

March 2000

Highlights

International Oil Markets

World Oil Prices - How High Will They Go?

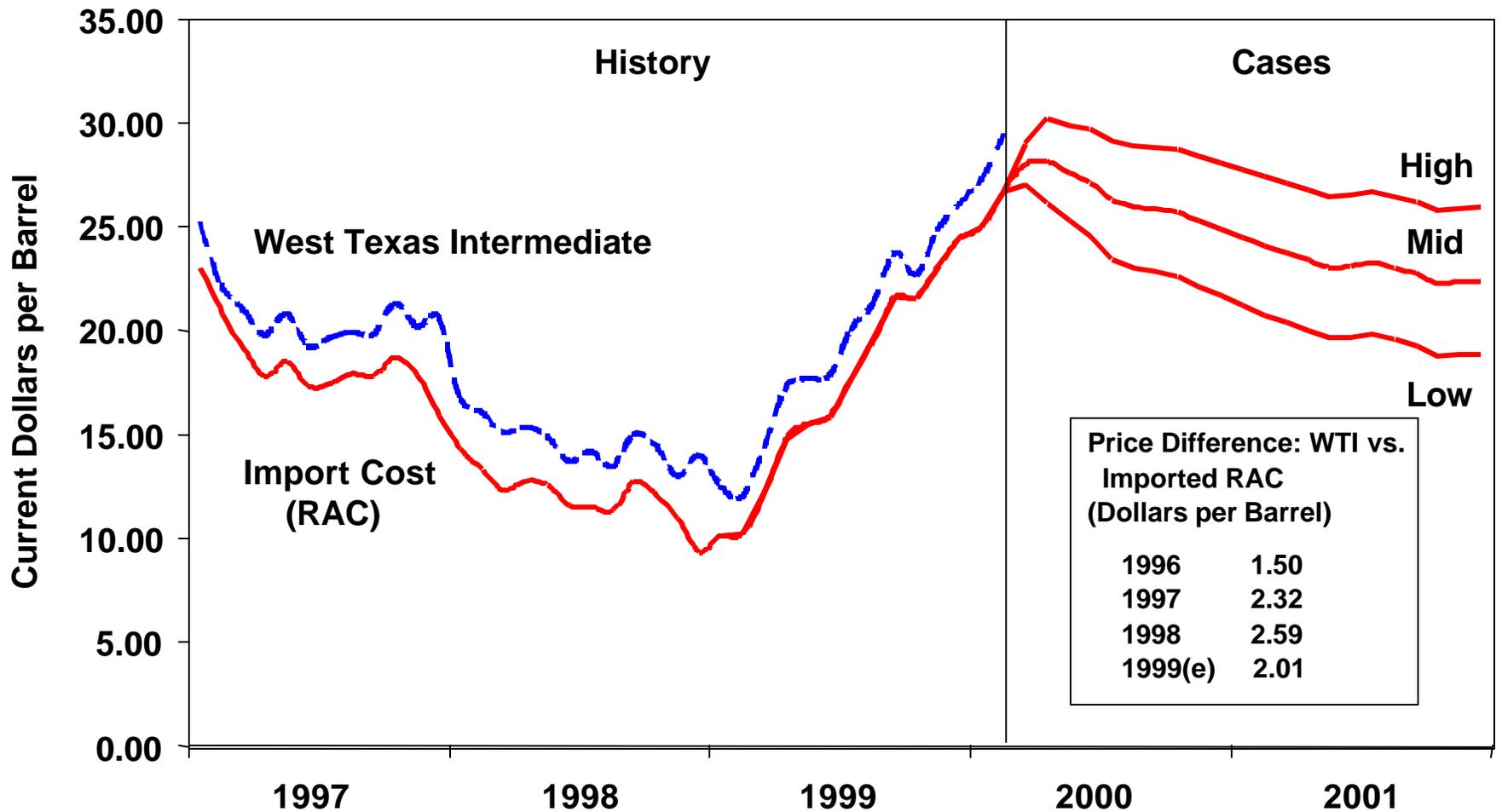
Our forecast this month is that the world oil price should remain high for most of the year as inventories are expected to remain low, even with an assumed increase in OPEC production of 1 million barrels per day beginning in April. The average cost per barrel of crude oil imported into the United States and delivered to U.S. refiners (the benchmark price used in this forecast) is expected to increase from \$26.65 per barrel in the first quarter of 2000 to \$27.65 per barrel in the second quarter this year. After that we expect a gradual falling off throughout the rest of 2000 and 2001 to end between \$22.25 and \$22.50 per barrel by the fourth quarter of 2001 ([Figure 1](#)). (Note: for comparison purposes, the price of West Texas Intermediate crude oil is generally about \$2 per barrel higher than our benchmark price, and the price of Brent crude oil is generally about \$0.50 - \$1.00 per barrel higher.) Our normal uncertainty range around this forecast is that the world oil price could be between \$22 and \$28 per barrel by the end of this year and between \$19 and \$26 per barrel by the end of 2001.

OPEC Production - How Much and When Will it Increase?

This price forecast, while generally higher than many other analysts' projections, is predicated on a number of assumptions. First, it assumes an increase in OPEC 10 (Organization of Petroleum Exporting Countries excluding Iraq) crude oil production of 1.0 million barrels per day in the second quarter above first quarter production levels. The forecast then assumes another 0.1 million barrels per day increase in OPEC 10 crude oil production in the third quarter and an additional 0.4 million barrel per day increase in the fourth quarter of 2000. Continued increases are expected throughout 2001. If the OPEC 10 countries were to agree to a 1.2 million barrel per day increase in their quotas, an actual production increase of 1 million barrels per day, as assumed in our forecast, would put OPEC 10 compliance with pledged production cuts at 74 percent in the second quarter. This is just about the same compliance level that has been seen over the previous 12 months of their agreement ([Figure 2](#)). Under this situation, we would expect prices to remain above \$26 per barrel (\$28 per barrel for WTI and about \$27 per barrel for Brent) throughout the spring and summer.

Crude oil production from Iraq is assumed to average about 2.3 million barrels per day in the first quarter of 2000 and increase throughout the remainder of the year and even further in 2001. Of course, this projection assumes that Iraq does not cut off oil exports for any significant length of time and that enough spare parts are provided for the oil industry to maintain these production levels. Our projections of Iraqi crude oil production are merely an assumption and do not reflect any official U.S. Government view on the future of Iraqi oil exports.

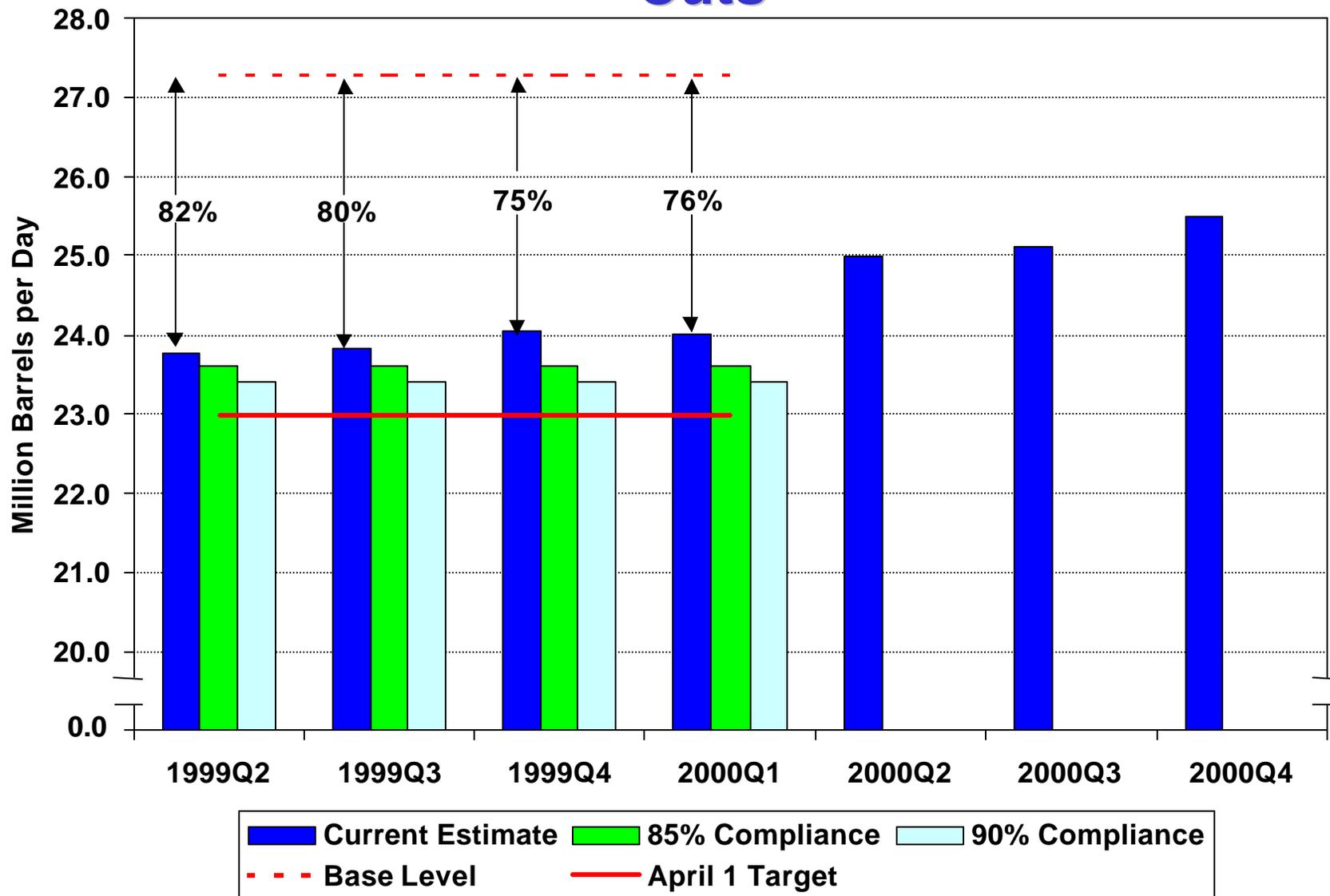
Figure 1. U.S. Monthly Crude Oil Prices



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 2. Assumed OPEC Compliance to Production Cuts



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Non-OPEC Production - Will High Prices Encourage More Non-OPEC Production?

With oil production data from the fourth quarter now available, we can compare the recently released data to what we had estimated for the fourth quarter 1999 in last month's forecast. It is interesting to note that non-OPEC (including some of the countries that have agreed to cut production along with OPEC, such as Mexico and Norway) oil production was 280,000 barrels per day higher in the fourth quarter of 1999 than we were estimating in last month's forecast. In addition, OPEC's market share (OPEC's share of world oil production) declined by over 1 percent from the fourth quarter of 1998 to the fourth quarter of 1999. Taken together, this indicates that non-OPEC production may be increasing faster as a result of higher oil prices than some analysts may have predicted. After actually declining in 1999, non-OPEC production is expected to increase by 0.9 million barrels per day in 2000 and by another 1.0 million barrels per day in 2001 ([Table 3](#)). Areas where we expect most of the increases to come from include the North Sea, Mexico, South America and Africa.

World Oil Demand - Will High Prices Stifle Growth in Oil Demand?

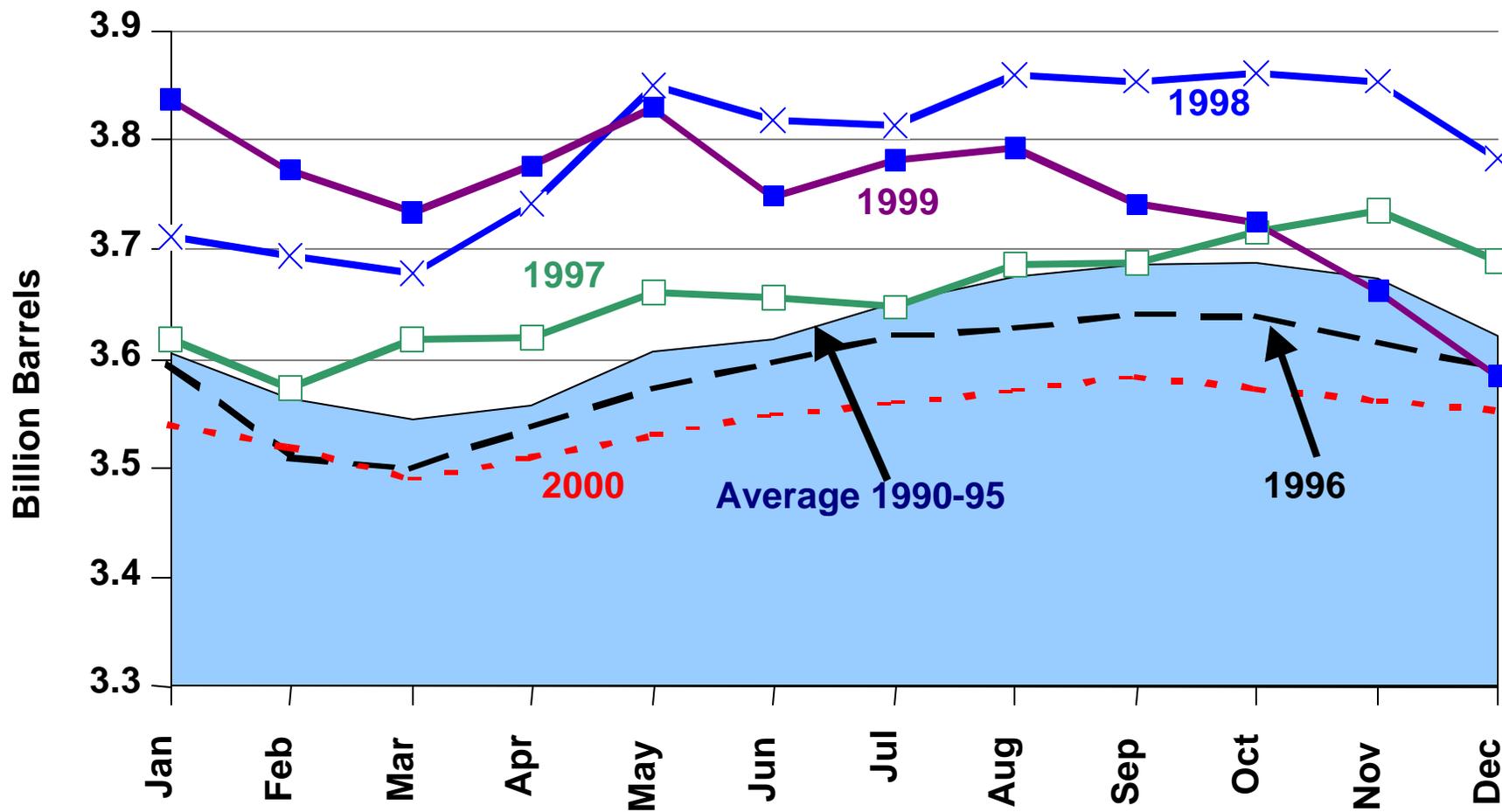
This month's forecast assumes a growth in world oil demand in 2000 of only 1.2 million barrels per day (about 1.6 percent), unchanged from last month's forecast ([Table 3](#)). In 1999, world oil demand grew by only 1.1 million barrels per day (1.4 percent). World oil demand growth in 1999 and 2000 are expected to be much less than the 1.5 - 2.0 million barrel per day growth that was seen in the 1995-1997 period. The United States, which accounted for more than half of the growth in world oil demand in 1998 and 1999, is expected to supply only 10-20 percent of world oil demand growth in 2000 and 2001. As Asia continues to recover from the economic crisis of 1997-1998, it is expected to once again become an important engine for world oil demand growth. However, overall demand growth is expected to be stymied somewhat in 2000 as high oil prices slow demand growth, even for a relatively inelastic commodity such as oil. By 2001, oil demand is expected to grow substantially, increasing by nearly 1.9 million barrels per day.

Oil Inventories - How Low Will They Go?

While EIA does not attempt to estimate oil inventory levels on a global basis, we can discern the direction oil inventories are headed from our world oil supply and demand estimates. Following a nearly 1 million barrel per day draw on inventories in 1999 (based on world oil consumption averaging 74.7 million barrels per day while world oil supply averaged 73.7 million barrels per day), oil inventories are expected to be drawn down by an additional 0.4 million barrels per day in 2000. This leaves global oil inventories in a particularly precarious position. The additional draw in 2000 is a result of our world oil demand, OPEC production, and non-OPEC production estimates discussed above. In 2001, we expect a 0.4 million barrel per day build in world oil inventories, as supply exceeds demand once again.

However, OECD stock levels, which we do estimate, are expected to remain well below 1996 levels throughout 2000 ([Figure 3](#)). The difference between normal OECD oil inventories and 2000 levels is expected to widen after the first quarter, even if OPEC 10 crude oil production increases by 1 million barrels per day as assumed in our forecast. This is because the assumed increase in production is insufficient to build inventories during the second and third quarters relative to the normal pattern. This would lead to extremely low inventories by the end of the year, leaving almost no flexibility in the world oil system to react to a cutoff in oil supplies somewhere or an extreme cold snap during next winter. However, assuming normal weather and no abnormal cuts in oil supplies, sufficient supply should be available in 2001 to bring oil inventories back up to 1999 levels by the end of 2001.

Figure 3. OECD Petroleum Inventories



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.

Alternative OPEC 10 Production Increases - How much is Needed?

In addition to our base case forecast in this month's Short-Term Energy Outlook, EIA has looked at the oil price impact for various levels of OPEC increases in production ([Figure 4](#)). Several scenarios are described briefly below. The chart and world oil prices refer to West Texas Intermediate crude oil prices. To get to the benchmark crude oil prices mentioned in the rest of this document, subtract about \$2 per barrel from the prices stated below.

OPEC 10 Increases by 1.7 Million Barrels per Day

If the OPEC 10 countries were to increase crude oil production beginning in the second quarter of 2000 by 1.7 million barrels per day above first quarter production levels, EIA estimates that the world oil price would decline to \$25.50 per barrel by August and then to about \$23 per barrel by the end of 2000. Under this scenario, world oil inventories might end up at the end of 2000 either at or just below end-1999 levels.

OPEC 10 Increases by 2.0 Million Barrels per Day

If the OPEC 10 countries were to increase crude oil production beginning in the second quarter of 2000 by 2.0 million barrels per day above first quarter production levels, EIA estimates that the world oil price would decline to \$24.50 per barrel by August and then to about \$21 per barrel by the end of 2000. Under this scenario, world oil inventories might end up at the end of 2000 at just above end-1999 levels. This scenario has the added feature of helping to balance the market to some extent as far out as 2001. Based on our world oil supply and demand forecast, OPEC would likely not have to change production levels much in 2001 under this scenario.

OPEC 10 Increases by 2.5 Million Barrels per Day

If the OPEC 10 countries were to increase crude oil production beginning in the 2nd quarter of 2000 by 2.5 million barrels per day above 1st quarter production levels, EIA estimates that the world oil price would decline to just below \$23 per barrel in July and then to about \$17 per barrel by the end of 2000. Under this scenario, world oil inventories might end up at the end of 2000 at nearly 200 million barrels above end-1999 levels. However, under this scenario, if world oil demand instead increased by a more typical 2.1 percent, rather than the 1.6 percent assumed in our base case, prices would end 2000 at about \$21 per barrel.

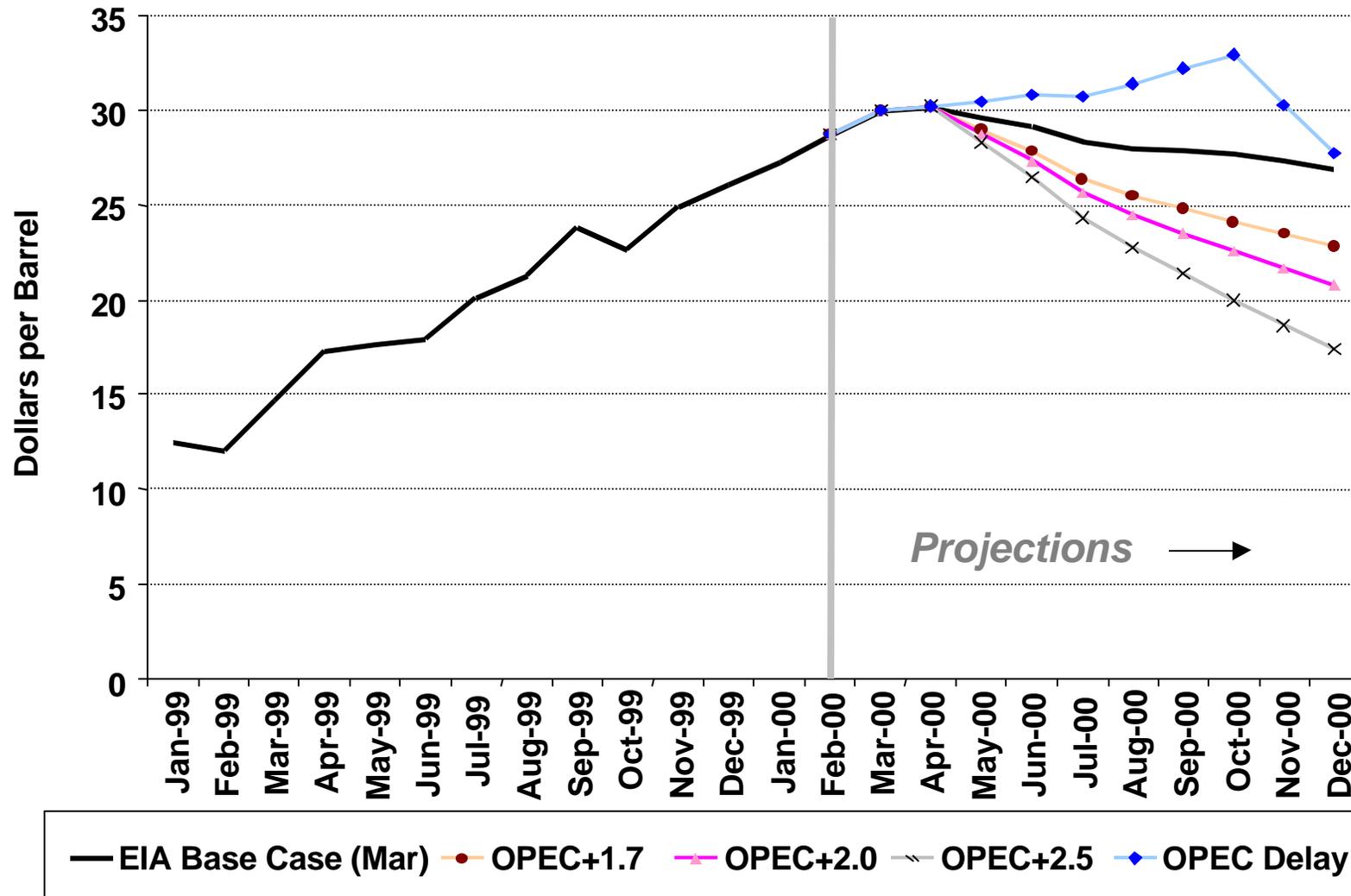
OPEC Delays Any Increase Until the Fourth Quarter of 2000

If the OPEC 10 countries delay any supply increases until the fourth quarter of 2000, EIA estimates that the world oil price would top \$35 per barrel or more during the spring and summer. In addition, we would expect to see volatile price and volume swings required to bring the market back into equilibrium. For example, under this scenario, the OPEC 10 countries might be required to increase crude oil production by as much as 4 million barrels per day in the fourth quarter to bring prices back to below \$30 per barrel. But then this increase would be far more than the market would need in 2001. This would force the OPEC 10 countries to cut production once again, leading to the large swings in prices and volumes mentioned earlier in this paragraph.

Why Should OPEC Increase Production in the Second Quarter When Demand Normally Falls?

OPEC's Market Monitoring Committee has stated that oil demand typically declines by 2.4 million barrels in the second quarter. However, this applies to finished product demand, such as heating oil. Crude oil demand, defined as crude oil inputs to refineries, exhibits far less of a seasonal swing than finished product demand ([Figure 5](#)). Especially in the first half of the year, monthly changes in finished product demand greatly exceed changes in crude oil demand. This is especially true in the March - May time period. While OECD monthly

Figure 4. WTI* Prices Under Various OPEC 10 Production Increases



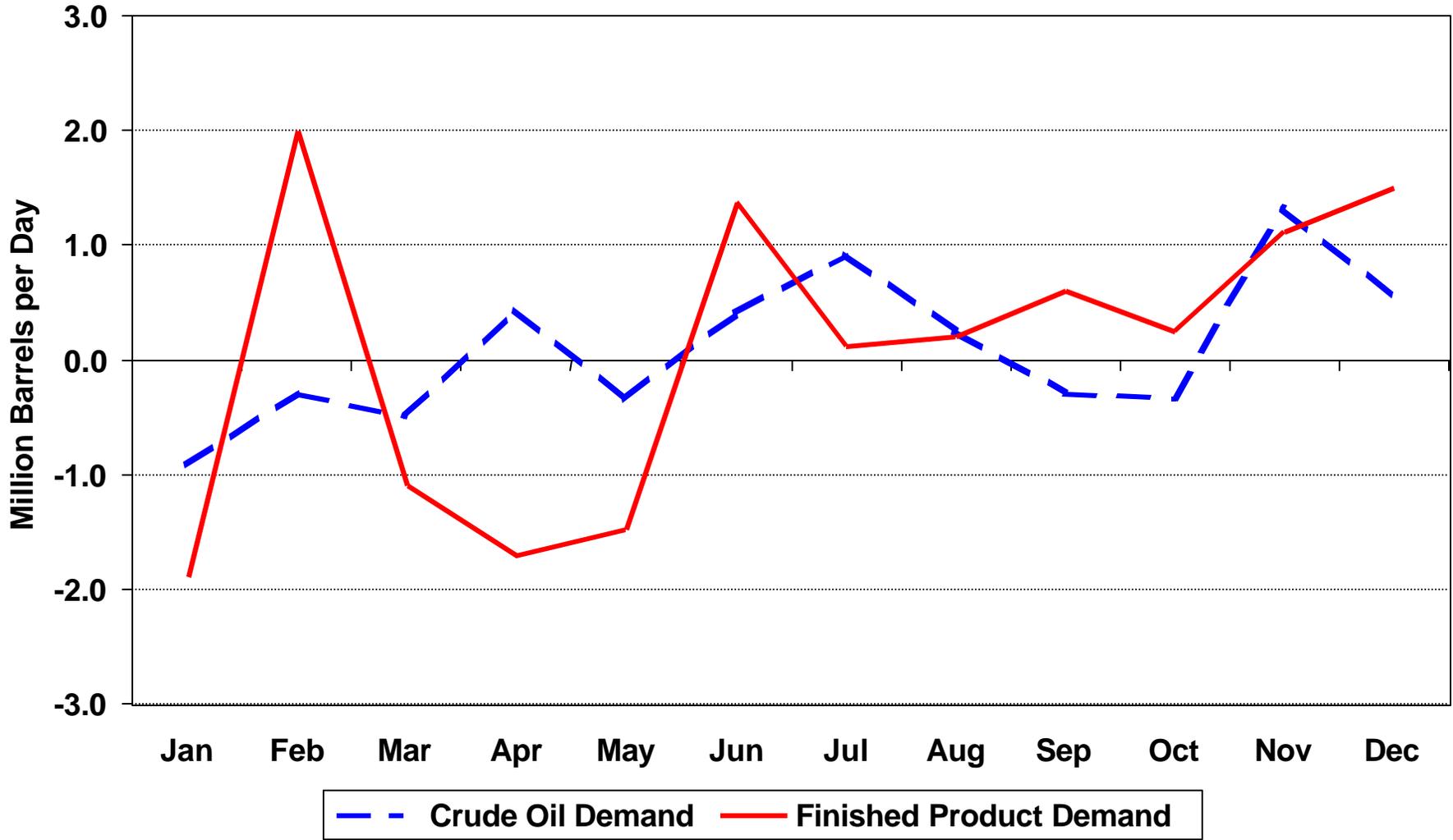
WTI* = West Texas Intermediate spot price.

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 5. OECD Crude Oil Demand and Finished Product Demand, 1993-1999

(Average Month-to-Month Changes)



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



finished product demand typically declines significantly between February and May (1.1 MMBD decline in March, 1.7 MMBD decline in April and a 1.5 MMBD decline in May), crude oil demand is relatively flat. This is necessary, since it is during this period that most product inventories are built for use later in the year. Without enough crude oil available to be used in refineries during the March - May period, it is likely there will be lower inventories of finished products later in the year.

As mentioned earlier, current global oil inventories are in a particularly precarious position and if production does not increase, there won't be enough crude oil to refine into finished products to build up inventories to a sufficient level. It is true that both finished product demand and crude oil demand typically decline in the second quarter of the year. However, it is necessary for crude oil demand to fall far less than finished product demand in order to build up product inventories for the remainder of the year and make up for the large draw on inventories that usually occurs in the first quarter. In addition, crude oil demand does not decline as much as finished product demand -- this is how crude oil and finished product inventories can both increase in the second quarter. In addition, EIA's analysis indicates that crude oil prices tend to show little seasonal movement. Although crude oil demand does decline somewhat in the second quarter, prices often remain relatively flat or even rise when inventories are low and there is not enough supply available in order to rebuild inventories. Thus, it is crucial that crude oil production begin increasing before the third quarter so that the world oil system will not be subject to any unnecessary shocks.

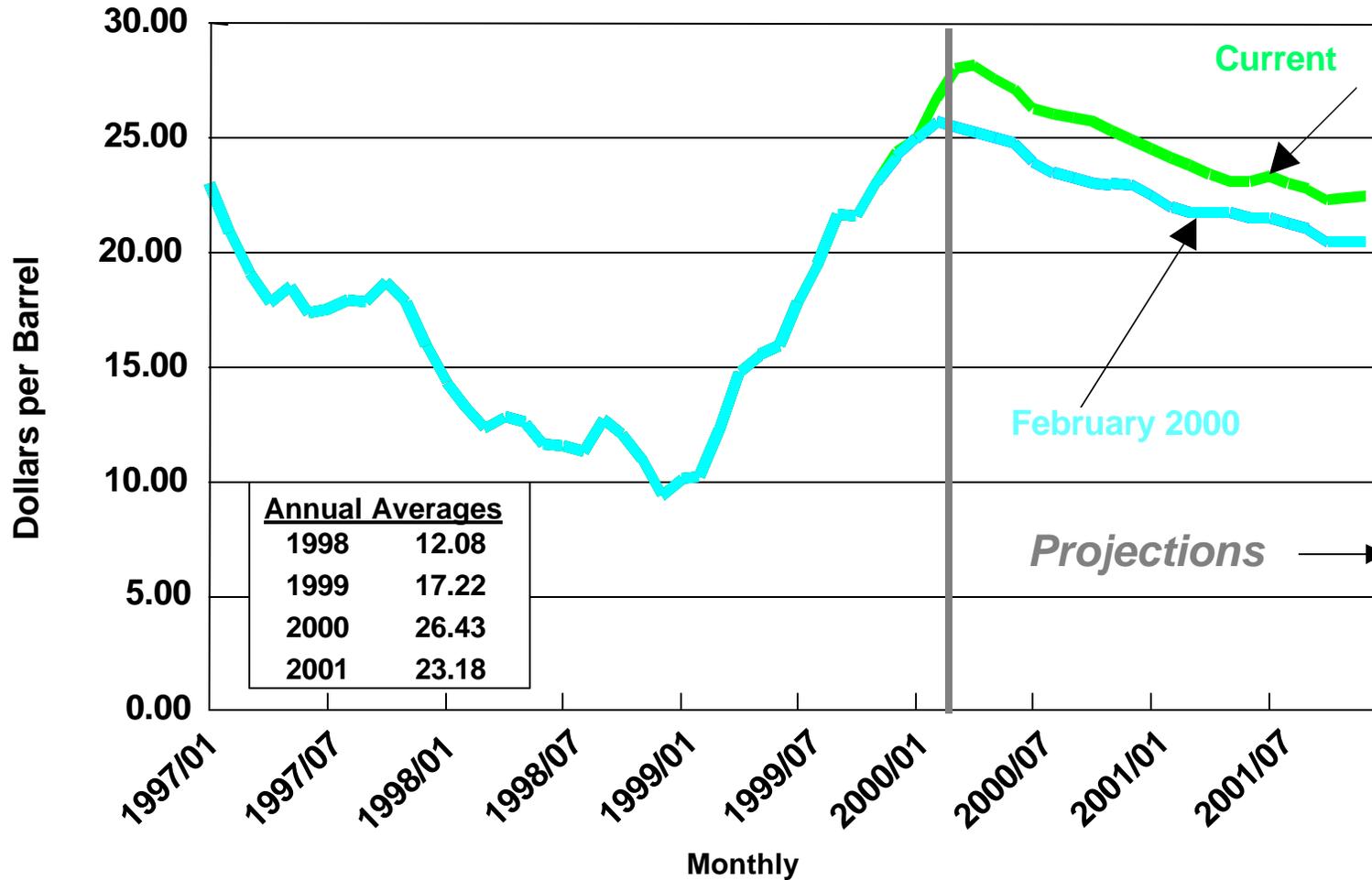
U. S. Energy Prices

Higher crude oil prices and stubbornly low inventories for both crude and product have again pushed our petroleum price projections upward compared to the previous report. U.S. average monthly retail motor gasoline prices are likely to reach all time highs, in nominal terms, this month and continue to climb through the spring. Heating oil prices, on the other hand, have tumbled from their record highs of last month as the peak demand period fades, amid a return to above-normal temperatures.

Average crude oil prices are expected to increase by more than \$9.00 per barrel this year, compared to a projected \$7.00 per barrel in the previous forecast ([Figure 6](#)). In 1999, crude prices rose by about \$5.00 per barrel. The projected average annual crude oil price for this year is expected to be more than double the 1998 average annual price. Partly this reflects the fact that crude oil prices, when adjusted for inflation, were at near record lows in 1998. This year, we should expect to see petroleum product price increases from 1999 levels averaging around 30-40 cents per gallon due to the higher crude prices and tight inventories ([Tables 4 and 5](#)). Next year though, we project falling crude oil prices that would, in turn, lead to lower petroleum product prices.

Motor Gasoline. U.S. wholesale and retail gasoline prices are poised to surge to unprecedented levels before the spring is out. Already, national average prices have reached levels heretofore associated with critical oil disruption fears, such as those engendered by the Iraqi invasion of Kuwait nearly a decade ago ([Figure 7](#)). Relief for a very tight world crude oil market awaits action on the part of OPEC and non-OPEC producing areas with spare production capacity to increase output from currently restricted levels. Meanwhile, U.S. gasoline stocks remain alarmingly low ([Figure 8](#)), a symptom of the wider deficit in primary world oil supplies relative to demand. Possible increases in oil output from OPEC, beginning in April, would undoubtedly be too late to deflect domestic gasoline prices on their way to record nominal levels, and may be too little to reduce domestic petroleum product costs and

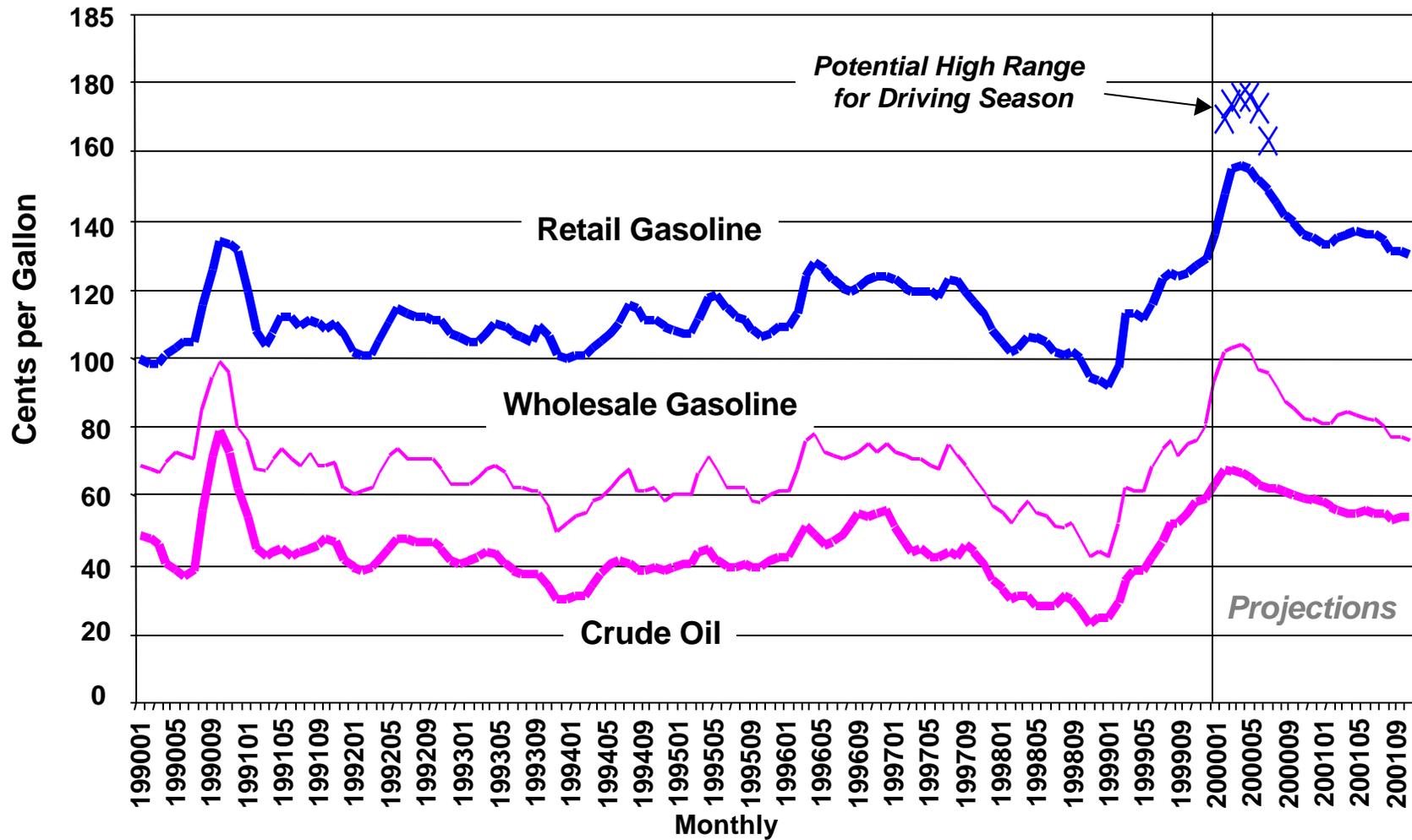
Figure 6. Imported Crude Oil Prices (Current vs Previous Outlook)



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 7. U.S. Gasoline and Crude Oil Prices*

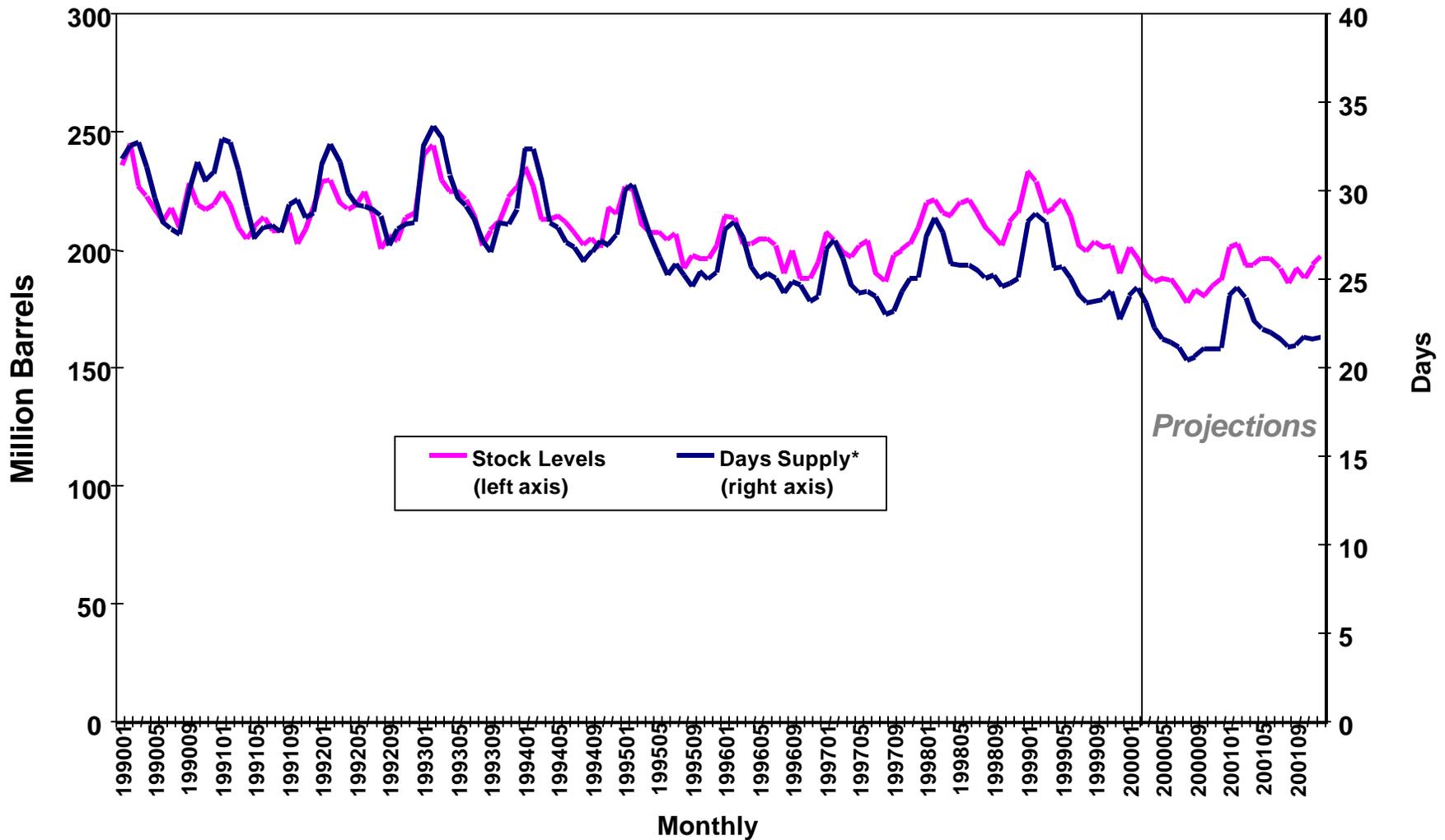


* Retail Price: regular gasoline, self-serve cash. Wholesale price: average refiner price. Crude: average imported cost to U.S. refiners.

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 8. U.S. Motor Gasoline Stocks



* Days supply=Beginning month stocks (million barrels) divided by actual or anticipated monthly demand (million barrels per day).

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



prices much by the end of 2000. It is becoming increasingly apparent that, so far as gasoline markets are concerned, the United States is moving into uncharted territory. For our current set of projections, and particularly for the next month or so, the degree of uncertainty concerning the likely path for gasoline prices is particularly high. However, most of the risk is on the up side.

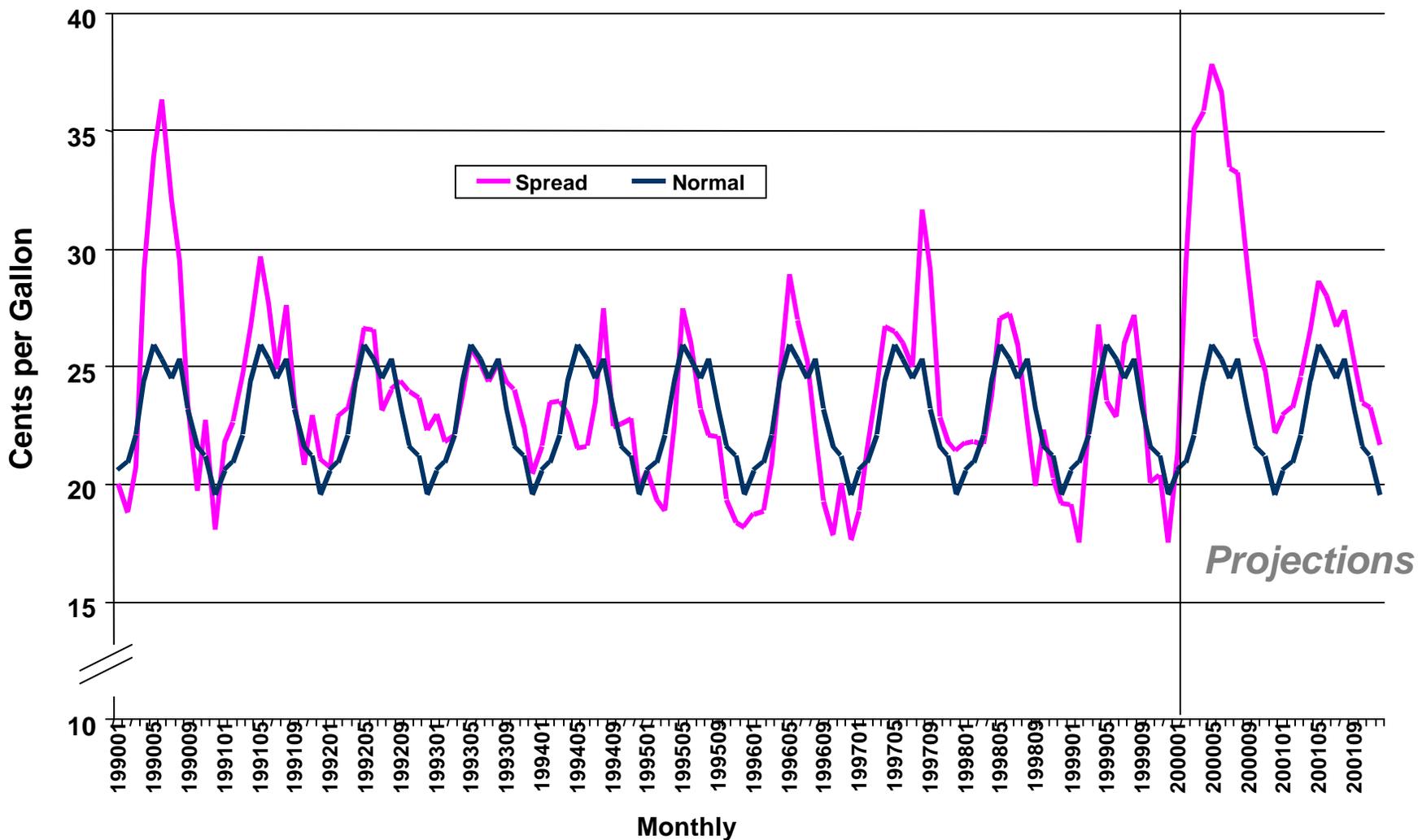
A development which signals the likelihood of an extraordinary gasoline price runup in March and April is the apparent spread between the average wholesale price of gasoline and the cost of crude oil now estimated for February. At 29 cents per gallon, this spread is about 30 to 40 percent above the expected or normal level ([Figure 9](#)). Unusually high spreads often accompany supply problems in the U.S. gasoline market, such as low stocks, major refinery outages, or logistical problems associated with switching supply emphasis to gasoline, especially if product specifications are changing. It is rare to see evidence in spot gasoline prices of supply tightness in February or March. Most incidents of high spreads occur in the spring or summer. The current situation, then, bodes ill for hopes of a bearish turn in gasoline prices before the end of summer. Given the relatively low stocks supporting the U.S. gasoline market now, and given the poor prospects for quickly rebuilding them before the peak gasoline demand season arrives, we take the current relative percentage elevation of spreads above normal as a benchmark for the base case through June, by which time assumed production increases from OPEC and others should start alleviating some of the tightness in world petroleum markets. This (probably conservative) approach regarding gasoline spreads, combined with our base case crude oil price trajectory yields record seasonal gasoline retail prices and a scenario for unprecedented price increases from year-ago levels ([Figure 10](#)).

It should be noted that the monthly average prices illustrated here naturally understate the potential volatility of prices viewed at higher frequencies (weekly or daily). Also, being in uncharted waters immediately suggests a particularly high level of uncertainty regarding market reactions to continued deterioration of supply adequacy. We roughly estimate, however, that an upper bound on any of the peak price months ahead extends about 20 cents per gallon above the base case, given the estimates of supply made for this forecast.

These price projections represent an upward revision from those presented in the previous report ([Figure 11](#)). This spring, assuming the crude oil price path holds, regular unleaded self-service retail motor gasoline prices will be at their highest level ever, **in nominal terms**, averaging above \$1.50 per gallon. For some consolation, however, we point out that in **real terms** (adjusted for inflation) the projected price will still be 16 percent lower than the price spike experienced during the Persian Gulf War in late 1990 and 40 percent lower than the all time (inflation-adjusted) highest price of March 1981. Still, motorists can expect to pay about 35 cents per gallon more this driving season (April-September) than they did during the same period last year ([Figure 12](#)).

Why Are Gasoline Prices So High? Crude prices are high--the highest in nine years, and inventories for gasoline, other petroleum products and crude oil are low--considerably lower than average ([Figure 8](#)). All of these developments stem from the same source: sharply reduced world oil supply by OPEC countries and some non-OPEC producers. Short-term input supply crunches, like the one now being experienced in the crude oil market, rapidly increase production costs and reduce profitability. Production cutbacks ensue, leading inevitably to diminished product inventories, which increases the vulnerability of supply to demand shocks. The unenjoyable experience in the Northeast U.S. distillate market this winter illustrates the problem. High input costs now, combined with the prospect of lower costs later this year when (and if) OPEC expands production significantly, reduces the incentives for (and feasibility of) improving the supply (inventory) situation soon. The

Figure 9. U.S. Wholesale Gasoline Spreads*



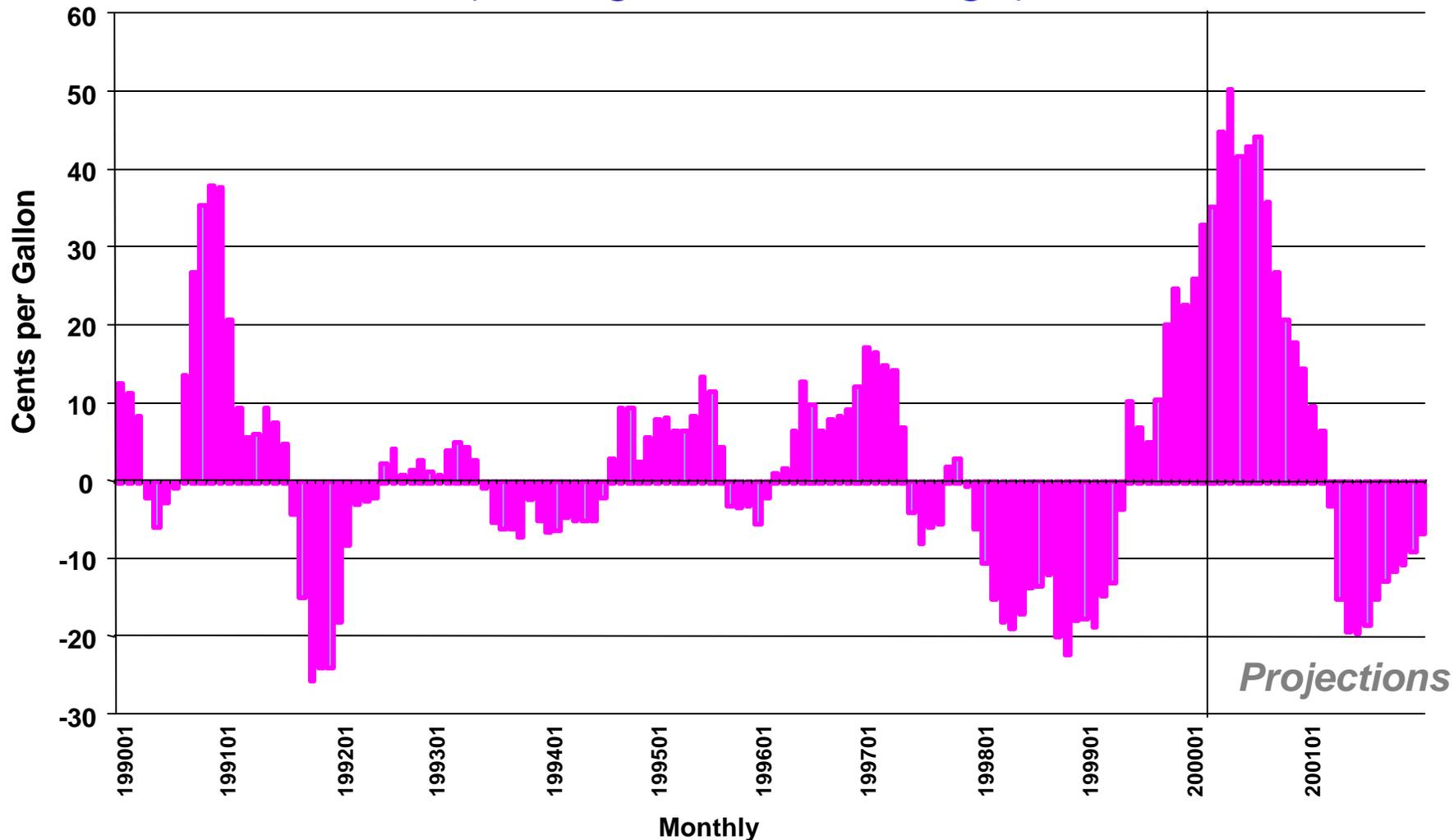
* Spread=Average refiner price less average crude oil cost (cents per gallon).

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 10. Average U.S. Gasoline Prices*

(Change from Year Ago)



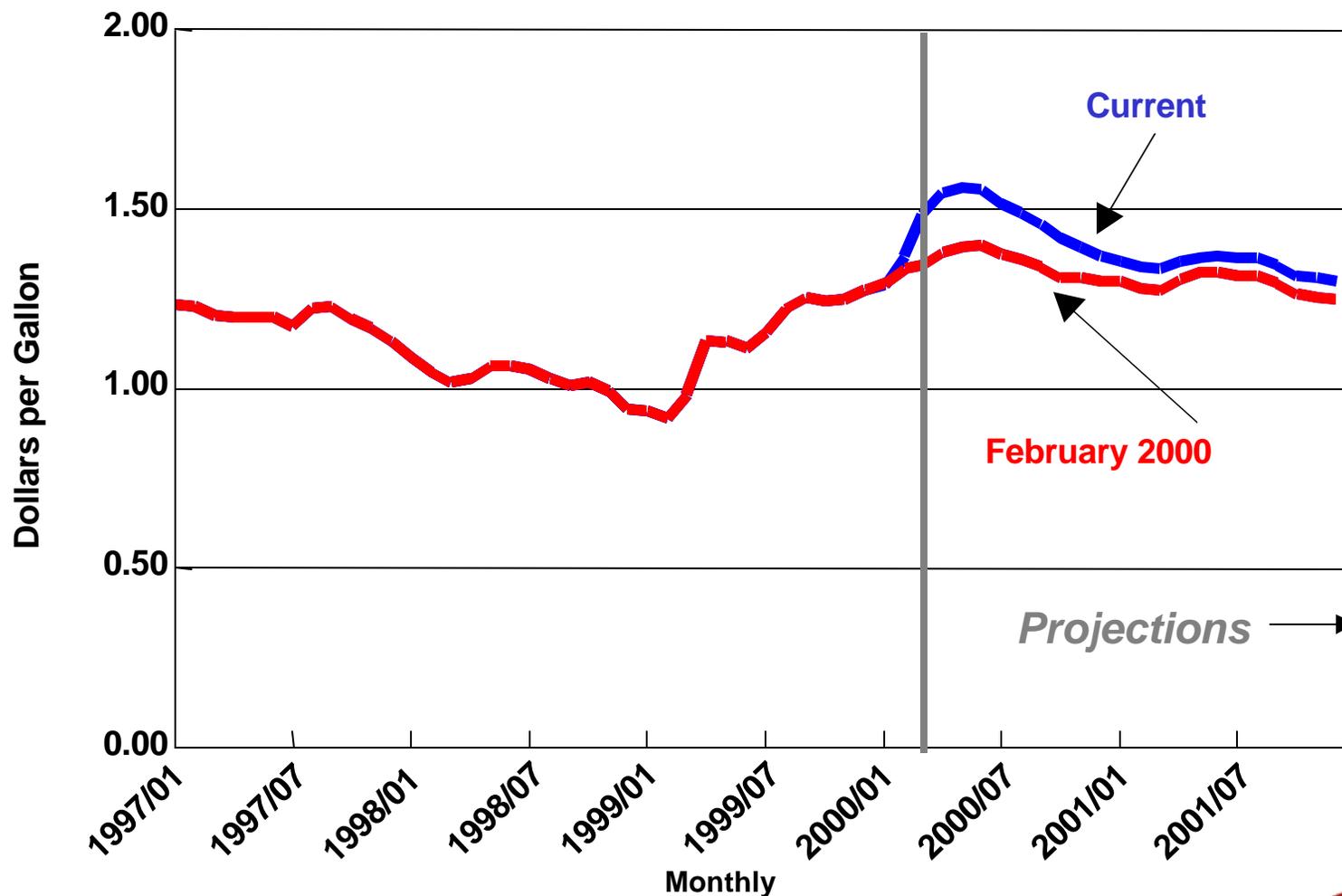
* Regular gasoline, self-serve cash prices.

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 11. Retail Motor Gasoline Prices*

(Current vs Previous Outlook)



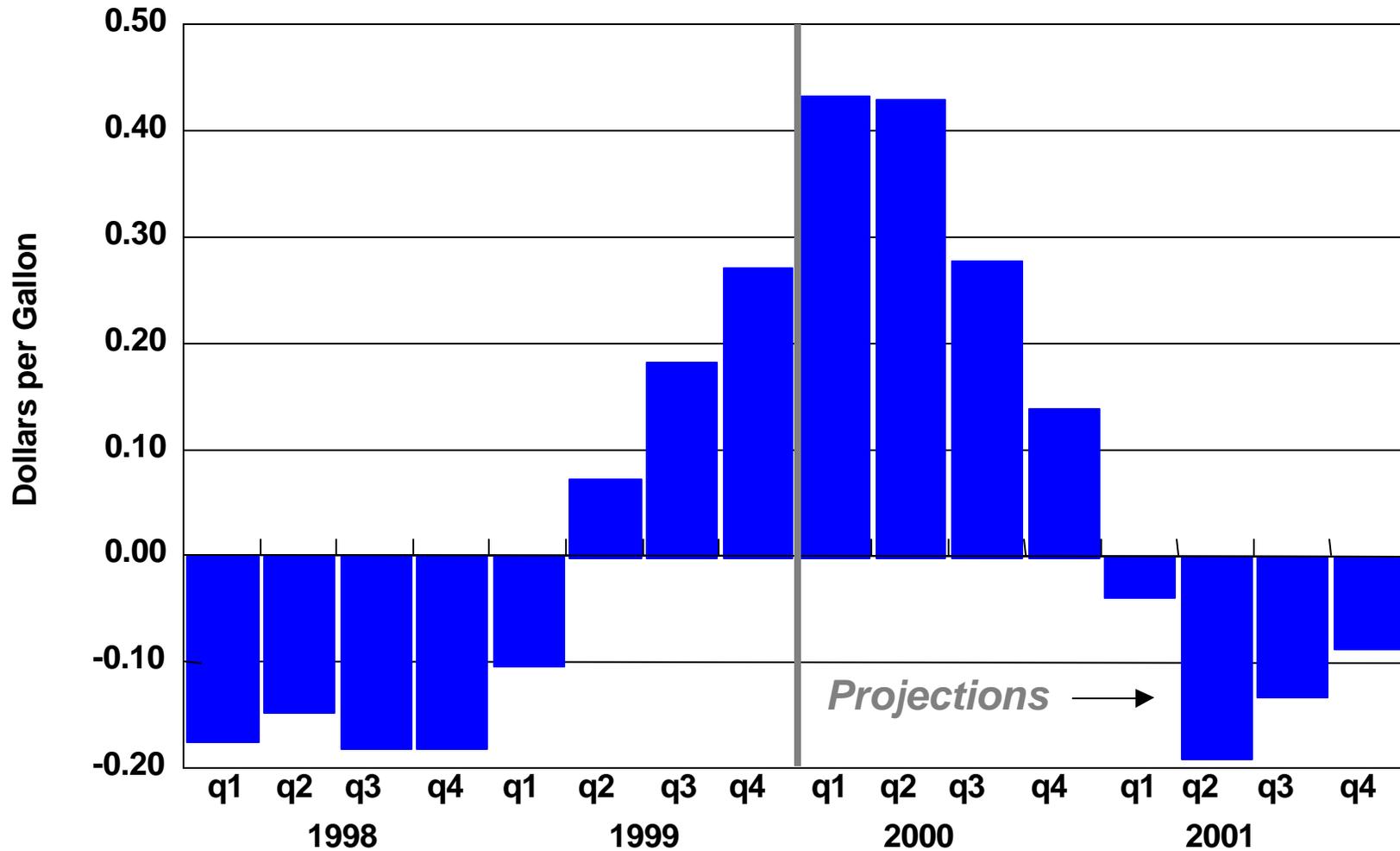
*Regular gasoline, self-service cash.

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 12. Quarterly Retail Motor Gasoline Prices*

(Change from Year Ago)



*Regular gasoline, self-service cash.

Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



squeeze on petroleum markets has not been limited to the United States, so the availability of imports has not improved, and we expect reduced levels this summer compared to last year.

How High Can Gasoline Prices Go and How Long Will They Stay High? In August 1997, depressed inventories of gasoline resulted in high refiner prices and record levels (in nominal terms) for refiner spreads (the differences between the refiner prices for gasoline and crude oil prices). Back then, crude oil prices were stable and about \$10 per barrel less than they are currently, but prices at the pump jumped about 6 cents per gallon in one month. With an improving inventory situation, the pump price fell within two months, even though crude prices rose. At present, the refiner spread is at the highest level ever (in nominal terms) and, of course, crude oil prices are much higher. In addition, inventories, in terms of day's supply for motor gasoline, are even lower than they were in August 1997. Moreover, they are not projected to improve much until the end of the year. Thus, we project the pump price to average over \$1.50 per gallon through the summer. *Also, any supply disruptions such as refinery problems could also result in additional price spikes on top of the current base case projections at the regional and local levels.* We have calculated that, even barring major refinery disruptions this summer, average retail gasoline prices could reach a monthly average of \$1.75-\$1.80 per gallon somewhere during the peak driving season if incremental supply costs prove to rise more sharply this summer than is implied in the base case ([Figure 7](#)). The prices discussed here refer to national average prices for regular gasoline. Retail price averages do vary significantly by region due to tax differences, differences in transportation costs and in environmental costs.

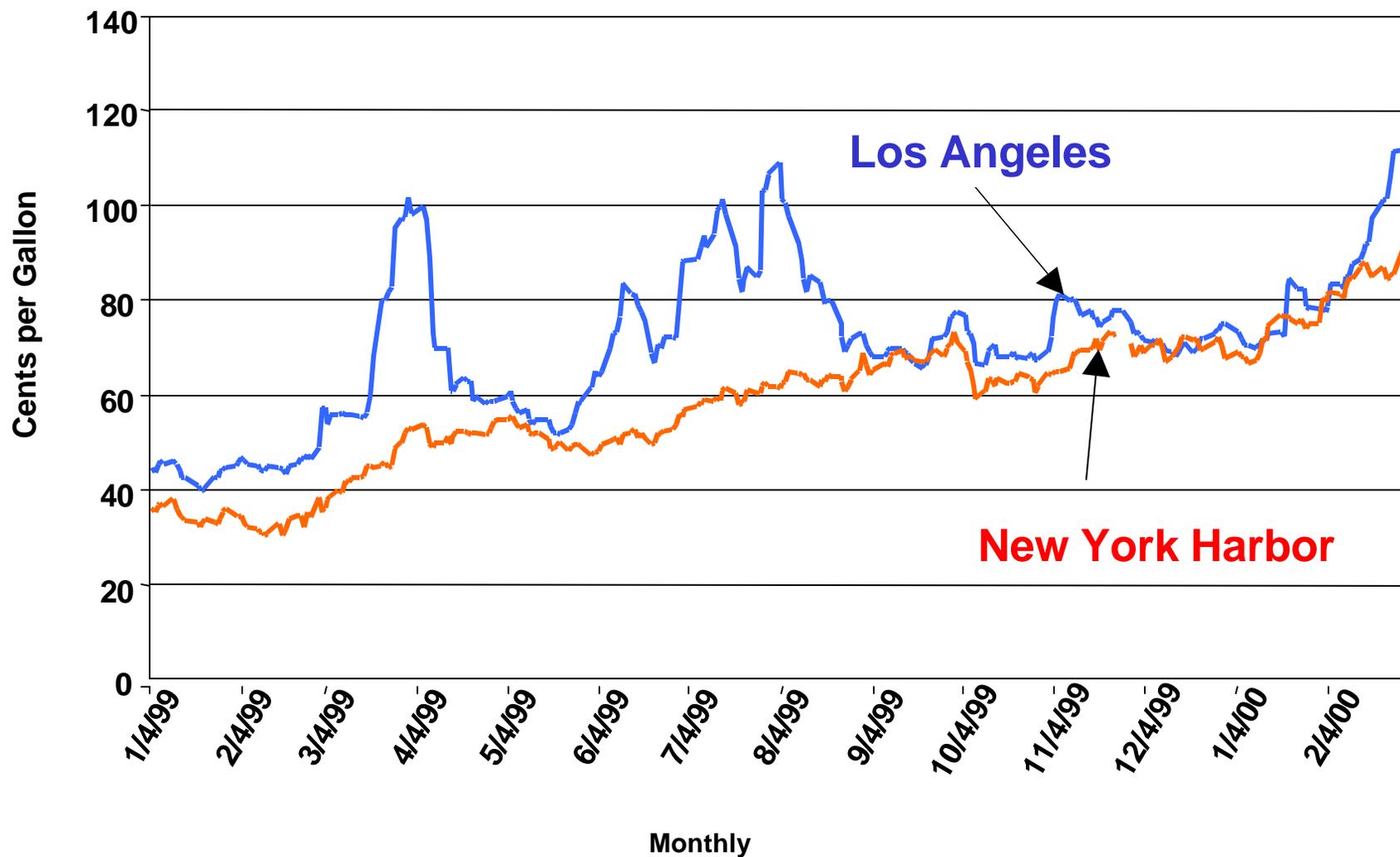
In some parts of the country, such as California, which requires a cleaner, more expensive gasoline, the supply situation is strained, and the price will be higher than the rest of the nation. The gasoline spot market price difference between Los Angeles (LA) and New York Harbor (NYH) has varied widely in just the past year as illustrated in [Figure 13](#). For much of the year the spot price difference between LA and NYH was about 5-15 cents per gallon. In both the early spring and the middle summer of last year, tight supplies of gasoline in California pushed the LA price to nearly 50 cents per gallon above the NYH price. In fact, while the NYH price gained only a dime during the month of March, the Los Angeles spot price increased by 50 cents per gallon. Within a few weeks, there were comparable price increases at the pump ([Figure 14](#)). A similar situation is presently looming. Steep pump price increases have recently occurred across the entire country. However, if history is a guide, the recent accelerated runup in the LA spot price, reveals that the retail price increases in California will be more pronounced than in the rest of the country.

Reformulated Gasoline

The Federal reformulated gasoline program transitioned from phase 1 into phase 2 on January 1, 2000, with new requirements for reducing toxic air pollutants (TAP) and nitrogen oxides (NOx). While refiners were able to meet these new year-round TAP and NOx requirements, the real crunch comes later this spring when the new summer requirements for reductions in volatile organic compounds (VOC) and additional reductions in NOx take effect.

The new Summer phase 2 reformulated gasoline VOC standards will require refiners to reduce Reid vapor pressure to as low as 6.7 pounds per square inch (psi), down from 8.0 psi in northern States and 7.1 psi in southern States. The mandated Summer NOx reduction will require refiners to reduce sulfur levels from about 300 parts per million (ppm) to as low as 150 ppm. The wholesale price premium for Summer phase 2 reformulated gasoline over conventional gasoline is expected to be about 4 cents per gallon, compared with an average

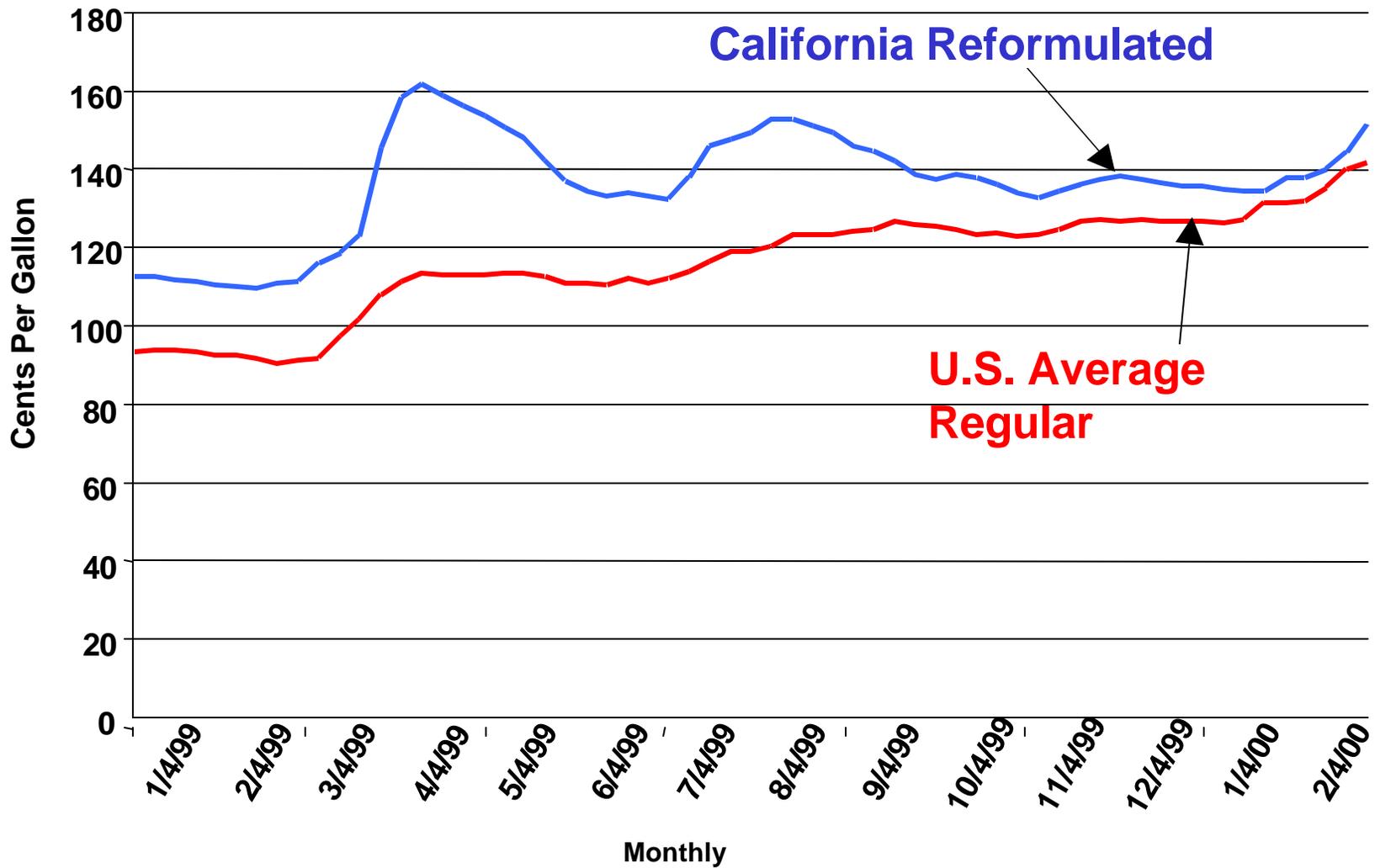
Figure 13. Daily Spot Reformulated Gasoline Prices



Sources: History: EIA; Weekly Petroleum Status Report.



Figure 14. Weekly Retail Motor Gasoline Prices



Sources: History: EIA; Weekly Petroleum Status Report.



2.5 cents per gallon for phase 1 reformulated gasoline over conventional gasoline (see "Demand and Price Outlook for Phase 2 Reformulated Gasoline, 2000," <http://www.eia.doe.gov/emeu/steo/pub/special/rfg4.html>).

About one-third of the gasoline sold in the U.S. must meet the phase 2 reformulated gasoline specifications. The summer phase 2 reformulated gasoline must be in place at distribution terminals by May 1 and at retail outlets by June 1.

While it is expected that there should be sufficient supply of reformulated gasoline from domestic refiners, blenders, and imports, a low gasoline inventory situation raises the risk of localized shortages. The new requirements for reformulated gasoline may slow the response time for delivery of emergency supplies.

Heating Oil. Heating oil prices soared last month ([Figure 15](#)). A combination of factors led to phenomenally high prices. The Northeast region of the nation consumes about 75 percent of the heating oil. Thus, the cold weather last January and early February in that part of the country, combined with rising crude oil prices and severely low stocks, led to record prices for heating oil at the spot, wholesale, and retail levels. Regional supply bottlenecks further elevated prices. Residential customers paid more than \$2.00 per gallon for this fuel in some regions of the Northeast—more than double, and in some instances, nearly triple the price paid last year. (See [Distillate Watch](#) for the most current weekly EIA distillate data and EIA's [Distillate Market Briefing](#) for a current analysis of the distillate stock status). Heating oil prices have since fallen considerably, as the acute supply situation was alleviated and as the winter winds down.

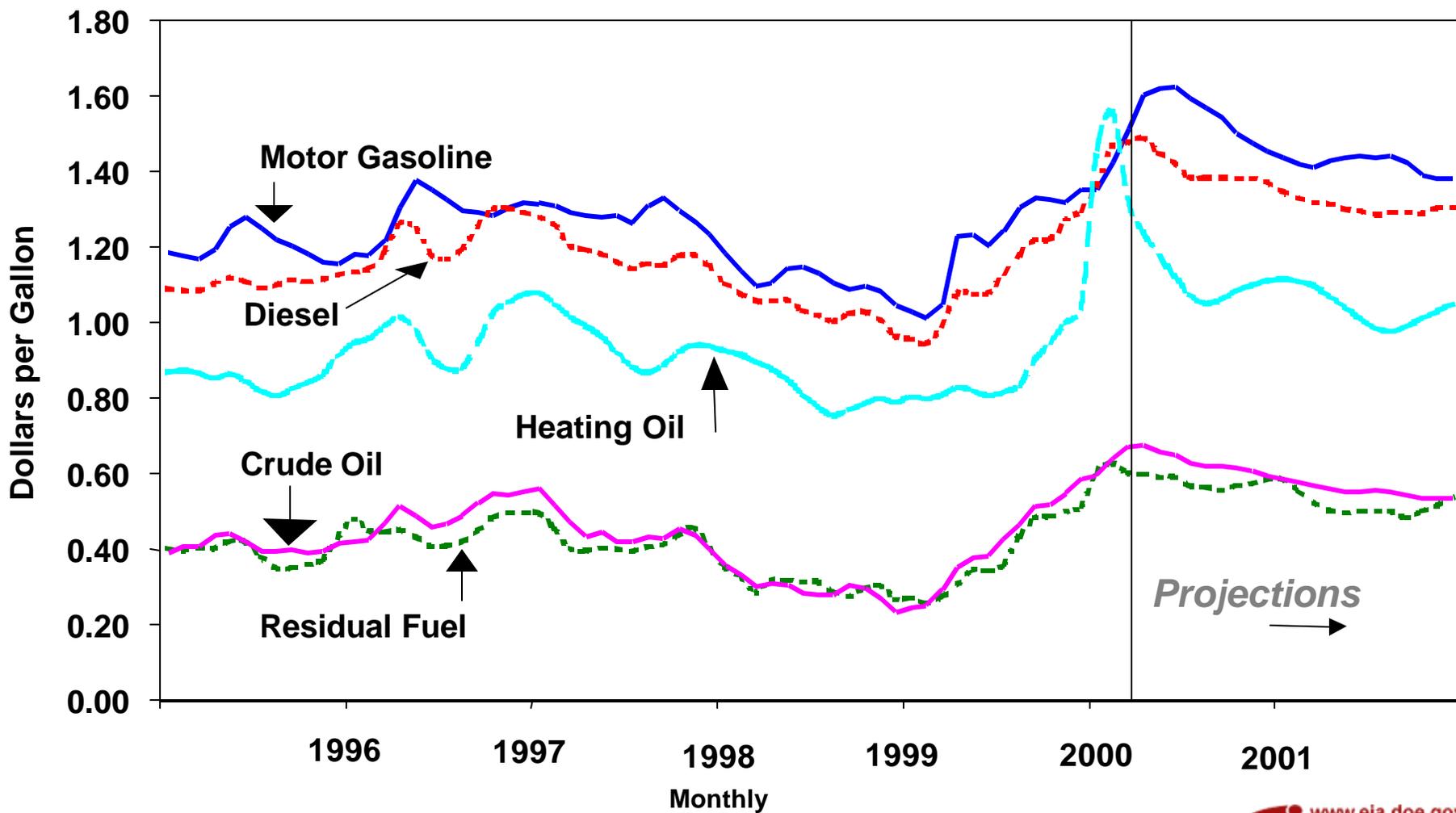
In summary, this winter was very expensive for heating oil customers, particularly for the first quarter 2000. U.S. residential heating oil prices are expected to top \$1.45 per gallon in the first quarter, 66 cents per gallon more than one year ago ([Figure 16](#) and [Table 4](#)). While the price increase is high, it should be noted that during last winter the weather was mild and prices were at historically low levels.

In the spring, heating fuel prices should fall as seasonal demand eases. The price of diesel fuel oil, a distillate very similar to heating oil, has also jumped dramatically, particularly in the Northeast. In 2001, we project lower crude oil prices and a normal winter. Subsequently heating oil prices should also decline.

Natural Gas. Natural gas prices have also risen this winter compared to last winter but not at the frantic pace of heating oil. Even though the weather was cold, several factors have contributed to these more modest price increases. Mainly, the gas storage situation was not in as critical a state as in the case of petroleum supplies. The unusually mild weather last November, December and the beginning of January resulted in relatively comfortable levels of underground storage, which in turn kept a lid on prices. However, the average wellhead price this winter will be notably higher (about 50 cents per thousand cubic feet) than last winter's relatively low price of about \$1.80 per thousand cubic feet ([Figure 17](#)). Residential prices, over the same period, are projected to be almost 10 percent higher ([Table 4](#)).

Looking past the winter, we see wellhead gas prices continuing to climb through the summer and into next winter ([Figure 18](#)). Natural gas demand growth, particularly in the industrial and electric utility sectors, is projected to outstrip production gains, thus increasing prices at the wellhead through the forecast period ([Tables 4](#) and [8](#)).

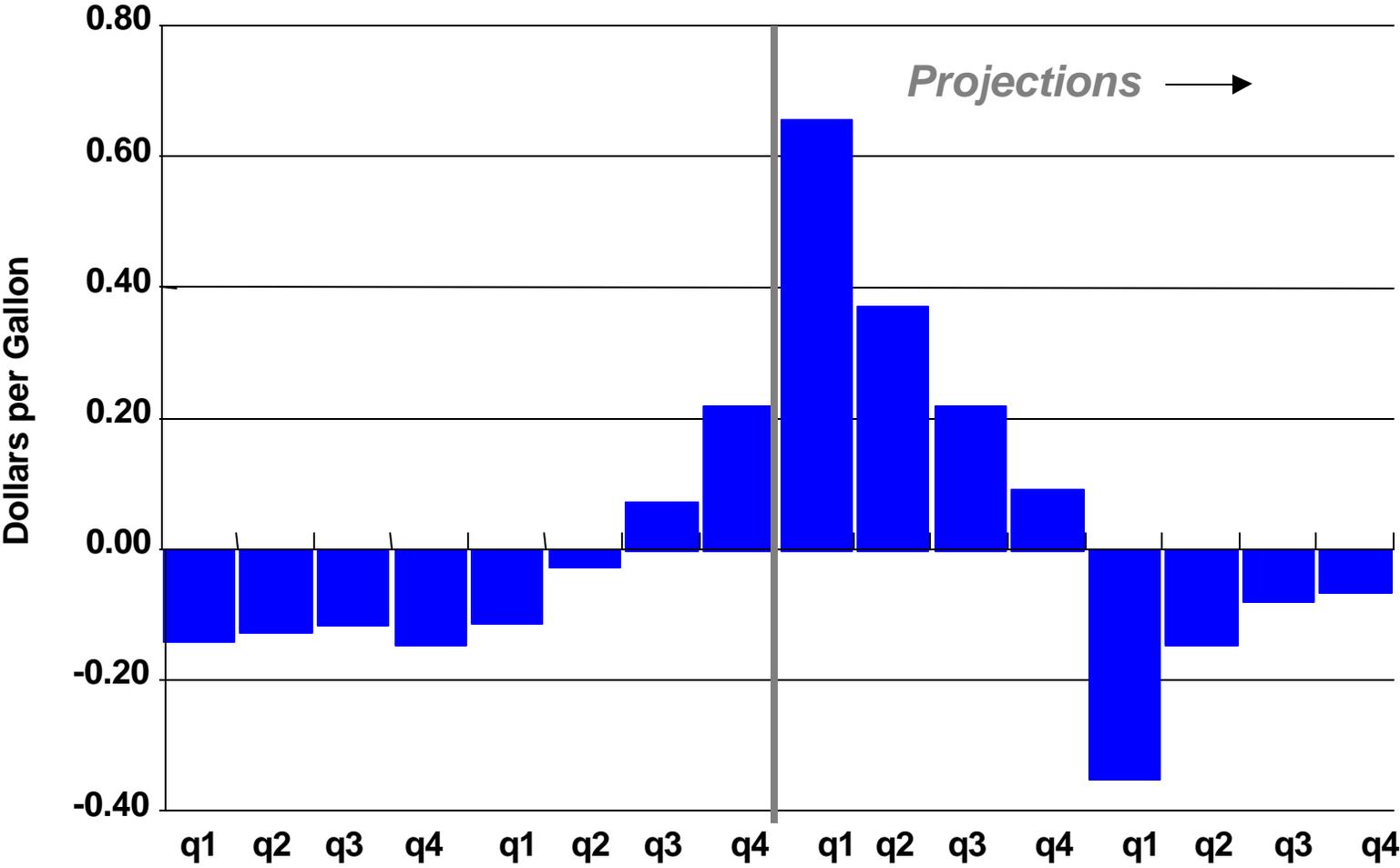
Figure 15. Petroleum Price



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



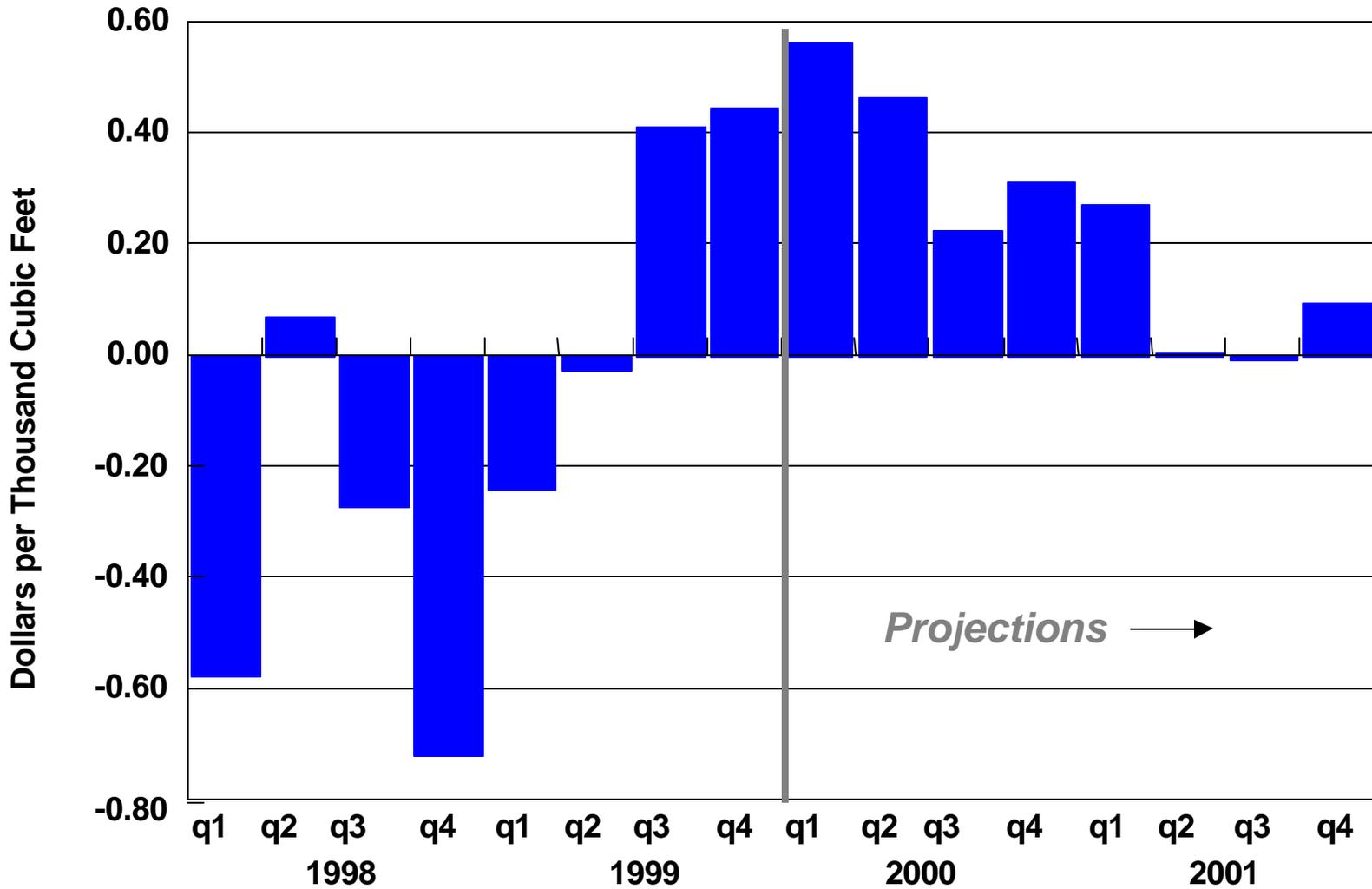
Figure 16. Quarterly Retail Heating Oil Prices (Change from Year Ago)



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



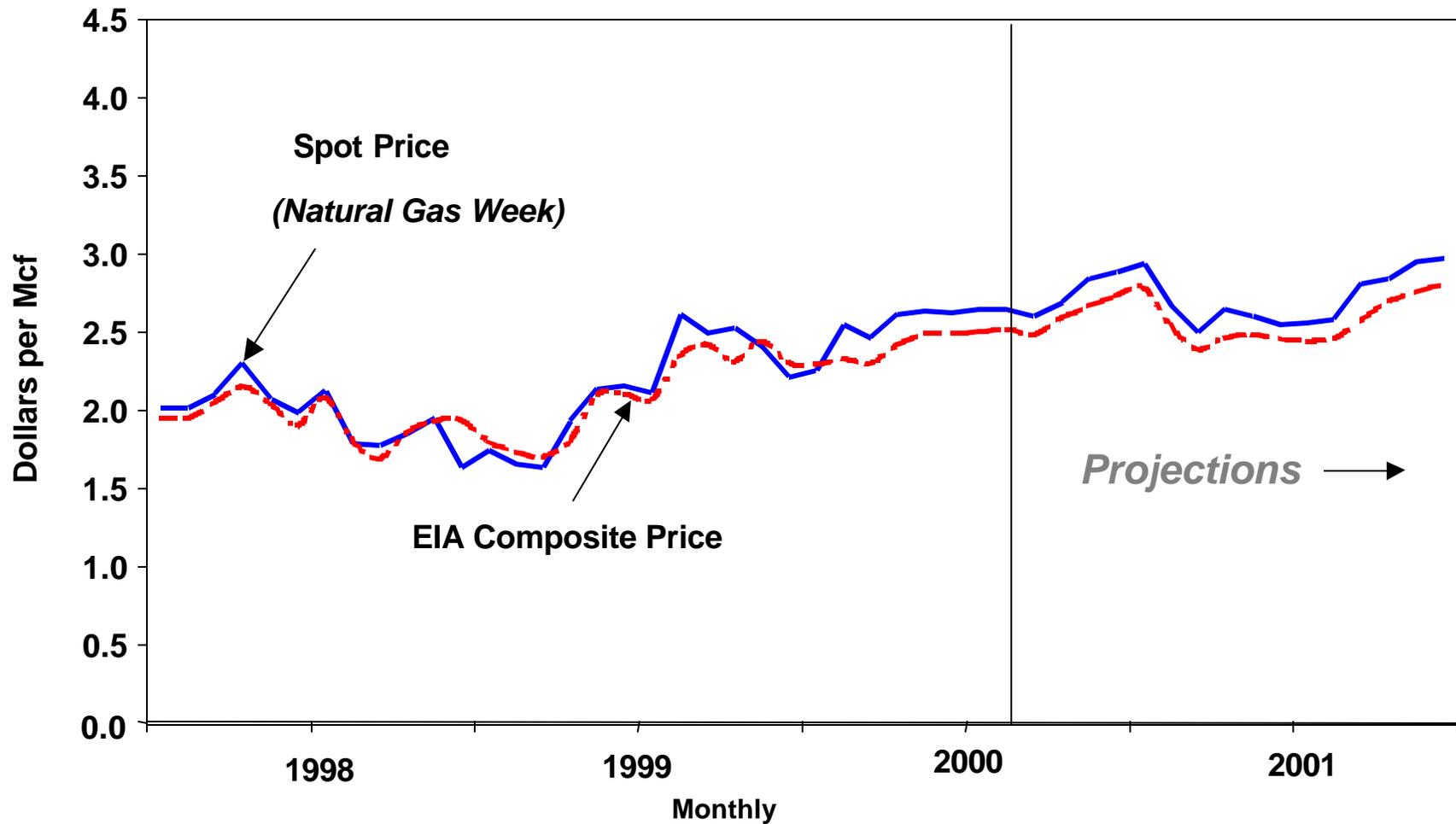
Figure 17. Quarterly Natural Gas Wellhead Prices (Change from Year Ago)



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 18. Natural Gas Wellhead Prices (Composite and Spot)



Sources: History: EIA and *Natural Gas Week*; Projections: Short-Term Energy Outlook, March 2000.

Electric Utility Fuels. Natural gas is projected to maintain its price advantage over residual fuel oil as a fuel input for electric utility generation throughout the forecast period ([Figure 19](#) and [Table 4](#)). However, the advantage for gas is expected to narrow toward the end of the year as gas prices climb during the heating season. The price gap, however, is expected to continue even further into next year, as crude oil prices are projected to dip while gas prices rise over the same period.

Coal remains by far the least expensive fossil fuel for electric utilities. Coal prices are expected to decline through 2000 even after costs associated with compliance with the Clean Air Act Amendments of 1990 are included. Continued increases in mining productivity, including longwall mining, as well as the closing of costly marginal mines, particularly those east of the Mississippi, have kept coal supply costs on a gradually declining trend for many years.

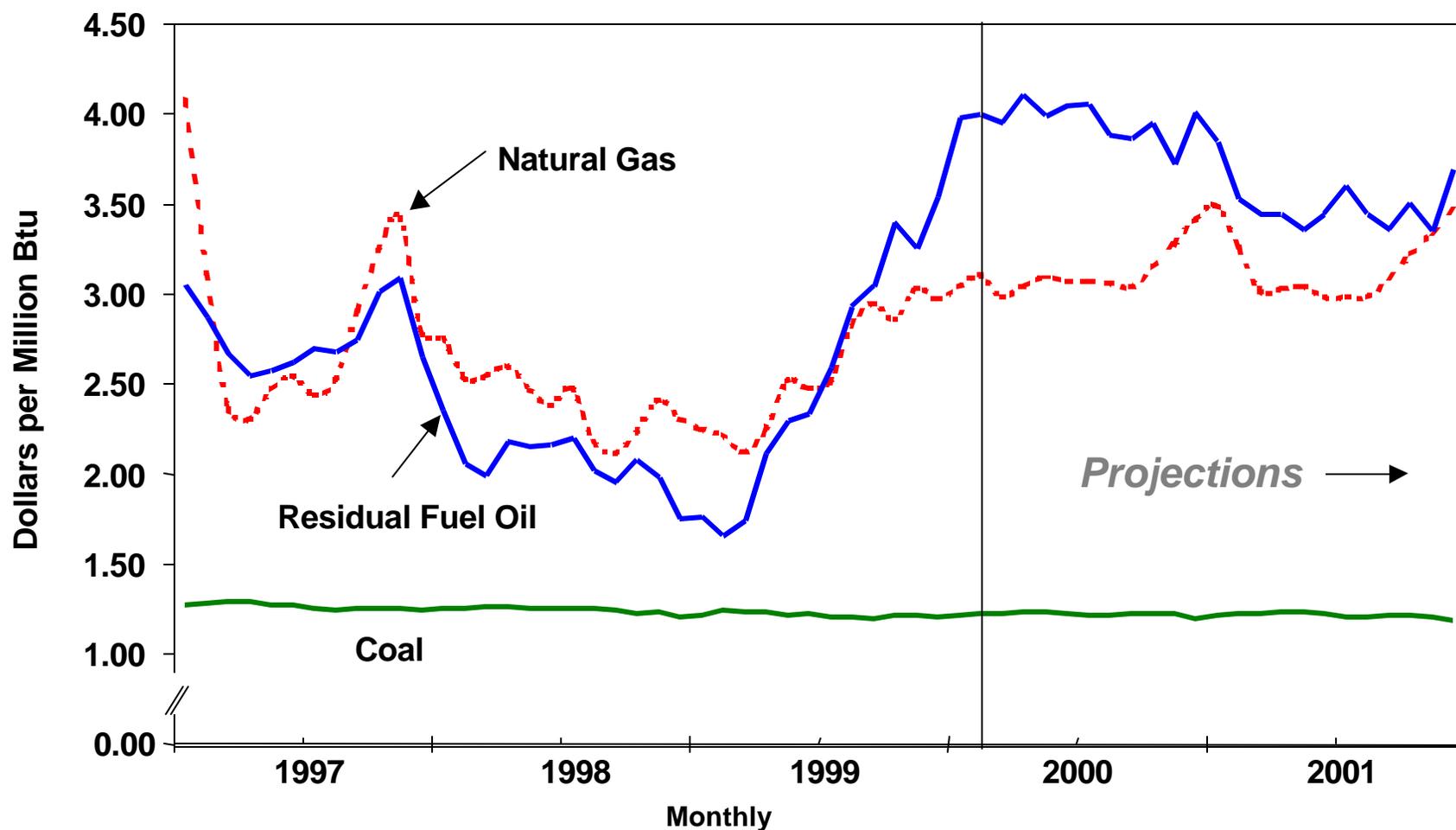
U.S. Petroleum Demand

Weather patterns of the first two months greatly affected petroleum markets in terms of price movements, especially on a daily and weekly basis. Price volatility in heating fuels clearly reflected supply (i.e. refiner and distribution) disruptions. Preliminary data suggest that the fuel-oil demand response to cold weather was muted. Weekly data did show an apparent spike in demand in the cold third week of January but no such spike occurred during the first week in February, also a cold period. In addition, weekly data since then show higher deliveries in warmer-than-normal weeks compared to the same period last year. (Data for the first two weeks of the year, however, show lower deliveries compared to the same period in 1998, possibly due to Y2K-related reversal of stronger-than-normal deliveries in December). Although weather has been warmer than normal during the last four weeks, supply tightness in the crude oil markets has emerged as the principal concern that continues to sustain a pattern of increases in crude oil and products prices that has characterized petroleum markets for more than a year.

For 1999 as a whole, available data show an increase in total petroleum demand of 560,000 barrels per day, or 3.0 percent, almost twice that of the previous year ([Figure 20](#)). With the exception of residual fuel oil, the major fuels continued to register demand increases. Transportation demand (motor gasoline, jet fuel and diesel) increased by approximately 2.5 percent. Buoyed by strong growth in petrochemicals activity and agricultural output, demand for liquefied petroleum gases rose more than 12 percent. Demand for residual fuel oil, however, contracted by almost 5 percent, weighed down by a 27-percent decline in demand by the price-sensitive electric utility sector.

Despite these concerns about tight supplies and continued high prices, the buoyant economy--as well as assumptions of a return to normal weather--are expected to push overall petroleum demand higher during the forecast interval. Growth in the current year, however, is expected to slow to 140,000 barrels per day, or 0.7 percent. Transportation fuels demand is projected to increase by less than 2 percent, reflecting the effects of product price increases. Demand for residual fuel oil is projected to decline more than 15 percent: not only are deliveries to the electric utility sector expected to decline substantially (23 percent), but industrial sector demand is also expected to decline by more than half. In contrast to the double-digit growth observed in 1999, liquefied petroleum gases demand is projected to register little increase in 2000, due to a slowdown in petrochemical sector growth.

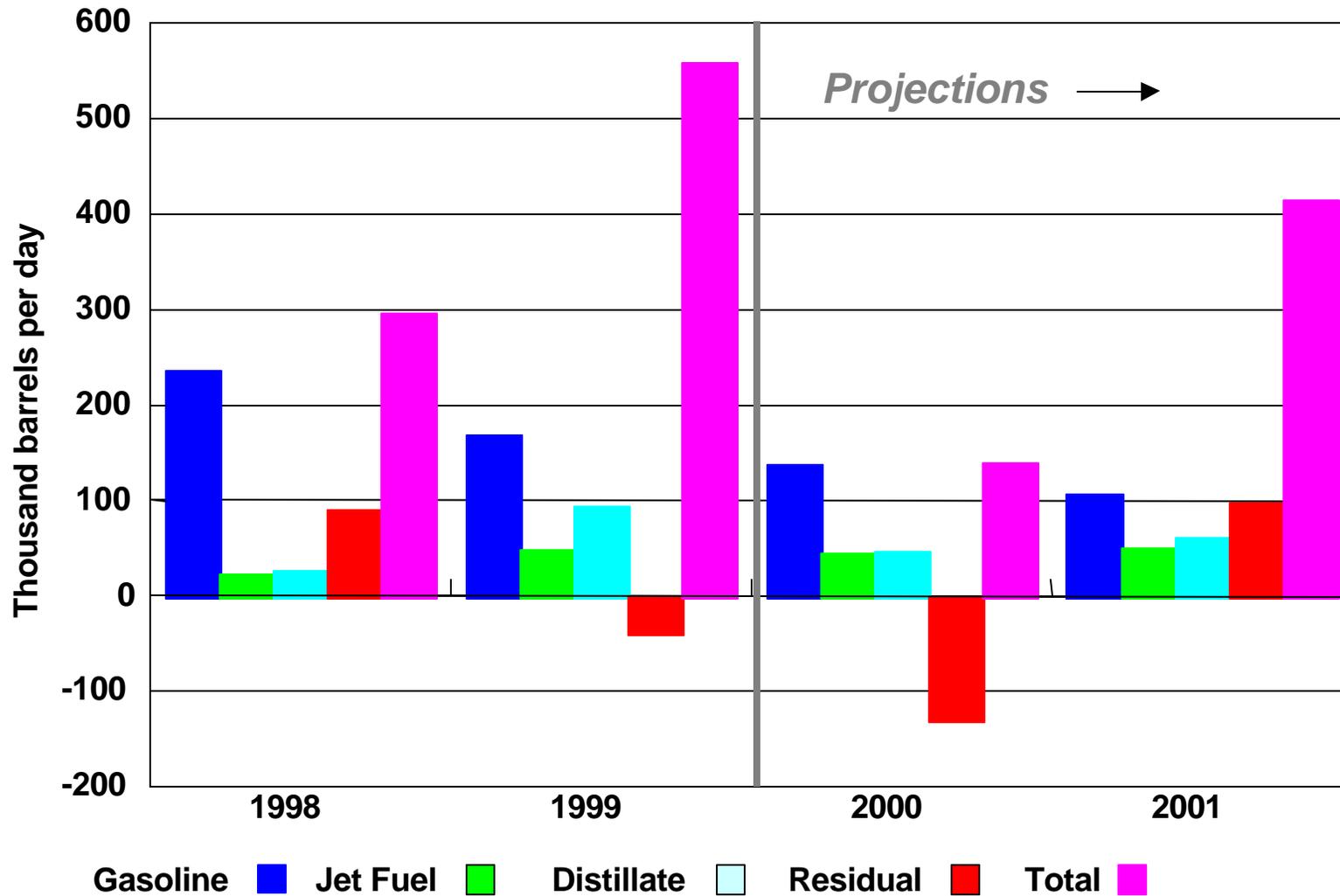
Figure 19. Fossil Fuel Prices to Electric Utilities



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 20. Year-to-Year Changes in Petroleum Demand



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



For 2001, we expect to witness somewhat faster growth in total petroleum demand, projected to be 415,000 barrels per day, or 2.1 percent. Much of the acceleration in growth stems from two sources. First, both crude oil and products prices are projected to continue to decline from their 9-year highs of the previous year.

As a result, residual oil demand is expected to recover somewhat from the substantial declines of the previous two years. In addition, growth petrochemical activity is expected to accelerate once again, lifting demand for liquefied petroleum gases.

Natural Gas Supply and Demand

Increases in imports and storage draws enabled natural gas supply to meet demand in the fourth quarter of 1999 and are projected to enable supply to meet demand in first quarter 2000.

Imports in the month of February, in particular, are estimated at 5.6 percent above the previous Outlook. In fact, fourth quarter 1999 gas imports were up by 18 percent relative to the year-before quarter, and first quarter 2000 gas imports are expected to be up by 11 percent over first quarter 1999 ([Figure 21](#)). Withdrawals from storage were up by 48 percent in fourth quarter 1999 over the year ago quarter, and are expected to be up by 22 percent in first quarter 2000 over the first quarter 1999. Stock levels at the end of February are estimated to be below the EIA 5-year average but above the February 1996 low of 1,021 billion cubic feet. This means that storage refill could be significantly higher this spring, contributing to higher natural gas prices.

Natural gas production increases are not meeting demand increases. In 1999, natural gas demand was up by 0.8 percent, or almost 1 percent, while production was virtually flat. In 2000, gas demand is expected to be up by 4.8 percent, while production is expected to increase by less than 1 percent. In 2001 natural gas demand is projected to increase by 2.9 percent while production rises by only 0.3 percent.

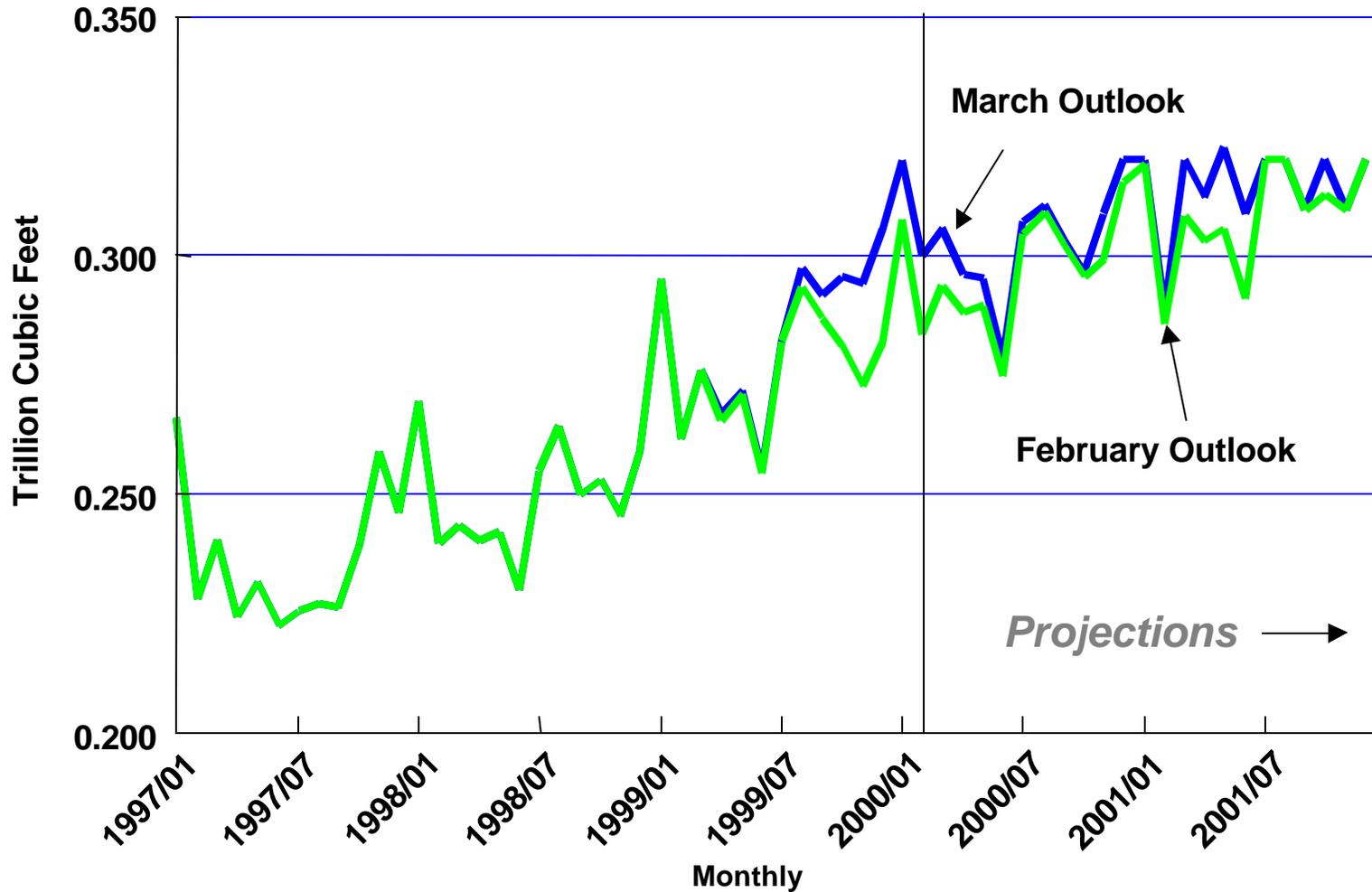
Industrial gas demand in the current outlook shows the most change of all the sectors ([Figure 22](#)). This is largely due to the continuing comparative advantage of natural gas prices in that sector relative to oil prices, despite the rise in natural gas prices. Utility gas demand, however, has not changed much since our last outlook, except for the November 1999-December 1999 period, when demand was lower than previously forecast. This was partly due to the fact that nuclear and hydroelectric generation sources were higher than expected.

Electricity Demand and Supply

Total demand for electricity is projected to be slightly lower in 2000 and higher in 2001 than projected in the February Outlook.

The fuel mix at electric utilities is projected to change significantly from the projections in our previous Outlook. Oil-fired utility generation is projected to be lower through the forecast period due to oil prices that remain high relative to prices of other fossil fuels ([Figure 23](#)). Estimates of oil-fired utility generation for 1999 were revised significantly lower than they were previously. Also, estimates of nuclear and hydro generation of electricity in November and December 1999 were revised to reflect higher availability than previously projected. Nuclear generation of electricity is now projected to be somewhat higher in 2000 than it was in the last Outlook. Likewise, hydro generation is projected to be higher in 2000. However, coal- and natural gas-fired generation sources are projected to remain at virtually the same levels throughout the forecast period as in our previous Outlook.

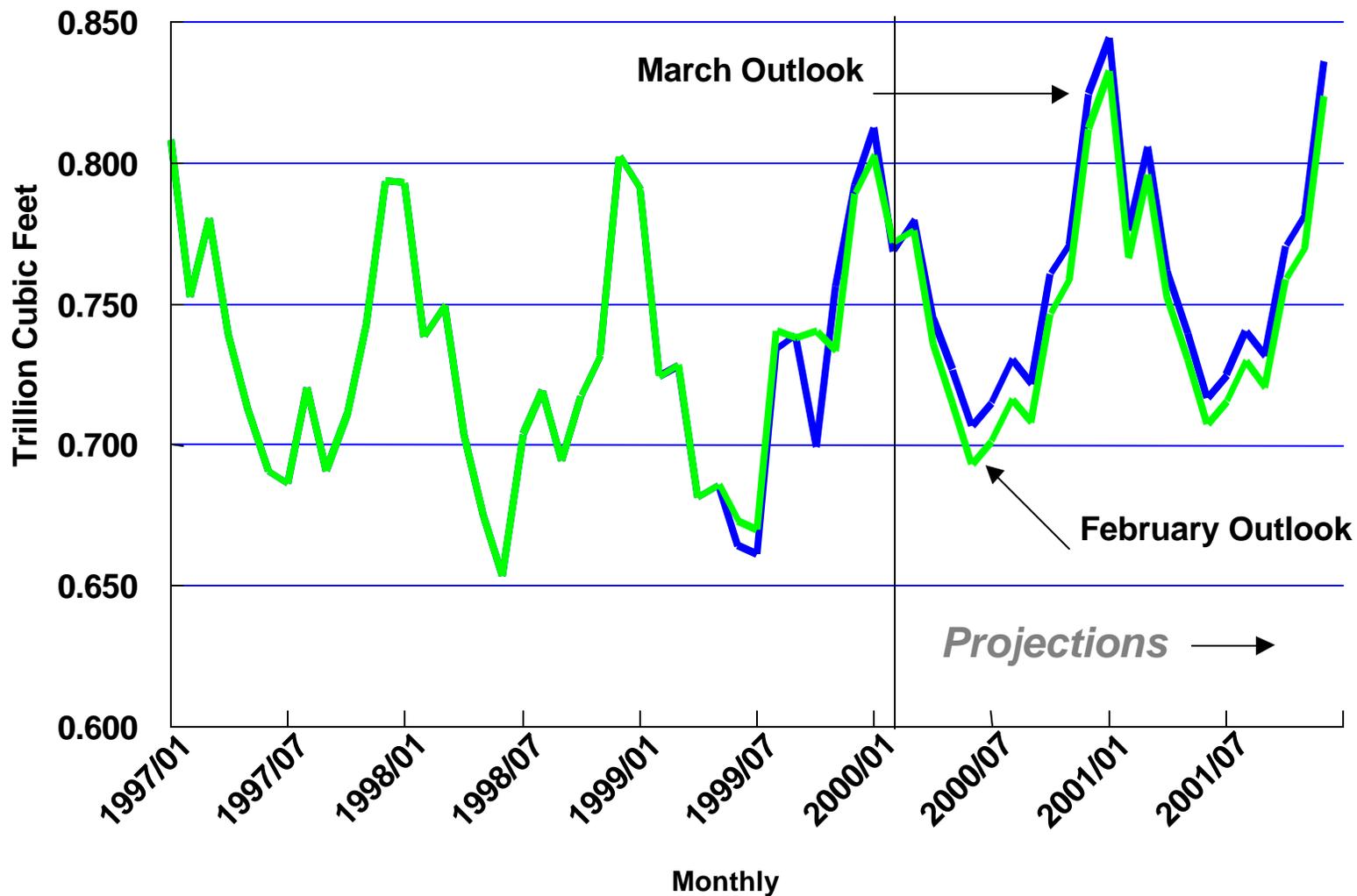
Figure 21. Natural Gas Imports



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



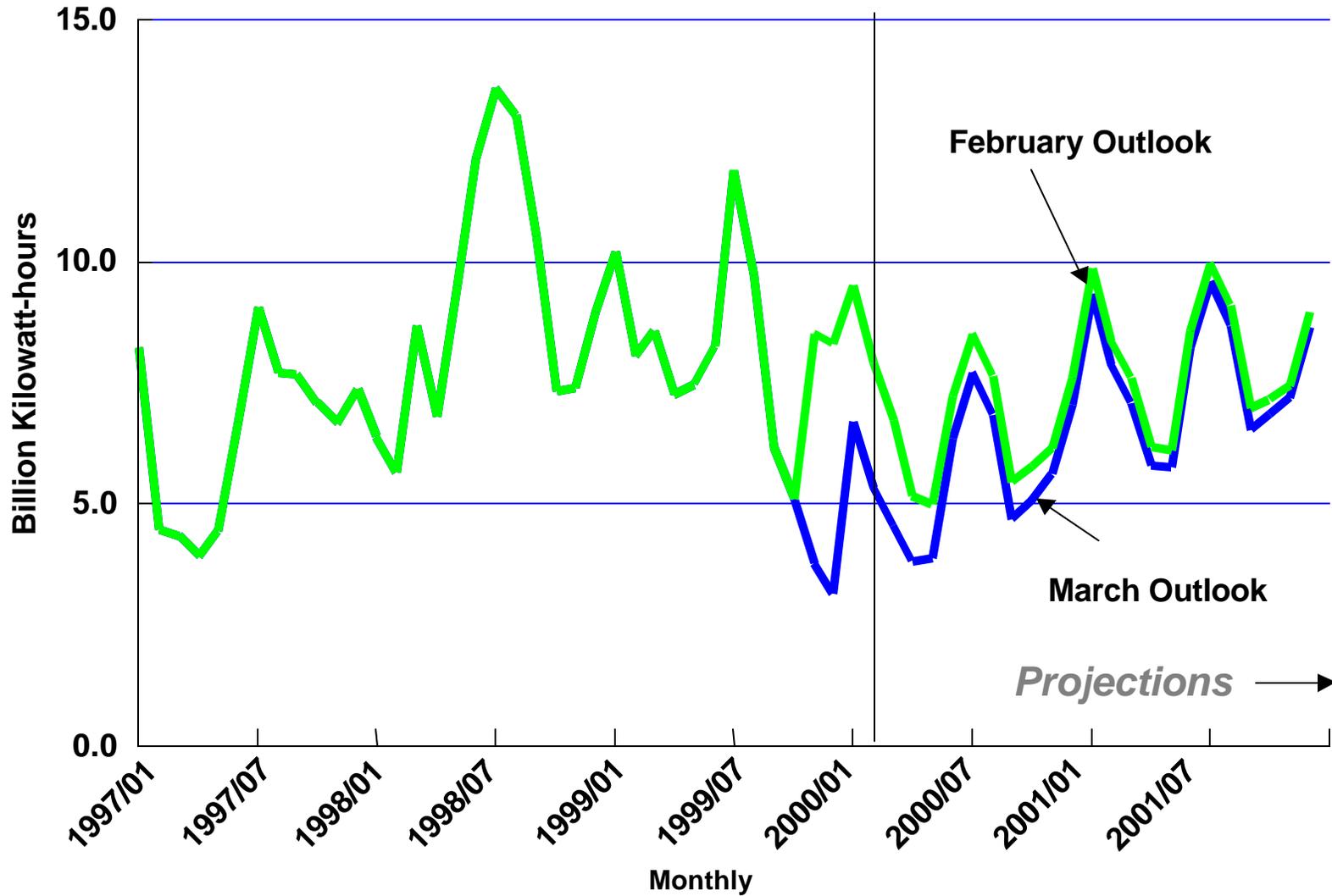
Figure 22. Industrial Natural Gas Demand Outlook



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Figure 23. Oil Generation of Electricity



Sources: History: EIA; Projections: Short-Term Energy Outlook, March 2000.



Table HL1. U. S. Energy Supply and Demand

	Year				Annual Percentage Change		
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001
Real Gross Domestic Product (GDP) (billion chained 1992 dollars)	7810	8126	<i>8381</i>	<i>8644</i>	4.0	3.1	3.1
Imported Crude Oil Price ^a (nominal dollars per barrel).....	12.08	17.22	<i>26.43</i>	<i>23.18</i>	42.5	53.5	-12.3
Petroleum Supply (million barrels per day)							
Crude Oil Production ^b	6.25	5.93	<i>5.88</i>	<i>5.90</i>	-5.1	-0.8	0.3
Total Petroleum Net Imports (including SPR)	9.76	9.75	<i>10.45</i>	<i>10.80</i>	-0.1	7.2	3.3
Energy Demand							
World Petroleum (million barrels per day).....	73.6	74.7	<i>75.9</i>	<i>77.8</i>	1.5	1.6	2.5
Petroleum (million barrels per day).....	18.92	19.48	<i>19.62</i>	<i>20.03</i>	3.0	0.7	2.1
Natural Gas (trillion cubic feet)	21.26	21.42	<i>22.33</i>	<i>22.98</i>	0.8	4.2	2.9
Coal ^c (million short tons)	1041	1045	<i>1063</i>	<i>1093</i>	0.4	1.7	2.8
Electricity (billion kilowatthours)							
Utility Sales ^d	3240	3264	<i>3322</i>	<i>3383</i>	0.7	1.8	1.8
Nonutility/Sales ^d	166	172	<i>176</i>	<i>176</i>	3.6	2.3	0.0
Total	3406	3437	<i>3498</i>	<i>3559</i>	0.9	1.8	1.7
Total Energy Demand ^f (quadrillion Btu).....	94.5	96.1	<i>97.7</i>	<i>99.5</i>	1.8	1.7	1.8
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	12.10	11.83	<i>11.66</i>	<i>11.52</i>	-2.2	-1.4	-1.2
Renewable Energy as Percent of Total ^g ...	7.0	6.9	<i>6.7</i>	<i>6.6</i>			

^aRefers to the refiner acquisition cost (RAC) of imported crude oil.

^bIncludes lease condensate.

^cTotal Demand includes estimated Independent Power Producer (IPP) coal consumption.

^dTotal annual electric utility sales for historical periods are initially derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." Final annual totals are taken from compilations from Form EIA-861, "Annual Electric Utility Report."

^eDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1998 are estimates.

^fThe conversion from physical units to Btu is calculated by using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review (MER)*. Consequently, the historical data may not precisely match those published in the *MER* or the *Annual Energy Review (AER)*.

^gRenewable energy includes minor components of non-marketed renewable energy, which is renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy. The Energy Information Administration does not estimate or project total consumption of non-marketed renewable energy.

SPR: Strategic Petroleum Reserve.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Latest data available from Bureau of Economic Analysis and Energy Information Administration; latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Quarterly Coal Report*, DOE/EIA-0121; *International Petroleum Statistics Report* DOE/EIA-0520; *Weekly Petroleum Status Report*, DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0200.

Table 1. U.S. Macroeconomic and Weather Assumptions

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Macroeconomic ^a															
Real Gross Domestic Product (billion chained 1992 dollars - SAAR).....	8013	8050	8162	<i>8278</i>	<i>8321</i>	<i>8363</i>	<i>8394</i>	<i>8447</i>	<i>8527</i>	<i>8604</i>	<i>8684</i>	<i>8762</i>	8126	<i>8381</i>	<i>8644</i>
Percentage Change from Prior Year.....	3.9	3.8	4.3	<i>4.2</i>	<i>3.8</i>	<i>3.9</i>	<i>2.8</i>	<i>2.0</i>	<i>2.5</i>	<i>2.9</i>	<i>3.5</i>	<i>3.7</i>	4.0	<i>3.1</i>	<i>3.1</i>
Annualized Percent Change from Prior Quarter.....	3.6	1.9	5.6	<i>5.7</i>	<i>2.1</i>	<i>2.0</i>	<i>1.5</i>	<i>2.5</i>	<i>3.8</i>	<i>3.6</i>	<i>3.7</i>	<i>3.6</i>			
GDP Implicit Price Deflator (Index, 1992=1.000).....	1.132	1.136	1.138	<i>1.144</i>	<i>1.151</i>	<i>1.156</i>	<i>1.159</i>	<i>1.163</i>	<i>1.168</i>	<i>1.172</i>	<i>1.177</i>	<i>1.182</i>	1.138	<i>1.157</i>	<i>1.175</i>
Percentage Change from Prior Year.....	1.3	1.4	1.3	<i>1.6</i>	<i>1.7</i>	<i>1.8</i>	<i>1.8</i>	<i>1.7</i>	<i>1.5</i>	<i>1.4</i>	<i>1.5</i>	<i>1.6</i>	1.4	<i>1.8</i>	<i>1.5</i>
Real Disposable Personal Income (billion chained 1992 Dollars - SAAR).....	5751	5796	5838	<i>5903</i>	<i>5964</i>	<i>6012</i>	<i>6050</i>	<i>6082</i>	<i>6148</i>	<i>6207</i>	<i>6270</i>	<i>6319</i>	5822	<i>6027</i>	<i>6236</i>
Percentage Change from Prior Year.....	4.3	4.1	3.7	<i>3.7</i>	<i>3.7</i>	<i>3.7</i>	<i>3.6</i>	<i>3.0</i>	<i>3.1</i>	<i>3.2</i>	<i>3.6</i>	<i>3.9</i>	4.0	<i>3.5</i>	<i>3.5</i>
Manufacturing Production (Index, 1992=1.000).....	1.392	1.409	1.425	<i>1.444</i>	<i>1.445</i>	<i>1.439</i>	<i>1.438</i>	<i>1.446</i>	<i>1.461</i>	<i>1.482</i>	<i>1.506</i>	<i>1.527</i>	1.417	<i>1.442</i>	<i>1.494</i>
Percentage Change from Prior Year.....	3.5	4.1	4.4	<i>4.4</i>	<i>3.8</i>	<i>2.1</i>	<i>0.9</i>	<i>0.1</i>	<i>1.1</i>	<i>3.0</i>	<i>4.7</i>	<i>5.6</i>	4.1	<i>1.7</i>	<i>3.6</i>
OECD Economic Growth (percent) ^b													2.6	<i>2.7</i>	<i>2.7</i>
Weather ^c															
Heating Degree-Days															
U.S.....	2154	490	82	<i>1433</i>	<i>2087</i>	<i>522</i>	<i>85</i>	<i>1622</i>	<i>2235</i>	<i>522</i>	<i>85</i>	<i>1622</i>	4159	<i>4317</i>	<i>4464</i>
New England.....	3039	786	133	<i>2051</i>	<i>3111</i>	<i>894</i>	<i>167</i>	<i>2240</i>	<i>3179</i>	<i>893</i>	<i>167</i>	<i>2239</i>	6009	<i>6412</i>	<i>6478</i>
Middle Atlantic.....	2819	629	60	<i>1828</i>	<i>2802</i>	<i>709</i>	<i>104</i>	<i>2004</i>	<i>2897</i>	<i>708</i>	<i>104</i>	<i>2004</i>	5336	<i>5619</i>	<i>5712</i>
U.S. Gas-Weighted.....	2275	517	84	<i>1533</i>	<i>2185</i>	<i>546</i>	<i>95</i>	<i>1714</i>	<i>2348</i>	<i>545</i>	<i>96</i>	<i>1714</i>	4409	<i>4540</i>	<i>4703</i>
Cooling Degree-Days (U.S.).....	35	354	847	<i>82</i>	<i>35</i>	<i>344</i>	<i>783</i>	<i>75</i>	<i>31</i>	<i>345</i>	<i>783</i>	<i>75</i>	1318	<i>1236</i>	<i>1234</i>

^aMacroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case.

^bOECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

^cPopulation-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*. Projections of OECD growth are based on WEFA Group, "World Economic Outlook," Volume 1. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0200.

Table 2. U.S. Energy Indicators: Mid World Oil Price Case

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Macroeconomic^a															
Real Fixed Investment															
(billion chained 1992 dollars-SAAR)	1495	1519	1544	<i>1550</i>	<i>1594</i>	<i>1614</i>	<i>1612</i>	<i>1616</i>	<i>1634</i>	<i>1655</i>	<i>1673</i>	<i>1697</i>	1527	<i>1609</i>	<i>1665</i>
Real Exchange Rate															
(index)	1.134	1.170	1.163	<i>1.145</i>	<i>1.155</i>	<i>1.139</i>	<i>1.147</i>	<i>1.145</i>	<i>1.126</i>	<i>1.101</i>	<i>1.081</i>	<i>1.063</i>	1.153	<i>1.147</i>	<i>1.093</i>
Business Inventory Change															
(billion chained 1992 dollars-SAAR)	0.0	-8.1	1.7	<i>9.9</i>	<i>11.2</i>	<i>7.1</i>	<i>2.7</i>	<i>0.1</i>	<i>3.3</i>	<i>8.3</i>	<i>14.8</i>	<i>19.6</i>	0.9	<i>5.3</i>	<i>11.5</i>
Producer Price Index															
(index, 1982=1.000)	1.228	1.245	1.268	<i>1.278</i>	<i>1.298</i>	<i>1.303</i>	<i>1.302</i>	<i>1.303</i>	<i>1.305</i>	<i>1.307</i>	<i>1.310</i>	<i>1.315</i>	1.255	<i>1.302</i>	<i>1.309</i>
Consumer Price Index															
(index, 1982-1984=1.000).....	1.648	1.662	1.673	<i>1.683</i>	<i>1.699</i>	<i>1.711</i>	<i>1.718</i>	<i>1.726</i>	<i>1.734</i>	<i>1.742</i>	<i>1.752</i>	<i>1.763</i>	1.666	<i>1.714</i>	<i>1.748</i>
Petroleum Product Price Index															
(index, 1982=1.000)	0.446	0.591	0.684	<i>0.719</i>	<i>0.928</i>	<i>0.916</i>	<i>0.849</i>	<i>0.802</i>	<i>0.808</i>	<i>0.771</i>	<i>0.751</i>	<i>0.727</i>	0.610	<i>0.874</i>	<i>0.764</i>
Non-Farm Employment															
(millions)	127.7	128.2	128.9	<i>129.6</i>	<i>130.3</i>	<i>130.8</i>	<i>130.9</i>	<i>131.1</i>	<i>131.4</i>	<i>131.9</i>	<i>132.5</i>	<i>133.0</i>	128.6	<i>130.8</i>	<i>132.2</i>
Commercial Employment															
(millions)	88.5	89.2	89.8	<i>90.4</i>	<i>91.0</i>	<i>91.4</i>	<i>91.7</i>	<i>92.1</i>	<i>92.5</i>	<i>93.0</i>	<i>93.4</i>	<i>93.9</i>	89.5	<i>91.6</i>	<i>93.2</i>
Total Industrial Production															
(index, 1992=1.000)	1.346	1.361	1.377	<i>1.394</i>	<i>1.396</i>	<i>1.392</i>	<i>1.392</i>	<i>1.399</i>	<i>1.413</i>	<i>1.431</i>	<i>1.452</i>	<i>1.470</i>	1.369	<i>1.395</i>	<i>1.442</i>
Housing Stock															
(millions)	115.4	115.8	116.0	<i>116.1</i>	<i>116.5</i>	<i>116.8</i>	<i>117.1</i>	<i>117.4</i>	<i>117.7</i>	<i>118.0</i>	<i>118.3</i>	<i>118.6</i>	115.8	<i>117.0</i>	<i>118.2</i>
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1992=1.000)	1.179	1.176	1.186	<i>1.200</i>	<i>1.202</i>	<i>1.198</i>	<i>1.192</i>	<i>1.193</i>	<i>1.200</i>	<i>1.212</i>	<i>1.222</i>	<i>1.230</i>	1.186	<i>1.196</i>	<i>1.216</i>
Vehicle Miles Traveled ^b															
(million miles/day).....	6725	7556	7702	<i>7349</i>	<i>6983</i>	<i>7695</i>	<i>7801</i>	<i>7319</i>	<i>7033</i>	<i>7810</i>	<i>7966</i>	<i>7511</i>	7336	<i>7450</i>	<i>7582</i>
Vehicle Fuel Efficiency															
(index, 1997=1.0).....	0.990	0.993	1.009	<i>1.005</i>	<i>1.005</i>	<i>1.008</i>	<i>0.996</i>	<i>0.987</i>	<i>1.011</i>	<i>1.011</i>	<i>1.001</i>	<i>0.995</i>	1.000	<i>0.999</i>	<i>1.004</i>
Real Vehicle Fuel Cost															
(cents per mile).....	2.98	3.35	3.51	<i>3.77</i>	<i>4.09</i>	<i>4.38</i>	<i>4.22</i>	<i>4.14</i>	<i>3.88</i>	<i>3.77</i>	<i>3.76</i>	<i>3.76</i>	3.40	<i>4.21</i>	<i>3.79</i>
Air Travel Capacity															
(mill. available ton-miles/day).....	431.0	452.4	467.2	<i>467.0</i>	<i>465.1</i>	<i>466.7</i>	<i>481.6</i>	<i>471.0</i>	<i>482.7</i>	<i>482.3</i>	<i>499.7</i>	<i>490.2</i>	454.5	<i>471.1</i>	<i>488.7</i>
Aircraft Utilization															
(mill. revenue ton-miles/day).....	242.2	263.4	276.3	<i>261.3</i>	<i>258.5</i>	<i>274.7</i>	<i>287.7</i>	<i>272.5</i>	<i>266.4</i>	<i>283.6</i>	<i>299.8</i>	<i>286.5</i>	260.9	<i>273.4</i>	<i>284.2</i>
Airline Ticket Price Index															
(index, 1982-1984=1.000).....	2.130	2.186	2.180	<i>2.254</i>	<i>2.250</i>	<i>2.286</i>	<i>2.304</i>	<i>2.337</i>	<i>2.377</i>	<i>2.385</i>	<i>2.388</i>	<i>2.413</i>	2.188	<i>2.294</i>	<i>2.391</i>
Raw Steel Production															
(millions tons)	25.11	25.97	26.26	<i>26.26</i>	<i>26.15</i>	<i>26.20</i>	<i>26.03</i>	<i>26.39</i>	<i>26.65</i>	<i>26.99</i>	<i>26.89</i>	<i>27.30</i>	103.60	<i>104.77</i>	<i>107.83</i>

^aMacroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case.

^bIncludes all highway travel.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*; U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0200.

Table 3. International Petroleum Supply and Demand: Mid World Oil Price Case

(Million Barrels per Day, Except OECD Commercial Stocks)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Demand ^a															
OECD															
U.S. (50 States)	19.2	19.2	19.7	<i>19.8</i>	<i>19.1</i>	<i>19.4</i>	<i>19.9</i>	<i>20.1</i>	<i>19.7</i>	<i>19.7</i>	<i>20.2</i>	<i>20.5</i>	19.5	<i>19.6</i>	<i>20.0</i>
U.S. Territories	0.3	0.3	0.3	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.4</i>	<i>0.3</i>	<i>0.3</i>	<i>0.4</i>	0.3	<i>0.3</i>	<i>0.3</i>
Canada.....	1.9	1.8	1.9	<i>1.9</i>	<i>1.9</i>	<i>1.8</i>	<i>2.0</i>	<i>2.0</i>	<i>1.9</i>	<i>1.9</i>	<i>2.0</i>	<i>2.0</i>	1.9	<i>1.9</i>	<i>2.0</i>
Europe.....	15.2	13.8	14.1	<i>15.3</i>	<i>15.1</i>	<i>14.1</i>	<i>14.7</i>	<i>15.3</i>	<i>15.2</i>	<i>14.3</i>	<i>14.8</i>	<i>15.5</i>	14.6	<i>14.8</i>	<i>15.0</i>
Japan	6.2	5.0	5.2	<i>5.7</i>	<i>6.2</i>	<i>5.0</i>	<i>5.3</i>	<i>5.7</i>	<i>6.2</i>	<i>5.1</i>	<i>5.3</i>	<i>5.7</i>	5.5	<i>5.5</i>	<i>5.6</i>
Australia and New Zealand.....	1.0	1.0	1.0	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.1</i>	<i>1.0</i>	<i>1.1</i>	1.0	<i>1.0</i>	<i>1.0</i>
Total OECD.....	43.8	41.1	42.2	<i>44.1</i>	<i>43.5</i>	<i>41.7</i>	<i>43.1</i>	<i>44.4</i>	<i>44.5</i>	<i>42.3</i>	<i>43.7</i>	<i>45.1</i>	42.8	<i>43.2</i>	<i>43.9</i>
Non-OECD															
Former Soviet Union.....	3.8	3.5	3.6	<i>3.7</i>	<i>3.8</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.8</i>	<i>3.7</i>	<i>3.7</i>	<i>3.7</i>	3.6	<i>3.7</i>	<i>3.7</i>
Europe.....	1.6	1.6	1.5	<i>1.6</i>	<i>1.6</i>	<i>1.6</i>	<i>1.6</i>	<i>1.6</i>	<i>1.7</i>	<i>1.7</i>	<i>1.7</i>	<i>1.7</i>	1.6	<i>1.6</i>	<i>1.7</i>
China.....	4.4	4.3	4.3	<i>4.3</i>	<i>4.6</i>	<i>4.5</i>	<i>4.5</i>	<i>4.5</i>	<i>4.8</i>	<i>4.7</i>	<i>4.7</i>	<i>4.7</i>	4.3	<i>4.5</i>	<i>4.7</i>
Other Asia.....	8.8	8.9	8.7	<i>9.0</i>	<i>9.2</i>	<i>9.2</i>	<i>8.9</i>	<i>9.3</i>	<i>9.6</i>	<i>9.6</i>	<i>9.3</i>	<i>9.7</i>	8.9	<i>9.1</i>	<i>9.5</i>
Other Non-OECD.....	13.3	13.6	13.6	<i>13.6</i>	<i>13.6</i>	<i>13.9</i>	<i>14.0</i>	<i>13.9</i>	<i>14.0</i>	<i>14.3</i>	<i>14.4</i>	<i>14.3</i>	13.5	<i>13.8</i>	<i>14.2</i>
Total Non-OECD.....	31.9	31.8	31.7	<i>32.2</i>	<i>32.7</i>	<i>32.8</i>	<i>32.5</i>	<i>32.9</i>	<i>33.9</i>	<i>34.0</i>	<i>33.7</i>	<i>34.1</i>	31.9	<i>32.7</i>	<i>33.9</i>
Total World Demand.....	75.7	72.9	73.9	<i>76.3</i>	<i>76.3</i>	<i>74.5</i>	<i>75.6</i>	<i>77.4</i>	<i>78.4</i>	<i>76.2</i>	<i>77.4</i>	<i>79.2</i>	74.7	<i>75.9</i>	<i>77.8</i>
Supply ^b															
OECD															
U.S. (50 States)	8.9	9.0	9.0	<i>9.2</i>	<i>9.1</i>	<i>9.0</i>	<i>9.1</i>	<i>9.2</i>	<i>9.1</i>	<i>9.1</i>	<i>9.1</i>	<i>9.1</i>	9.0	<i>9.1</i>	<i>9.1</i>
Canada.....	2.6	2.6	2.6	<i>2.7</i>	<i>2.8</i>	2.6	<i>2.7</i>	<i>2.7</i>							
North Sea ^c	6.3	6.0	6.2	<i>6.7</i>	<i>6.7</i>	<i>6.5</i>	<i>6.6</i>	<i>6.8</i>	<i>6.9</i>	<i>6.7</i>	<i>7.0</i>	<i>7.2</i>	6.3	<i>6.7</i>	<i>6.9</i>
Other OECD.....	1.5	1.5	1.5	<i>1.5</i>	<i>1.6</i>	<i>1.7</i>	1.5	<i>1.6</i>	<i>1.6</i>						
Total OECD.....	19.3	19.1	19.3	<i>20.1</i>	<i>20.0</i>	<i>19.8</i>	<i>20.0</i>	<i>20.3</i>	<i>20.4</i>	<i>20.2</i>	<i>20.5</i>	<i>20.7</i>	19.5	<i>20.0</i>	<i>20.4</i>
Non-OECD															
OPEC.....	30.3	28.9	29.2	<i>28.7</i>	<i>28.9</i>	<i>30.1</i>	<i>30.5</i>	<i>31.1</i>	<i>31.4</i>	<i>31.5</i>	<i>31.9</i>	<i>32.4</i>	29.3	<i>30.1</i>	<i>31.8</i>
Former Soviet Union.....	7.2	7.3	7.4	<i>7.5</i>	<i>7.4</i>	<i>7.3</i>	<i>7.3</i>	<i>7.4</i>	<i>7.4</i>	<i>7.3</i>	<i>7.4</i>	<i>7.4</i>	7.4	<i>7.4</i>	<i>7.4</i>
China.....	3.2	3.2	3.2	<i>3.2</i>	<i>3.2</i>	<i>3.2</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	3.2	<i>3.2</i>	<i>3.3</i>
Mexico.....	3.6	3.4	3.3	<i>3.3</i>	<i>3.3</i>	<i>3.4</i>	<i>3.6</i>	<i>3.6</i>	<i>3.7</i>	<i>3.7</i>	<i>3.7</i>	<i>3.8</i>	3.4	<i>3.5</i>	<i>3.7</i>
Other Non-OECD.....	11.1	11.0	11.0	<i>11.1</i>	<i>11.2</i>	<i>11.3</i>	<i>11.3</i>	<i>11.4</i>	<i>11.5</i>	<i>11.6</i>	<i>11.7</i>	<i>11.8</i>	11.0	<i>11.3</i>	<i>11.6</i>
Total Non-OECD.....	55.4	53.7	54.2	<i>53.7</i>	<i>53.9</i>	<i>55.3</i>	<i>56.0</i>	<i>56.8</i>	<i>57.2</i>	<i>57.3</i>	<i>58.0</i>	<i>58.6</i>	54.2	<i>55.5</i>	<i>57.8</i>
Total World Supply	74.8	72.8	73.5	<i>73.8</i>	<i>73.9</i>	<i>75.1</i>	<i>76.0</i>	<i>77.1</i>	<i>77.6</i>	<i>77.5</i>	<i>78.5</i>	<i>79.3</i>	73.7	<i>75.5</i>	<i>78.2</i>
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR).....	0.3	-0.2	0.3	<i>1.3</i>	<i>0.3</i>	<i>-0.7</i>	<i>-0.4</i>	<i>0.4</i>	<i>0.2</i>	<i>-0.8</i>	<i>-0.3</i>	<i>0.5</i>	0.4	<i>-0.1</i>	<i>-0.1</i>
Other.....	0.6	0.3	0.1	<i>1.2</i>	<i>2.1</i>	<i>0.1</i>	<i>0.0</i>	<i>-0.1</i>	<i>0.5</i>	<i>-0.5</i>	<i>-0.7</i>	<i>-0.6</i>	0.5	<i>0.5</i>	<i>-0.3</i>
Total Stock Withdrawals	0.9	0.1	0.4	<i>2.5</i>	<i>2.4</i>	<i>-0.6</i>	<i>-0.4</i>	<i>0.3</i>	<i>0.8</i>	<i>-1.2</i>	<i>-1.1</i>	<i>-0.1</i>	1.0	<i>0.4</i>	<i>-0.4</i>
OECD Comm. Stocks, End (bill. bbls.).....	2.8	2.8	2.8	<i>2.6</i>	<i>2.5</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.5</i>	<i>2.6</i>	<i>2.7</i>	<i>2.7</i>	2.6	<i>2.6</i>	<i>2.7</i>
Non-OPEC Supply	44.4	43.9	44.3	<i>45.1</i>	<i>45.0</i>	<i>45.0</i>	<i>45.5</i>	<i>46.0</i>	<i>46.2</i>	<i>46.0</i>	<i>46.5</i>	<i>46.9</i>	44.5	<i>45.4</i>	<i>46.4</i>
Net Exports from Former Soviet Union...	3.4	3.8	3.9	<i>3.7</i>	<i>3.6</i>	<i>3.7</i>	<i>3.7</i>	<i>3.8</i>	<i>3.6</i>	<i>3.6</i>	<i>3.7</i>	<i>3.7</i>	3.7	<i>3.7</i>	<i>3.7</i>

^aDemand for petroleum by the OECD countries is synonymous with "petroleum product supplied," which is defined in the glossary of the EIA *Petroleum Supply Monthly*, DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

^bIncludes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

^cIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration: latest data available from EIA databases supporting the following reports: *International Petroleum Statistics Report*, DOE/EIA-0520; Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

Table 4. U. S. Energy Prices
(Nominal Dollars)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Imported Crude Oil ^a															
(dollars per barrel).....	10.92	15.44	19.64	23.06	26.65	27.65	26.09	25.34	24.14	23.21	23.06	22.37	17.22	26.43	23.18
Natural Gas Wellhead															
(dollars per thousand cubic feet).....	1.74	2.00	2.28	2.35	2.30	2.47	2.50	2.66	2.57	2.47	2.49	2.75	2.09	2.48	2.57
Petroleum Products															
Gasoline Retail ^b (dollars per gallon)															
All Grades.....	0.99	1.17	1.25	1.30	1.42	1.59	1.53	1.44	1.38	1.40	1.39	1.35	1.18	1.50	1.38
Regular Unleaded.....	0.95	1.13	1.21	1.26	1.38	1.55	1.49	1.39	1.34	1.36	1.36	1.31	1.14	1.46	1.34
No. 2 Diesel Oil, Retail															
(dollars per gallon).....	0.97	1.08	1.18	1.26	1.44	1.45	1.39	1.38	1.33	1.30	1.29	1.30	1.12	1.41	1.31
No. 2 Heating Oil, Wholesale															
(dollars per gallon).....	0.36	0.44	0.56	0.65	0.90	0.80	0.76	0.77	0.74	0.69	0.68	0.69	0.51	0.81	0.70
No. 2 Heating Oil, Retail															
(dollars per gallon).....	0.80	0.83	0.84	1.01	1.46	1.20	1.06	1.10	1.11	1.05	0.99	1.04	0.87	1.27	1.07
No. 6 Residual Fuel Oil, Retail ^c															
(dollars per barrel).....	11.28	14.02	17.97	21.07	25.73	24.99	23.68	24.22	23.43	21.05	20.83	21.86	15.88	24.64	21.84
Electric Utility Fuels															
Coal															
(dollars per million Btu).....	1.24	1.23	1.21	1.22	1.23	1.24	1.22	1.22	1.23	1.24	1.22	1.21	1.22	1.23	1.22
Heavy Fuel Oil ^d															
(dollars per million Btu).....	1.72	2.26	2.82	3.39	3.98	4.05	3.95	3.90	3.63	3.42	3.48	3.53	2.40	3.97	3.52
Natural Gas															
(dollars per million Btu).....	2.19	2.42	2.73	2.94	3.04	3.07	3.06	3.27	3.25	3.01	3.01	3.33	2.59	3.10	3.11
Other Residential															
Natural Gas															
(dollars per thousand cubic feet).....	6.06	6.84	8.55	7.12	6.63	7.39	8.88	7.19	7.01	7.65	8.99	7.33	6.68	7.09	7.35
Electricity															
(cents per kilowatthour).....	7.79	8.28	8.43	8.12	7.79	8.13	8.38	7.91	7.49	8.08	8.34	7.89	8.17	8.07	7.96

^aRefiner acquisition cost (RAC) of imported crude oil.

^bAverage self-service cash prices.

^cAverage for all sulfur contents.

^dIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the third quarter of 1999. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Monthly Energy Review*, DOE/EIA-0035; *Electric Power Monthly*, DOE/EIA-0226.

Table 5. U.S. Petroleum Supply and Demand: Mid World Oil Price Case

(Million Barrels per Day, Except Closing Stocks)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Crude Oil Supply															
Domestic Production ^a	6.00	5.95	5.87	5.89	5.87	5.82	5.87	5.96	5.96	5.90	5.88	5.87	5.93	5.88	5.90
Alaska.....	1.13	1.04	0.98	1.03	1.02	0.94	0.91	0.94	0.92	0.88	0.91	0.92	1.04	0.95	0.91
Lower 48.....	4.86	4.91	4.89	4.86	4.85	4.88	4.96	5.02	5.04	5.02	4.97	4.95	4.88	4.93	5.00
Net Imports (including SPR) ^b	8.41	8.76	8.77	8.15	8.18	9.53	9.80	9.24	8.81	9.66	9.81	9.34	8.52	9.19	9.41
Other SPR Supply.....	0.00	0.00	0.07	0.10	0.03	0.04	0.07	0.07	0.00	0.00	0.00	0.00	0.04	0.05	0.00
SPR Stock Withdrawn or Added (-).....	-0.01	-0.03	-0.01	0.09	-0.02	-0.09	-0.14	-0.14	0.00	0.00	0.00	0.00	0.01	-0.10	0.00
Other Stock Withdrawn or Added (-).....	-0.23	0.15	0.31	0.20	-0.11	-0.06	0.10	0.09	-0.09	-0.10	0.05	0.04	0.11	0.01	-0.03
Product Supplied and Losses.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unaccounted-for Crude Oil.....	0.26	0.15	0.29	0.24	0.26	0.22	0.22	0.21	0.21	0.22	0.22	0.22	0.24	0.23	0.22
Total Crude Oil Supply.....	14.42	15.01	15.23	14.57	14.18	15.37	15.78	15.29	14.88	15.67	15.96	15.47	14.81	15.16	15.50
Other Supply															
NGL Production.....	1.72	1.81	1.89	1.94	1.91	1.91	1.90	1.91	1.93	1.94	1.92	1.93	1.84	1.91	1.93
Other Hydrocarbon and Alcohol Inputs.....	0.37	0.37	0.38	0.40	0.37	0.36	0.36	0.38	0.37	0.36	0.36	0.39	0.38	0.37	0.37
Crude Oil Product Supplied.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processing Gain.....	0.86	0.87	0.87	0.97	0.90	0.93	0.93	0.90	0.86	0.92	0.94	0.91	0.90	0.92	0.91
Net Product Imports ^c	1.31	1.44	1.28	0.89	1.31	1.33	1.23	1.17	1.36	1.44	1.43	1.34	1.23	1.26	1.39
Product Stock Withdrawn or Added (-) ^d	0.54	-0.33	0.04	1.03	0.43	-0.51	-0.34	0.43	0.32	-0.65	-0.39	0.44	0.32	0.00	-0.07
Total Supply.....	19.23	19.18	19.69	19.80	19.11	19.40	19.86	20.09	19.73	19.68	20.23	20.48	19.48	19.62	20.03
Demand															
Motor Gasoline.....	7.95	8.59	8.59	8.54	8.13	8.62	8.81	8.67	8.14	8.73	8.96	8.82	8.42	8.56	8.67
Jet Fuel.....	1.69	1.61	1.68	1.70	1.61	1.70	1.77	1.79	1.78	1.72	1.77	1.79	1.67	1.71	1.77
Distillate Fuel Oil.....	3.71	3.37	3.40	3.74	3.82	3.50	3.42	3.66	3.86	3.53	3.50	3.75	3.55	3.60	3.66
Residual Fuel Oil.....	0.98	0.79	0.84	0.78	0.71	0.67	0.71	0.77	0.88	0.76	0.79	0.83	0.85	0.72	0.81
Other Oils ^e	4.90	4.81	5.17	5.04	4.84	4.92	5.15	5.19	5.06	4.95	5.20	5.28	4.98	5.02	5.12
Total Demand.....	19.23	19.18	19.69	19.80	19.11	19.40	19.86	20.09	19.73	19.68	20.23	20.48	19.48	19.62	20.03
Total Petroleum Net Imports.....	9.72	10.21	10.04	9.04	9.48	10.87	11.03	10.41	10.17	11.10	11.24	10.68	9.75	10.45	10.80
Closing Stocks (million barrels)															
Crude Oil (excluding SPR).....	345	331	303	284	294	300	291	282	291	300	296	292	284	282	292
Total Motor Gasoline.....	216	215	204	190	190	188	184	187	194	197	193	197	190	187	197
Finished Motor Gasoline.....	169	171	159	152	145	148	143	148	150	156	152	156	152	148	156
Blending Components.....	48	43	44	39	45	40	40	40	45	41	41	41	39	40	41
Jet Fuel.....	42	47	49	40	42	41	43	41	39	41	44	43	40	41	43
Distillate Fuel Oil.....	125	132	144	124	94	104	120	123	93	104	122	124	124	123	124
Residual Fuel Oil.....	40	43	41	36	34	34	34	37	33	37	36	37	36	37	37
Other Oils ^e	280	298	293	244	236	274	292	245	246	286	306	259	244	245	259
Total Stocks (excluding SPR).....	1048	1065	1032	919	889	941	964	916	895	964	996	952	919	916	952
Crude Oil in SPR.....	572	575	575	567	569	577	590	603	603	603	603	603	567	603	603
Total Stocks (including SPR).....	1620	1640	1608	1486	1459	1519	1554	1519	1499	1568	1599	1555	1486	1519	1555

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^eIncludes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

 Notes: Minor discrepancies with other EIA published historical data are due to rounding, with the following exception: recent petroleum demand and supply data displayed here reflect the incorporation of resubmissions of the data as reported in EIA's *Petroleum Supply Monthly*, TableC1. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

 Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109, and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Table 6. Approximate Energy Demand Sensitivities^a for the STIFS^b Model
(Percent Deviation Base Case)

Demand Sector	+1% GDP	+ 10% Prices		+ 10% Weather ^e	
		Crude Oil ^c	N.Gas Wellhead ^d	Fall/Winter ^f	Spring/Summer ^f
Petroleum					
Total.....	0.6%	-0.3%	0.1%	1.1%	0.1%
Motor Gasoline	0.1%	-0.3%	0.0%	0.0%	0.0%
Distillate Fuel.....	0.8%	-0.2%	0.0%	2.7%	0.1%
Residual Fuel.....	1.6%	-3.4%	2.6%	2.0%	2.7%
Natural Gas					
Total.....	1.1%	0.3%	-0.4%	4.4%	1.0%
Residential.....	0.1%	0.0%	0.0%	8.2%	0.0%
Commercial.....	0.9%	0.0%	0.0%	7.3%	0.0%
Industrial.....	1.7%	0.2%	-0.5%	1.3%	0.0%
Electric Utility	1.8%	1.6%	-1.5%	1.0%	4.0%
Coal					
Total.....	0.7%	0.0%	0.0%	1.7%	1.7%
Electric Utility	0.6%	0.0%	0.0%	1.9%	1.9%
Electricity					
Total.....	0.6%	0.0%	0.0%	1.5%	1.7%
Residential.....	0.1%	0.0%	0.0%	3.2%	3.6%
Commercial.....	0.9%	0.0%	0.0%	1.0%	1.4%
Industrial.....	0.8%	0.0%	0.0%	0.3%	0.2%

^aPercent change in demand quantity resulting from specified percent changes in model inputs.

^bShort-Term Integrated Forecasting System.

^cRefiner acquisitions cost of imported crude oil.

^dAverage unit value of marketed natural gas production reported by States.

^eRefers to percent changes in degree-days.

^fResponse during fall/winter period(first and fourth calendar quarters) refers to change in heating degree-days. Response during the spring/summer period refers to change in cooling degree-days.

Table 7. Forecast Components for U.S. Crude Oil Production
(Million Barrels per Day)

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.02	4.96	0.76	0.09	0.67
Lower 48 States.....	5.09	4.36	0.73	0.07	0.66
Alaska.....	0.93	0.90	0.03	0.01	0.01

Note: Components provided are for the fourth quarter 2001. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

Table 8. U.S. Natural Gas Supply and Demand: Mid world Oil Price Case
(Trillion Cubic Feet)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Total Dry Gas Production	4.68	4.67	4.66	<i>4.70</i>	<i>4.74</i>	<i>4.71</i>	<i>4.72</i>	<i>4.72</i>	<i>4.72</i>	<i>4.73</i>	<i>4.75</i>	<i>4.75</i>	18.71	<i>18.89</i>	<i>18.94</i>
Net Imports	0.83	0.79	0.87	<i>0.89</i>	<i>0.93</i>	<i>0.87</i>	<i>0.92</i>	<i>0.92</i>	<i>0.93</i>	<i>0.94</i>	<i>0.95</i>	<i>0.95</i>	3.39	<i>3.64</i>	<i>3.77</i>
Supplemental Gaseous Fuels.....	0.03	0.02	0.02	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.04</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	0.10	<i>0.13</i>	<i>0.13</i>
Total New Supply	5.54	5.49	5.56	<i>5.62</i>	<i>5.70</i>	<i>5.61</i>	<i>5.67</i>	<i>5.68</i>	<i>5.68</i>	<i>5.71</i>	<i>5.72</i>	<i>5.73</i>	22.21	<i>22.65</i>	<i>22.84</i>
Total Underground Storage															
Opening.....	7.04	5.79	6.50	<i>7.24</i>	<i>6.88</i>	<i>5.36</i>	<i>6.18</i>	<i>7.10</i>	<i>6.68</i>	<i>5.35</i>	<i>6.18</i>	<i>7.10</i>	7.04	<i>6.88</i>	<i>6.68</i>
Closing.....	5.79	6.50	7.24	<i>6.88</i>	<i>5.36</i>	<i>6.18</i>	<i>7.10</i>	<i>6.68</i>	<i>5.35</i>	<i>6.18</i>	<i>7.10</i>	<i>6.68</i>	6.88	<i>6.68</i>	<i>6.68</i>
Net Withdrawals.....	1.25	-0.71	-0.74	<i>0.36</i>	<i>1.53</i>	<i>-0.83</i>	<i>-0.92</i>	<i>0.42</i>	<i>1.33</i>	<i>-0.83</i>	<i>-0.92</i>	<i>0.42</i>	0.16	<i>0.20</i>	<i>0.00</i>
Total Supply.....	6.79	4.78	4.81	<i>5.99</i>	<i>7.23</i>	<i>4.78</i>	<i>4.75</i>	<i>6.10</i>	<i>7.01</i>	<i>4.87</i>	<i>4.81</i>	<i>6.15</i>	22.37	<i>22.85</i>	<i>22.84</i>
Balancing Item ^a	0.00	-0.05	-0.27	<i>-0.63</i>	<i>-0.30</i>	<i>0.19</i>	<i>-0.09</i>	<i>-0.32</i>	<i>0.31</i>	<i>0.18</i>	<i>-0.05</i>	<i>-0.30</i>	-0.95	<i>-0.52</i>	<i>0.14</i>
Total Primary Supply.....	6.79	4.72	4.54	<i>5.36</i>	<i>6.93</i>	<i>4.97</i>	<i>4.66</i>	<i>5.78</i>	<i>7.32</i>	<i>5.05</i>	<i>4.76</i>	<i>5.85</i>	21.42	<i>22.33</i>	<i>22.98</i>
Demand															
Lease and Plant Fuel.....	0.31	0.31	0.31	<i>0.31</i>	<i>0.31</i>	<i>0.30</i>	<i>0.30</i>	<i>0.31</i>	<i>0.31</i>	<i>0.30</i>	<i>0.31</i>	<i>0.31</i>	1.23	<i>1.23</i>	<i>1.23</i>
Pipeline Use.....	0.20	0.14	0.14	<i>0.16</i>	<i>0.20</i>	<i>0.14</i>	<i>0.14</i>	<i>0.17</i>	<i>0.21</i>	<i>0.15</i>	<i>0.14</i>	<i>0.18</i>	0.64	<i>0.65</i>	<i>0.67</i>
Residential.....	2.24	0.81	0.38	<i>1.24</i>	<i>2.22</i>	<i>0.82</i>	<i>0.36</i>	<i>1.40</i>	<i>2.40</i>	<i>0.83</i>	<i>0.36</i>	<i>1.41</i>	4.67	<i>4.80</i>	<i>5.01</i>
Commercial.....	1.26	0.58	0.43	<i>0.82</i>	<i>1.29</i>	<i>0.62</i>	<i>0.43</i>	<i>0.90</i>	<i>1.39</i>	<i>0.63</i>	<i>0.43</i>	<i>0.91</i>	3.09	<i>3.22</i>	<i>3.37</i>
Industrial (Incl. Nonutility Use)	2.24	2.03	2.13	<i>2.25</i>	<i>2.36</i>	<i>2.18</i>	<i>2.17</i>	<i>2.36</i>	<i>2.43</i>	<i>2.22</i>	<i>2.20</i>	<i>2.39</i>	8.66	<i>9.07</i>	<i>9.23</i>
Electric Utilities.....	0.54	0.85	1.15	<i>0.59</i>	<i>0.55</i>	<i>0.90</i>	<i>1.27</i>	<i>0.64</i>	<i>0.58</i>	<i>0.93</i>	<i>1.32</i>	<i>0.65</i>	3.13	<i>3.37</i>	<i>3.48</i>
Total Demand.....	6.79	4.72	4.54	<i>5.36</i>	<i>6.93</i>	<i>4.97</i>	<i>4.66</i>	<i>5.78</i>	<i>7.32</i>	<i>5.05</i>	<i>4.76</i>	<i>5.85</i>	21.42	<i>22.33</i>	<i>22.98</i>

^aThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration; latest data available from EIA databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

Table 9. U.S. Coal Supply and Demand: Mid World Oil Price Case

(Million Short Tons)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Production	282.3	263.3	272.9	<i>280.6</i>	<i>275.7</i>	<i>274.8</i>	<i>272.0</i>	<i>282.0</i>	<i>278.1</i>	<i>281.8</i>	<i>278.8</i>	<i>282.8</i>	1099.1	<i>1104.5</i>	<i>1121.5</i>
Appalachia	113.9	102.7	102.4	<i>111.0</i>	<i>113.7</i>	<i>114.7</i>	<i>106.1</i>	<i>114.4</i>	<i>113.2</i>	<i>115.6</i>	<i>106.5</i>	<i>112.9</i>	430.1	<i>449.0</i>	<i>448.2</i>
Interior	40.1	40.8	42.0	<i>40.3</i>	<i>38.9</i>	<i>36.6</i>	<i>36.9</i>	<i>39.0</i>	<i>37.6</i>	<i>35.8</i>	<i>36.0</i>	<i>37.2</i>	163.2	<i>151.4</i>	<i>146.6</i>
Western.....	128.2	119.8	128.5	<i>129.3</i>	<i>123.1</i>	<i>123.4</i>	<i>128.9</i>	<i>128.6</i>	<i>127.4</i>	<i>130.4</i>	<i>136.2</i>	<i>132.7</i>	505.8	<i>504.1</i>	<i>526.7</i>
Primary Stock Levels ^a															
Opening.....	36.1	42.4	41.5	<i>35.1</i>	<i>36.4</i>	<i>41.3</i>	<i>41.9</i>	<i>35.5</i>	<i>34.6</i>	<i>41.3</i>	<i>41.9</i>	<i>35.5</i>	36.1	<i>36.4</i>	<i>34.6</i>
Closing.....	42.4	41.5	35.1	<i>36.4</i>	<i>41.3</i>	<i>41.9</i>	<i>35.5</i>	<i>34.6</i>	<i>41.3</i>	<i>41.9</i>	<i>35.5</i>	<i>34.6</i>	36.4	<i>34.6</i>	<i>34.6</i>
Net Withdrawals.....	-6.2	0.8	6.5	<i>-1.3</i>	<i>-4.9</i>	<i>-0.6</i>	<i>6.4</i>	<i>0.9</i>	<i>-6.6</i>	<i>-0.6</i>	<i>6.4</i>	<i>0.9</i>	-0.2	<i>1.7</i>	<i>(S)</i>
Imports.....	2.2	2.1	2.4	<i>2.4</i>	<i>2.5</i>	<i>2.5</i>	<i>2.5</i>	<i>2.6</i>	<i>2.9</i>	<i>2.9</i>	<i>2.9</i>	<i>2.9</i>	9.1	<i>10.2</i>	<i>11.6</i>
Exports	13.0	14.4	16.1	<i>15.0</i>	<i>14.8</i>	<i>15.0</i>	<i>15.2</i>	<i>15.2</i>	<i>14.9</i>	<i>15.1</i>	<i>15.3</i>	<i>15.2</i>	58.5	<i>60.2</i>	<i>60.5</i>
Total Net Domestic Supply.....	265.4	251.8	265.7	<i>266.6</i>	<i>258.5</i>	<i>261.8</i>	<i>265.7</i>	<i>270.3</i>	<i>259.5</i>	<i>269.0</i>	<i>272.7</i>	<i>271.4</i>	1049.5	<i>1056.3</i>	<i>1072.6</i>
Secondary Stock Levels ^b															
Opening.....	129.5	144.2	152.9	<i>139.8</i>	<i>144.1</i>	<i>146.8</i>	<i>157.2</i>	<i>141.0</i>	<i>150.6</i>	<i>144.5</i>	<i>156.2</i>	<i>140.4</i>	129.5	<i>144.1</i>	<i>150.6</i>
Closing.....	144.2	152.9	139.8	<i>144.1</i>	<i>146.8</i>	<i>157.2</i>	<i>141.0</i>	<i>150.6</i>	<i>144.5</i>	<i>156.2</i>	<i>140.4</i>	<i>143.8</i>	144.1	<i>150.6</i>	<i>143.8</i>
Net Withdrawals.....	-14.7	-8.7	13.1	<i>-4.3</i>	<i>-2.6</i>	<i>-10.4</i>	<i>16.1</i>	<i>-9.5</i>	<i>6.1</i>	<i>-11.7</i>	<i>15.8</i>	<i>-3.5</i>	-14.7	<i>-6.4</i>	<i>6.7</i>
Waste Coal Supplied to IPPs ^c	2.3	2.4	2.7	<i>2.9</i>	<i>3.2</i>	<i>3.2</i>	<i>3.2</i>	<i>3.2</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	10.3	<i>12.7</i>	<i>13.2</i>
Total Supply.....	252.9	245.5	281.5	<i>265.3</i>	<i>259.1</i>	<i>254.5</i>	<i>285.0</i>	<i>264.0</i>	<i>268.8</i>	<i>260.6</i>	<i>291.8</i>	<i>271.2</i>	1045.2	<i>1062.6</i>	<i>1092.5</i>
Demand															
Coke Plants.....	6.8	7.1	7.0	<i>7.0</i>	<i>7.0</i>	<i>6.8</i>	<i>6.8</i>	<i>6.9</i>	<i>7.1</i>	<i>6.9</i>	<i>6.9</i>	<i>7.1</i>	27.9	<i>27.6</i>	<i>28.0</i>
Electricity Production															
Electric Utilities.....	217.3	214.7	247.9	<i>216.8</i>	<i>219.8</i>	<i>217.3</i>	<i>247.1</i>	<i>223.5</i>	<i>229.1</i>	<i>223.0</i>	<i>253.5</i>	<i>229.9</i>	896.6	<i>907.6</i>	<i>935.5</i>
Nonutilities (Excl. Cogen.) ^d	8.8	10.7	12.7	<i>15.6</i>	<i>13.1</i>	<i>12.8</i>	<i>13.5</i>	<i>13.5</i>	<i>13.6</i>	<i>13.3</i>	<i>14.1</i>	<i>14.0</i>	47.8	<i>52.9</i>	<i>55.0</i>
Retail and General Industry.....	18.9	17.4	16.4	<i>20.1</i>	<i>19.2</i>	<i>17.7</i>	<i>17.6</i>	<i>20.0</i>	<i>19.0</i>	<i>17.4</i>	<i>17.4</i>	<i>20.2</i>	72.8	<i>74.5</i>	<i>74.0</i>
Total Demand ^e	251.7	249.9	284.0	<i>259.5</i>	<i>259.1</i>	<i>254.5</i>	<i>285.0</i>	<i>264.0</i>	<i>268.8</i>	<i>260.6</i>	<i>291.8</i>	<i>271.2</i>	1045.2	<i>1062.6</i>	<i>1092.5</i>
Discrepancy ^f	1.2	-4.4	-2.5	<i>5.7</i>	<i>0.0</i>	0.0	<i>0.0</i>	<i>0.0</i>							

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

^bSecondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

^cEstimated independent power producers (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes, 3.2 million tons per quarter in 2000 and 3.3 million tons per quarter in 2000.

^dEstimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 1998 and projections for 1999 and 2000 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1998 and 1999, and (2) annual coal-fired generation at nonutilities from Form EIA-867 (Annual Nonutility Power Producer Report).

^eTotal Demand includes estimated IPP consumption.

^fThe discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121, and *Electric Power Monthly*, DOE/EIA-0226. Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 10. U.S. Electricity Supply and Demand: Mid World Oil Price Case

(Billion Kilowatt-hours)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Net Utility Generation															
Coal	431.7	426.5	489.0	426.3	435.8	432.1	487.6	439.9	452.2	441.2	499.4	451.8	1773.5	1795.4	1844.6
Petroleum.....	26.9	23.0	27.8	12.0	16.6	14.0	19.3	17.7	24.3	19.8	24.8	22.7	89.7	67.7	91.7
Natural Gas	52.0	81.3	107.7	56.4	52.8	86.2	121.3	61.6	55.4	88.7	126.1	62.2	297.3	321.8	332.3
Nuclear	181.2	166.1	195.0	182.6	187.0	165.9	194.0	174.7	178.7	162.2	190.5	171.7	725.0	721.5	703.0
Hydroelectric	83.4	79.8	69.8	60.7	74.7	76.4	63.6	61.5	71.7	75.4	62.5	62.0	293.7	276.2	271.7
Geothermal and Other ^a	1.6	1.0	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	3.6	2.2	2.2
Subtotal	776.8	777.7	889.9	738.6	767.3	775.2	886.4	756.1	782.9	787.8	903.9	770.9	3182.9	3184.9	3245.4
Nonutility Generation ^b															
Coal	20.6	24.7	33.6	34.4	30.4	29.5	31.8	32.9	30.9	30.0	32.3	33.4	113.3	124.6	126.6
Petroleum.....	6.5	7.2	7.4	6.2	7.8	7.5	8.1	9.1	7.7	7.5	8.1	9.1	27.3	32.5	32.5
Natural Gas	52.0	57.1	73.4	72.2	64.3	61.6	67.0	75.0	64.2	62.2	67.7	75.8	254.7	267.9	269.9
Other Gaseous Fuels ^c	1.9	2.1	2.7	2.3	2.0	1.9	2.0	2.3	2.0	1.9	2.1	2.3	9.0	8.1	8.2
Hydroelectric	3.4	3.4	2.4	2.5	2.4	2.3	2.5	2.8	2.4	2.3	2.5	2.8	11.7	10.0	10.1
Geothermal and Other ^d	18.7	20.1	21.8	21.8	21.8	20.9	23.0	25.6	22.1	21.2	23.3	25.9	82.4	91.2	92.5
Subtotal	103.2	114.7	141.3	139.2	128.6	123.6	134.5	147.7	129.3	125.2	136.1	149.4	498.4	534.4	539.9
Total Generation.....	879.9	892.4	1031.2	877.8	896.0	898.7	1020.8	903.7	912.1	912.9	1039.9	920.2	3681.3	3719.3	3785.3
Net Imports ^e	2.0	7.6	11.5	8.2	6.7	6.9	9.6	7.2	6.8	7.3	9.0	7.0	29.3	30.4	30.0
Total Supply.....	881.9	900.0	1042.7	886.0	902.7	905.6	1030.4	910.9	918.9	920.2	1049.0	927.2	3710.6	3749.7	3815.3
Losses and Unaccounted for ^f	62.0	85.9	65.2	60.8	47.4	75.5	64.7	64.2	48.6	76.8	65.9	65.4	273.9	251.8	256.8
Demand															
Electric Utility Sales															
Residential.....	286.0	249.2	349.5	253.4	292.9	257.9	338.8	267.0	305.4	264.2	346.6	272.3	1138.0	1156.6	1188.5
Commercial.....	226.0	236.5	277.6	234.7	237.1	241.1	279.8	241.4	240.5	244.5	284.1	245.0	974.7	999.4	1014.2
Industrial.....	248.5	264.6	274.6	263.2	257.3	265.5	275.1	263.9	255.9	267.9	279.0	268.8	1050.9	1061.7	1071.6
Other	23.9	24.4	27.3	25.2	25.6	25.0	27.9	25.9	26.3	26.0	29.0	27.0	100.8	104.4	108.3
Subtotal	784.4	774.6	928.9	776.5	813.0	789.4	921.5	798.2	828.1	802.6	938.7	813.1	3264.4	3322.1	3382.5
Nonutility Use/Sales ^b	35.5	39.5	48.6	48.7	42.3	40.7	44.2	48.6	42.1	40.8	44.4	48.7	172.3	175.8	176.0
Total Demand.....	819.9	814.0	977.6	825.2	855.3	830.1	965.7	846.8	870.3	843.4	983.1	861.8	3436.7	3497.9	3558.5
Memo:															
Nonutility Sales to															
Electric Utilities ^b	67.7	75.2	92.7	90.4	86.3	82.9	90.2	99.1	87.1	84.4	91.7	100.7	326.1	358.6	363.9

^aOther" includes generation from wind, wood, waste, and solar sources.

^bElectricity(net Generation) from nonutility sources, including cogenerators and small power producers.

^cIncludes refinery still gas and other process or waste gases and liquefied petroleum gases.

^dIncludes geothermal, solar, wind, wood, waste, nuclear, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

^eData for 1999 are estimates.

^fBalancing item, mainly transmission and distribution losses.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

 Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following report: *Electric Power Monthly*, DOE/EIA-0226. Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 11. U.S. Renewable Energy Use by Sector: Mid World Oil Price Case
(Quadrillion Btu)

	Year				Annual Percentage Change		
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001
Electric Utilities							
Hydroelectric Power ^a	3.178	3.067	<i>2.884</i>	<i>2.836</i>	-3.5	<i>-6.0</i>	<i>-1.7</i>
Geothermal, Solar and Wind Energy ^b	0.109	0.036	<i>0.004</i>	<i>0.004</i>	-67.0	<i>-88.9</i>	<i>0.0</i>
Biofuels ^c	0.021	0.020	<i>0.021</i>	<i>0.021</i>	-4.8	<i>5.0</i>	<i>0.0</i>
Total	3.307	3.122	<i>2.908</i>	<i>2.860</i>	-5.6	<i>-6.9</i>	<i>-1.7</i>
Nonutility Power Generators							
Hydroelectric Power ^a	0.149	0.121	<i>0.103</i>	<i>0.105</i>	-18.8	<i>-14.9</i>	<i>1.9</i>
Geothermal, Solar and Wind Energy ^b	0.240	0.310	<i>0.430</i>	<i>0.436</i>	29.2	<i>38.7</i>	<i>1.4</i>
Biofuels ^c	0.525	0.653	<i>0.653</i>	<i>0.663</i>	24.4	<i>0.0</i>	<i>1.5</i>
Total.....	0.914	1.083	<i>1.187</i>	<i>1.203</i>	18.5	<i>9.6</i>	<i>1.3</i>
Total Power Generation	4.221	4.205	<i>4.095</i>	<i>4.064</i>	-0.4	<i>-2.6</i>	<i>-0.8</i>
Other Sectors ^d							
Residential and Commercial ^e	0.568	0.574	<i>0.583</i>	<i>0.583</i>	1.1	<i>1.6</i>	<i>0.0</i>
Industrial ^f	1.515	1.542	<i>1.569</i>	<i>1.569</i>	1.8	<i>1.8</i>	<i>0.0</i>
Transportation ^g	0.095	0.100	<i>0.098</i>	<i>0.097</i>	5.3	<i>-2.0</i>	<i>-1.0</i>
Total.....	2.178	2.217	<i>2.250</i>	<i>2.249</i>	1.8	<i>1.5</i>	<i>0.0</i>
Net Imported Electricity ^h	0.233	0.237	<i>0.246</i>	<i>0.243</i>	1.7	<i>3.8</i>	<i>-1.2</i>
Total Renewable Energy Demand.....	6.632	6.659	<i>6.592</i>	<i>6.556</i>	0.4	<i>-1.0</i>	<i>-0.5</i>

^aConventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

^bAlso includes photovoltaic and solar thermal energy.

^cBiofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

^dRenewable energy includes minor components of non-marketed renewable energy, which is renewable energy that is neither bought nor sold, either directly or indirectly as inputs to marketed energy. The Energy Information Administration does not estimate or project total consumption of non-marketed renewable energy.

^eIncludes biofuels and solar energy consumed in the residential and commercial sectors.

^fConsists primarily of biofuels for use other than in electricity cogeneration.

^gEthanol blended into gasoline.

^hRepresents 78.6 percent of total electricity net imports, which is the proportion of total 1994 net imported electricity (0.459 quadrillion Btu) attributable to renewable sources (0.361 quadrillion Btu).

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Table A1. Annual U.S. Energy Supply and Demand

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Real Gross Domestic Product (GDP) (billion chained 1992 dollars).....	5587	5822	6024	6129	6116	6319	6469	6729	6912	7165	7488	7810	8126	<i>8381</i>	<i>8644</i>
Imported Crude Oil Price ^a (nominal dollars per barrel)	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.22	<i>26.43</i>	<i>23.18</i>
Petroleum Supply															
Crude Oil Production ^b (million barrels per day)	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.93	<i>5.88</i>	<i>5.90</i>
Total Petroleum Net Imports (including SPR) (million barrels per day)	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.50	9.16	9.76	9.75	<i>10.45</i>	<i>10.80</i>
Energy Demand															
World Petroleum (million barrels per day)	63.1	64.9	65.9	66.0	66.6	66.8	67.0	68.3	69.9	71.4	73.1	73.6	74.7	<i>75.9</i>	<i>77.8</i>
U.S. Petroleum (million barrels per day)	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.48	<i>19.62</i>	<i>20.03</i>
Natural Gas (trillion cubic feet)	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.42	<i>22.33</i>	<i>22.98</i>
Coal (million short tons).....	830	877	891	897	898	907	943	950	962	1006	1029	1041	1045	<i>1063</i>	<i>1093</i>
Electricity (billion kilowatthours)															
Utility Sales ^c	2457	2578	2647	2713	2762	2763	2861	2935	3013	3098	3140	3240	3264	<i>3322</i>	<i>3383</i>
Nonutility Own Use ^d	NA	NA	NA	100	106	132	137	147	157	161	166	166	172	<i>176</i>	<i>176</i>
Total	NA	NA	NA	2812	2868	2895	2999	3081	3170	3259	3306	3406	3437	<i>3498</i>	<i>3559</i>
Total Energy Demand ^e (quadrillion Btu)	NA	NA	NA	84.2	84.4	85.6	87.4	89.2	90.9	93.9	94.2	94.5	96.1	<i>97.7</i>	<i>99.5</i>
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar).....	NA	NA	NA	13.74	13.80	13.54	13.51	13.26	13.16	13.11	12.58	12.10	11.83	<i>11.66</i>	<i>11.52</i>

^aRefers to the imported cost of crude oil to U.S. refiners.

^bIncludes lease condensate.

^cTotal annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on *Form EIA-861*, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

^dDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1998 are estimates.

^e"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, *Annual Energy Review*, 1997, DOE/EIA-0384(97) (AER), Table 1.1. Prior to 1990, some components of renewable energy consumption, particularly relating to consumption at nonutility electric generating facilities, were not available. For those years, a less comprehensive measure of total energy demand can be found in EIA's *AER*. The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review (MER)*. Consequently, the historical data may not precisely match those published in the *MER* or the *AER*.

Notes: SPR: Strategic Petroleum Reserve. Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Latest data available from Bureau of Economic Analysis; Energy Information Administration; latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; *Quarterly Coal Report*, DOE/EIA-0121; *International Petroleum Statistics Report* DOE/EIA-520, and *Weekly Petroleum Status Report* DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0200.

Table A2. Annual U.S. Macroeconomic and Weather Indicators

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Macroeconomic															
Real Gross Domestic Product (billion chained 1992 dollars)	5587	5822	6024	6129	6116	6319	6469	6729	6912	7165	7488	7810	8126	<i>8381</i>	<i>8644</i>
GDP Implicit Price Deflator (Index, 1992=1.000).....	0.849	0.878	0.911	0.947	0.979	1.000	1.027	1.048	1.071	1.091	1.109	1.122	1.138	<i>1.157</i>	<i>1.175</i>
Real Disposable Personal Income (billion chained 1992 Dollars).....	4172	4358	4466	4564	4596	4754	4804	4927	5059	5191	5381	5600	5822	<i>6027</i>	<i>6236</i>
Manufacturing Production (Index, 1992=1.000).....	0.928	0.971	0.990	0.985	0.962	1.000	1.037	1.100	1.159	1.213	1.298	1.361	1.417	<i>1.442</i>	<i>1.494</i>
Real Fixed Investment (billion chained 1992 dollars)	822	852	875	859	800	852	921	1005	1066	1165	1264	1414	1527	<i>1609</i>	<i>1665</i>
Real Exchange Rate (Index, 1990=1.000).....	NA	NA	NA	0.999	1.007	1.013	1.057	1.034	0.961	1.017	1.105	1.152	1.153	<i>1.147</i>	<i>1.093</i>
Business Inventory Change (billion chained 1992 dollars)	8.4	17.0	14.2	8.9	-6.8	-4.7	3.7	12.1	14.1	10.1	22.2	24.8	0.9	<i>5.3</i>	<i>11.5</i>
Producer Price Index (index, 1982=1.000).....	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.248	1.277	1.276	1.244	1.255	<i>1.302</i>	<i>1.309</i>
Consumer Price Index (index, 1982-1984=1.000)	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	1.570	1.606	1.631	1.666	<i>1.714</i>	<i>1.748</i>
Petroleum Product Price Index (index, 1982=1.000).....	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.608	0.701	0.680	0.513	0.610	<i>0.874</i>	<i>0.764</i>
Non-Farm Employment (millions).....	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.1	117.2	119.6	122.7	125.8	128.6	<i>130.8</i>	<i>132.2</i>
Commercial Employment (millions).....	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.1	78.8	81.1	83.9	86.6	89.5	<i>91.6</i>	<i>93.2</i>
Total Industrial Production (index, 1992=1.000).....	0.932	0.974	0.991	0.989	0.970	1.000	1.034	1.091	1.144	1.195	1.270	1.324	1.369	<i>1.395</i>	<i>1.442</i>
Housing Stock (millions).....	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.6	111.0	112.5	114.3	115.8	<i>117.0</i>	<i>118.2</i>
Weather ^a															
Heating Degree-Days															
U.S.	4334	4653	4726	4016	4200	4441	4700	4483	4531	4713	4542	3951	4159	<i>4317</i>	<i>4464</i>
New England.....	6546	6715	6887	5848	5960	6844	6728	6672	6559	6679	6662	5680	6009	<i>6412</i>	<i>6478</i>
Middle Atlantic	5699	6088	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5336	<i>5619</i>	<i>5712</i>
U.S. Gas-Weighted	4391	4804	4856	4139	4337	4458	4754	4659	4707	4980	4802	4185	4409	<i>4540</i>	<i>4703</i>
Cooling Degree-Days (U.S.).....	1269	1283	1156	1260	1331	1040	1218	1220	1293	1180	1156	1411	1318	<i>1236</i>	<i>1234</i>

^aPopulation-weighted degree-days. A degree-day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population.

Notes: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*; U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0200.

Table A3. Annual International Petroleum Supply and Demand Balance

(Millions Barrels per Day, Except OECD Commercial Stocks)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Demand ^a															
OECD															
U.S. (50 States)	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	18.3	18.6	18.9	19.5	19.6	20.0
Europe ^b	12.3	12.4	12.5	12.6	13.4	13.6	13.5	13.6	14.1	14.3	14.4	14.7	14.6	14.8	15.0
Japan.....	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.9	5.7	5.5	5.5	5.5	5.6
Other OECD.....	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.1	3.2	3.3	3.3
Total OECD.....	36.0	37.1	37.6	37.5	38.1	38.8	39.0	39.9	40.6	41.4	41.8	42.3	42.8	43.2	43.9
Non-OECD															
Former Soviet Union.....	9.0	8.9	8.7	8.4	8.3	6.8	5.6	4.8	4.6	4.0	3.9	3.8	3.6	3.7	3.7
Europe.....	2.2	2.2	2.1	1.9	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7
China.....	2.1	2.3	2.4	2.3	2.5	2.7	3.0	3.2	3.4	3.6	3.9	4.1	4.3	4.5	4.7
Other Asia.....	4.1	4.4	4.9	5.3	5.7	6.2	6.8	7.3	7.9	8.5	9.0	8.7	8.9	9.1	9.5
Other Non-OECD.....	9.7	10.0	10.3	10.5	10.6	11.0	11.4	11.8	12.1	12.4	13.0	13.3	13.5	13.8	14.2
Total Non-OECD.....	27.1	27.7	28.3	28.5	28.5	28.0	28.0	28.4	29.3	30.0	31.3	31.3	31.9	32.7	33.9
Total World Demand.....	63.1	64.9	66.0	66.0	66.6	66.8	67.0	68.3	69.9	71.4	73.1	73.6	74.7	75.9	77.8
Supply ^c															
OECD															
U.S. (50 States)	10.7	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.4	9.5	9.3	9.0	9.1	9.1
Canada.....	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.6	2.7	2.7
North Sea ^d	3.8	3.8	3.7	3.9	4.1	4.5	4.8	5.5	5.9	6.3	6.2	6.2	6.3	6.7	6.9
Other OECD.....	1.4	1.5	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.5	1.6	1.6
Total OECD.....	17.9	17.8	17.1	17.1	17.5	17.9	18.0	18.7	19.2	19.7	19.9	19.7	19.5	20.0	20.4
Non-OECD															
OPEC.....	19.6	21.5	23.3	24.5	24.6	25.8	26.6	27.0	27.6	28.3	29.9	30.4	29.3	30.1	31.8
Former Soviet Union.....	12.5	12.5	12.1	11.4	10.4	8.9	8.0	7.3	7.1	7.1	7.1	7.2	7.4	7.4	7.4
China.....	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	3.1	3.2	3.2	3.2	3.2	3.3
Mexico.....	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.1	3.3	3.4	3.5	3.4	3.5	3.7
Other Non-OECD.....	6.9	11.7	7.7	8.0	8.1	8.4	8.7	9.2	9.9	10.2	10.5	10.8	11.0	11.3	11.6
Total Non-OECD.....	44.6	47.0	48.9	49.7	49.1	49.1	49.4	49.6	50.7	52.0	54.2	55.2	54.2	55.5	57.8
Total World Supply.....	62.5	64.8	65.9	66.8	66.7	67.0	67.4	68.3	69.9	71.8	74.1	74.9	73.7	75.5	78.2
Total Stock Withdrawals.....	0.6	0.1	0.0	-0.8	-0.1	-0.2	-0.4	0.0	0.0	-0.4	-1.0	-1.3	1.0	0.4	-0.4
OECD Comm. Stocks, End (bill. bbls.).....	2.7	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.7	2.8	2.6	2.6	2.7
Net Exports from Former Soviet Union.....	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.4	2.6	3.0	3.3	3.5	3.7	3.7	3.7

^aDemand for petroleum by the OECD countries is synonymous with "petroleum product supplied," which is defined in the glossary of the EIA *Petroleum Supply Monthly*, DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

^bOECD Europe includes the former East Germany.

^cIncludes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

^dIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration: latest data available from EIA databases supporting the following reports: *International Petroleum Statistics Report*, DOE/EIA-0520, and Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

Table A4. Annual Average U. S. Energy Prices
(Nominal Dollars)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imported Crude Oil ^a															
(dollars per barrel)	14.00	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.22	26.43	23.18
Natural Gas Wellhead															
(dollars per thousand cubic feet)	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.85	1.55	2.17	2.32	1.95	2.09	2.48	2.57
Petroleum Products															
Gasoline Retail ^b (dollars per gallon)															
All Grades	0.91	0.92	1.02	1.17	1.15	1.14	1.13	1.13	1.16	1.25	1.24	1.07	1.18	1.50	1.38
Regular Unleaded.....	0.91	0.91	0.99	1.13	1.10	1.09	1.07	1.08	1.11	1.20	1.20	1.03	1.14	1.46	1.34
No. 2 Diesel Oil, Retail															
(dollars per gallon).....	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.10	1.22	1.19	1.04	1.12	1.41	1.31
No. 2 Heating Oil, Wholesale															
(dollars per gallon).....	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	0.64	0.59	0.42	0.51	0.81	0.70
No. 2 Heating Oil, Retail															
(dollars per gallon).....	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.89	0.87	0.99	0.99	0.85	0.87	1.27	1.07
No. 6 Residual Fuel Oil, Retail ^c															
(dollars per barrel)	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.49	19.01	17.82	12.83	15.88	24.64	21.84
Electric Utility Fuels															
Coal															
(dollars per million Btu).....	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.27	1.25	1.22	1.23	1.22
Heavy Fuel Oil ^d															
(dollars per million Btu).....	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	3.01	2.79	2.07	2.40	3.97	3.52
Natural Gas															
(dollars per million Btu).....	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	2.64	2.76	2.38	2.59	3.10	3.11
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.06	6.35	6.95	6.83	6.68	7.09	7.35
Electricity															
(cents per kilowatthour)	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.4	8.3	8.2	8.1	8.0

^aRefiner acquisition cost (RAC) of imported crude oil.

^bAverage self-service cash prices.

^cAverage for all sulfur contents.

^dIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Monthly Energy Review*, DOE/EIA-0035; *Electric Power Monthly*, DOE/EIA-0226.

Table A5. Annual U.S. Petroleum Supply and Demand
(Million Barrels per Day, Except Closing Stocks)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Crude Oil Supply															
Domestic Production ^a	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.93	5.88	5.90
Alaska	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.48	1.39	1.30	1.17	1.04	0.95	0.91
Lower 48	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.08	5.07	5.16	5.08	4.88	4.93	5.00
Net Imports (including SPR) ^b	4.52	4.95	5.70	5.79	5.67	5.99	6.69	6.96	7.14	7.40	8.12	8.60	8.52	9.19	9.41
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.00
Stock Draw (Including SPR)	-0.12	0.00	-0.09	0.02	-0.01	0.01	-0.06	-0.02	0.09	0.05	-0.06	-0.05	0.11	-0.05	-0.03
Product Supplied and Losses	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00
Unaccounted-for Crude Oil	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.22	0.14	0.11	0.24	0.23	0.22
Total Crude Oil Supply	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.19	14.66	14.89	14.81	15.16	15.50
Other Supply															
NGL Production	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.83	1.82	1.76	1.84	1.91	1.93
Other Hydrocarbon and Alcohol Inputs	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.31	0.34	0.38	0.38	0.37	0.37
Crude Oil Product Supplied	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Processing Gain	0.64	0.66	0.66	0.68	0.71	0.77	0.77	0.77	0.77	0.84	0.85	0.89	0.90	0.92	0.91
Net Product Imports ^c	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.75	1.10	1.04	1.17	1.23	1.26	1.39
Product Stock Withdrawn	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	0.03	-0.09	-0.17	0.32	0.00	-0.07
Total Supply	16.72	17.33	17.37	17.04	16.76	17.10	17.26	17.72	17.72	18.31	18.62	18.92	19.48	19.62	20.03
Demand															
Motor Gasoline ^d	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.89	8.02	8.25	8.42	8.56	8.67
Jet Fuel	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.58	1.60	1.62	1.67	1.71	1.77
Distillate Fuel Oil	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.21	3.37	3.44	3.46	3.55	3.60	3.66
Residual Fuel Oil	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.85	0.80	0.89	0.85	0.72	0.81
Other Oils ^e	3.90	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.36	4.63	4.77	4.69	4.98	5.02	5.12
Total Demand	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.48	19.62	20.03
Total Petroleum Net Imports	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.50	9.16	9.76	9.75	10.45	10.80
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	349	330	341	323	325	318	335	337	303	284	305	324	284	282	292
Total Motor Gasoline	226	228	213	220	219	216	226	215	202	195	210	216	190	187	197
Jet Fuel	50	44	41	52	49	43	40	47	40	40	44	45	40	41	43
Distillate Fuel Oil	134	124	106	132	144	141	141	145	130	127	138	156	124	123	124
Residual Fuel Oil	47	45	44	49	50	43	44	42	37	46	40	45	36	37	37
Other Oils	260	267	257	261	267	263	273	275	258	250	259	291	244	245	259

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dFor years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, *Short-Term Energy Outlook*, EIA/DOE-0202(93/3Q), for details on this adjustment.

^eIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve. NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding, with the following exception: recent petroleum demand and supply data displayed here reflect the incorporation of resubmissions of the data as reported in EIA's *Petroleum Supply Monthly*, Table C1. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109, and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Table A6. Annual U.S. Natural Gas Supply and Demand
(Trillion Cubic Feet)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Total Dry Gas Production.....	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.85	18.90	18.71	18.71	<i>18.89</i>	<i>18.94</i>
Net Imports.....	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.69	2.78	2.84	2.99	3.39	<i>3.64</i>	<i>3.77</i>
Supplemental Gaseous Fuels.....	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	<i>0.13</i>	<i>0.13</i>
Total New Supply.....	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.39	21.40	21.75	21.84	21.80	22.21	<i>22.65</i>	<i>22.84</i>
Total Underground Storage															
Opening.....	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.52	7.04	<i>6.88</i>	<i>6.68</i>
Closing.....	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.52	7.04	6.88	<i>6.68</i>	<i>6.68</i>
Net Withdrawals.....	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.46	-0.01	-0.01	-0.52	0.16	<i>0.20</i>	<i>0.00</i>
Total Supply.....	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.08	21.86	21.74	21.84	21.28	22.37	<i>22.85</i>	<i>22.84</i>
Balancing Item ^a	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.37	-0.28	0.23	0.12	-0.02	-0.95	<i>-0.52</i>	<i>0.14</i>
Total Primary Supply.....	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.42	<i>22.33</i>	<i>22.98</i>
Demand															
Lease and Plant Fuel.....	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.12	1.22	1.25	1.20	1.16	1.23	<i>1.23</i>	<i>1.23</i>
Pipeline Use.....	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.70	0.71	0.75	0.64	0.64	<i>0.65</i>	<i>0.67</i>
Residential.....	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.24	4.98	4.52	4.67	<i>4.80</i>	<i>5.01</i>
Commercial.....	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.03	3.16	3.21	3.00	3.09	<i>3.22</i>	<i>3.37</i>
Industrial (Incl. Nonutilities).....	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.17	8.58	8.87	8.83	8.69	8.66	<i>9.07</i>	<i>9.23</i>
Electric Utilities.....	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.20	2.73	2.97	3.26	3.13	<i>3.37</i>	<i>3.48</i>
Total Demand.....	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.42	<i>22.33</i>	<i>22.98</i>

^aThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

Table A7. Annual U.S. Coal Supply and Demand
(Million Short Tons)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Production.....	918.8	950.3	980.7	1029.	996.0	997.5	945.4	1033.5	1033.0	1063.9	1089.9	1118.1	1099.1	<i>1104.5</i>	<i>1121.5</i>
Appalachia.....	NA	NA	464.8	489.0	457.8	456.6	409.7	445.4	434.9	451.9	467.8	460.4	430.1	<i>449.0</i>	<i>448.2</i>
Interior.....	NA	NA	198.1	205.8	195.4	195.7	167.2	179.9	168.5	172.8	170.9	168.4	163.2	<i>151.4</i>	<i>146.6</i>
Western.....	NA	NA	317.9	334.3	342.8	345.3	368.5	408.3	429.6	439.1	451.3	489.4	505.8	<i>504.1</i>	<i>526.7</i>
Primary Stock Levels ^a															
Opening.....	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.1	<i>36.4</i>	<i>34.6</i>
Closing.....	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.1	36.4	<i>34.6</i>	<i>34.6</i>
Net Withdrawals.....	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	5.8	-5.3	-2.2	-0.2	<i>1.7</i>	<i>S</i>
Imports.....	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.1	7.5	8.7	9.1	<i>10.2</i>	<i>11.6</i>
Exports.....	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.5	83.5	78.0	58.5	<i>60.2</i>	<i>60.5</i>
Total Net Domestic Supply.....	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	950.4	986.3	1008.5	1046.6	1049.5	<i>1056.3</i>	<i>1072.6</i>
Secondary Stock Levels ^b															
Opening.....	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.5	<i>144.1</i>	<i>150.6</i>
Closing.....	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.5	144.1	<i>150.6</i>	<i>143.8</i>
Net Withdrawals.....	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	11.7	16.6	-23.1	-14.7	<i>-6.4</i>	<i>6.7</i>
Waste Coal Supplied to IPPs ^c	0.0	0.0	0.0	0.0	0.0	6.0	6.4	7.9	8.5	8.8	8.1	9.0	10.3	<i>12.7</i>	<i>13.2</i>
Total Supply.....	834.4	882.3	896.5	899.4	891.4	907.8	936.5	954.0	960.4	1006.7	1033.2	1032.6	1045.2	<i>1062.6</i>	<i>1092.5</i>
Demand															
Coke Plants.....	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	33.0	31.7	30.2	28.2	27.9	<i>27.6</i>	<i>28.0</i>
Electricity Production															
Electric Utilities.....	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.0	874.7	900.4	910.9	896.6	<i>907.6</i>	<i>935.5</i>
Nonutilities (Excl. Co-gen.) ^d	NA	NA	0.9	1.6	10.2	14.6	17.1	19.5	20.8	22.2	21.6	28.1	47.8	<i>52.9</i>	<i>55.0</i>
Retail and General Industry.....	75.2	76.3	82.3	83.1	81.5	80.2	81.1	81.2	78.9	76.9	77.1	74.1	72.8	<i>74.5</i>	<i>74.0</i>
Total Demand ^e	830.0	876.5	890.6	897.1	897.8	907.0	943.1	949.7	961.7	1005.6	1029.2	1041.2	1045.2	<i>1062.6</i>	<i>1092.5</i>
Discrepancy ^f	4.4	5.8	5.9	2.4	-6.4	0.8	-6.6	4.3	-1.3	1.2	4.0	-8.6	0.0	<i>0.0</i>	<i>0.0</i>

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

^bSecondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

^cEstimated independent power producers (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes, 3.2 million tons per quarter in 2000 and 3.3 million tons per quarter in 2000.

^dEstimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 1998 and projections for 1999 and 2000 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1998 and 1999, and (2) annual coal-fired generation at nonutilities from Form EIA-867 (Annual Nonutility Power Producer Report).

^eTotal Demand includes estimated IPP consumption.

^fThe discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period. Prior to 1994, discrepancy may include some waste coal supplied to IPPs that has not been specifically identified.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121, and *Electric Power Monthly*, DOE/EIA-0226. Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table A8. Annual U.S. Electricity Supply and Demand
(Billion Kilowatt-hours)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Net Utility Generation															
Coal.....	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1652.9	1737.5	1787.8	1807.5	1773.5	1795.4	1844.6
Petroleum	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.8	67.3	77.8	110.2	89.7	67.7	91.7
Natural Gas.....	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	307.3	262.7	283.6	309.2	297.3	321.8	332.3
Nuclear.....	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	674.7	628.6	673.7	725.0	721.5	703.0
Hydroelectric.....	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	328.0	337.2	304.4	293.7	276.2	271.7
Geothermal and Other ^a	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.4	7.2	7.5	7.2	3.6	2.2	2.2
Subtotal.....	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3077.4	3122.5	3212.2	3182.9	3184.9	3245.4
Nonutility Generation ^b	NA	NA	187.6	222.6	252.0	286.1	314.4	343.1	363.3	369.6	371.7	405.7	498.4	534.4	539.9
Total Generation.....	NA	NA	2971.9	3030.8	3077.0	3083.4	3196.9	3253.8	3357.8	3447.0	3494.2	3617.9	3681.3	3719.3	3785.3
Net Imports	46.3	31.8	11.0	2.3	19.6	25.4	27.8	44.8	39.2	38.0	36.6	28.8	29.3	30.4	30.0
Total Supply	NA	NA	2982.8	3033.1	3096.6	3108.8	3224.7	3298.6	3397.1	3485.0	3530.8	3646.7	3710.6	3749.7	3815.3
Losses and Unaccounted for ^c	NA	NA	238.8	221.1	229.1	213.8	226.1	217.2	227.3	225.7	225.1	241.0	273.9	251.8	256.8
Demand															
Electric Utility Sales															
Residential.....	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1008.5	1042.5	1082.5	1075.8	1127.7	1138.0	1156.6	1188.5
Commercial.....	660.4	699.1	725.9	751.0	765.7	761.3	794.6	820.3	862.7	887.4	928.4	968.5	974.7	999.4	1014.2
Industrial.....	858.2	896.5	925.7	945.5	946.6	972.7	977.2	1008.0	1012.7	1030.4	1032.7	1040.0	1050.9	1061.7	1071.6
Other.....	88.2	89.6	89.8	92.0	94.3	93.4	94.9	97.8	95.4	97.5	102.9	103.5	100.8	104.4	108.3
Subtotal.....	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3013.3	3097.8	3139.8	3239.8	3264.4	3322.1	3382.5
Nonutility Use/Sales ^b	NA	NA	NA	99.5	105.6	131.6	137.2	146.8	156.5	161.4	165.9	165.9	172.3	175.8	176.0
Total Demand.....	NA	NA	NA	2812.1	2867.6	2895.0	2998.6	3081.4	3169.8	3259.3	3305.7	3405.7	3436.7	3497.9	3558.5
Memo:															
Nonutility Sales															
to Electric Utilities	NA	NA	NA	NA	146.4	154.5	177.2	196.3	206.8	208.1	205.8	239.8	326.1	358.6	363.9

^aOther includes generation from wind, wood, waste, and solar sources.

^bNet generation.

^cBalancing item, mainly transmission and distribution losses.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: Energy Information Administration; latest data available from EIA databases supporting the following report: *Electric Power Monthly*, DOE/EIA-0226 and *Electric Power Annual*, DOE/EIA-0348.

Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.