

**STATEMENT OF**

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**before the**

**COMMITTEE ON ENERGY AND NATURAL RESOURCES**

**UNITED STATES SENATE**

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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.

Prices for both crude oil and gasoline have risen steadily throughout 2004. At the end of May, the price of West Texas Intermediate (WTI) crude oil prices reached \$42 per barrel, and national average retail price of regular gasoline was nearly \$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 the beginnings of a price adjustment. Retail gasoline prices fell by three cents per gallon from May 24 through June 7. More significantly,

wholesale gasoline prices fell by 23 cents per gallon from their peak on May 19 through June 7, which should result in further reductions in retail prices in coming weeks. Crude oil prices were also down significantly (\$2.89) over the same time period.

So, what next? Let me begin by stating the obvious – 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. That said, however, EIA believes that, absent major disruptions, oil and gasoline markets may be turning a corner. The June 2004 Short-term Energy Outlook (STEO), released last week, lowers last month's projection for the average retail gasoline price in June by 3 cents per gallon, to just under 2.00 per gallon. Gasoline prices are expected to continue falling beyond June.

The revised gasoline price outlook reflects our view of an improved balance between supply and demand in gasoline markets as well as a lowering of our expectations for crude oil prices. Our STEO scenario projects that WTI prices will ease to the vicinity of \$35 by year-end – a level significantly higher than the \$30 at the start of the year, but significantly below recent peak prices. We 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 towards normal levels. Higher inventories can play an important role in reducing future volatility by providing a necessary cushion that can be drawn upon in response to unexpected supply or demand developments.

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.

### **Crude Oil Markets**

Crude oil markets are where today's situation began, and are a critical key to generating and sustaining price relief 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 \$38.50 per barrel as of June 4 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 3 million barrels per day of supply from world markets for a short time, and production still remains less than pre-strike levels. 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 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 2.1 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 1.2 million barrels per day, indicating OPEC must increase production at least 0.9 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 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 2). 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.

Fundamentals may not explain all of the current oil price. 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, fundamentals imply that extra crude oil production would both reduce price and help to replenish inventories, thereby creating a cushion to help withstand unexpected supply problems and thus reduce risk premiums that may be in the market.

### **Gasoline Markets**

When global crude 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, spot margins 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 3 & 4), both due to strong demand and tight supply relative to demand. Gasoline demand January through May has grown about 2.8 % 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 830 thousand barrels per day compared to 874 thousand barrels per day last year. Although U.S. gasoline sulfur content was reduced this year under the Tier 2/Gasoline Sulfur regulations, the reduction in imports are likely due more to world market conditions than U.S. requirements for higher-valued cleaner products. With high world demand and competition for gasoline driving up both prices and freight rates, imports would be less economic 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 May 28, U.S. gasoline production has averaged 8.53 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 8.9 million barrels per day in May.

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. Spring maintenance, which prevents refiners from running at maximum utilization, and higher than expected demand worked to keep gasoline markets tight. Gasoline inventories have been low and showed no signs of recovery to more normal levels.

Crude oil market conditions and strong demand have both played key roles in keeping gasoline inventories low. 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. Strong worldwide demand also has made it difficult for refiners to generate extra gasoline inventory that could enter the international market.

With U.S. gasoline demand increasing for the summer, domestic market tightness will only ease with a supply surge to both add to inventories and relieve near-term prices. Even with domestic refining already operating at high capacity utilization (95 per cent in May), refiners may ultimately be able to produce more gasoline, assuming minimal refinery problems. Imports under any scenario are also an important source of extra volume.

Crude oil markets are a critical key to turning this cycle back down. With extra crude oil, recently occurring underlying backwardation eases, and refiners 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.

### **Looking Ahead**

As noted at the start of my testimony, recent events show some promise of lower prices ahead. 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. Crude oil imports reported two weeks ago averaged 10.7 million barrels per day, the second largest weekly amount ever, with most of the increase in short-haul crude oil, notably from Mexico and Nigeria (the latter a provider of high quality crude oil). Last week, import volumes remained strong at 10.5 million barrels per day. These imports have helped to increase commercial crude oil inventories, even above the usual increase seen at this time of year. As of June 7, commercial crude oil inventories stood at 302.1 million barrels, just above the lower end of the normal range. While inventories are still relatively low, having them within the normal range, even if just barely, is an improvement over recent experience. Increases in imports from longer-haul crude oil import sources, such as Saudi Arabia, are more likely to appear next month, which would help offset seasonal downward pressure on commercial crude oil inventories, thus relieving some of the upward price pressure experienced over the last several months.

The U.S. gasoline market may also be beginning to reflect a shift from this high price cycle. Beyond the 3 cent fall in retail prices over the last two weeks, average spot gasoline prices have been falling for a couple of weeks now, dropping a total of 23 cents per gallon from May 19 through June 7. Since it takes about 1 to 2 weeks for changes in spot prices to begin being reflected in retail prices, last week's drop in retail prices may indicate the start of a decline in retail prices over the next couple of weeks.

Finally, U.S. gasoline inventories have risen, increasing by another 3.4 million barrels between May 21 and June 4. With imports averaging about 1 million barrels per day and production, including at gasoline blenders, averaging 8.9 million barrels per day in May, there continues to be enough supply to not only meet demand, but add to inventories as well. It should be noted that gasoline inventories typically increase in May, and that they still are significantly below the 5-year average. Again, the higher inventories are, the more flexibility is inherent in the system, thus relieving some price pressure.

Consumers should not expect retail prices to fall back to prices seen before the recent increases. While prices could drop below \$2 per gallon over the next couple of weeks, and may continue to fall thereafter, 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.

EIA's latest Short Term Energy Outlook (STEO) is projecting crude oil prices to decline from the \$40.30 average in May, perhaps dropping as much as \$4.50 per barrel by the end of the summer (Figure 5). For the second half of 2004, gasoline demand growth

is expected to slow from 2.8 percent growth in the first half to about 1.2 percent over last year. With improvement in underlying fundamentals for both crude oil and gasoline, retail gasoline prices should decline. While we expect the June average price to stay near \$2.00, average prices could drop as much as 5-10 cents per gallon as early as July. These projections assume no further supply disruptions either in crude oil or gasoline markets.

### **Concerns Over Ability of Petroleum Markets to Rebalance**

Several concerns about the world's ability to rebalance petroleum markets have been raised in the media and elsewhere related to the quality of incremental OPEC crude, refinery constraints, timing of supply, and the availability of spare crude oil production capacity. The remaining discussion describes why EIA believes these concerns will not stand in the way of market rebalancing and easing of prices.

Regarding OPEC production, additional crude oil would contribute to lower prices, particularly if the OPEC members maximize the incremental supply of light crude and provide terms that will enable potential buyers to commit to the purchase of more oil without undue risk.

On the issue of crude quality, concerns have been raised that additional supply of heavier, more sour crude oil (meaning crude oil with a higher sulfur content) may be more than the market needs right now in the heart of the U.S. gasoline season. The reasoning is that since this is not the ideal crude sought by the market, it is of little use. Not all refiners need high-quality crude oil, and while heavy, high sulfur crude oil is less desirable, added supplies can free up available high-quality crude oil for those who need

it the most. In short, extra crude oil of any grade that is priced to sell will find buyers and help to alleviate current market tightness.

On the issue of refining capacity, concerns were mentioned that with U.S. refinery capacity utilization at 95-96 percent in recent weeks, there is little room for significant increases in gasoline production. This is inaccurate. There have been times in the past when weekly refinery utilization has even exceeded nameplate capacity. An increase in the utilization rate of 2 percent, which is possible when refineries are not experiencing unusual unplanned outages, equates to an increase in refinery production of about 340,000 barrels per day, and if half of that were gasoline, 170,000 barrels per day of additional gasoline would be available. This represents more than 5 million barrels in a month, a sizeable increase in such a tight market. While such an increase might not remedy a particular regional problem that may occur, a boost of this size could offset the normal stock draw in July and August. Such a scenario is possible depending on how key OPEC producers implement their announcements to add more oil to the market and on whether other unexpected refining problems or supply disruptions can be avoided.

On the issue of rebalancing the U.S. petroleum market, extra crude oil should help even if inventories do not build substantially. At a time of year when crude oil inventories typically fall, if imports increase enough to keep inventories above 290 million barrels, they would be near the middle of the average range by as early as September. If crude oil imports average 10.3 - 10.5 million barrels per day during July and August, it would minimize the usual crude draw during these months while helping to rebuild all refined product inventories. While today's markets and news stories are focusing on gasoline, inventories across all petroleum products, as well as crude oil need

to improve to insure more flexibility in the system, thus reducing price pressures. Higher production now would also help to reduce the prospects for volatility in heating fuel markets this winter.

Concerns have also been raised on the ability of Middle East crude oil, which is 40 days away, to help ease U.S. markets. Oil produced in early June can begin to start reaching U.S. refineries by mid to late July, provided refiners find the terms attractive. Furthermore, Middle Eastern oil could be used in refineries closer to the Middle East, such as those in Europe, freeing up Atlantic Basin crude oil for U.S. refineries. And, of course, knowing that more crude oil was on the way, refiners would be more willing to draw from their limited crude oil and gasoline inventories in the interim, thus improving the supply situation even before the crude oil arrives.

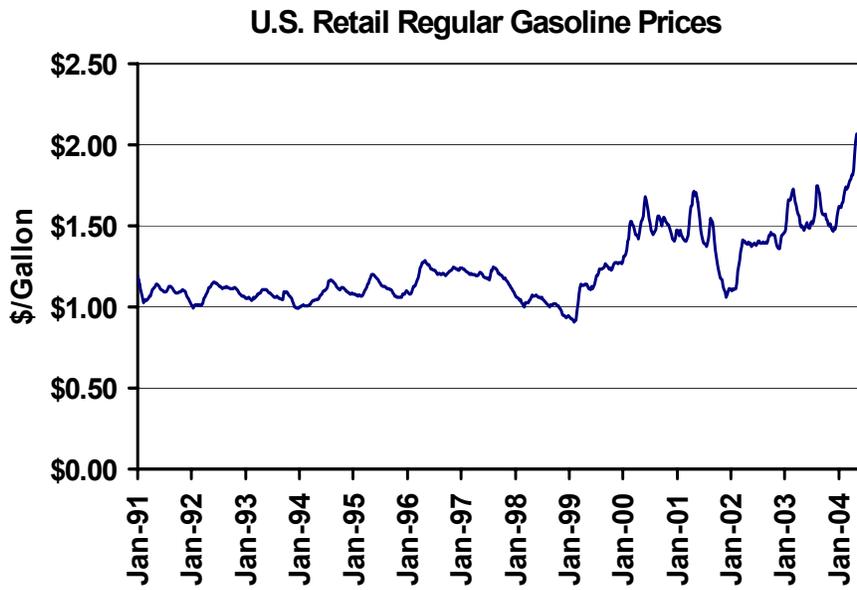
Finally, it has been suggested that any increase in global crude oil production would reduce the limited global spare production capacity that already exists. Using capacity that would otherwise be idle over the next several months provides the market with additional supply now, and does not lessen the future capacity. Also, Saudi Arabia will still have considerable additional capacity. If the Persian Gulf War from 1990-91 is any indication, Saudi Arabia may actually be able to produce more than what common wisdom suggests, at least on a surge capacity basis. Regardless, even if spare production capacity were reduced, strategic inventories in consuming countries would still be available should a real supply emergency occur.

## **Conclusion**

In conclusion, subject to the important caveat that no significant unanticipated disruptions occur, EIA is cautiously optimistic that petroleum markets may be beginning to turn the corner and that gasoline prices should continue to ease. Since the industry will likely focus on gasoline at the expense of distillate this summer, 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

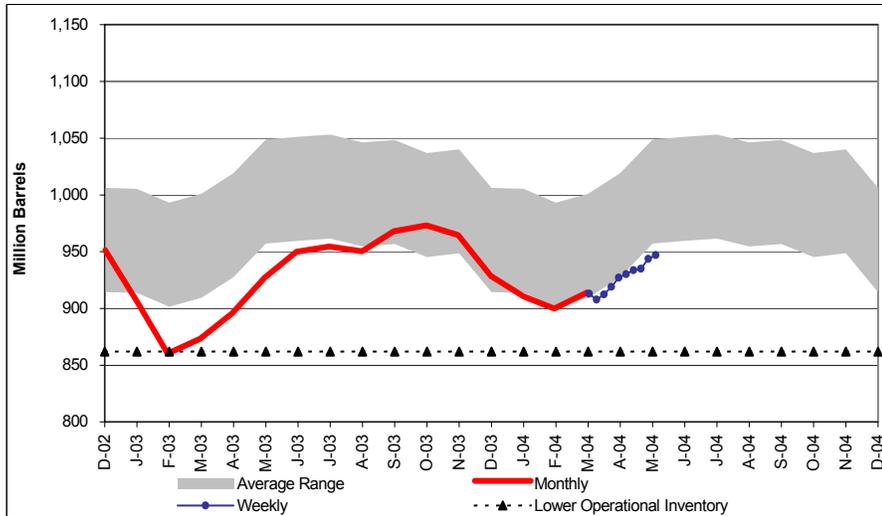


Source: EIA Weekly Retail Prices



Figure 2.

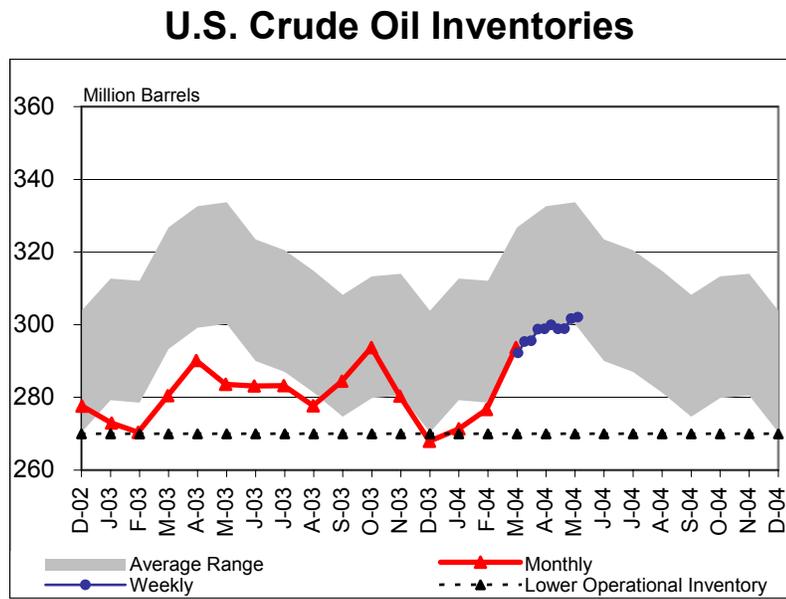
### U.S. Stocks of Crude Oil and Petroleum Products, December 2002 to Present



Source: EIA, Weekly Petroleum Status Report, released June 10, 2004.



Figure 3.

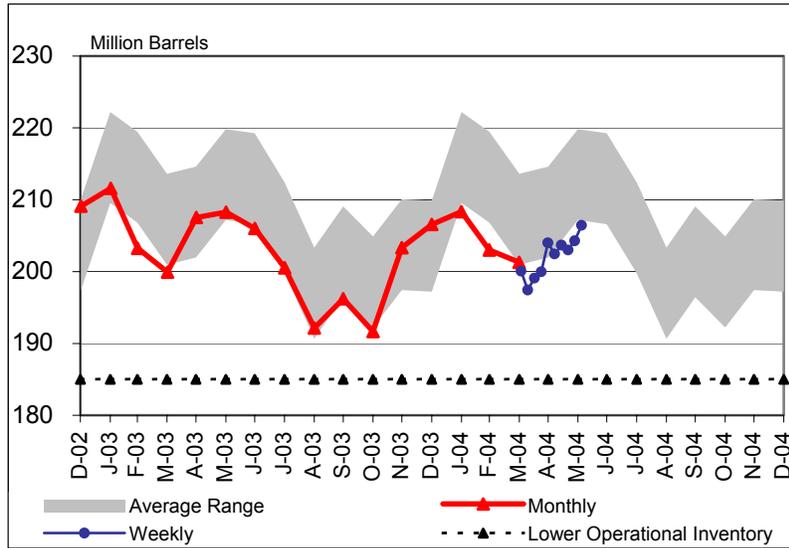


Source: EIA, Weekly Petroleum Status Report, released June 10, 2004.



Figure 4.

### U.S. Total Gasoline Inventories

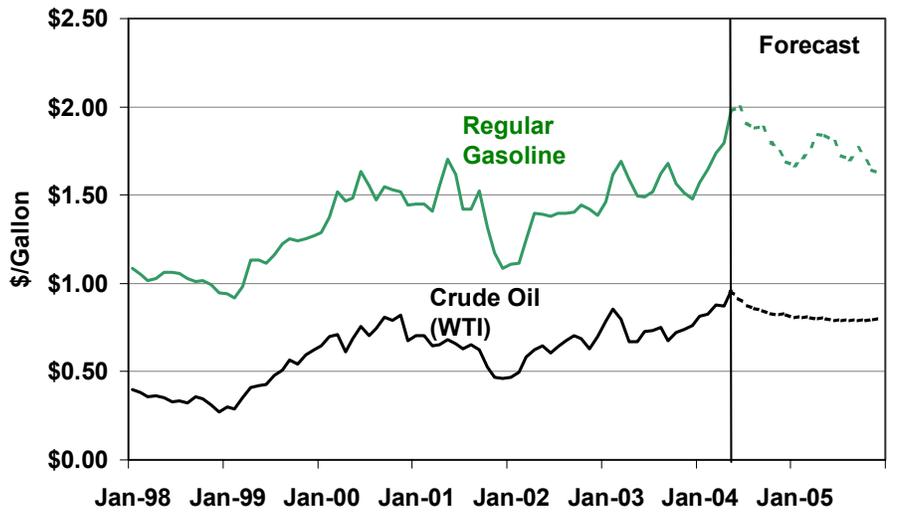


Source: EIA, Weekly Petroleum Status Report, released June 10, 2004.



Figure 5

### Crude Oil and Retail Gasoline Price Outlook



Sources: History: EIA; Projections: Short-Term Energy Outlook, June 2004.

