prices) has increased, as has been the case in previous tight spring gasoline markets such as occurred in 2000, 2001, and 2003. But this year, the tight balance and high margin situation has been sustained rather than occurring in a shorter price spike, and the increase is nationwide, with regional supply problems playing less of a role than they have in recent years.

International crude oil market conditions and strong demand have both played key roles in keeping gasoline inventories low. Strong worldwide demand results in increased competition for the excess gasoline that some world refiners produce, increasing the price U.S. suppliers must pay to attract added volumes, especially in view of the specification changes. Furthermore, the tightening crude oil market created incentives for refiners everywhere to buy only crude that is needed immediately and to draw down their product inventories. When markets tighten, the current prices and current crack spread widens, but expectations for prices in future months are typically lower. While a large current crack spread works to encourage refiners to produce as much product as possible for

immediate sale, the expectation for future declining prices discourages inventory accumulation. In addition, spring maintenance, which prevents refiners from running at maximum utilization, in conjunction with higher than expected demand and slightly lower imports than last year, all worked to keep U.S. gasoline markets tight. Gasoline inventories have been low and as yet show no signs of recovery to more normal levels.

With U.S. gasoline demand increasing for the summer, domestic market tightness will only ease with strong supply that allows inventories to move toward more normal levels and to relieve near-term price pressures. Gasoline imports may be the most important source of extra volumes, but domestic refiners may be able to contribute some increased volumes as well, despite already operating at high capacity utilization (96 per cent in June). This would be feasible provided that refinery problems going forward are minimal.

Crude oil markets are a critical key to turning this cycle back down. With extra crude oil, recently occurring underlying backwardation eases, and refiners worldwide have incentives to produce more product than that needed for the near term, which could result in inventories moving closer to normal levels. With world demand being lower during the summer than the winter, refiners outside the U.S. can produce such product. Until recently, signs of any increases in supply (crude oil or gasoline) had not occurred, and it is still early to know how the world balance will play out.

### **Looking Ahead**

As noted at the start of my testimony, recent events show some promise of lower prices ahead, but EIA remains cautious about the final outcome. Saudi Arabia and

several other suppliers have pledged significant increases in crude oil production, which is critical to breaking the upward price pressure. Increases in crude oil production would help put downward pressure on crude oil prices, which would help lower gasoline prices.

We are already seeing some improvement in supply. Crude oil imports for the week ending June 25 averaged 10.6 million barrels per day, the fourth highest weekly average ever, and have averaged 10.4 million barrels per day over the past 4 weeks. Notwithstanding crude oil refinery inputs averaging over 16 million barrels per day over the past four-week period ending June 25, crude oil inventories have increased by 3.2 million barrels over that time span. As a result, U.S. crude oil stocks are now at 304.9 million barrels, down slightly from the previous week when it was at the highest level since August 2, 2002. More importantly, crude oil inventories are just 3.1 million barrels shy of the 5-year average for this time of year, and closest to the middle of average range they have been since October 2003.

The U.S. gasoline market may also be beginning to reflect a shift from this high price cycle. Beyond the 13 cent fall in retail prices over the last two weeks, average spot gasoline prices have been falling, dropping a total of 29 cents per gallon from May 19 through June 21. Since it takes about 1 to 2 weeks for changes in spot prices to begin being reflected in retail prices, the most recent declines in spot prices may indicate further declines in retail prices over the next couple of weeks. (This might not occur if supply disruptions increase spot prices enough to cancel the prior declines.)

U.S. gasoline inventories, however, have not recovered as much as crude oil inventories, which is to be expected. At 205.1 million barrels, they stand at 8.9 million barrels below the 5-year seasonal average. With strong gasoline demand and high

refinery utilization, product inventories would typically be slower to recover than crude oil inventories. It should be noted that gasoline inventories typically begin to decline in June. Without higher-than-usual imports or refinery runs through July, we could expect inventories to remain low through August. With levels remaining well below average for this time of year, there is little flexibility to respond to unexpected outages or increases in demand.

Consumers should not expect retail prices to fall back to prices seen before the recent increases. While prices may continue to fall modestly in the short term, present market conditions do not provide a reason to expect prices to return to their level at the start of this year anytime soon. Furthermore, with low inventories, regions in the United States are still subject to potential price spikes this summer.

The July Short-Term Energy Outlook (STEO) from EIA includes a gasoline price outlook that reflects our view of an improved balance between supply and demand in gasoline markets from earlier this spring. However, the July forecast reflects higher crude oil and gasoline prices through the summer than our June outlook. The current STEO scenario projects that WTI prices will likely remain near \$\_\_ per barrel through 2005, after averaging above \$40 in May and easing toward the \$\_\_ mark thereafter. The June outlook suggested that prices would settle several dollars lower than the current outlook by the end of the year. The latest IEA data show world petroleum balances being tighter in April than early estimates, which was one reason why the forecast was adjusted. Continued uncertainties surrounding the security of production in Iraq and elsewhere also contributed to the upward adjustment.

We continue to expect that the additional crude oil production, which producers with excess capacity have recently committed to provide, would allow for building of oil and product inventories, but the lower inventory level starting point in April translates to a lower ending point than was expected in the June forecast, and a tighter market. EIA is projecting crude oil prices to decline from the \$40.28 average in May, perhaps dropping as much as \$\_\_ per barrel by the end of the summer (Figure 6). While our forecast has crude oil prices easing through third quarter and staying at lower levels through year end, the world market may still be tight enough when fourth quarter unfolds to potentially result in some increase in crude oil prices as world petroleum demand picks up seasonally over the winter months.

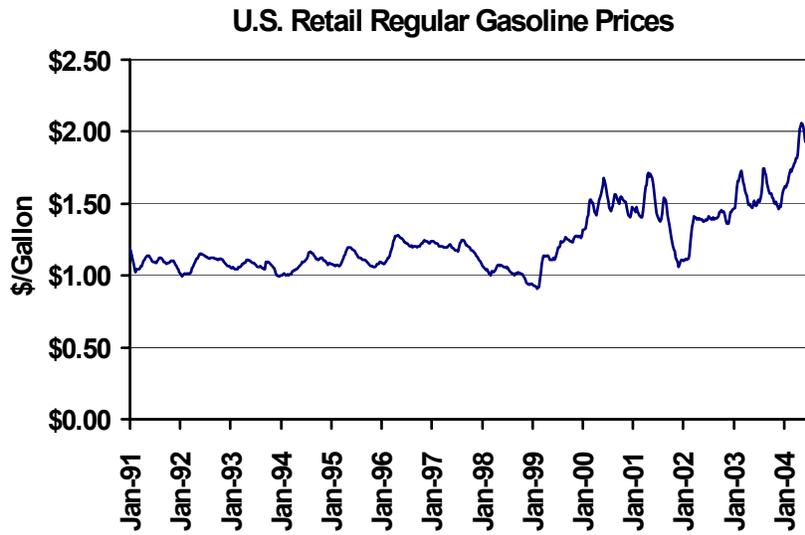
For the second half of 2004, gasoline demand growth is expected to slow from 2.4 percent growth in the first half to about \_\_ percent over last year. With improvement in underlying fundamentals for both crude oil and gasoline, retail gasoline prices should decline from current levels. The June average price was \$1.97, but average prices could drop as much as \_\_ cents per gallon in July, and as much as \_\_ cents per gallon by December from the June average. Still, with continuing tight gasoline markets reflected by low inventories, we could see increasing potential for higher prices in August as demand peaks before the summer driving season ends. However, we would not expect prices to surge to the extent they did last August unless we experience unusually large refinery problems. Also keep in mind that these projections assume no further supply disruptions either in crude oil or gasoline markets, and many factors are at work this year that increase the chances of such disruptions.

## **Conclusion**

In conclusion, subject to the important caveat that no significant unanticipated disruptions occur, EIA anticipates somewhat lower prices for both gasoline and crude oil than those seen earlier this spring, but substantial upside risks remain. Since the industry will likely focus on gasoline at the expense of distillate this summer, and we already are seeing slow distillate inventory builds, we may enter the winter season this year with low heating oil inventories, increasing the potential for high heating fuel bills for consumers this winter. Sustained high levels of OPEC crude oil production, making continued high U.S. imports of both crude oil and products possible, would be helpful both in addressing the current situation in gasoline markets and ameliorating prospects for tight heating oil supplies during the upcoming winter.

Thank you for the opportunity to testify before the committee today.

Figure 1



Source: EIA Weekly Retail Prices



