Department of Energy
Washington, DC 20585

June 20, 2008

The Honorable John D. Dingell
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515-6115

Dear Chairman Dingell:

The Energy Information Administration is pleased to respond to your request for an update of the refinery and diesel situation provided to you on April 21, 2008. Please see the enclosure for this update.

I hope this information is of assistance to you. If you need anything else, please contact me, or your staff may contact Joanne Shore, Senior Analyst, at 202-586-4677.

Sincerely,

Guy F. Caruso
Administrator
Energy Information Administration

Enclosure

cc:
The Honorable Joe Barton
Ranking Member

ENCLOSURE

Introduction

In February 2008, concerns were raised over potential petroleum product price impacts of discretionary run reductions by refiners during January and February. EIA addressed this concern in April 21, 2008, correspondence, describing the market conditions driving refinery operations at that time. Those conditions have persisted since then. In particular, discretionary run reductions beyond the typical seasonal level have occurred in response to a continuing "weak" gasoline market with low wholesale (e.g., spot) gasoline price spreads (the difference between spot gasoline and crude oil price). However, even with the low price spreads, increased crude oil prices continue to drive wholesale and retail gasoline prices to record levels.

In contrast, distillate (diesel and heating oil) spot-price spreads (i.e., product price minus crude oil price) remain very high. Although refineries have limited ability to vary their product mix in the short run, the data indicate yield adjustments were made in response to these increased distillate crack spreads, resulting in increased distillate production over 2007, despite lower refinery inputs and associated lower utilizations.

The remainder of this enclosure elaborates on these issues.

Recent Price Developments

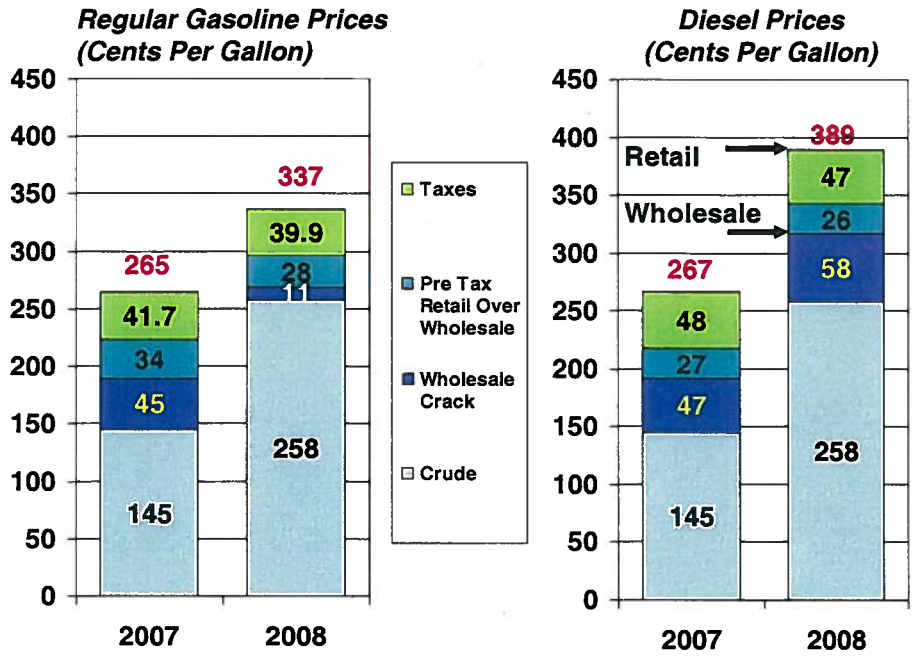
Prices for crude oil, gasoline and diesel continue to set new records. On June 9, the national average price for regular gasoline in EIA's weekly price survey exceeded $4.00 per gallon for the first time. On June 16, the national average price was $4.08, about $1.07 cents higher than at the same time last year (June 18, 2007). Diesel prices have experienced a much greater increase this year. Having passed the $4.00 per gallon mark on April 14, U.S. diesel prices averaged $4.69 on June 16. This is $1.89 higher than prices a year ago (June 18, 2007).

Figure 1 illustrates the basic components of average year-to-date gasoline and diesel prices in relation to their values for the comparable 2007 period. For example, diesel prices averaged $3.89 per gallon from the beginning of this year through mid June. Crude oil, the feedstock for gasoline and diesel, averaged $2.58. Refiners processed the crude oil and received $3.16 per gallon, netting 58 cents per gallon of diesel fuel after crude oil costs. Pipelines, terminal operators, distributors and retailers had about 26 cents to store and move the product to retail stations, and taxes accounted for about 46 cents per gallon. Separating product prices into these components helps to explain different elements of the petroleum market, but keep in mind that crude and product prices are closely related. For example, current strong demand for distillate products is one factor adding pressure to crude prices.

Figure 1 shows that crude oil prices accounted for about $1.14 of the per-gallon increase in year-to-date gasoline and diesel prices over their levels in the comparable 2007 period.

Most recently, during the first half of June 2008, West Texas Intermediate (WTI) crude oil averaged over $130 per barrel or $3.11 per gallon, about twice the $66-per-barrel price during the first half of June 2007.

Figure 1. Average Price Components January through Mid-June: 2007 and 2008



Source: EIA weekly retail prices, Bloomberg average spot prices for Gulf Coast diesel and regular gasoline.

Figure 1 also shows that average year-to-date prices at the wholesale level have been higher for diesel than for gasoline. During the first half of 2007, the diesel crack spread (the difference between wholesale diesel and crude oil prices) averaged about the same as the gasoline crack spread, but in 2008, the average diesel crack spreads expanded significantly over 2007, while the average gasoline crack spread narrowed. The combination of abundant gasoline supply and relatively weak demand depressed gasoline crack spreads this year, causing refiners in the United States and elsewhere to pull back on crude oil inputs. At the same time, world distillate (diesel and heating oil) markets tightened, affecting U.S. diesel and heating oil prices. Although refinery utilization dropped in 2008 as a result of the gasoline market weakness, higher diesel crack spreads led refiners to increase refinery distillate yields (the ratio of distillate output to crude oil input), allowing for increased distillate production in spite of the decline in crude oil inputs.

The rest of this enclosure provides further detail on these developments and discusses EIA's current forecast for the rest of 2008 and 2009.

Crude Oil Prices

As highlighted in EIA's June *Short-Term Energy Outlook*, several factors are combining to cause supply to struggle to keep up with demand growth, thereby accounting for much of the upward trend in oil prices. Consumption in countries outside of the Organization for Economic Cooperation and Development (OECD) continues to grow rapidly, offsetting weaker consumption in OECD countries, especially the United States. Declining production in a number of nations outside of the Organization of the Petroleum Exporting Countries (OPEC), including Mexico, United Kingdom, and Norway, is largely offsetting increases in other countries. Slow growth in non-OPEC supply is coinciding with disruptions in supplies from some OPEC countries, such as Nigeria. Finally, ongoing geopolitical concerns in several oil producing countries, including Venezuela and Iran, have also contributed to oil price volatility.

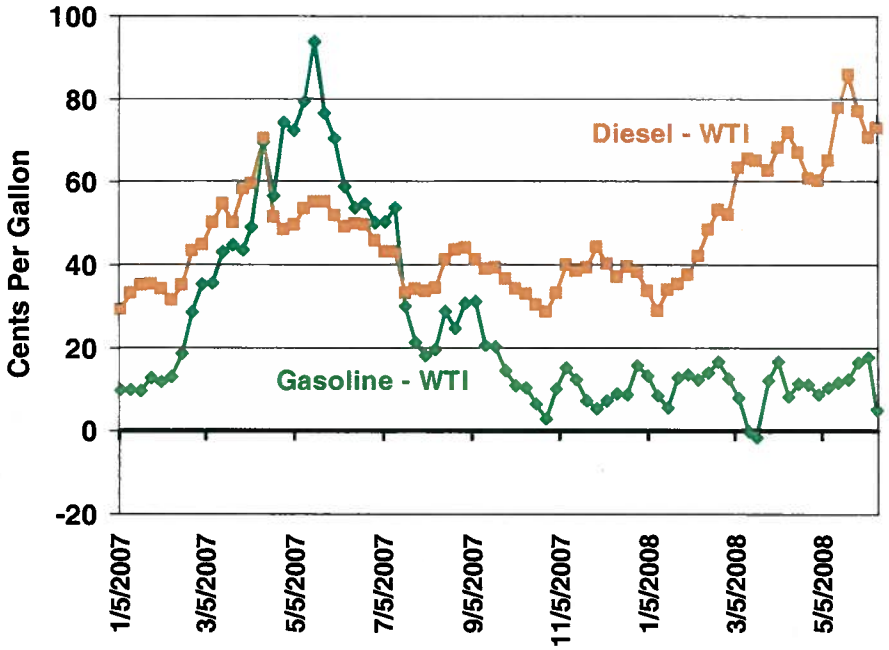
The market remains concerned that the cushion of surplus production capacity (currently less than 2 million barrels per day and almost all located in Saudi Arabia) and/or stocks is insufficient to protect against possible changes in supply or consumption, especially as we enter the summer hurricane season. The absence of a Saudi commitment to add capacity beyond its current goal of 12.5 million barrels per day adds to the uncertainty about the adequacy of future supply capacity growth.

U.S. Gasoline and Diesel Crack Spreads

As noted above, year-to-date crack spreads for diesel and gasoline moved in opposite directions relative to their levels in the comparable 2007 period. Crack spreads are heavily influenced by the supply-demand balance in each product market, including seasonal changes. **Figure 2** shows trends in gasoline and diesel crack spreads since the beginning of 2007. At the start of 2007, both gasoline and diesel markets were tight, and both crack spreads rose during the first quarter. In 2008, however, distillate spreads climbed while gasoline spreads stayed relatively low.

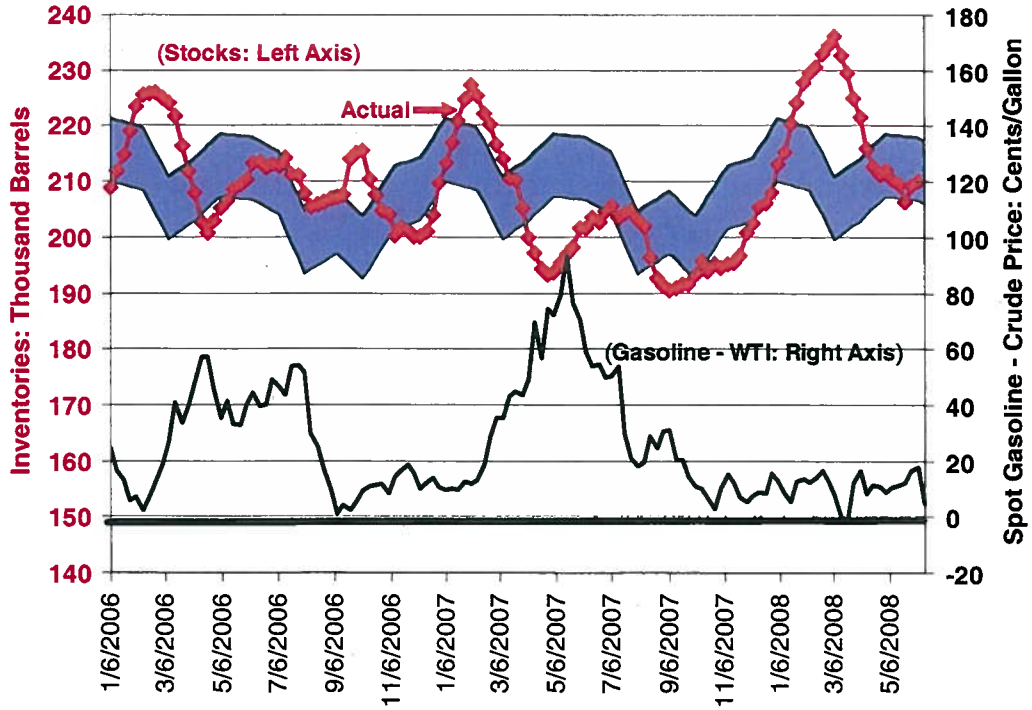
Analysts look at inventory levels as an indicator of the supply-demand balance to assess pressures on wholesale crack spreads. For example, when supply from production and imports is greater than demand, one would expect rising inventories and narrowing crack spreads. This has been the situation in the U.S. gasoline market so far in 2008. The current economic slowdown and high prices are dampening U.S. gasoline demand. First-quarter data indicate gasoline demand in 2008 has declined 1.3% compared to first quarter 2007, but supply did not pull back accordingly. In addition, refiners have been blending more ethanol into gasoline, further reducing the need for gasoline from crude oil. As shown in **Figure 3**, with gasoline supply outpacing demand in January and February, inventories built substantially, peaking in early March. Reflecting this situation, the gasoline crack spread narrowed -- indeed, at some points in March 2008, wholesale gasoline was actually cheaper than crude oil.

Figure 2. Gasoline and Diesel Crack Spreads



Note: The gasoline crack spread is weekly average Gulf Coast regular spot gasoline minus West Texas Intermediate (WTI) crude oil spot price. The diesel crack spread is Gulf Coast ultra-low sulfur diesel minus WTI crude oil spot prices
Source: Bloomberg.

Figure 3. Relationship Between Gasoline Inventories and Gasoline Crack Spread



Note: The colored band indicates normal ranges for total gasoline inventories. The Gasoline Spread is weekly average Gulf Coast regular spot gasoline minus West Texas Intermediate (WTI) crude oil spot price.
Sources: Inventories – EIA *Weekly Petroleum Status Report*; Spot prices – Bloomberg.

In response to this market situation, refiners appear to have reduced crude inputs (and thus utilization) and adjusted their product slate to favor distillate production relative to gasoline. Gasoline inventory declines since early March coincided with reductions in refinery utilization and associated gasoline production and increasing seasonal demand. Yet gasoline crack spreads have not increased much. This, along with the recent up-tick in inventories and availability of gasoline imports, indicates the gasoline market is still well-supplied, holding down incentives for refiners to produce much more gasoline. Had 2008 been a more typical year regarding the supply-demand balance, gasoline crack spreads would have been higher, and retail prices would also have been higher.

Turning to diesel, understanding distillate fuel prices requires looking beyond the United States. World distillate markets have been tight. Diesel demand growth is coming both from increasing transportation use and increasing use as a fuel for electricity generation, particularly in developing countries where electricity demand is outstripping generating capability. On top of this trend, several unusual circumstances are boosting distillate demand further. Chile has been experiencing a severe drought that reduced its hydropower generation, and reduced imports of natural gas from Argentina have caused Chile to turn to more diesel fuel for electricity generation. As a result of these problems, Chile's diesel imports are expected to increase 5-10 percent in 2008 over 2007.[1] China's demand for diesel also continues to increase as it turns to diesel-powered generators to combat shortages, stemming in part from recent earthquake related disruptions of coal and natural gas supplies, and to provide adequate electricity for the Olympic Games this summer. South African mining companies are turning to diesel generators to deal with a power crisis in that part of the world. Even Europe experienced some very tight supplies of ultra-low sulfur diesel this past fall, and the market there remains tight.[2] This very tight international situation is pushing up the price for diesel worldwide, including in the United States.

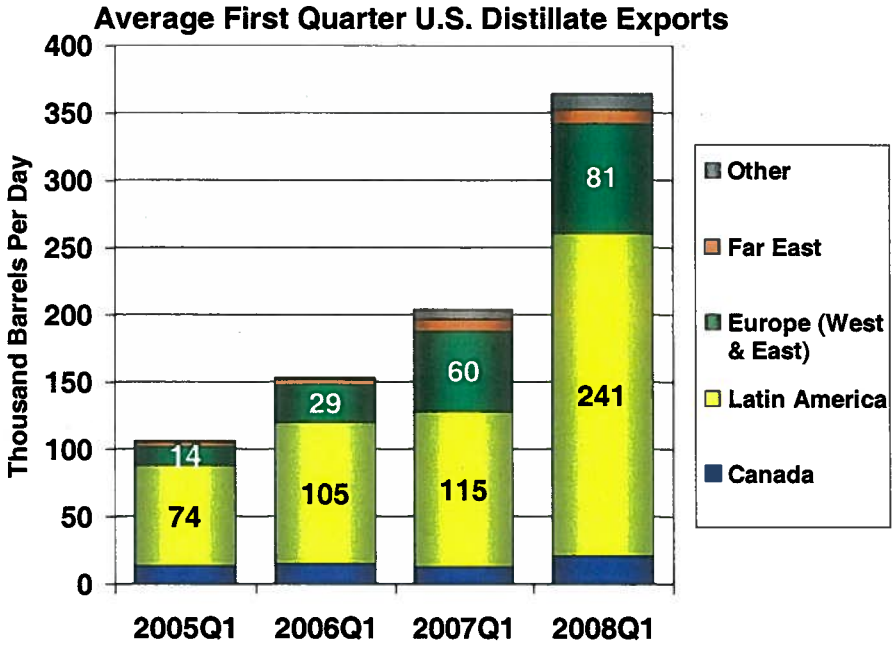
As a result of strong international diesel demand, the United States has exported more diesel than is typical for this time of year, as shown in **Figure 4**. Both Europe and Latin America purchased unusually high volumes of exports from the United States. Europe imported 81 thousand barrels per day from the United States during the first quarter of 2008, compared to 60 thousand barrels per day first quarter 2007. At the same time, Latin America imported a record monthly volume of distillate from the United States: 241 thousand barrels per day compared to 115 thousand barrels per day in the first quarter of 2007. The increased exports to Chile alone accounted for one third of the first quarter total export increase in 2008 over 2007.

Diesel pressures may ease somewhat from current levels. In particular, Asian diesel supply pressures could moderate in the coming months as the regional supply situation improves with the recent start of China's 200-thousand-barrel-per-day expansion at Qingdao and the planned start in a month or two of the 600-thousand-barrel-per-day refinery at Jamnagar in India. Latin America's problems may ease a bit as their winter

[1] "Reuters Summit-Chile sees higher diesel imports in '08," April 4, 2008, 8:07 pm BST.
[2] "World power crunch tightening diesel market," Reuters, April 29, 2008 16:37.

season ends, particularly if Chile sees some drought relief. Still, we expect diesel prices to remain high relative to crude oil for much of this year.

Figure 4. Distillate Exports, by Destination



Source: EIA

Refinery Utilization

Refiners typically adjust their output of a product either by adjusting the inputs to the refinery, which affects the output of all products, or by adjusting the yield or fraction of a product produced from a barrel of crude oil. While yields cannot be changed much in the short term since they are a function of refinery equipment, small yield shifts among products can still produce a significant swing in volumes. For example, if refinery inputs are at 15.4 million barrels per day (mainly crude oil), a one-percent change in yield is a 154,000-barrels-per-day change in product volume. Both input changes (which affect refinery utilization) and yield changes have been exercised by refiners in 2008 to meet the market conditions.

Normally, refinery utilization (refinery inputs divided by capacity) varies seasonally with demand and maintenance outages. Utilization generally is highest during the summer months of May through August, where the industry frequently averages about 95 percent utilization. In the winter months of January through March, utilization frequently averages closer to 89 percent.

Refinery utilization was lower than typical in the first quarter 2008. Actual first-quarter 2008 utilization averaged 84.7 percent, compared to the average of 89.1 percent during first quarter 2001 through 2005 (years when first quarter volumes were not significantly impacted by hurricanes). In April and May, utilization remained low, averaging 86.1 compared to an average of 94.1 for these two months during 2001-2005. Refinery outages have been normal in 2008, implying that discretionary cutbacks represented a 4- to 5-percent reduction in utilization during the first quarter, and about an 8-percent reduction in April and May. Utilization for the first 2 weeks in June averaged 89 percent, which is about 7 percent lower than average. Gasoline market conditions encouraged discretionary input reductions. With wholesale gasoline prices sometimes selling below the price of crude oil, increased use of ethanol, and plenty of inventory volumes to supply the market, refiners pulled back both on refining inputs and on gasoline yields from crude oil.

Despite the reduction in crude oil inputs and refinery utilization rates from typical levels, distillate production in the first quarter of 2008 exceeded first quarter 2007 levels by 30 thousand barrels per day, which was accomplished by shifts in product yields. Although refiners have limited ability to adjust the relative amounts of products they produce, many refiners made operating changes to increase the amount of distillate produced for each barrel of crude oil that they ran. Distillate refinery yields reached new highs for that time of year, averaging 0.4 percent higher first quarter 2008 over 2007.

During early Spring, refiners typically begin to adjust yields to maximize gasoline production. However, because of the much higher crack spreads for diesel fuel this year, this shift has not occurred. Furthermore, preliminary data indicate distillate yields in the second quarter are near or above historical highs for any month. With very high yields, weekly data indicate refinery distillate production in April and May was about 71 thousand barrels per day higher than in 2007, or more than twice the year-over-year increase seen during the first quarter. This second quarter production increase occurred despite refinery utilization in April and May being lower relative to normal than the first quarter of this year.

In the past, when gasoline crack spreads have been high during the summer months and diesel spreads are lower, refiners increased crude oil inputs and utilization. With crack spreads reversed (i.e., diesel higher than gasoline), why wouldn't refiners increase utilization along with distillate yields? The answer is in the relative volumes of these two products. Finished gasoline, oxygenates, and blending components are 52 percent of refinery inputs, while distillates (heating oil and diesel) represent 26 percent. Therefore, incremental increased refinery inputs would produce about twice the amount of gasoline relative to distillate. Under prevailing market conditions, the extra gasoline would be sold at little or no margin and would exacerbate the imbalance in the gasoline market described above. Instead, as described above, refiners reduced total refinery inputs, and at the same time, shifted some production from gasoline to distillate.

Short-Term Outlook

Crude oil prices are projected to stay high. The overall picture of strong world demand and tight supply is expected to continue. WTI prices, which averaged $72 per barrel in 2007, are projected to average $122 per barrel in 2008 and $126 per barrel in 2009.

Regular-grade gasoline is expected to average $3.78 per gallon in 2008, or 97 cents above the 2007 average price. The U.S. average regular-grade gasoline price, currently over $4 per gallon, is projected to peak at a monthly average of $4.15 per gallon in August. Retail diesel fuel prices are projected to average $4.32 per gallon in both 2008 and 2009, an increase of $1.44 per gallon over the 2007 average. While diesel crack spreads have been unusually high through the first half of 2008, they are expected to ease somewhat in the second half.

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