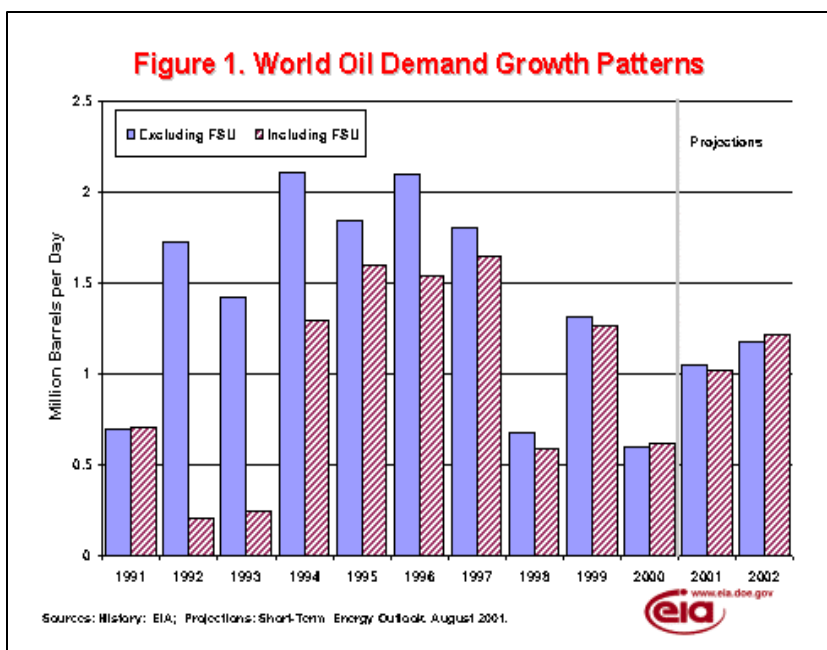


Short-Term Energy Outlook

August 2001



Overview

World Oil Markets

The prospects for growth in world petroleum demand this year may not be as dim as some would suggest. Except during periods of serious international financial distress (1998), rapid increases in oil prices (1991 and 2000), and the dissolving of a nation-state (i.e., the former Soviet Union in the early 1990's), world demand has generally grown by 1-2 million barrels per day over the last decade (Figure 1). We expect world demand growth in 2001 to be very close to the lower end of that range. While economic factors that tend to support oil demand growth are somewhat weaker

than normal this year (we expect world GDP growth to be about 2 percent in 2001 compared to an average of almost 3 percent for the period 1991 to 2000), there have been weaker economic scenarios in the last decade. Since oil prices are likely to show a decline of 7-10 percent this year, in contrast to the average annual increase of about 50 percent in 1999 and 2000, continued weakness in world oil demand growth such as that seen in 2000 seems unlikely. For the first half of the year, preliminary estimates indicate year-over-year growth of about 1.2-1.3 million barrels per day. Even allowing for substantially lower growth rates in the second half of 2001, annual demand growth averaging near 1 million barrels per day is likely.

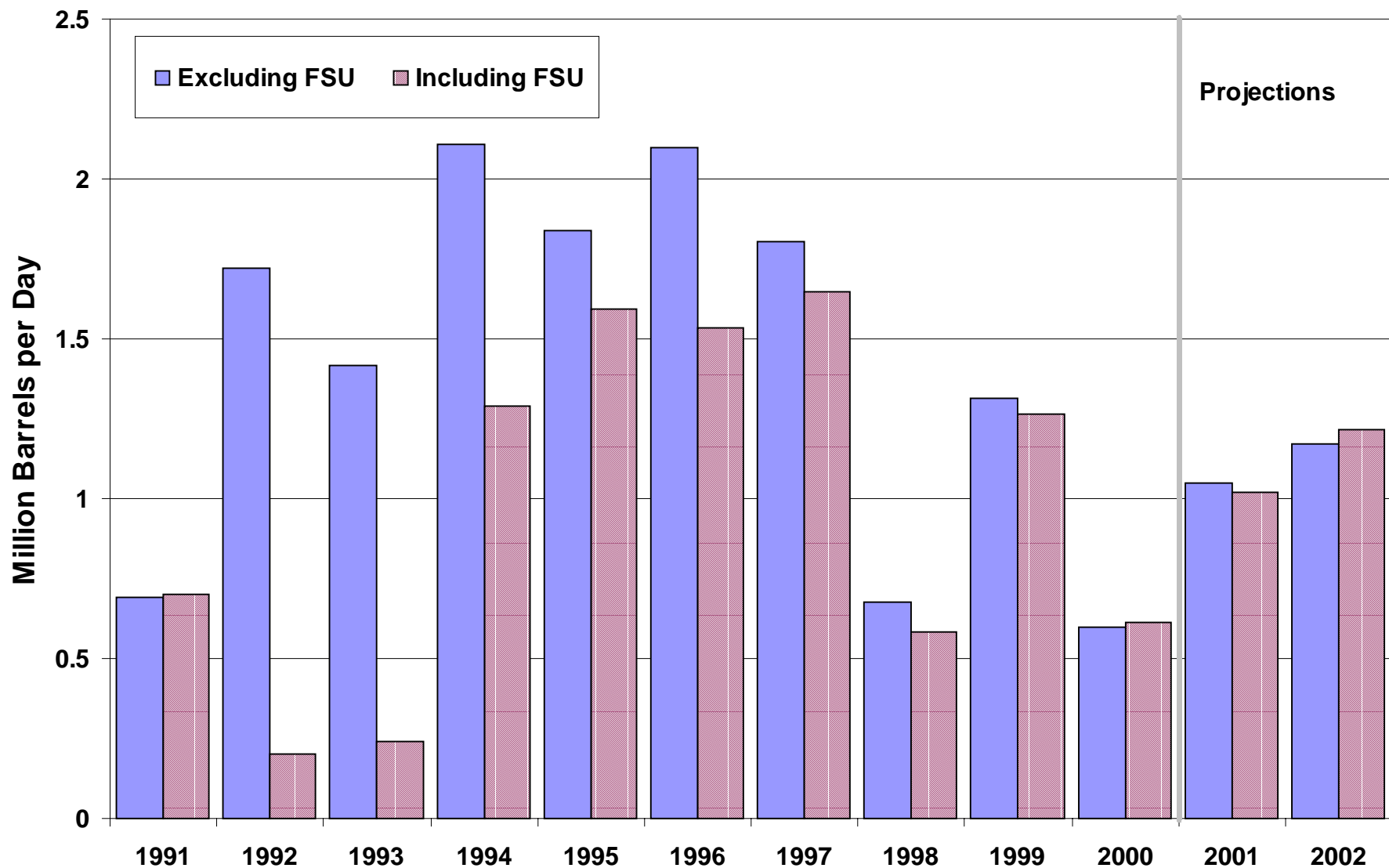
Gasoline Prices

The latest survey data on retail gasoline prices has prompted us to institute yet another round of cuts in expected average pump prices for the remainder of the summer, although the retrenchment in prices has slowed in recent weeks. The average price of regular gasoline for July was \$1.42 per gallon based on data from EIA's weekly survey. It will take an upturn from current prices (\$1.38 per gallon according to the July 31 survey) to yield an average that high for August. Most likely, gasoline prices will remain fairly flat (between \$1.38 and \$1.40) for the rest of the year and through the winter. It now seems likely that average gasoline prices for the current driving season (April-September) will average near or slightly below the average seen in 2000. This is essentially the projection we made at the beginning of last April, before the extraordinary price runup took place. Although it is always difficult to anticipate the timing and shape of the impacts of short-term supply/demand imbalances, the experience of the last two months demonstrates how quickly such disturbances can be addressed in the market.

Natural Gas and Electricity

It remains an open question as to whether or not natural gas spot prices are likely to remain at or above \$3.00 per thousand cubic feet for any sustained period of time for the rest of 2001 and for the off-season in

Figure 1. World Oil Demand Growth Patterns



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.

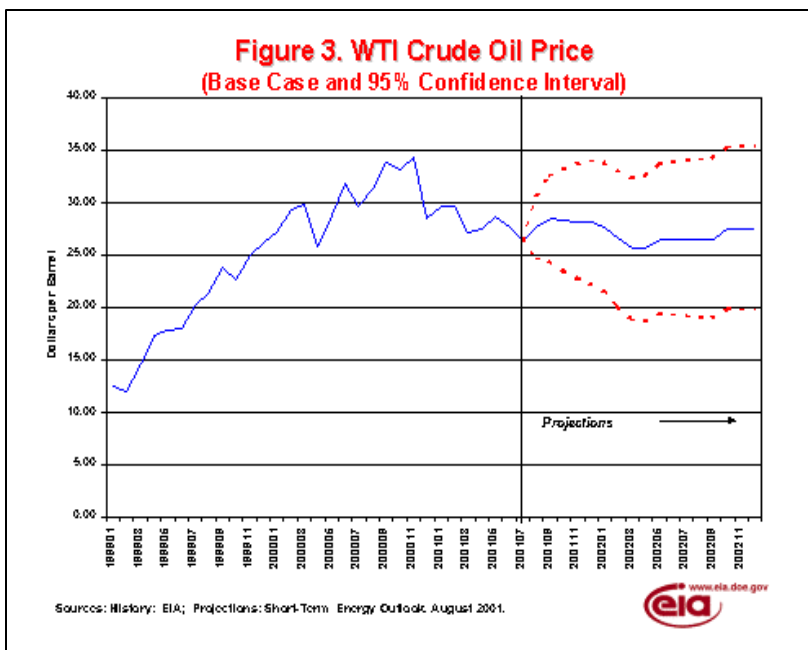
2002. If gains in production capability prove to be sluggish, then the promise of significant gains in demand next winter (bolstered by prospects for an improving economy and relatively high oil prices) may contribute to price support at or above current levels. (Spot prices at the Henry Hub averaged \$3.25 per thousand cubic feet during the first week of August). However, some production capability is growing sharply now, far more than a seasonal recovery in demand may be needed to preserve gas prices above \$3 per thousand cubic feet. Year-to-date data on demand and supply does not provide clear indications of which scenario is most likely. The emerging balance from the data and estimates we have for the first half of the year suggests that either demand is being overstated to some extent or production is being understated. The former condition supports (at least in theory) the notion that a significant revival in demand may impinge upon capacity limits and maintain prices above \$3. The latter condition suggests the possibility that foreseeable demand increases may be insufficient to tighten or even maintain marginal acquisition costs over the next 1-2 years. In either case, continued above-normal injections of gas into storage (at the end of July U.S. underground storage was 340 billion cubic feet above last year's level and 9 percent above the 5-year average) are likely to keep pressure on near-term prices and lessen the likelihood of significant increases in prices in the 2001-2002 heating season.

Perspectives on End-Use Expenditures

Whatever the eventual outcome for natural gas prices over the next 1-2 years, it is likely to take beyond the year 2002 for the upswing in real domestic energy expenditures to recede toward the lower levels of the late 1990's. The total cost of energy delivered to end users in the U.S. economy, as a share of gross domestic product (GDP), swung from just below 6 percent in 1999 to slightly above 7 percent in 2000 (Figure 2). While this may not sound particularly remarkable, it should be recognized that the shift represented a 20-percent increase in the relative significance of energy costs in the U.S. economy. Of course, the 1998-1999 period was one in which energy costs were extraordinarily depressed. Still, the 2-year reversal of a strong downward trend in the share of energy costs in GDP was significant. Looking beyond this year, it is likely that the forces that have generated the general downward march of the energy cost/GDP ratio will reassert themselves and push the ratio once again toward its long-term trend.

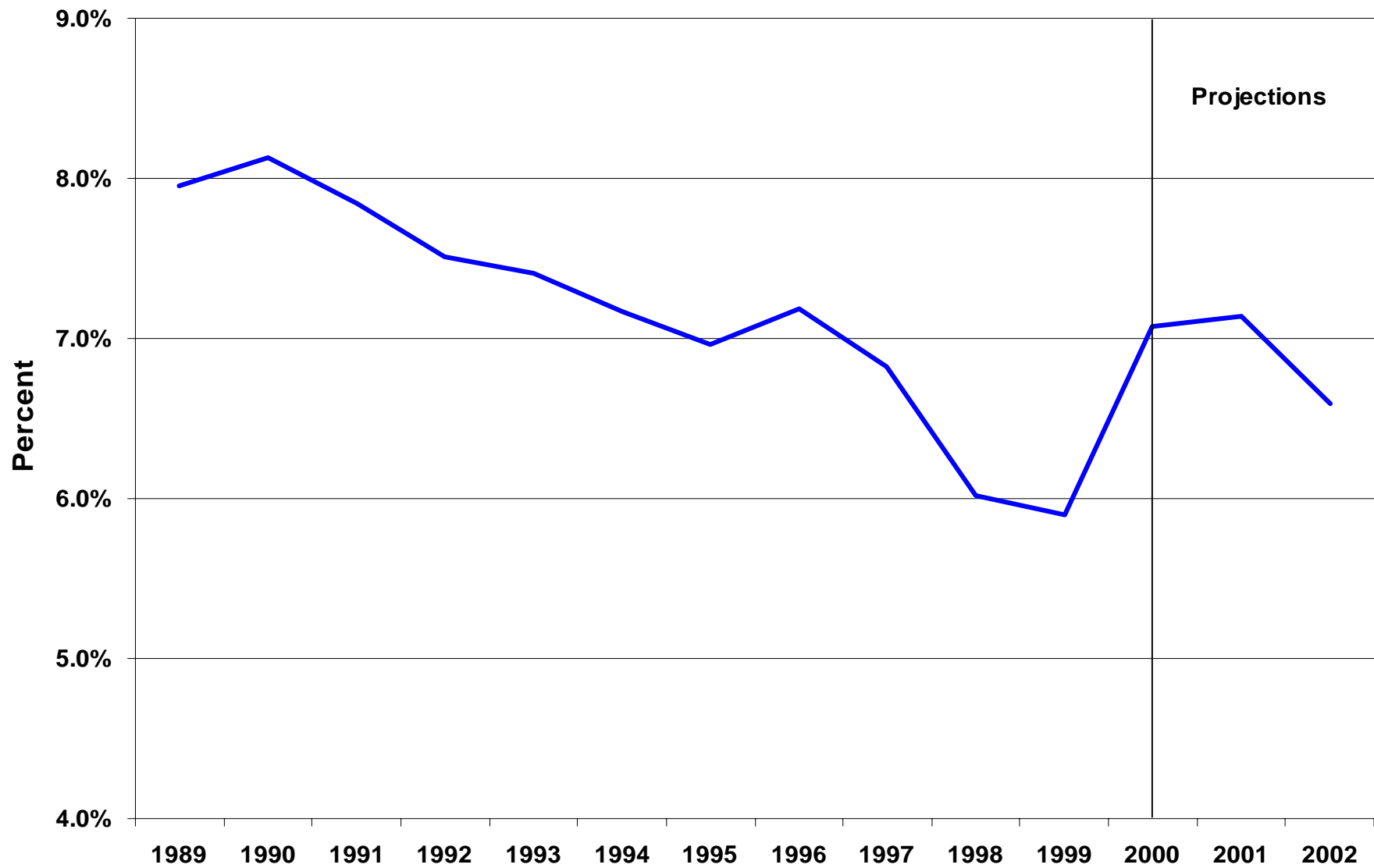
International

Crude Oil Prices. World oil prices weakened in July as commercial oil inventories in the OECD countries remained above normal levels for most of the month following large inventory increases for 3 consecutive months beginning in March. The U.S. average imported crude oil price in July was about \$24 per barrel, down about \$0.50 per barrel from June levels, while the U.S. benchmark West Texas Intermediate crude oil price averaged about \$26.40 per barrel in July (Figure 3). The OPEC basket price, which generally tracks closely with the average imported crude oil price, averaged about \$23.70 per barrel.



However, world oil prices are still expected to strengthen by about \$2 per barrel by the fourth quarter as the loss of UN-sanctioned Iraqi exports in June and further OPEC production quota cuts effective September 1 are expected to reduce OECD commercial oil inventories over the next few months. The West Texas Intermediate oil price is expected to average about \$27 per barrel in 2002.

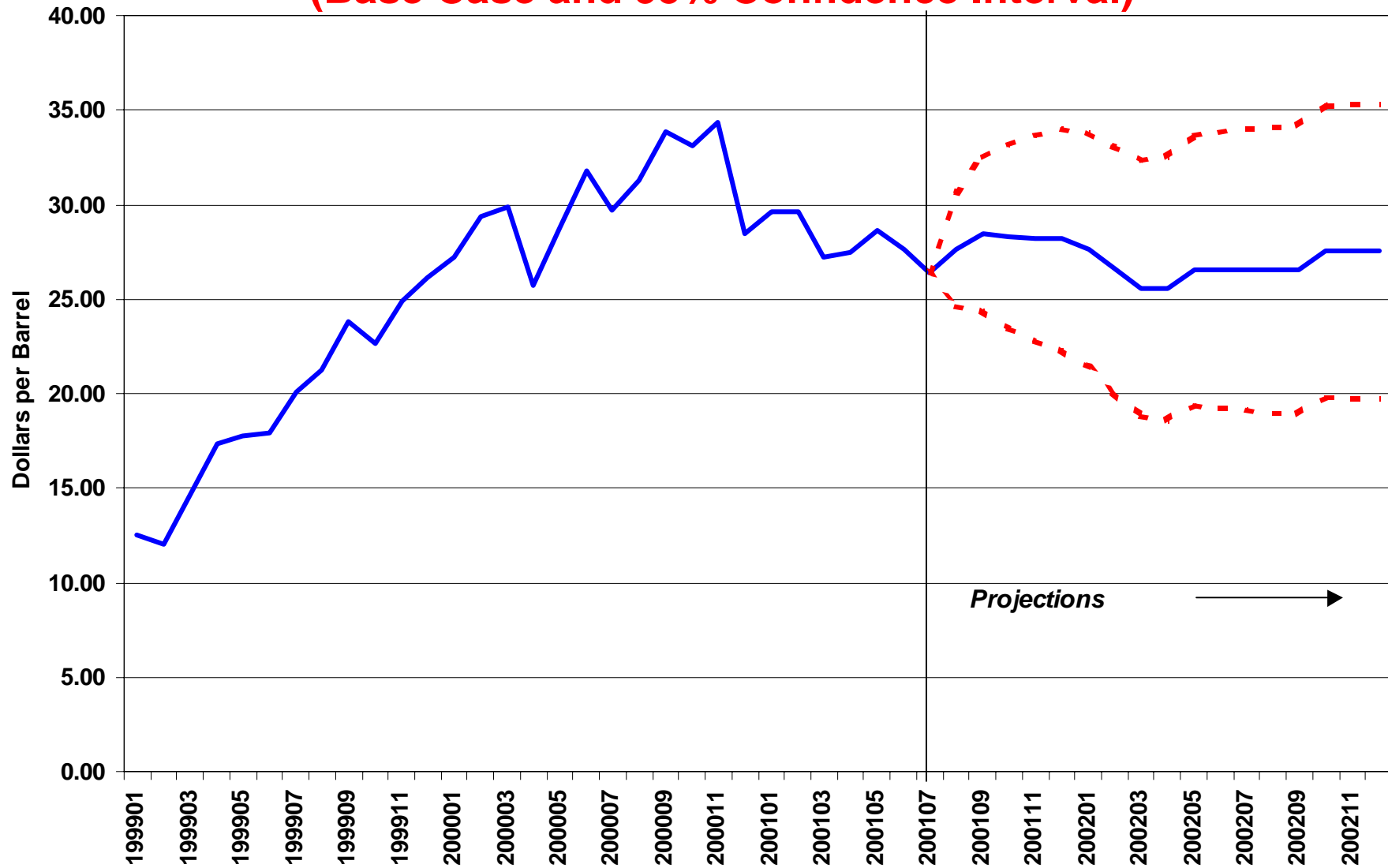
Figure 2. End Use Energy Expenditures as a Percent of GDP



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



**Figure 3. WTI Crude Oil Price
(Base Case and 95% Confidence Interval)**



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



International Oil Demand. EIA has lowered its projection for world oil demand growth to 1 million barrels per day in 2001, down from 1.2 million barrels per day in the previous Outlook, because of lowered expectations for world economic growth in 2001. However, despite this revision, the prospects for growth in world oil demand are not as unlikely as some estimates have suggested, and excess oil supplies, not disappearing demand, were largely responsible for rising inventories and weakening oil prices during the first half of 2001. World oil demand during the past decade has generally grown by 1 - 2 million barrels per day, except during conditions which do not hold in 2001, such as periods of serious international crises (the Asian financial crisis in 1998, the Persian Gulf War in 1990-1991), the dissolving of a nation-state (i.e., the former Soviet Union in the early 1990's), or periods of rapidly increasing world oil prices (the Persian Gulf War in 1990-1991, the shortfall in oil supplies in 2000).

The Outlook projects that world oil demand growth in 2001 will be very close to the lower end of that range ([Figure 4](#)). While world GDP growth is expected to grow by about 2 percent in 2001, compared to an average of almost 3 percent per year for 1991-2000, world oil demand has grown by at least 1 million barrels per day during times of comparable or weaker economic growth during the past decade. Preliminary EIA data suggest that OECD oil demand, which accounts for a little more than one-half of total world oil demand, grew by 540,000 barrels per day during the first quarter of 2001 compared with the same period a year earlier. That data is consistent with a total world oil demand growth estimate of 1 million barrels per day.

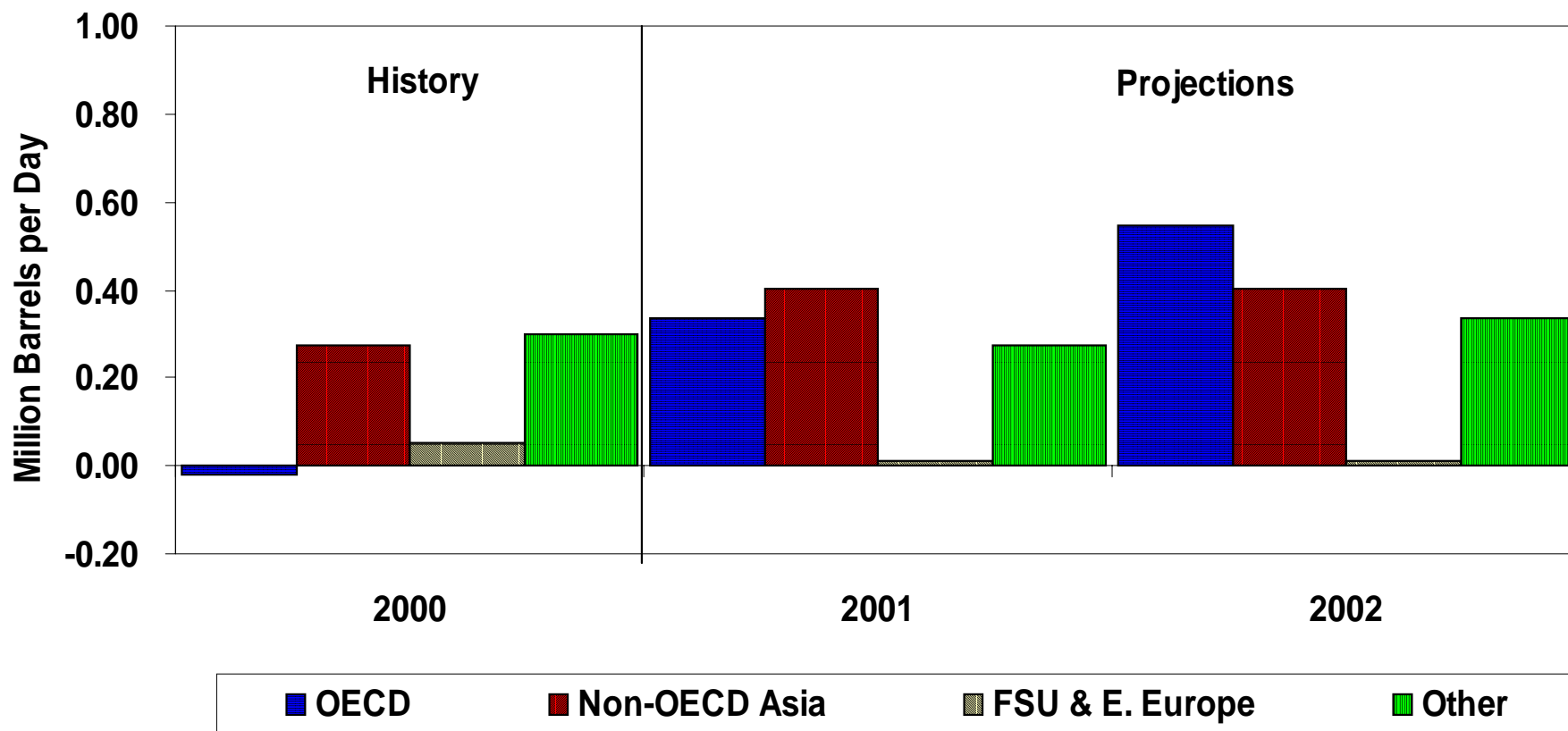
International Oil Supply. On July 25, OPEC agreed to cut its production quotas for the third time this year, cutting another 1 million barrels per day effective September 1. At that time, OPEC quotas will be at their lowest levels since March 2000, a period that was followed by a rise in the OPEC basket price of crude oils of over \$8 per barrel from April - September 2000. A similar price increase in 2001 is not expected because OECD commercial oil inventories in 2001 are expected to be higher than they were in 2000 ([Figure 5](#)). However, because world oil demand growth will continue to increase more than non-OPEC production in 2002, the OPEC 10 will need to increase their production above their new quota levels by year-end 2001, even after accounting for the existing OPEC 10 production above quotas. In June and July, the OPEC 10 increased production to partially offset lost UN-sanctioned Iraqi oil exports, producing roughly 1 million barrels per day above quota levels in July. This Outlook assumes that although OPEC 10 overproduction will decrease with the return of Iraqi exports, it will still reach 800,000 barrels per day by the fourth quarter of this year ([Figure 6](#)).

Iraq, which is not bound by the OPEC 10 quotas, resumed its UN-sanctioned oil exports on July 10, as the U.S. and Britain abandoned their efforts aimed at overhauling the 11-year-old Gulf War sanctions against Iraq, and agreed to a renewal of the previous oil-for-food sanctions regime for another five months. As a result, Iraqi production increased by 1.1 million barrels per day on average in July from its June level. Although temporary decreases in production have come to be expected at rollover times for the oil-for-food program, no long-term stoppage of Iraqi exports is assumed in this Outlook.

Non-OPEC production is expected to increase by 0.7 million barrels per day in 2001, down 200,000 barrels/day from the previous Outlook, with a significant part of the difference attributable to losses in Mexican production through November due to maintenance on oil and natural gas pipelines that will affect exports of Mexico's primary export crude oil, Maya. No similar losses are expected in 2002. Announced delays in opening the Caspian Pipeline Consortium pipeline to transport oil from Kazakhstan to world markets will not affect the Outlook for 2001, as this pipeline was not expected to support greater Caspian production levels until 2002.

World Oil Inventories. Although OECD commercial stocks were well above normal levels in spring 2001, EIA estimates indicate that they were moving towards the middle of the normal range during mid-summer

Figure 4. World Oil Demand (Change from Year Ago)

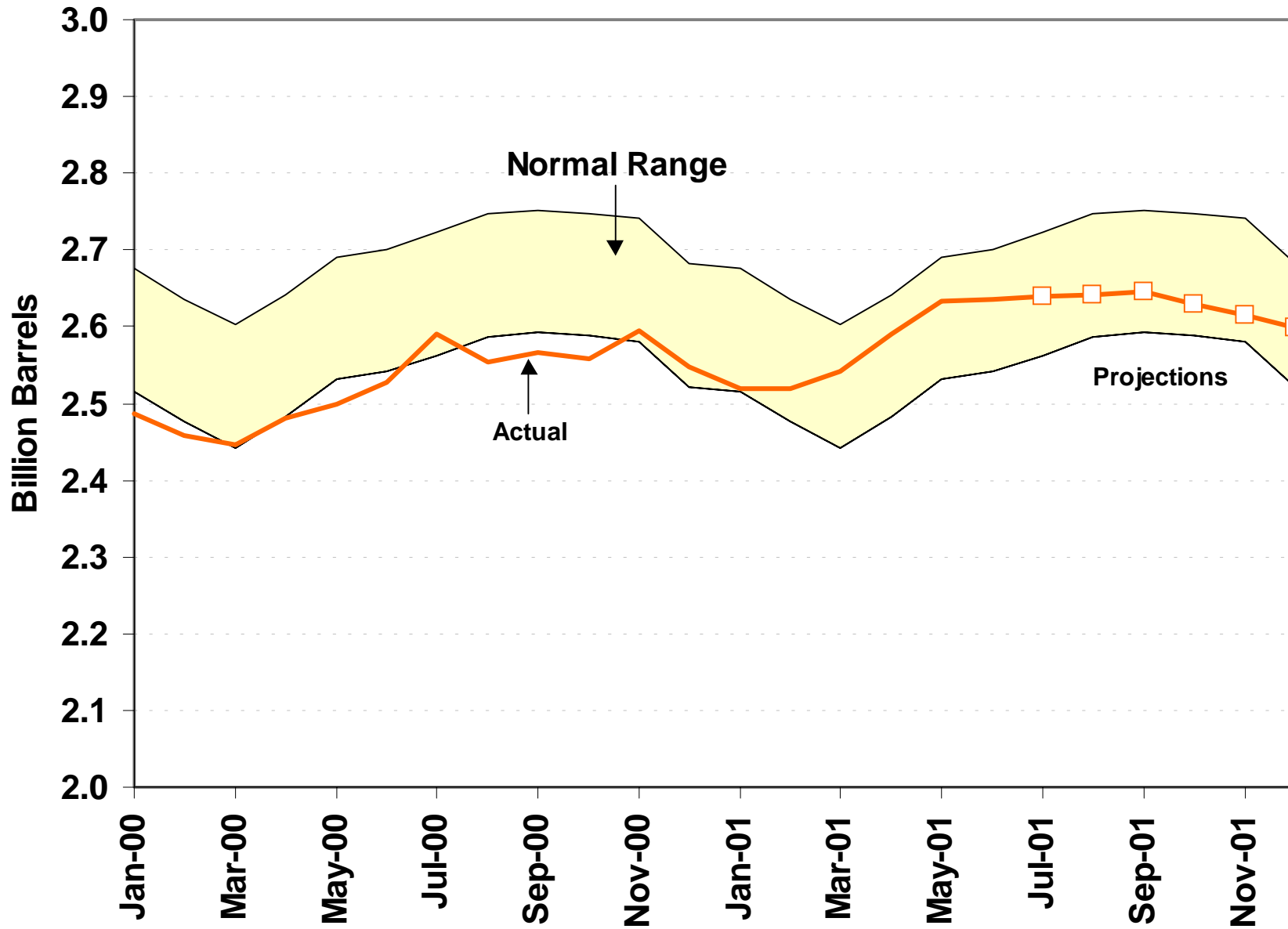


* FSU = Former Soviet Union

Sources: History: EIA; Projections: Short-Term Energy Outlook August 2001.

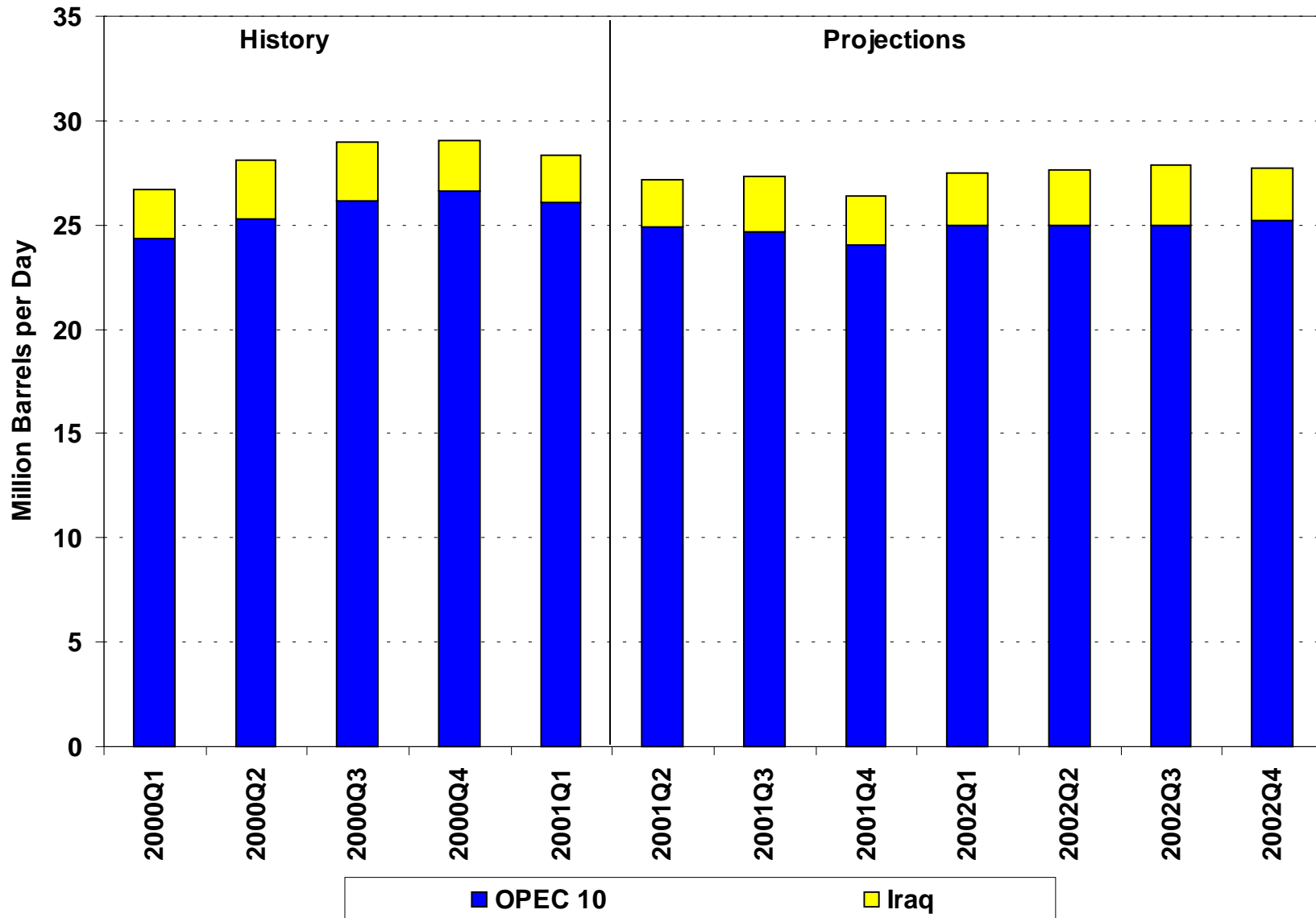


Figure 5. OECD Commercial Stocks



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.

Figure 6. OPEC Crude Oil Production 2000-2002



Sources: History: EIA; Projections: Short-Term Energy Outlook August 2001.



as the loss of UN-sanctioned Iraqi exports in June resulted in decreased US imports of Iraqi oil by end-July. OECD commercial stocks are then projected to move toward the lower half of the normal range during the latter half of the year and much of 2002. EIA does not attempt to estimate oil inventory levels on a global basis. However, the direction in which OECD commercial oil inventories are headed is discerned from EIA's world oil supply and demand estimates.

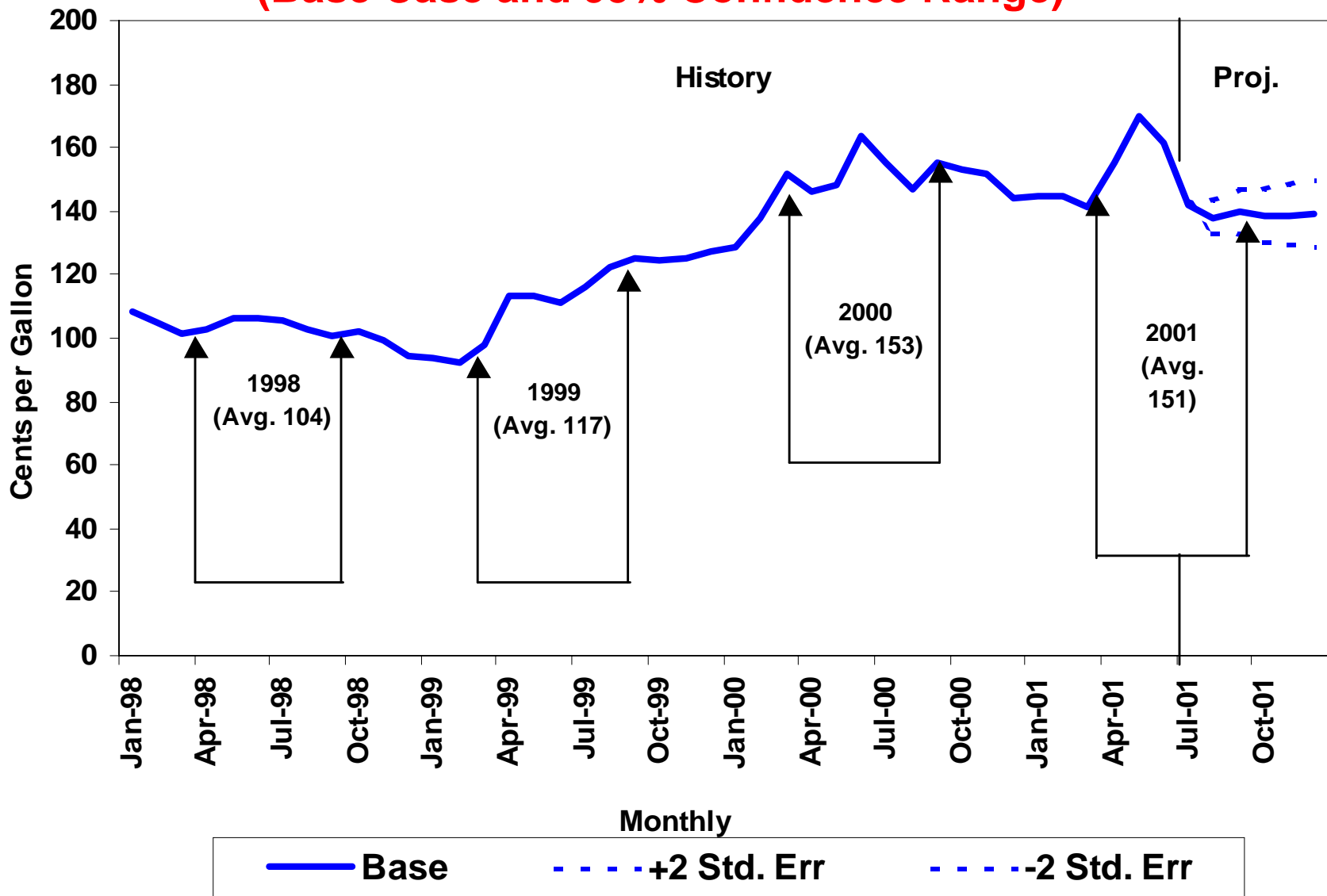
U. S. Energy Prices

Gasoline Prices. During the early part of the driving season, refinery problems and critically low gasoline stocks resulted in a monthly record high (in nominal terms) pump price of \$1.70 per gallon in the United States for the month of May ([Figure 7](#)). Only a few months ago, \$2 per gallon gasoline, or even \$3 in California, for the summer was believed a serious possibility. For a brief period--April and May--refiners were enjoying some of their highest spreads ever (spreads are the difference between the refiner price of motor gasoline and the crude price). However, the market reacted quickly as gasoline production and imports soared. By the end of July, pump prices were down to less than \$1.40 per gallon from a peak of over \$1.70 as inventories swelled. Stocks stayed above the "normal" range during June ([Figure 8](#)). By July, the average refiner spread for gasoline was less than half the May average. Moreover, continued improvement in gasoline supply could lead to further erosion of prices over the remainder of the year. We expect national average monthly prices for regular gasoline to average about \$1.40 per gallon for the third quarter (July-September) of this year. This expected price will be 11 cents per gallon lower than the pump price for the same period last year. The year-to-year price differences for the end of July ranged from 10 cents per gallon to more than 20 cents per gallon for all regions with the exception of the West Coast, mainly California, which requires a unique and somewhat more expensive cleaner gasoline. Price differences were even greater on a city-wide basis. The average price of regular gasoline in San Francisco was 50 cents per gallon higher than the average price in Houston during the final week of July.

Distillate Fuel Oil (Diesel and Heating Oil). Unlike the price of gasoline, which fell 27 cents per gallon on a monthly average basis from May through July, diesel fuel oil prices have not experienced quite the precipitous price drop over the last 3 months ([Figure 9](#)). Nevertheless, the price of diesel fuel has declined by 13 cents per gallon over the same time period. Over the last several weeks, distillate inventories have been building at a relatively fast pace, helping to keep stocks within the normal range ([Figure 10](#)). Partly in response to this development, the pump price for diesel has fallen to its lowest level since January 2000. Distillate inventories are 8 percent above year-ago levels, although the current level (122 million barrels at the end of July) is actually about 3 percent below the previous 5-year average. Still, the expected situation for the beginning of the next heating season is relatively good at this time. However, the distillate stock situation, while currently above last year's anemic levels, bears monitoring. Although distillate inventories are presently within the normal range, it should be noted they are at the low end of this range. An unanticipated surge in distillate fuel oil demand caused by a cold spell on the East Coast (where 75 percent of the nation's heating is consumed) in the fall and/or winter could reduce distillate inventories to abnormally low levels, which could lead to increased price volatility and price spikes under severe weather conditions. Under our base case assumptions, we project that heating oil prices will be about 7 cents per gallon lower this next heating season than during the previous season. Lower projected crude oil prices for this heating season would explain about half of this price difference while projections of higher distillate inventories at the beginning of the heating season would account for the remaining half.

Natural Gas. In the third quarter of last year (July 2000-September 2000) spot prices for natural gas averaged nearly \$4.00 per thousand cubic feet. This third quarter they are likely to be about 30 percent lower. Spot prices last winter were above \$6.00 per thousand cubic feet, the highest winter average price on record for the U.S. Last winter, many gas customers in all sectors experienced their highest gas bills ever. This winter, assuming normal weather, wellhead prices are expected to be about 40 percent lower. If these

Figure 7. U.S. Average Retail Motor Gasoline Price Cases* (Base Case and 95% Confidence Range)

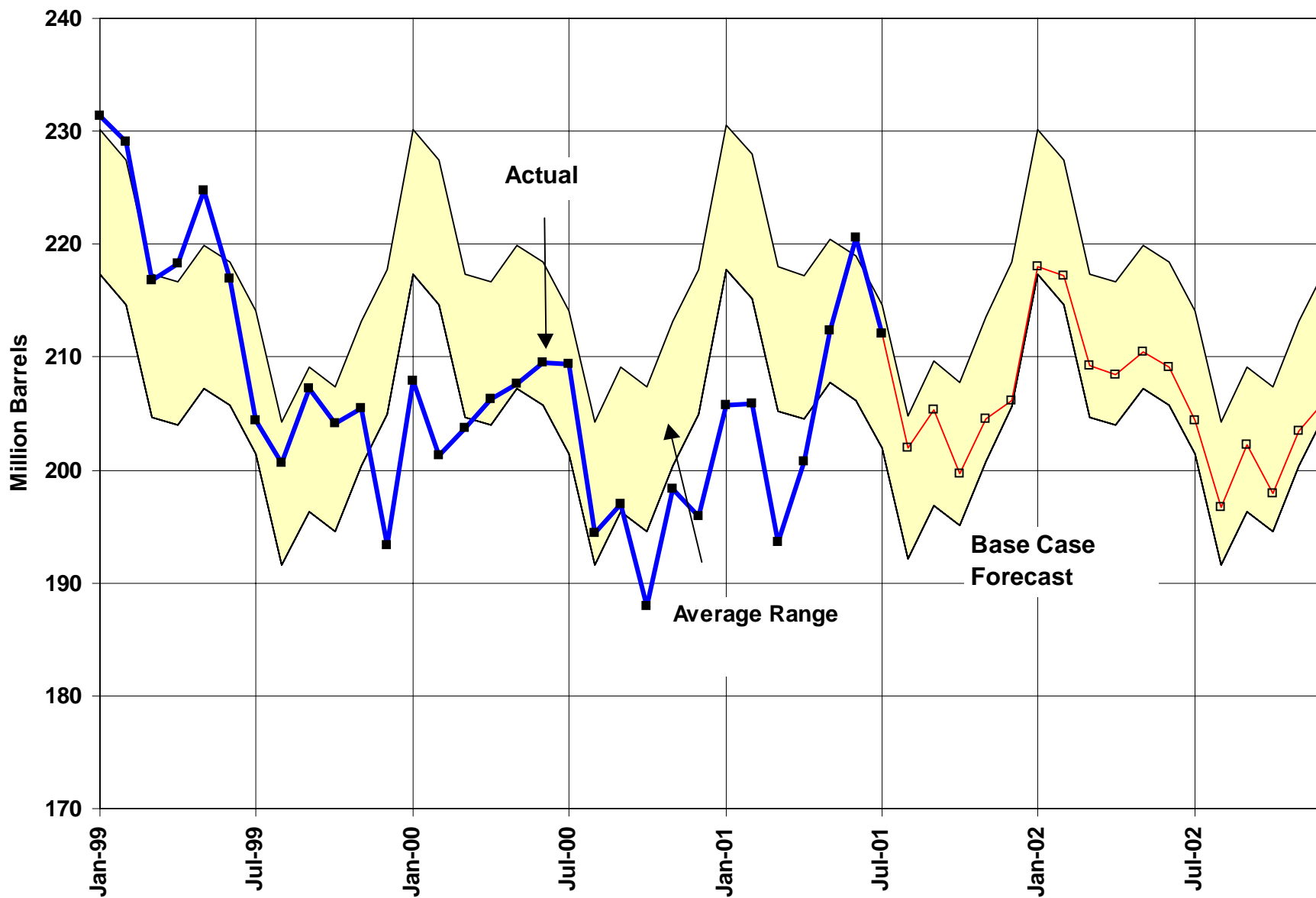


* Regular gasoline, self-serve cash.

Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.

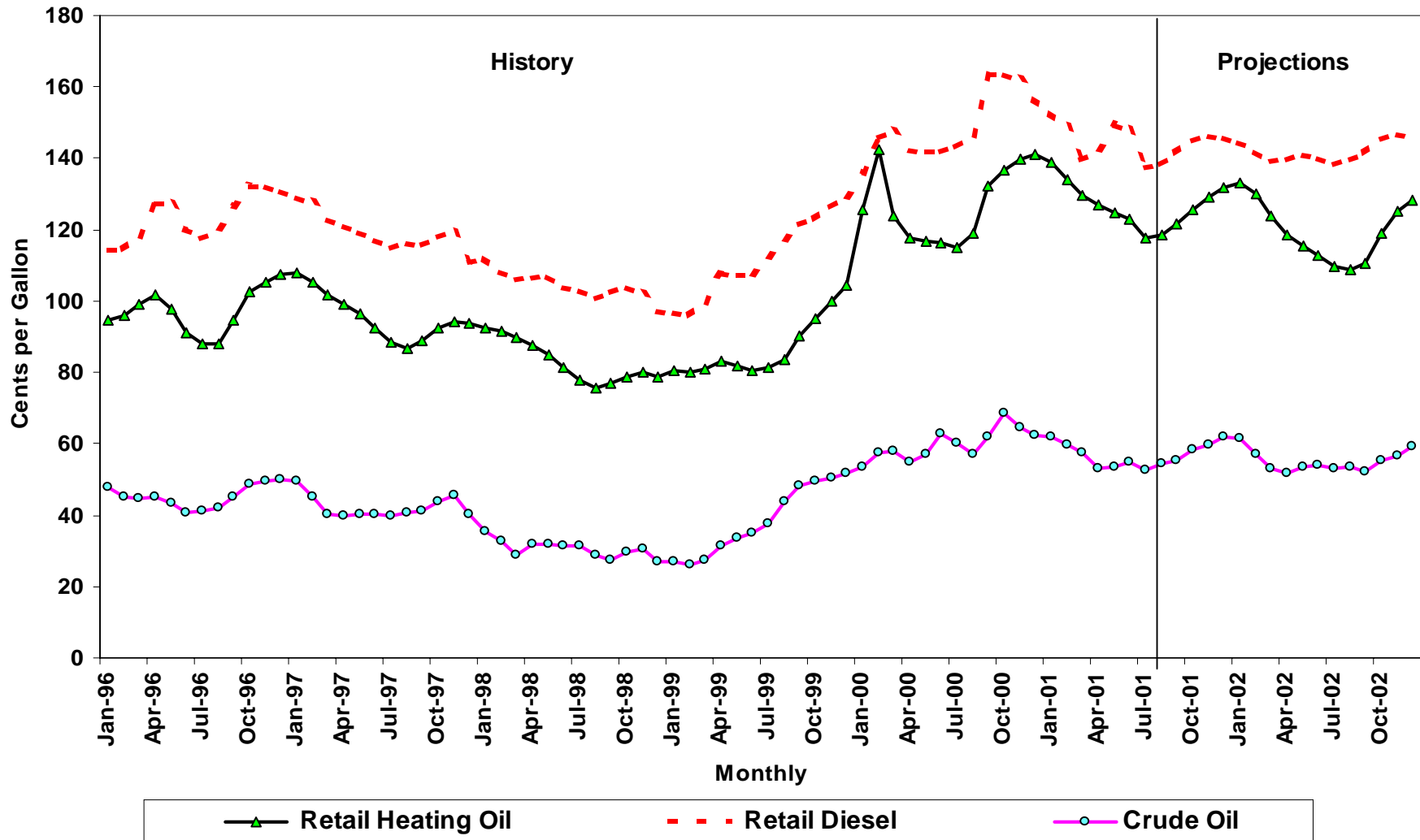


Figure 8. U.S. Gasoline Inventories



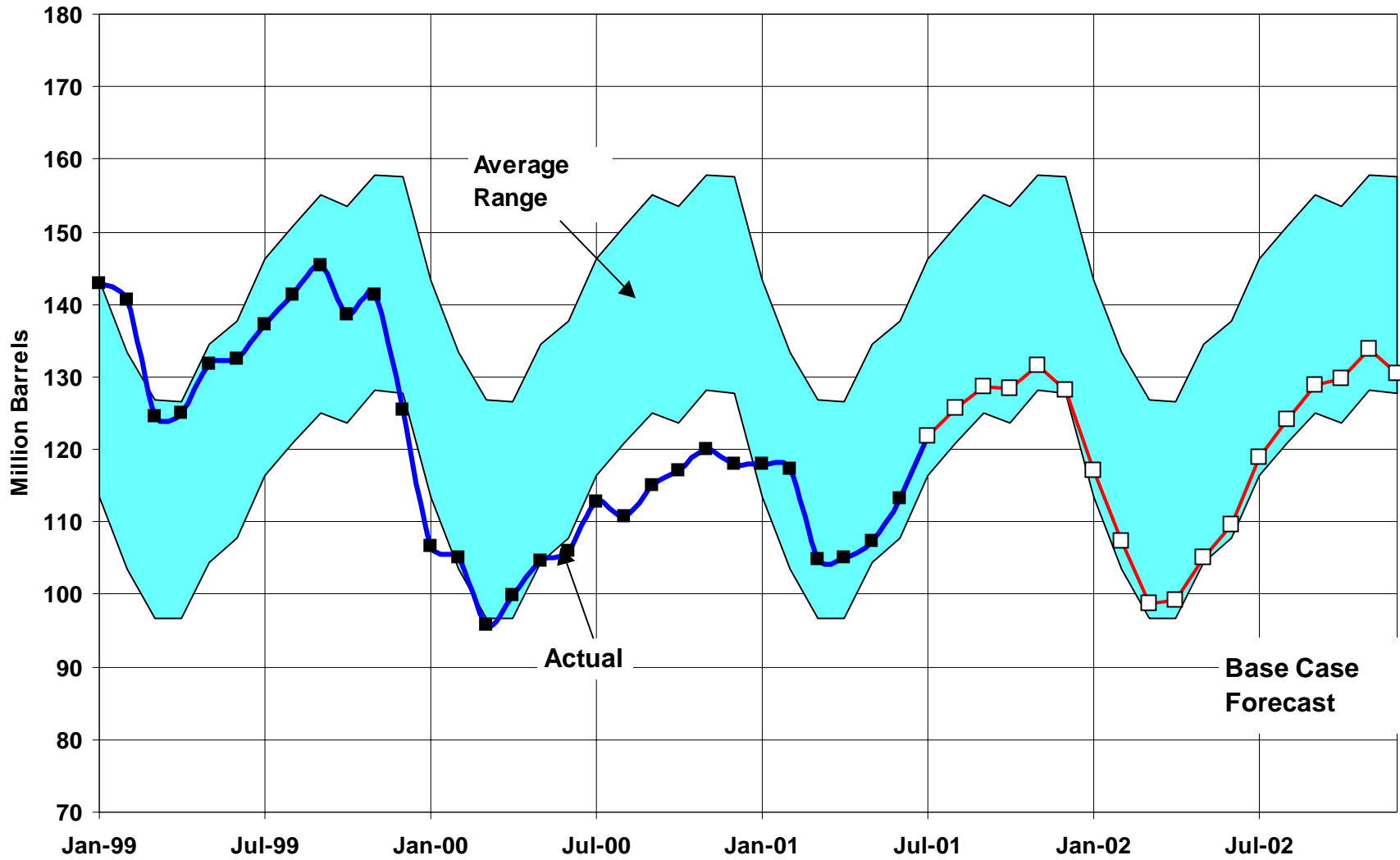
Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.

Figure 9. Distillate Fuel Prices



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.

Figure 10. Distillate Fuel Inventories



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



projections are correct, gas consumers can expect to see considerably smaller bills this winter. Last year, it can be recalled that increasing concern regarding the very low underground storage levels for gas led spot and wellhead prices to soar throughout the summer and into the beginning of the heating season ([Figure 11](#)). Last January, the monthly average wellhead price for natural gas peaked at over \$8.00 per thousand cubic feet, a record monthly high. Wellhead gas prices are currently less than half that amount, or about \$3.00 per thousand cubic feet. Weather played a strong role in reversing these prices. A mild spring and summer throughout much of the gas consuming portions of the nation reduced demand for this fuel. In addition, the high prices earlier in the year led to conservation, fuel switching when possible and spurred incentives for increased exploration and production. At the time, these currently lower prices have led to a greater-than-expected underground storage build. Underground storage builds were well above normal during most of the spring. The possibility of prices below \$3.00 per thousand cubic feet in the near future was not considered very likely just a few months ago. Now we believe that, though unlikely, very low natural gas spot prices within the next several months are possible. Temperate weather through the end of the year combined with economic stagnation, along with gains in gas production could result in a collapse in prices. Nonetheless, relatively stable world oil prices, increased gas use at electric utilities, and the assumption of normal weather are likely to keep wellhead price levels above \$3.00 on an annual average basis for the near term. The average for all of 2001 is now projected to be about \$4.40 per thousand cubic feet. For the year 2002, we expect the storage and production situations to remain healthy and, thus, we expect a decline in the average annual wellhead price to less than \$3.20 per thousand cubic feet with the price actually dipping below \$3.00 per thousand cubic feet during several months of the year.

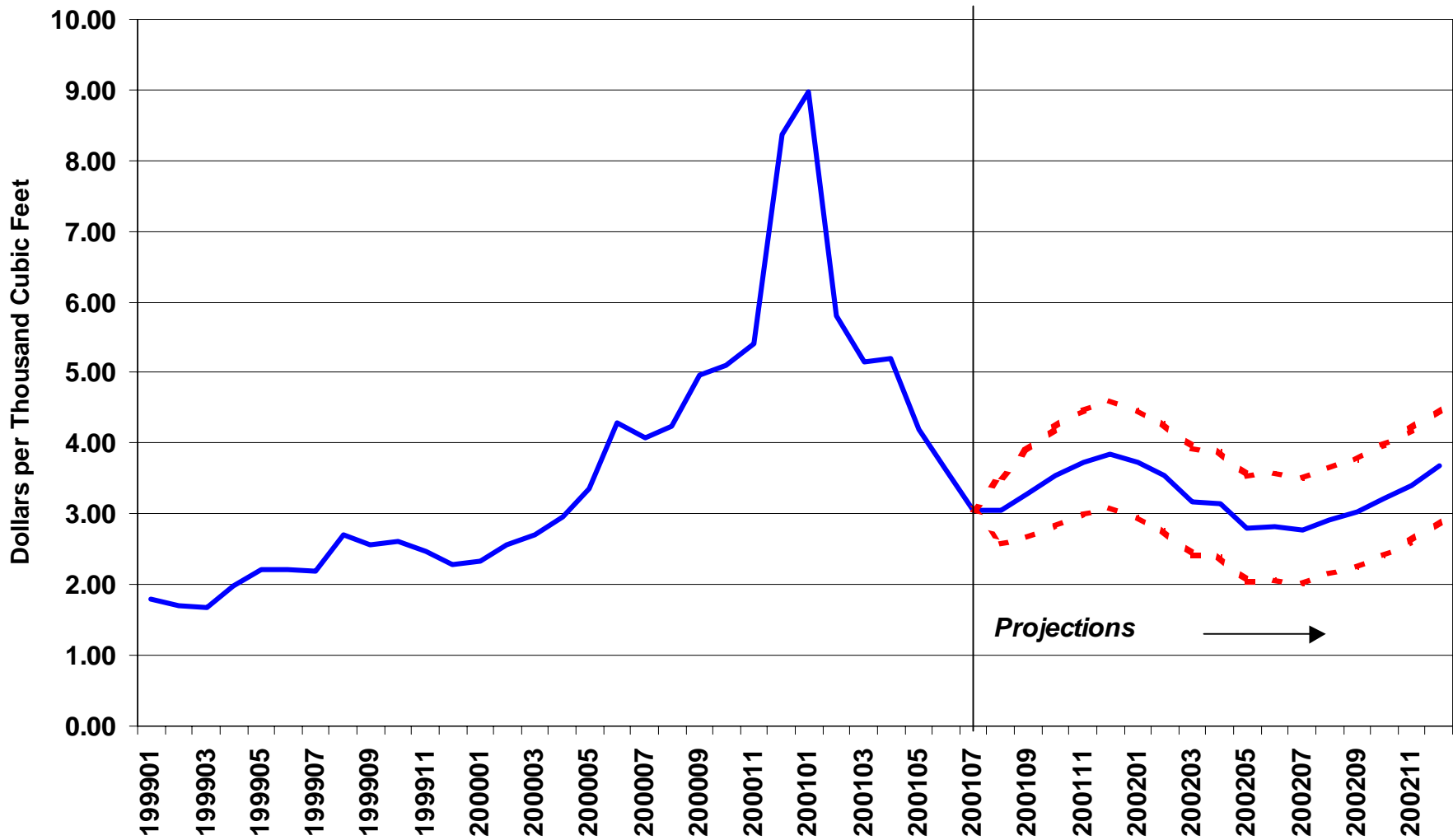
Electric Utility Fuels. In June of last year, delivered natural gas prices were above heavy fuel oil prices on a cost per Btu basis, giving oil the competitive edge ([Figure 12](#)). This price difference grew wider through January of this year, when gas became more than twice as expensive as oil. Then in February, the price difference began to narrow. This path of price convergence has been continuing. The recent reversal in natural gas prices, combined with the assumption of fairly stable world oil prices, may now lead to a competitive price advantage for gas by the middle of next year. For the much of this year, exceptional demand pressure was put on coal. Stocks of coal at electric utilities had fallen drastically from historical levels and are still quite low, leading to sharp increases in spot coal prices and to smaller but noticeable increases in average coal prices, after years of gradual price waning. As a result, for the first time since 1990, the annual average cost of coal to electric utilities is projected to increase, gaining about 5 percent (which is greater than the rate of inflation) compared to last year. Next year, coal prices should recede as those market forces, which originally caused coal prices to rise, namely climbing natural gas prices and decreasing coal stocks, are expected to reverse course.

U.S. Oil Demand

Total petroleum demand in 2001 is projected to climb 222,000 barrels per day, or 1.1 percent, to an average of 19.9 million barrels per day, and by a further increase of 360,000 barrels per day, or 1.8 percent, in 2002, to an average of 20.3 million barrels per day.

Available data indicate that total petroleum products demand in the first half of this year averaged 19.76 million barrels per day, up 370,000 barrels per day--or 1.9 percent--from the same period last year. Part of that increase results from first-quarter weather in the Northeast, the principal home heating oil region, being 9.3 percent colder than the same period during the previous year. The spike in natural gas prices to record levels also brought about fuel switching to oil products in the industrial and power generation sectors. In addition, Y2K-related concerns that depressed first-quarter 2000 deliveries contributed to the current year's growth in petroleum demand. In the second half of this year, growth in total petroleum demand is projected to average 77,000 barrels per day, or 0.4 percent. The following year, however, is expected to witness somewhat higher oil demand growth due in part to accelerated economic growth and continued oil price declines ([Figure 13](#)). But, because weather is projected to be normal in 2002, spikes in

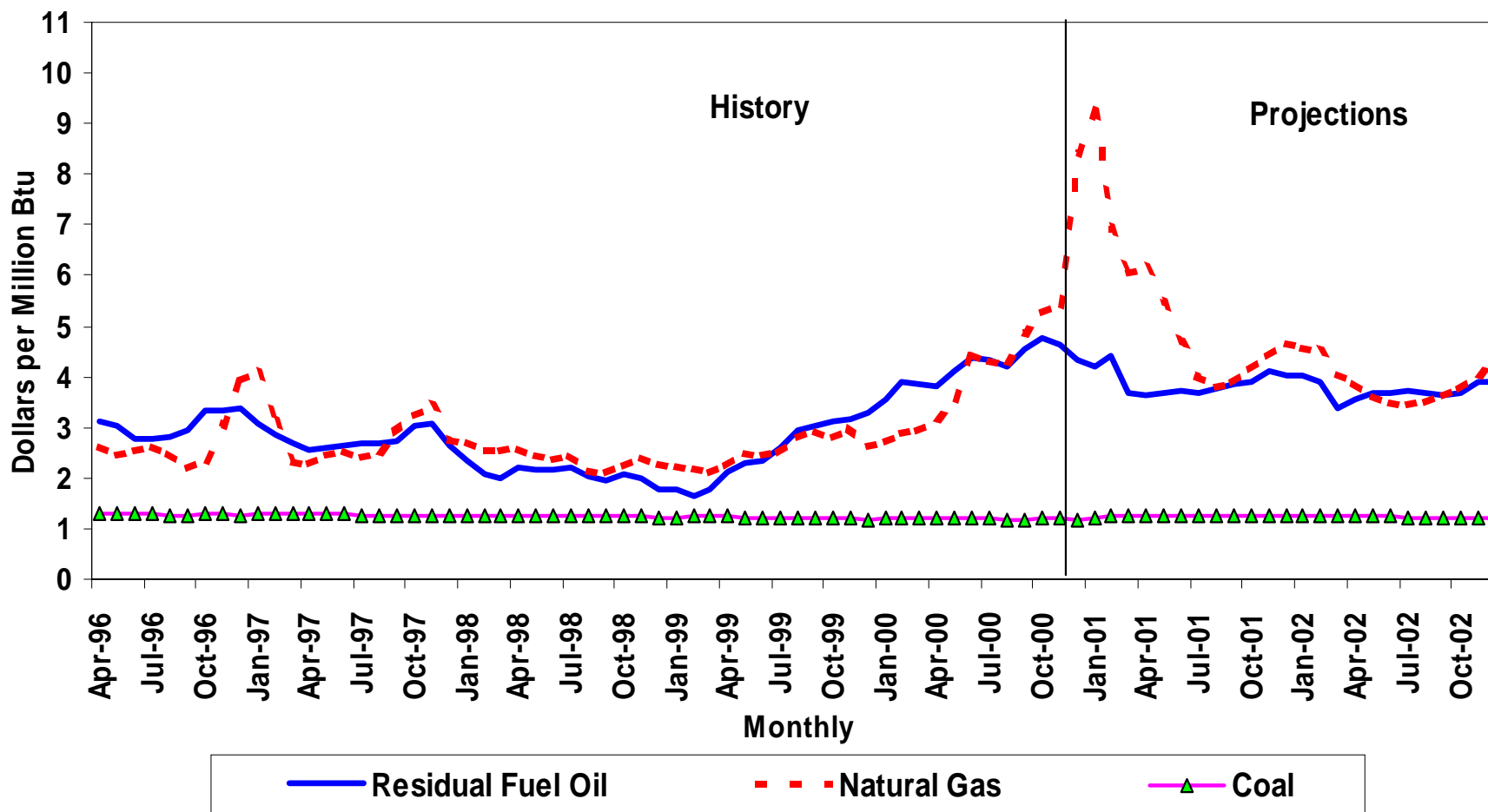
**Figure 11. Natural Gas Spot Prices
(Base Case and 95% Confidence Interval)**



Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, August 2001.



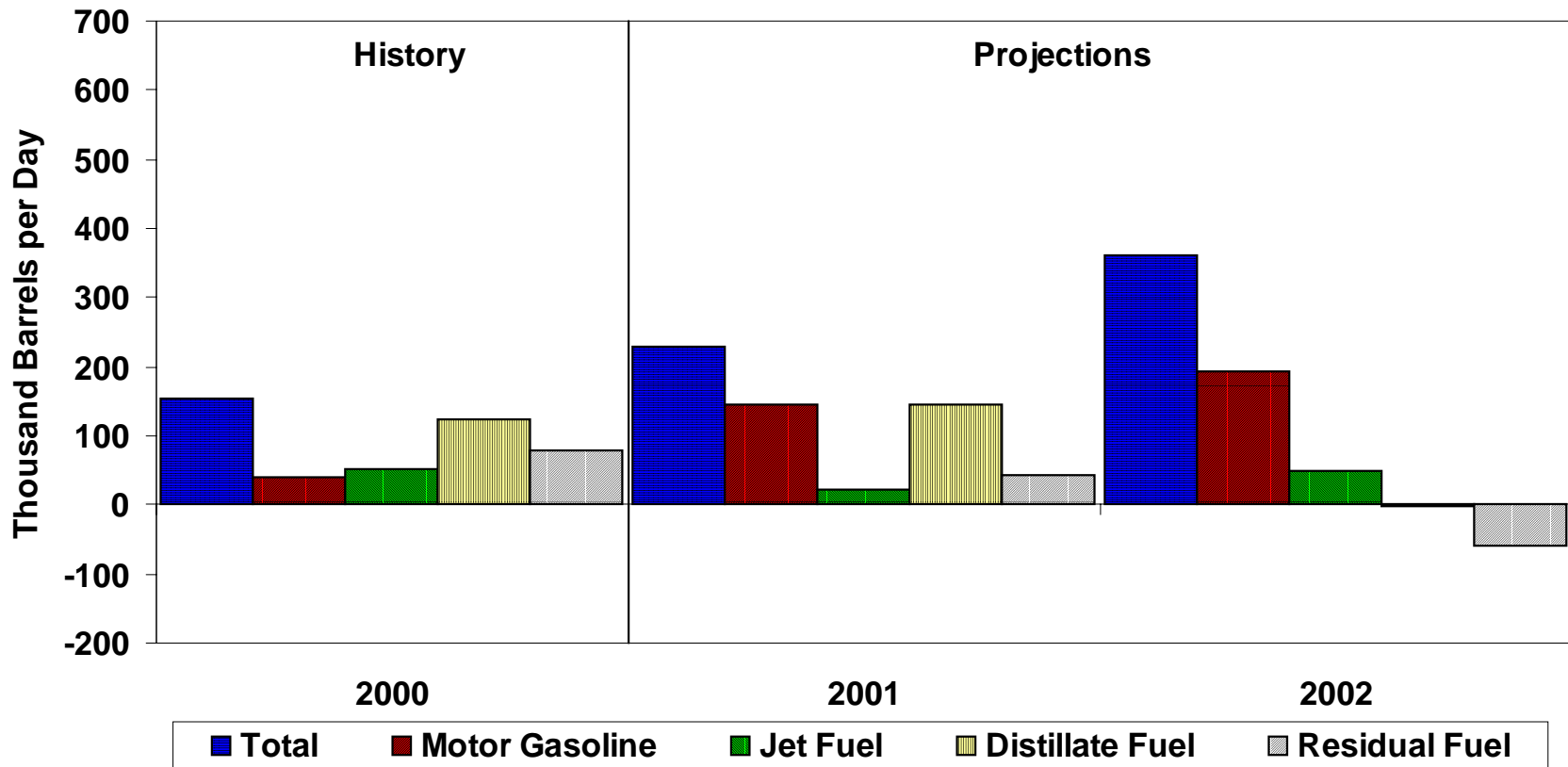
Figure 12. Fossil Fuel Prices to Electric Utilities



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



Figure 13. Petroleum Products Demand (Change from Year Ago)



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



space-heating demand similar to that of the first quarter of this year are not expected to recur. Nonetheless, the impacts of accelerating economic growth and continued declines in oil prices are expected to offset the effects of weather differences and the displacement by natural gas in the price-sensitive electric utility and industrial sectors resulting from the precipitous price decline of the latter fuel.

In the current year, motor gasoline demand is expected to increase 1.7 percent. Reflecting recent economic softness as well as high retail gasoline prices, motor gasoline demand has been displaying weakness since last summer's run-up in retail prices. For the first half of this year, demand is estimated to have increased by 1.4 percent. Buoyed by a modest acceleration in economic growth brought about in part by the stimulus of tax refunds and lower withholding rates, demand for motor gasoline in the second half is expected to register growth of 1.9 percent. In 2002, motor gasoline demand is projected to climb by 2.2 percent, as disposable income is expected to continue to increase and retail gasoline prices are expected to continue a slow but steady decline.

Total jet fuel demand, which has also been weak for much of the first half of this year, is expected to register only 1.6 percent growth for 2001, or one third of the previous year's growth. Growth in demand for commercial jet fuel is projected to be only 1.2 percent. Following a year of more than 5 percent growth, revenue ton-mile growth is projected to decline by 0.4 percent this year, the first such decline since 1991. Capacity, however, is projected to continue to grow, but by only 2.1 percent, or half of the previous year's growth. In 2002, revenue ton-miles are projected to increase by 6.3 percent and available ton-miles are projected to increase by 3.8 percent. As a result, load factors are expected to recover to normal levels. Total jet fuel demand is projected to grow by 2.7 percent, and commercial jet fuel demand is projected to increase by 2.3 percent.

Distillate fuel oil, having increased 3.4 percent in 2000, is projected to register an even larger increase of 4.0 percent in the current year. The transportation demand component, accounting for more than two thirds of the distillate markets, is expected to increase by 3.1 percent. In 2002, total distillate demand growth is expected to be flat, with the 4.0-percent growth in diesel demand offsetting declines in the other sectors. Most notable are the declines to the electric utility and industrial sectors. These declines are a result of normal weather assumed for the first quarter and the recovery of natural gas demand brought about by the precipitous year-to-year decline in natural gas prices from the record highs of last winter.

Residual fuel oil also found strength in the electric utility markets last winter and spring, resulting in a first-half demand increase of more than 25%. Last winter's robust market, in fact, reflected the fuel's high response to shifts in relative prices and weather patterns. The resultant increase in deliveries to electric utilities brought about by cold weather (compared to that of the prior winter) and the spike in natural gas prices contrasts with that of the previous winter. In that winter, relative prices for residual fuel oil were high and temperatures were mild, constraining demand for the fuel. Despite projected declines in second-half demand for the fuel of more than 10 percent from the same period last year, total residual fuel oil demand is still projected to increase by 4.9 percent for the year as a whole. But the downward trend is expected to persist in 2002. The return to normal weather patterns and the subsidence of natural gas prices is expected to trim total demand for the fuel by 6.2 percent, with a 14.8-percent decline projected for utilities.

U.S. Oil Supply

Average domestic oil production is expected to increase by 11,000 barrels per day or 0.2 percent in 2001, to a level of 5.83 million barrels per day. For 2002, a 0.9 percent increase is expected and results in an oil production rate of 5.88 million barrels per day average for the year.

Lower-48 States oil production is expected to increase by 9,000 barrels per day to a rate of 4.86 million barrels per day in 2001, followed by a decrease of 4,000 barrels per day in 2002 ([Figure 14](#)). Shell started production in 1999 in their Ursa field, which will peak in production late in the year 2001. Shell's Brutus platform is expected to start production in the third quarter of 2001 with peak oil production of 100,000 barrels per day in 2002. Oil production from the Mars, Troika, Ursa, and Brutus Federal Offshore fields is expected to account for about 8.1 percent of the lower-48 oil production by the 4th quarter of 2002.

Alaska is expected to account for 17.5 percent of the total U.S. oil production in 2002. Alaskan oil production is expected to increase by 0.3 percent in 2001 and again increase by 5.5 percent in 2002. The increase in 2001 is the result of adding two new satellite fields, Colville River (Alpine) and Prudhoe Bay (Aurora), which contributed to the Alaska North Slope production. Alpine averaged 72,700 barrels per day during May and it is expected to peak at 80,000 barrels per day later this year. Aurora peak production should also occur late this year. Another satellite field, North Star, is expected to come on in early to mid-2002 and will peak at a rate of 65,000 barrels per day later that year. Production from the Kuparuk River field plus like production from West Sak, Tabasco and Tarn fields is expected to stay at an average of 225,000 barrels per day in the 2001 and 2002 forecast period.

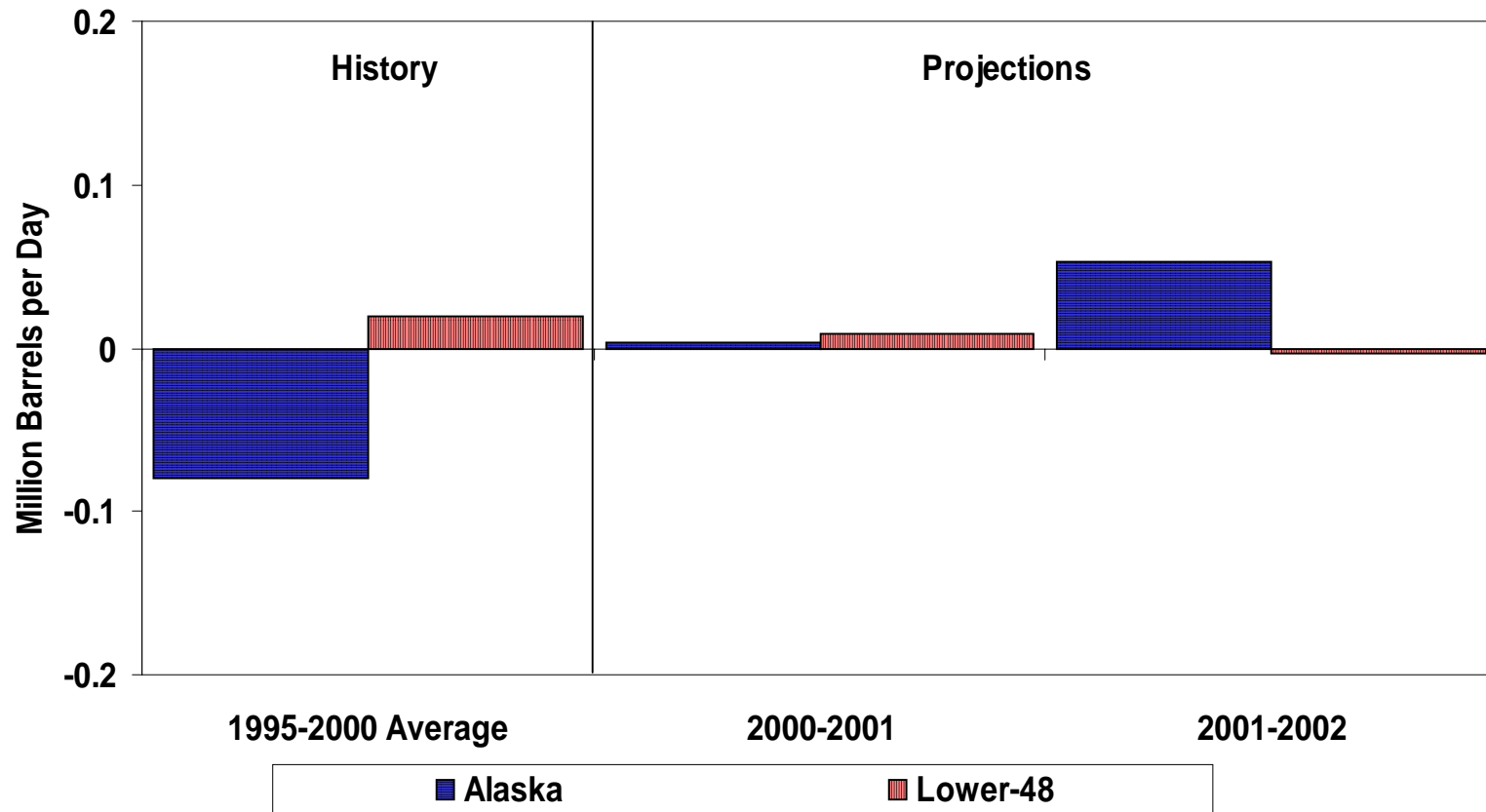
Natural Gas Demand and Supply

U.S. natural gas demand is projected to be flat this year, compared with estimated 5.0 percent growth in 2000. This is partly due to the sharply lower economic growth rate expected this year relative to last year, (1.7 percent compared to 5.0 percent). In addition, the negative impact on gas demand of high prices at the beginning of the year and the likelihood that, under assumptions of normal weather, there will be lower weather-induced demand in the fourth quarter of the year, contribute to lower demand growth in 2001. Growth in 2002 is expected to rise by 4.3 percent as the economy picks up again from its dip in 2001 to a growth rate of 2.8 percent and as a much improved supply situation keeps prices in check and prevents the kind of massive fuel switching seen in early 2001.

Industrial demand for gas (including consumption by nonutility generators) was falling or flat during the first 5 months of 2001 from year-ago levels ([Figure 15](#)) but began to reverse itself in June due to lower prices and new gas-fired power generation requirements. In June, gas prices to the industrial sector fell to under \$5 per thousand cubic feet. In August, the price differential between natural gas and distillate prices is expected to continue to narrow, making gas more competitive with fuel oil in the industrial and electricity generating sectors.

Increases in natural gas production, the mild summer weather thus far and the loss of some demand for gas in the industrial and utility sectors, have resulted in the higher levels of storage injections seen thus far this summer. Based on EIA survey data and recent information from the American Gas Association on early-season storage additions, we estimate that, on an EIA survey basis, working gas in storage at the end of July was 2.33 trillion cubic feet ([Figure 16](#)). Storage is currently in surplus to last year's level at this time and rose above the five-year average at the end of June. Together with mild weather, this has caused spot and near futures prices to fall to near (and, at times, below) \$3.00 per thousand cubic feet (mcf) from recent average monthly peaks of well over \$5.00 per mcf. Continued high storage injections are expected for the remainder of the summer and gas storage levels at the beginning of the heating season (Nov. 1) are expected to be significantly higher (perhaps by as much as 15 percent higher) than they were at that time last year. It remains true that, if very hot temperatures and above-normal cooling demand materialize in regions that use large amounts of gas for power generation in the remainder of the summer, we could see heightened competition for gas between cooling and storage demand sources and new increases in gas prices. However, at this point, significant increases before winter are not very likely.

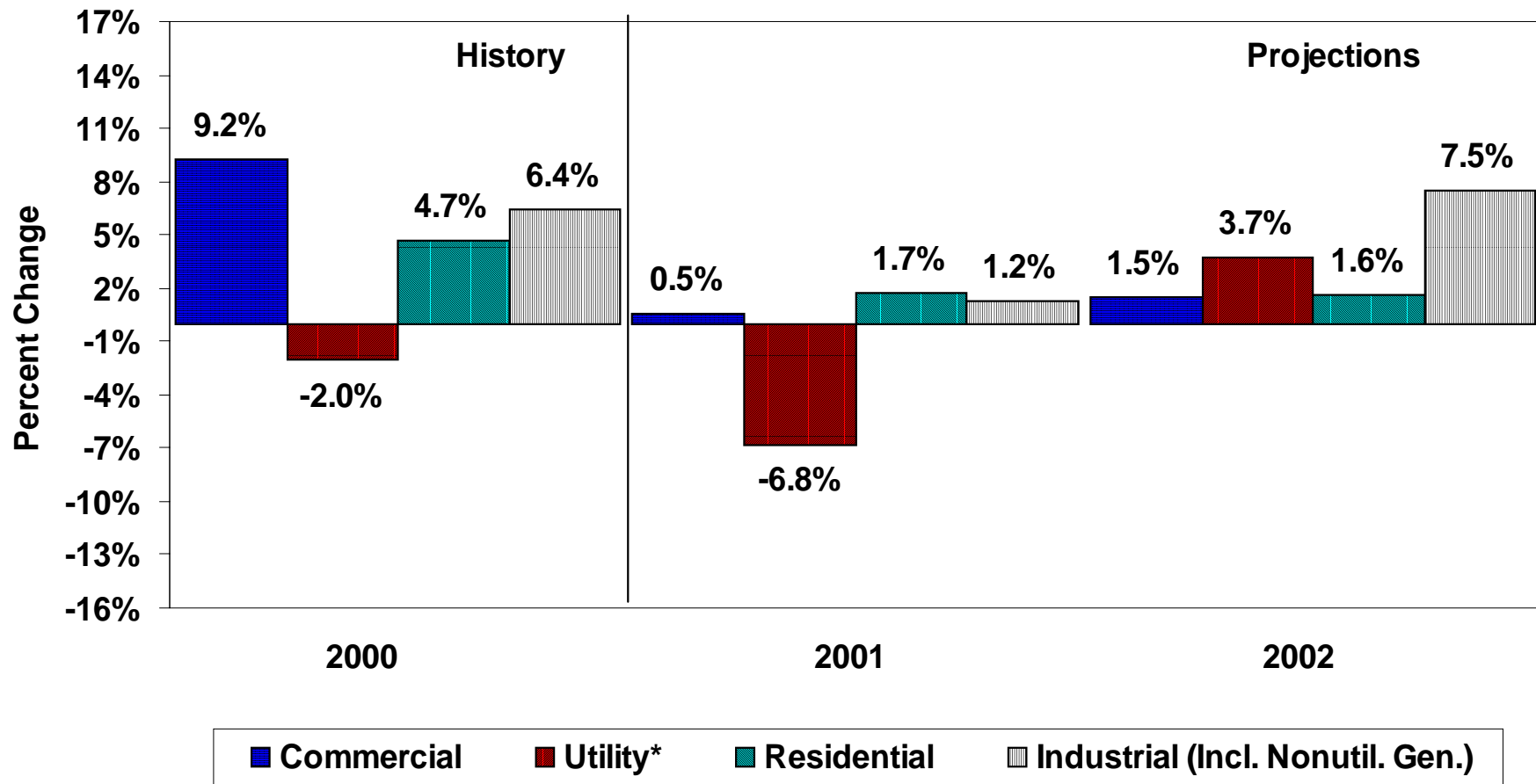
Figure 14. U.S. Crude Oil Production (Change from Year Ago)



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



Figure 15. Natural Gas Demand by Sector (Change from Year Ago)

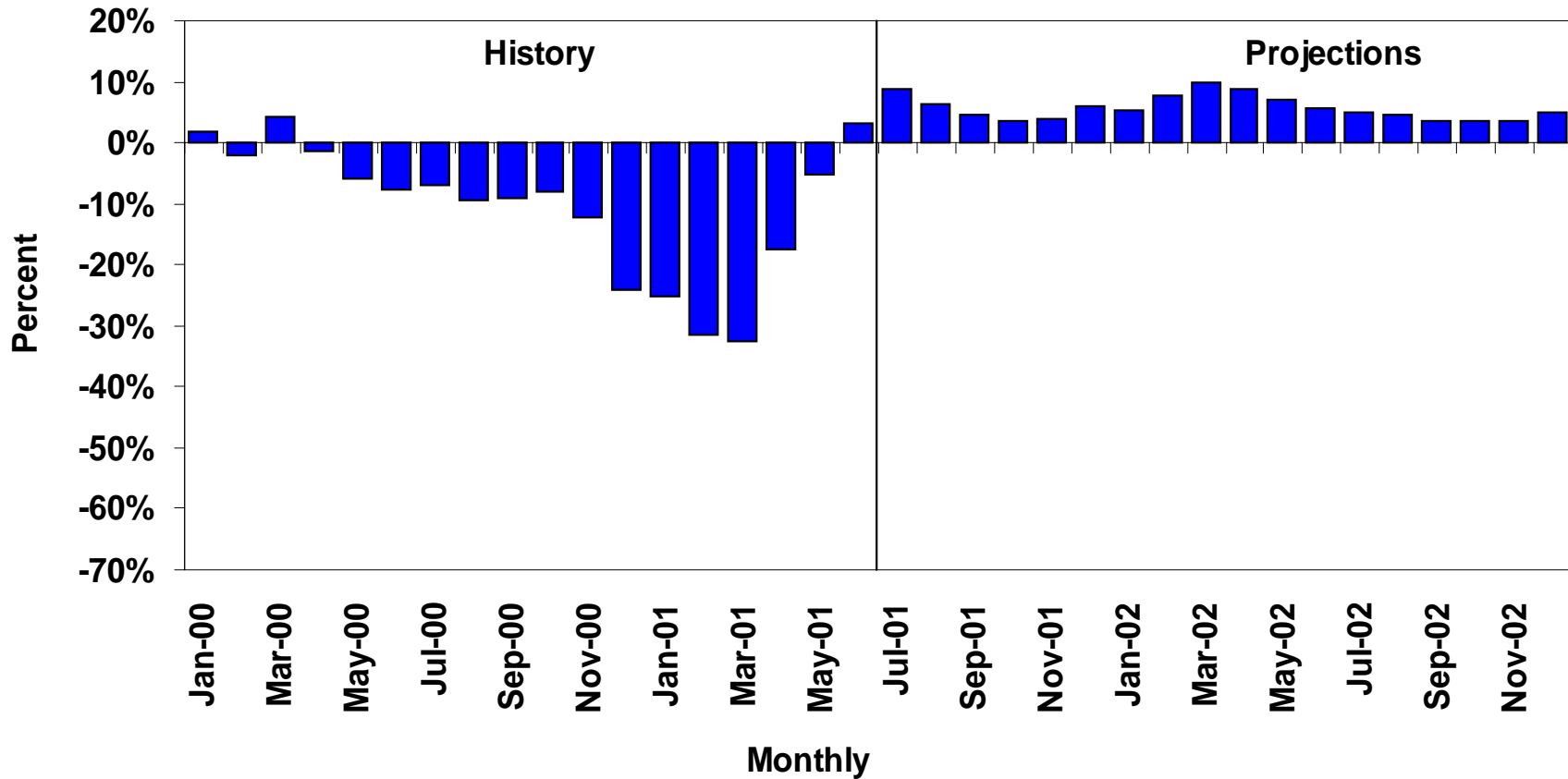


* Electric utility gas demand changes in recent years in part reflect sale of assets to the nonutility sector

Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



**Figure 16. Working Gas in Storage
(Difference from Previous 5-Year Average)**



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



Domestic gas production is estimated to have risen by 2.4 percent in 2000 and it is forecast to continue to increase by 3.2 percent in 2001 and 3.3 percent in 2002. This is the result of production responses to the high rates of drilling experienced over the past year. Growth in gas supply is projected to exceed demand growth through the remainder of the year. According to Baker Hughes, the gas rig count continued to rise to new record highs during the month of July, averaging 1,058 rigs drilling for gas.

Net imports of natural gas are projected to rise by about 4.9 percent in 2001 and by 9.8 percent in 2002. Strong increases in gross imports have been partially offset this year by increased exports of gas to Mexico (total gross exports were up by an average of 54 percent for the first 5 months of 2001). We assume that export requirements will not expand comparably in 2002. Average import capacity is expected to post gains of 6 percent and 7 percent in 2001 and 2002, respectively.

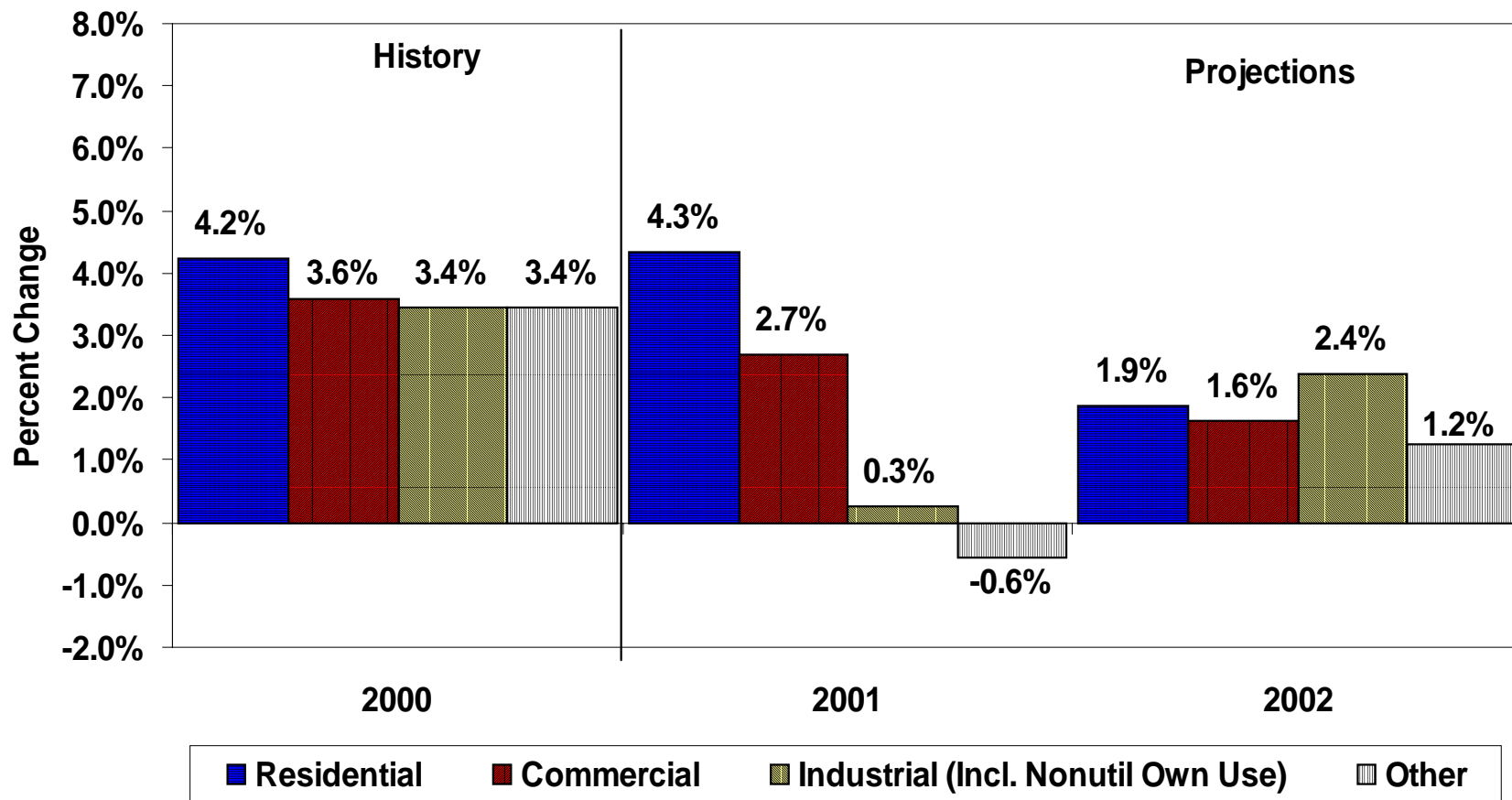
Electricity Demand and Supply

Total annual electricity demand growth (retail sales plus industrial generation for own use) is projected at about 2.2 percent in 2001 and 2.0 percent in 2002. This is compared with estimated demand growth in 2000 of 3.7 percent over the previous year's level. Electricity demand growth is expected to be somewhat slower in the forecast years than it was in 2000 ([Figure 17](#)) partly because the economy is growing more slowly than it was in 2000. Industrial demand for electricity is expected to be down in 2001 from its 2000 level but revive in 2002 along with the economy. Residential demand for electricity is expected to be lower this winter than last due to the assumption of normal weather.

This summer's overall cooling degree-days (CDD) are projected to be 2.8 percent above normal based on April through September temperatures, and about 3.4 percent above last summer's CDD total. Summer electricity demand is expected to be 1.7 percent higher than last summer because of growth in the residential and commercial sectors due to some continued expansion of the aggregate customer base as well as weather ([Table 10](#)).

Hydropower generation in the crucial Pacific Northwest is expected to be down by 19 percent from last summer, due mainly to lower water levels. According to the National Oceanic and Atmospheric Administration (NOAA), this winter was the second driest winter on record, after the 1976/77 winter. In addition, California electricity needs during this past winter further drained reservoirs, depriving the region of hydroelectric generation resources for this spring and summer.

Figure 17. U.S. Electricity Demand by Sector (Change from Year Ago)



Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2001.



Table HL1. U. S. Energy Supply and Demand

| | Year | | | | Annual Percentage Change | | |
|--|--------------|-------|-------|-------|--------------------------|-----------|-----------|
| | 1999 | 2000 | 2001 | 2002 | 1999-2000 | 2000-2001 | 2001-2002 |
| Real Gross Domestic Product (GDP) (billion chained 1996 dollars) | 8876 | 9318 | 9475 | 9739 | 5.0 | 1.7 | 2.8 |
| Imported Crude Oil Price ^a (nominal dollars per barrel)..... | 17.22 | 27.72 | 24.78 | 24.66 | 61.0 | -10.6 | -0.5 |
| Petroleum Supply (million barrels per day) | | | | | | | |
| Crude Oil Production ^b | 5.88 | 5.82 | 5.83 | 5.88 | -1.0 | 0.2 | 0.9 |
| Total Petroleum Net Imports (including SPR) | 9.91 | 10.42 | 10.80 | 11.07 | 5.1 | 3.6 | 2.5 |
| Energy Demand | | | | | | | |
| World Petroleum (million barrels per day)..... | 74.9 | 75.5 | 76.5 | 77.8 | 0.8 | 1.3 | 1.7 |
| Petroleum (million barrels per day)..... | 19.52 | 19.67 | 19.90 | 20.26 | 0.8 | 1.2 | 1.8 |
| Natural Gas (trillion cubic feet) | 21.70 | 22.78 | 22.83 | 23.81 | 5.0 | 0.2 | 4.3 |
| Coal ^c (million short tons) | 1045 | 1082 | 1093 | 1114 | 3.5 | 1.0 | 1.9 |
| Electricity (billion kilowatthours) | | | | | | | |
| Retail Sales ^d | 3312 | 3413 | 3461 | 3526 | 3.0 | 1.4 | 1.9 |
| Nonutility Use/Sales ^e | 177 | 206 | 240 | 247 | 16.4 | 16.5 | 2.9 |
| Total | 3489 | 3619 | 3700 | 3773 | 3.7 | 2.2 | 2.0 |
| Total Energy Demand ^f (quadrillion Btu)..... | 97.2 | 99.5 | 99.9 | 102.5 | 2.4 | 0.4 | 2.6 |
| Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar) | 10.95 | 10.67 | 10.54 | 10.53 | -2.6 | -1.2 | -0.1 |
| Renewable Energy as Percent of Total ^g ... | 7.2 | 6.9 | 6.5 | 6.9 | | | |

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

^b Includes lease condensate.

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

^d Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA's *Electric Power Monthly* and *Electric Power Annual*. Power marketers' sales for historical periods are reported in EIA's *Electric Sales and Revenue*, Appendix C. Data for 2000 are estimates.

^e Defined 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 2000 are estimates.

^f The 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)*.

^g Renewable 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 CONTROL0701.

Table 1. U.S. Macroeconomic and Weather Assumptions

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Macroeconomic ^a | | | | | | | | | | | | | | | |
| Real Gross Domestic Product (billion chained 1996 dollars - SAAR)..... | 9192 | 9319 | 9369 | <i>9394</i> | <i>9423</i> | <i>9445</i> | <i>9502</i> | <i>9532</i> | <i>9617</i> | <i>9701</i> | <i>9779</i> | <i>9860</i> | <i>9318</i> | <i>9475</i> | <i>9739</i> |
| Percentage Change from Prior Year | 5.3 | 6.1 | 5.2 | <i>3.4</i> | <i>2.5</i> | <i>1.3</i> | <i>1.4</i> | <i>1.5</i> | <i>2.1</i> | <i>2.7</i> | <i>2.9</i> | <i>3.4</i> | <i>5.0</i> | <i>1.7</i> | <i>2.8</i> |
| Annualized Percent Change from Prior Quarter..... | 4.7 | 5.5 | 2.2 | <i>1.0</i> | <i>1.2</i> | <i>0.9</i> | <i>2.4</i> | <i>1.3</i> | <i>3.6</i> | <i>3.5</i> | <i>3.2</i> | <i>3.3</i> | | | |
| GDP Implicit Price Deflator (Index, 1996=1.000) | 1.062 | 1.068 | 1.072 | <i>1.077</i> | <i>1.086</i> | <i>1.093</i> | <i>1.096</i> | <i>1.103</i> | <i>1.110</i> | <i>1.116</i> | <i>1.121</i> | <i>1.129</i> | <i>1.070</i> | <i>1.094</i> | <i>1.119</i> |
| Percentage Change from Prior Year | 1.8 | 2.1 | 2.2 | <i>2.3</i> | <i>2.3</i> | <i>2.3</i> | <i>2.2</i> | <i>2.4</i> | <i>2.2</i> | <i>2.1</i> | <i>2.3</i> | <i>2.4</i> | <i>2.1</i> | <i>2.3</i> | <i>2.2</i> |
| Real Disposable Personal Income (billion chained 1996 Dollars - SAAR) | 6443 | 6502 | 6544 | <i>6555</i> | <i>6591</i> | <i>6615</i> | <i>6935</i> | <i>6758</i> | <i>6836</i> | <i>6901</i> | <i>6949</i> | <i>7005</i> | <i>6511</i> | <i>6725</i> | <i>6923</i> |
| Percentage Change from Prior Year | 2.9 | 3.1 | 3.2 | <i>2.2</i> | <i>2.3</i> | <i>1.7</i> | <i>6.0</i> | <i>3.1</i> | <i>3.7</i> | <i>4.3</i> | <i>0.2</i> | <i>3.7</i> | <i>2.8</i> | <i>3.3</i> | <i>2.9</i> |
| Manufacturing Production (Index, 1996=1.000) | 1.237 | 1.261 | 1.272 | <i>1.267</i> | <i>1.241</i> | <i>1.220</i> | <i>1.207</i> | <i>1.208</i> | <i>1.221</i> | <i>1.239</i> | <i>1.252</i> | <i>1.264</i> | <i>1.259</i> | <i>1.219</i> | <i>1.244</i> |
| Percentage Change from Prior Year | 6.3 | 7.0 | 6.4 | <i>4.2</i> | <i>0.4</i> | <i>-3.3</i> | <i>-5.1</i> | <i>-4.7</i> | <i>-1.6</i> | <i>1.6</i> | <i>3.7</i> | <i>4.6</i> | <i>6.0</i> | <i>-3.2</i> | <i>2.1</i> |
| OECD Economic Growth (percent) ^b | | | | | | | | | | | | | <i>3.6</i> | <i>1.9</i> | <i>2.6</i> |
| Weather ^c | | | | | | | | | | | | | | | |
| Heating Degree-Days | | | | | | | | | | | | | | | |
| U.S..... | 2023 | 485 | 96 | <i>1856</i> | <i>2279</i> | <i>452</i> | <i>86</i> | <i>1622</i> | <i>2234</i> | <i>518</i> | <i>86</i> | <i>1622</i> | <i>4460</i> | <i>4439</i> | <i>4459</i> |
| New England | 3007 | 909 | 196 | <i>2385</i> | <i>3273</i> | <i>847</i> | <i>172</i> | <i>2238</i> | <i>3174</i> | <i>883</i> | <i>167</i> | <i>2237</i> | <i>6497</i> | <i>6530</i> | <i>6462</i> |
| Middle Atlantic..... | 2713 | 692 | 129 | <i>2234</i> | <i>2919</i> | <i>624</i> | <i>106</i> | <i>2003</i> | <i>2891</i> | <i>700</i> | <i>105</i> | <i>2002</i> | <i>5768</i> | <i>5652</i> | <i>5698</i> |
| U.S. Gas-Weighted..... | 2115 | 512 | 100 | <i>1957</i> | <i>2417</i> | <i>473</i> | <i>91</i> | <i>1714</i> | <i>2351</i> | <i>555</i> | <i>90</i> | <i>1714</i> | <i>4684</i> | <i>4695</i> | <i>4710</i> |
| Cooling Degree-Days (U.S.) | 45 | 380 | 742 | <i>62</i> | <i>23</i> | <i>388</i> | <i>773</i> | <i>76</i> | <i>33</i> | <i>347</i> | <i>782</i> | <i>76</i> | <i>1229</i> | <i>1259</i> | <i>1237</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.

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 CONTROL0701.

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

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Macroeconomic ^a | | | | | | | | | | | | | | | |
| Real Fixed Investment | | | | | | | | | | | | | | | |
| (billion chained 1996 dollars-SAAR) | 1731 | 1778 | 1791 | <i>1787</i> | <i>1797</i> | <i>1785</i> | <i>1770</i> | <i>1759</i> | <i>1758</i> | <i>1766</i> | <i>1786</i> | <i>1806</i> | <i>1772</i> | <i>1778</i> | <i>1779</i> |
| Real Exchange Rate | | | | | | | | | | | | | | | |
| (index) | 1.046 | 1.071 | 1.086 | <i>1.113</i> | <i>1.103</i> | <i>1.100</i> | <i>1.103</i> | <i>1.117</i> | <i>1.120</i> | <i>1.117</i> | <i>1.110</i> | <i>1.110</i> | <i>1.079</i> | <i>1.106</i> | <i>1.114</i> |
| Business Inventory Change | | | | | | | | | | | | | | | |
| (billion chained 1996 dollars-SAAR) | 10.3 | 17.6 | 22.6 | <i>12.2</i> | <i>-11.4</i> | <i>-5.8</i> | <i>-5.7</i> | <i>-3.0</i> | <i>5.9</i> | <i>8.8</i> | <i>4.7</i> | <i>1.5</i> | <i>15.7</i> | <i>-6.5</i> | <i>5.3</i> |
| Producer Price Index | | | | | | | | | | | | | | | |
| (index, 1982=1.000) | 1.303 | 1.321 | 1.333 | <i>1.353</i> | <i>1.382</i> | <i>1.386</i> | <i>1.385</i> | <i>1.391</i> | <i>1.396</i> | <i>1.401</i> | <i>1.405</i> | <i>1.409</i> | <i>1.328</i> | <i>1.386</i> | <i>1.403</i> |
| Consumer Price Index | | | | | | | | | | | | | | | |
| (index, 1982-1984=1.000)..... | 1.703 | 1.715 | 1.730 | <i>1.743</i> | <i>1.761</i> | <i>1.773</i> | <i>1.780</i> | <i>1.792</i> | <i>1.803</i> | <i>1.812</i> | <i>1.823</i> | <i>1.836</i> | <i>1.723</i> | <i>1.776</i> | <i>1.818</i> |
| Petroleum Product Price Index | | | | | | | | | | | | | | | |
| (index, 1982=1.000) | 0.830 | 0.899 | 0.954 | <i>0.974</i> | <i>0.904</i> | <i>0.909</i> | <i>0.801</i> | <i>0.854</i> | <i>0.875</i> | <i>0.837</i> | <i>0.812</i> | <i>0.855</i> | <i>0.914</i> | <i>0.867</i> | <i>0.845</i> |
| Non-Farm Employment | | | | | | | | | | | | | | | |
| (millions) | 131.0 | 131.9 | 131.9 | <i>132.3</i> | <i>132.6</i> | <i>132.5</i> | <i>132.8</i> | <i>133.1</i> | <i>133.4</i> | <i>133.6</i> | <i>134.0</i> | <i>134.3</i> | <i>131.8</i> | <i>132.7</i> | <i>133.8</i> |
| Commercial Employment | | | | | | | | | | | | | | | |
| (millions) | 91.4 | 91.9 | 92.3 | <i>92.7</i> | <i>93.2</i> | <i>93.3</i> | <i>93.8</i> | <i>94.2</i> | <i>94.6</i> | <i>94.8</i> | <i>95.1</i> | <i>95.4</i> | <i>92.1</i> | <i>93.6</i> | <i>95.0</i> |
| Total Industrial Production | | | | | | | | | | | | | | | |
| (index, 1996=1.000) | 1.208 | 1.231 | 1.241 | <i>1.238</i> | <i>1.217</i> | <i>1.197</i> | <i>1.188</i> | <i>1.188</i> | <i>1.200</i> | <i>1.216</i> | <i>1.229</i> | <i>1.241</i> | <i>1.230</i> | <i>1.198</i> | <i>1.221</i> |
| Housing Stock | | | | | | | | | | | | | | | |
| (millions) | 115.7 | 115.9 | 116.3 | <i>116.8</i> | <i>117.5</i> | <i>117.9</i> | <i>118.2</i> | <i>118.5</i> | <i>118.8</i> | <i>119.1</i> | <i>119.4</i> | <i>119.7</i> | <i>116.2</i> | <i>118.0</i> | <i>119.2</i> |
| Miscellaneous | | | | | | | | | | | | | | | |
| Gas Weighted Industrial Production | | | | | | | | | | | | | | | |
| (index, 1996=1.000) | 1.124 | 1.133 | 1.124 | <i>1.111</i> | <i>1.089</i> | <i>1.076</i> | <i>1.078</i> | <i>1.082</i> | <i>1.092</i> | <i>1.103</i> | <i>1.116</i> | <i>1.128</i> | <i>1.123</i> | <i>1.081</i> | <i>1.110</i> |
| Vehicle Miles Traveled ^b | | | | | | | | | | | | | | | |
| (million miles/day)..... | 6839 | 7681 | 7689 | <i>7221</i> | <i>6940</i> | <i>7683</i> | <i>7874</i> | <i>7322</i> | <i>7094</i> | <i>7824</i> | <i>8006</i> | <i>7543</i> | <i>7358</i> | <i>7457</i> | <i>7619</i> |
| Vehicle Fuel Efficiency | | | | | | | | | | | | | | | |
| (index, 1999=1.000) | 0.995 | 1.010 | 0.984 | <i>0.984</i> | <i>0.989</i> | <i>1.003</i> | <i>0.985</i> | <i>0.982</i> | <i>0.988</i> | <i>0.993</i> | <i>0.990</i> | <i>0.985</i> | <i>0.993</i> | <i>0.990</i> | <i>0.989</i> |
| Real Vehicle Fuel Cost | | | | | | | | | | | | | | | |
| (cents per mile)..... | 4.18 | 4.30 | 4.29 | <i>4.36</i> | <i>4.19</i> | <i>4.45</i> | <i>3.83</i> | <i>3.93</i> | <i>3.94</i> | <i>3.90</i> | <i>3.83</i> | <i>3.91</i> | <i>4.28</i> | <i>4.10</i> | <i>3.90</i> |
| Air Travel Capacity | | | | | | | | | | | | | | | |
| (mill. available ton-miles/day)..... | 455.5 | 475.9 | 489.1 | <i>470.6</i> | <i>463.9</i> | <i>484.2</i> | <i>498.2</i> | <i>483.6</i> | <i>477.0</i> | <i>499.3</i> | <i>518.7</i> | <i>508.3</i> | <i>472.8</i> | <i>482.6</i> | <i>501.0</i> |
| Aircraft Utilization | | | | | | | | | | | | | | | |
| (mill. revenue ton-miles/day)..... | 256.6 | 287.6 | 292.5 | <i>269.4</i> | <i>256.1</i> | <i>274.6</i> | <i>292.7</i> | <i>277.6</i> | <i>273.9</i> | <i>294.4</i> | <i>308.5</i> | <i>293.9</i> | <i>276.5</i> | <i>275.4</i> | <i>292.8</i> |
| Airline Ticket Price Index | | | | | | | | | | | | | | | |
| (index, 1982-1984=1.000)..... | 2.309 | 2.419 | 2.474 | <i>2.375</i> | <i>2.399</i> | <i>2.408</i> | <i>2.483</i> | <i>2.480</i> | <i>2.504</i> | <i>2.504</i> | <i>2.505</i> | <i>2.522</i> | <i>2.394</i> | <i>2.442</i> | <i>2.509</i> |
| Raw Steel Production | | | | | | | | | | | | | | | |
| (millions tons) | 29.02 | 29.53 | 27.45 | <i>25.01</i> | <i>25.53</i> | <i>26.29</i> | <i>26.38</i> | <i>26.77</i> | <i>27.52</i> | <i>27.82</i> | <i>27.72</i> | <i>27.36</i> | <i>111.02</i> | <i>104.97</i> | <i>110.42</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.

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

(Million Barrels per Day, Except OECD Commercial Stocks)

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|---|-------------|-------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Demand ^a | | | | | | | | | | | | | | | |
| OECD | | | | | | | | | | | | | | | |
| U.S. (50 States) | 19.3 | 19.5 | 20.0 | 19.9 | 19.9 | 19.7 | 20.1 | 19.9 | 20.1 | 20.1 | 20.4 | 20.4 | 19.7 | 19.9 | 20.3 |
| U.S. Territories | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 |
| Canada..... | 1.9 | 1.9 | 2.0 | 2.1 | 1.9 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 |
| Europe..... | 14.5 | 13.9 | 14.4 | 14.6 | 14.4 | 14.0 | 14.4 | 14.7 | 14.7 | 13.8 | 14.3 | 14.9 | 14.3 | 14.4 | 14.4 |
| Japan | 6.0 | 5.0 | 5.4 | 5.6 | 6.1 | 5.0 | 5.4 | 5.6 | 6.2 | 5.0 | 5.3 | 5.7 | 5.5 | 5.5 | 5.5 |
| Australia and New Zealand..... | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Total OECD..... | 43.1 | 41.6 | 43.1 | 43.5 | 43.6 | 42.0 | 43.3 | 43.7 | 44.4 | 42.2 | 43.5 | 44.6 | 42.8 | 43.2 | 43.7 |
| Non-OECD | | | | | | | | | | | | | | | |
| Former Soviet Union..... | 3.9 | 3.7 | 3.7 | 3.7 | 3.8 | 3.7 | 3.7 | 3.7 | 3.9 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.8 |
| Europe..... | 1.5 | 1.5 | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 |
| China..... | 4.6 | 4.6 | 4.6 | 4.6 | 4.8 | 4.8 | 4.7 | 4.8 | 5.0 | 5.0 | 4.9 | 5.0 | 4.6 | 4.8 | 5.0 |
| Other Asia..... | 8.9 | 9.0 | 8.8 | 9.1 | 9.2 | 9.2 | 8.9 | 9.4 | 9.5 | 9.5 | 9.2 | 9.6 | 9.0 | 9.2 | 9.4 |
| Other Non-OECD..... | 13.7 | 13.9 | 14.0 | 13.9 | 13.9 | 14.2 | 14.3 | 14.2 | 14.2 | 14.4 | 14.5 | 14.4 | 13.9 | 14.2 | 14.4 |
| Total Non-OECD | 32.6 | 32.7 | 32.6 | 32.9 | 33.4 | 33.4 | 33.2 | 33.6 | 34.1 | 34.2 | 33.9 | 34.3 | 32.7 | 33.4 | 34.1 |
| Total World Demand..... | 75.7 | 74.4 | 75.6 | 76.4 | 77.0 | 75.4 | 76.5 | 77.3 | 78.5 | 76.4 | 77.4 | 79.0 | 75.5 | 76.5 | 77.8 |
| Supply ^b | | | | | | | | | | | | | | | |
| OECD | | | | | | | | | | | | | | | |
| U.S. (50 States) | 9.1 | 9.1 | 9.0 | 9.0 | 8.8 | 9.1 | 9.0 | 9.0 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.0 | 9.1 |
| Canada..... | 2.7 | 2.7 | 2.7 | 2.8 | 2.8 | 2.8 | 2.9 | 3.0 | 2.8 | 2.8 | 2.9 | 3.0 | 2.7 | 2.9 | 2.9 |
| North Sea ^c | 6.3 | 5.9 | 5.9 | 6.1 | 5.9 | 5.6 | 5.9 | 6.4 | 6.0 | 5.8 | 5.9 | 6.3 | 6.0 | 6.0 | 6.0 |
| Other OECD..... | 2.0 | 2.0 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 |
| Total OECD..... | 20.1 | 19.7 | 19.6 | 19.8 | 19.5 | 19.4 | 19.7 | 20.3 | 19.7 | 19.6 | 19.8 | 20.2 | 19.8 | 19.7 | 19.8 |
| Non-OECD | | | | | | | | | | | | | | | |
| OPEC..... | 29.3 | 30.8 | 31.6 | 31.7 | 31.1 | 30.0 | 30.1 | 29.1 | 30.2 | 30.4 | 30.6 | 30.5 | 30.9 | 30.1 | 30.4 |
| Former Soviet Union..... | 7.9 | 8.0 | 8.2 | 8.5 | 8.7 | 8.6 | 8.8 | 8.8 | 8.7 | 8.8 | 9.0 | 9.0 | 8.1 | 8.7 | 8.9 |
| China..... | 3.3 | 3.3 | 3.2 | 3.2 | 3.3 | 3.3 | 3.2 | 3.3 | 3.1 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.1 |
| Mexico..... | 3.5 | 3.5 | 3.5 | 3.4 | 3.6 | 3.5 | 3.4 | 3.4 | 3.7 | 3.7 | 3.7 | 3.6 | 3.5 | 3.5 | 3.6 |
| Other Non-OECD..... | 11.2 | 11.2 | 11.4 | 11.6 | 11.4 | 11.2 | 11.6 | 11.7 | 11.7 | 11.9 | 12.0 | 12.2 | 11.3 | 11.5 | 12.0 |
| Total Non-OECD | 55.1 | 56.7 | 58.0 | 58.4 | 58.0 | 56.6 | 57.1 | 56.3 | 57.4 | 57.9 | 58.5 | 58.4 | 57.0 | 57.0 | 58.0 |
| Total World Supply | 75.2 | 76.4 | 77.6 | 78.2 | 77.6 | 76.0 | 76.9 | 76.6 | 77.1 | 77.5 | 78.2 | 78.7 | 76.8 | 76.8 | 77.9 |
| Stock Changes | | | | | | | | | | | | | | | |
| Net Stock Withdrawals or Additions (-) | | | | | | | | | | | | | | | |
| U.S. (50 States including SPR)..... | 0.2 | -0.5 | 0.0 | 0.6 | -0.1 | -0.9 | -0.1 | 0.4 | 0.2 | -0.6 | -0.3 | 0.3 | 0.1 | -0.2 | -0.1 |
| Other..... | 0.3 | -1.5 | -1.9 | -2.4 | -0.5 | 0.3 | -0.3 | 0.3 | 1.2 | -0.4 | -0.6 | 0.0 | -1.4 | -0.1 | 0.0 |
| Total Stock Withdrawals | 0.4 | -2.0 | -1.9 | -1.8 | -0.6 | -0.6 | -0.4 | 0.7 | 1.4 | -1.1 | -0.8 | 0.3 | -1.3 | -0.2 | 0.0 |
| OECD Comm. Stocks, End (bill. bbls.)..... | 2.4 | 2.5 | 2.6 | 2.5 | 2.5 | 2.6 | 2.6 | 2.5 | 2.4 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Non-OPEC Supply | 45.9 | 45.6 | 45.9 | 46.4 | 46.5 | 46.1 | 46.8 | 47.5 | 46.9 | 47.1 | 47.6 | 48.1 | 46.0 | 46.7 | 47.4 |
| Net Exports from Former Soviet Union... | 4.0 | 4.3 | 4.5 | 4.8 | 4.8 | 5.0 | 5.1 | 5.1 | 4.8 | 5.1 | 5.3 | 5.3 | 4.4 | 5.0 | 5.1 |

^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)

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Crude Oil Prices (dollars per barrel) | | | | | | | | | | | | | | | |
| Imported Average ^a | 26.84 | 26.55 | 29.12 | 28.25 | 24.12 | 24.02 | 25.00 | 26.00 | 24.49 | 24.17 | 24.50 | 25.50 | 27.72 | 24.78 | 24.66 |
| WTI ^b Spot Average | 28.82 | 28.78 | 31.61 | 31.96 | 28.82 | 27.92 | 27.51 | 28.26 | 26.62 | 26.24 | 26.56 | 27.55 | 30.29 | 28.12 | 26.74 |
| Natural Gas Wellhead (dollars per thousand cubic feet)..... | | | | | | | | | | | | | | | |
| | 2.26 | 3.06 | 3.87 | 5.20 | 6.37 | 4.55 | 3.19 | 3.60 | 3.52 | 2.94 | 2.84 | 3.29 | 3.61 | 4.40 | 3.15 |
| Petroleum Products | | | | | | | | | | | | | | | |
| Gasoline Retail ^c (dollars per gallon) | | | | | | | | | | | | | | | |
| All Grades | 1.44 | 1.57 | 1.56 | 1.54 | 1.47 | 1.66 | 1.44 | 1.42 | 1.42 | 1.47 | 1.48 | 1.45 | 1.53 | 1.50 | 1.46 |
| Regular Unleaded..... | 1.40 | 1.53 | 1.52 | 1.50 | 1.43 | 1.62 | 1.40 | 1.39 | 1.38 | 1.45 | 1.45 | 1.42 | 1.49 | 1.46 | 1.43 |
| No. 2 Diesel Oil, Retail (dollars per gallon) | | | | | | | | | | | | | | | |
| | 1.43 | 1.42 | 1.51 | 1.61 | 1.47 | 1.47 | 1.39 | 1.46 | 1.42 | 1.40 | 1.40 | 1.46 | 1.49 | 1.45 | 1.42 |
| No. 2 Heating Oil, Wholesale (dollars per gallon) | | | | | | | | | | | | | | | |
| | 0.85 | 0.78 | 0.91 | 0.97 | 0.83 | 0.79 | 0.79 | 0.85 | 0.81 | 0.73 | 0.74 | 0.83 | 0.88 | 0.82 | 0.78 |
| No. 2 Heating Oil, Retail (dollars per gallon) | | | | | | | | | | | | | | | |
| | 1.31 | 1.17 | 1.23 | 1.40 | 1.35 | 1.26 | 1.19 | 1.30 | 1.30 | 1.17 | 1.10 | 1.26 | 1.31 | 1.30 | 1.25 |
| No. 6 Residual Fuel Oil, Retail ^d (dollars per barrel) | | | | | | | | | | | | | | | |
| | 23.62 | 24.57 | 25.10 | 27.41 | 25.13 | 22.59 | 22.73 | 25.29 | 24.10 | 22.31 | 22.24 | 24.09 | 25.34 | 23.92 | 23.17 |
| Electric Utility Fuels | | | | | | | | | | | | | | | |
| Coal (dollars per million Btu)..... | | | | | | | | | | | | | | | |
| | 1.21 | 1.21 | 1.18 | 1.20 | 1.24 | 1.27 | 1.26 | 1.26 | 1.26 | 1.25 | 1.22 | 1.21 | 1.20 | 1.26 | 1.24 |
| Heavy Fuel Oil ^e (dollars per million Btu)..... | | | | | | | | | | | | | | | |
| | 3.74 | 4.16 | 4.34 | 4.52 | 4.12 | 3.69 | 3.75 | 4.02 | 3.77 | 3.64 | 3.69 | 3.83 | 4.26 | 3.87 | 3.72 |
| Natural Gas (dollars per million Btu)..... | | | | | | | | | | | | | | | |
| | 2.85 | 3.78 | 4.46 | 6.33 | 7.37 | 5.34 | 3.91 | 4.40 | 4.38 | 3.65 | 3.52 | 4.06 | 4.33 | 4.98 | 3.82 |
| Other Residential | | | | | | | | | | | | | | | |
| Natural Gas (dollars per thousand cubic feet)..... | | | | | | | | | | | | | | | |
| | 6.53 | 7.78 | 10.07 | 8.70 | 9.88 | 10.33 | 10.24 | 7.73 | 7.74 | 8.56 | 9.68 | 7.78 | 7.71 | 9.39 | 8.03 |
| Electricity (cents per kilowatthour)..... | | | | | | | | | | | | | | | |
| | 7.77 | 8.37 | 8.59 | 8.12 | 7.96 | 8.88 | 9.15 | 8.59 | 8.19 | 8.76 | 8.97 | 8.49 | 8.23 | 8.65 | 8.61 |

^aRefiner acquisition cost (RAC) of imported crude oil.^bWest Texas Intermediate.^cAverage self-service cash prices.^dAverage for all sulfur contents.^eIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the fourth quarter of 2000. 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)

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|--|--------------|--------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Supply | | | | | | | | | | | | | | | |
| Crude Oil Supply | | | | | | | | | | | | | | | |
| Domestic Production ^a | 5.85 | 5.84 | 5.76 | 5.83 | 5.85 | 5.84 | 5.78 | 5.86 | 5.89 | 5.91 | 5.88 | 5.86 | 5.82 | 5.83 | 5.88 |
| Alaska..... | 1.02 | 0.97 | 0.91 | 0.99 | 0.99 | 0.96 | 0.92 | 1.02 | 1.03 | 1.03 | 1.02 | 1.02 | 0.97 | 0.97 | 1.03 |
| Lower 48..... | 4.83 | 4.87 | 4.86 | 4.85 | 4.86 | 4.88 | 4.86 | 4.84 | 4.86 | 4.88 | 4.86 | 4.83 | 4.85 | 4.86 | 4.86 |
| Net Imports (including SPR) ^b | 8.19 | 9.26 | 9.59 | 9.03 | 8.93 | 9.42 | 9.39 | 8.93 | 9.01 | 9.79 | 9.76 | 9.39 | 9.02 | 9.17 | 9.49 |
| Other SPR Supply | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.01 | 0.05 | 0.09 | 0.00 | 0.10 | 0.10 | 0.13 | 0.01 | 0.04 | 0.08 |
| SPR Stock Withdrawn or Added (-) | -0.02 | 0.01 | -0.02 | 0.32 | -0.02 | -0.01 | -0.05 | -0.09 | 0.00 | -0.10 | -0.10 | -0.13 | 0.07 | -0.04 | -0.08 |
| Other Stock Withdrawn or Added (-) .. | -0.14 | 0.07 | 0.14 | -0.08 | -0.21 | -0.06 | 0.12 | 0.06 | -0.19 | -0.02 | 0.18 | 0.03 | 0.00 | -0.02 | 0.00 |
| 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 | 0.22 | 0.15 | -0.01 | 0.15 | 0.49 | 0.29 | 0.21 | 0.21 | 0.22 | 0.22 | 0.21 | 0.15 | 0.29 | 0.22 |
| Total Crude Oil Supply | 14.14 | 15.40 | 15.62 | 15.10 | 14.75 | 15.69 | 15.53 | 14.96 | 14.91 | 15.80 | 15.94 | 15.36 | 15.07 | 15.23 | 15.50 |
| Other Supply | | | | | | | | | | | | | | | |
| NGL Production..... | 1.98 | 1.94 | 1.93 | 1.79 | 1.64 | 1.90 | 1.84 | 1.85 | 1.87 | 1.89 | 1.86 | 1.90 | 1.91 | 1.81 | 1.88 |
| Other Inputs | 0.36 | 0.39 | 0.38 | 0.37 | 0.36 | 0.37 | 0.38 | 0.40 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| 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 | 0.94 | 0.95 | 0.94 | 0.96 | 0.93 | 0.96 | 0.96 | 0.92 | 0.91 | 0.94 | 0.94 | 0.92 | 0.95 | 0.94 | 0.93 |
| Net Product Imports ^c | 1.52 | 1.43 | 1.29 | 1.36 | 2.04 | 1.55 | 1.57 | 1.37 | 1.64 | 1.57 | 1.65 | 1.45 | 1.40 | 1.63 | 1.58 |
| Product Stock Withdrawn or Added (-)..... | 0.35 | -0.62 | -0.13 | 0.41 | 0.12 | -0.80 | -0.13 | 0.45 | 0.40 | -0.52 | -0.33 | 0.41 | 0.00 | -0.09 | -0.01 |
| Total Supply | 19.29 | 19.49 | 20.03 | 19.99 | 19.84 | 19.66 | 20.14 | 19.95 | 20.11 | 20.06 | 20.44 | 20.43 | 19.70 | 19.90 | 20.26 |
| Demand | | | | | | | | | | | | | | | |
| Motor Gasoline..... | 8.08 | 8.62 | 8.70 | 8.49 | 8.25 | 8.68 | 8.89 | 8.63 | 8.44 | 8.92 | 9.00 | 8.86 | 8.47 | 8.62 | 8.81 |
| Jet Fuel | 1.65 | 1.69 | 1.79 | 1.77 | 1.74 | 1.70 | 1.77 | 1.78 | 1.78 | 1.75 | 1.81 | 1.83 | 1.73 | 1.75 | 1.79 |
| Distillate Fuel Oil..... | 3.77 | 3.56 | 3.63 | 3.82 | 4.21 | 3.71 | 3.64 | 3.82 | 4.10 | 3.69 | 3.66 | 3.92 | 3.69 | 3.84 | 3.84 |
| Residual Fuel Oil | 0.79 | 0.82 | 0.98 | 1.05 | 1.01 | 0.97 | 0.94 | 0.89 | 0.97 | 0.89 | 0.92 | 0.79 | 0.91 | 0.95 | 0.89 |
| Other Oils ^d | 5.00 | 4.81 | 4.94 | 4.75 | 4.65 | 4.60 | 4.90 | 4.83 | 4.82 | 4.80 | 5.05 | 5.03 | 4.87 | 4.75 | 4.92 |
| Total Demand..... | 19.29 | 19.49 | 20.03 | 19.88 | 19.86 | 19.66 | 20.14 | 19.95 | 20.11 | 20.06 | 20.44 | 20.43 | 19.67 | 19.90 | 20.26 |
| Total Petroleum Net Imports | 9.71 | 10.70 | 10.88 | 10.39 | 10.98 | 10.97 | 10.95 | 10.30 | 10.64 | 11.37 | 11.41 | 10.84 | 10.42 | 10.80 | 11.07 |
| Closing Stocks (million barrels) | | | | | | | | | | | | | | | |
| Crude Oil (excluding SPR) | 297 | 291 | 278 | 286 | 304 | 310 | 299 | 294 | 311 | 313 | 297 | 294 | 286 | 294 | 294 |
| Total Motor Gasoline..... | 204 | 210 | 197 | 196 | 194 | 221 | 205 | 206 | 209 | 209 | 202 | 206 | 196 | 206 | 206 |
| Finished Motor Gasoline | 157 | 165 | 154 | 153 | 146 | 169 | 160 | 162 | 161 | 166 | 159 | 163 | 153 | 162 | 163 |
| Blending Components | 47 | 45 | 43 | 43 | 48 | 51 | 46 | 44 | 48 | 44 | 43 | 43 | 43 | 44 | 43 |
| Jet Fuel | 40 | 44 | 42 | 45 | 40 | 43 | 45 | 45 | 42 | 43 | 44 | 45 | 45 | 45 | 45 |
| Distillate Fuel Oil..... | 96 | 106 | 115 | 118 | 105 | 113 | 129 | 128 | 99 | 110 | 129 | 131 | 118 | 128 | 131 |
| Residual Fuel Oil | 36 | 37 | 38 | 36 | 39 | 42 | 42 | 41 | 39 | 39 | 41 | 41 | 36 | 41 | 41 |
| Other Oils ^e | 233 | 270 | 287 | 247 | 253 | 284 | 296 | 254 | 250 | 285 | 300 | 255 | 247 | 254 | 255 |
| Total Stocks (excluding SPR) | 907 | 957 | 957 | 927 | 935 | 1014 | 1015 | 969 | 950 | 999 | 1013 | 972 | 927 | 969 | 972 |
| Crude Oil in SPR..... | 569 | 569 | 570 | 541 | 542 | 543 | 548 | 557 | 557 | 566 | 575 | 588 | 541 | 557 | 588 |
| Heating Oil Reserve..... | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Stocks (including SPR)..... | 1476 | 1526 | 1527 | 1468 | 1477 | 1557 | 1564 | 1526 | 1507 | 1565 | 1589 | 1560 | 1468 | 1526 | 1560 |

^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*, 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.

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 (second and third calendar quarters) 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 | 6.18 | 5.54 | 0.64 | 0.08 | 0.56 |
| Lower 48 States..... | 5.13 | 4.53 | 0.60 | 0.07 | 0.53 |
| Alaska..... | 1.05 | 1.01 | 0.04 | 0.02 | 0.02 |

Note: Components provided are for the fourth quarter 2002. 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)

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|--|--------------|--------------|--------------|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Supply | | | | | | | | | | | | | | | |
| Total Dry Gas Production | 4.71 | 4.73 | 4.80 | 4.83 | 4.74 | 4.88 | 4.95 | 5.12 | 5.07 | 5.04 | 5.05 | 5.17 | 19.08 | 19.69 | 20.34 |
| Net Imports | 0.87 | 0.82 | 0.88 | 0.95 | 0.97 | 0.82 | 0.92 | 0.99 | 1.01 | 0.98 | 1.04 | 1.04 | 3.53 | 3.71 | 4.07 |
| Supplemental Gaseous Fuels..... | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.10 | 0.11 | 0.12 |
| Total New Supply | 5.61 | 5.57 | 5.71 | 5.81 | 5.73 | 5.72 | 5.90 | 6.15 | 6.12 | 6.05 | 6.12 | 6.24 | 22.71 | 23.50 | 24.53 |
| Working Gas in Storage | | | | | | | | | | | | | | | |
| Opening..... | 2.51 | 1.15 | 1.71 | 2.47 | 1.72 | 0.74 | 1.91 | 2.85 | 2.41 | 1.20 | 1.95 | 2.83 | 2.51 | 1.72 | 2.41 |
| Closing..... | 1.15 | 1.71 | 2.47 | 1.72 | 0.74 | 1.91 | 2.85 | 2.41 | 1.20 | 1.95 | 2.83 | 2.38 | 1.72 | 2.41 | 2.38 |
| Net Withdrawals..... | 1.36 | -0.56 | -0.77 | 0.75 | 0.98 | -1.17 | -0.94 | 0.45 | 1.20 | -0.75 | -0.87 | 0.45 | 0.79 | -0.69 | 0.03 |
| Total Supply..... | 6.97 | 5.02 | 4.94 | 6.56 | 6.71 | 4.55 | 4.96 | 6.60 | 7.32 | 5.30 | 5.25 | 6.69 | 23.50 | 22.82 | 24.56 |
| Balancing Item ^a | -0.03 | -0.03 | -0.22 | -0.44 | 0.47 | 0.40 | -0.13 | -0.73 | 0.10 | -0.09 | -0.15 | -0.60 | -0.72 | 0.01 | -0.74 |
| Total Primary Supply..... | 6.95 | 4.99 | 4.72 | 6.12 | 7.18 | 4.95 | 4.82 | 5.87 | 7.42 | 5.21 | 5.09 | 6.09 | 22.78 | 22.83 | 23.81 |
| Demand | | | | | | | | | | | | | | | |
| Lease and Plant Fuel..... | 0.27 | 0.27 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.29 | 0.29 | 0.28 | 0.29 | 0.30 | 1.10 | 1.14 | 1.16 |
| Pipeline Use..... | 0.24 | 0.17 | 0.16 | 0.21 | 0.24 | 0.17 | 0.17 | 0.20 | 0.24 | 0.17 | 0.17 | 0.20 | 0.77 | 0.78 | 0.78 |
| Residential..... | 2.18 | 0.77 | 0.39 | 1.61 | 2.45 | 0.81 | 0.38 | 1.39 | 2.42 | 0.85 | 0.38 | 1.46 | 4.95 | 5.03 | 5.11 |
| Commercial..... | 1.27 | 0.61 | 0.47 | 0.97 | 1.39 | 0.62 | 0.45 | 0.88 | 1.40 | 0.64 | 0.46 | 0.90 | 3.33 | 3.34 | 3.40 |
| Industrial (Incl. Nonutility Use)..... | 2.43 | 2.33 | 2.36 | 2.47 | 2.35 | 2.30 | 2.55 | 2.49 | 2.54 | 2.49 | 2.75 | 2.65 | 9.58 | 9.69 | 10.42 |
| Electric Utilities..... | 0.57 | 0.83 | 1.07 | 0.58 | 0.47 | 0.77 | 0.99 | 0.61 | 0.54 | 0.77 | 1.05 | 0.58 | 3.05 | 2.84 | 2.95 |
| Total Demand..... | 6.95 | 4.99 | 4.72 | 6.12 | 7.18 | 4.95 | 4.82 | 5.87 | 7.42 | 5.21 | 5.09 | 6.09 | 22.78 | 22.83 | 23.81 |

^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)

| | 2000 | | | | 2001 | | | | 2002 | | | | Year | | |
|--|--------------|--------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2000 | 2001 | 2002 |
| Supply | | | | | | | | | | | | | | | |
| Production | 274.0 | 262.2 | 271.0 | 268.3 | 283.6 | 289.4 | 282.4 | 288.6 | 279.5 | 283.8 | 293.1 | 289.2 | 1075.5 | 1144.0 | 1145.6 |
| Appalachia | 109.5 | 107.0 | 101.8 | 102.6 | 110.8 | 113.5 | 103.4 | 107.9 | 107.9 | 111.5 | 104.9 | 105.8 | 420.9 | 435.5 | 430.0 |
| Interior | 36.1 | 35.2 | 37.6 | 35.8 | 37.5 | 40.0 | 37.5 | 36.7 | 33.3 | 34.7 | 37.1 | 34.9 | 144.7 | 151.7 | 140.0 |
| Western..... | 128.5 | 120.0 | 131.5 | 129.9 | 135.3 | 135.9 | 141.5 | 144.1 | 138.3 | 137.6 | 151.2 | 148.5 | 509.9 | 556.8 | 575.7 |
| Primary Stock Levels ^a | | | | | | | | | | | | | | | |
| Opening..... | 39.5 | 44.4 | 40.4 | 37.1 | 34.2 | 38.5 | 41.9 | 35.5 | 34.6 | 33.0 | 36.9 | 32.3 | 39.5 | 34.2 | 34.6 |
| Closing..... | 44.4 | 40.4 | 37.1 | 34.2 | 38.5 | 41.9 | 35.5 | 34.6 | 33.0 | 36.9 | 32.3 | 34.6 | 34.2 | 34.6 | 34.6 |
| Net Withdrawals..... | -4.9 | 4.0 | 3.3 | 2.9 | -4.3 | -3.4 | 6.4 | 0.9 | 1.6 | -3.8 | 4.6 | -2.4 | 5.3 | -0.4 | (S) |
| Imports..... | 2.8 | 2.7 | 3.6 | 3.4 | 3.9 | 3.9 | 3.5 | 3.5 | 3.8 | 3.8 | 3.8 | 3.9 | 12.5 | 14.9 | 15.4 |
| Exports | 13.6 | 14.4 | 15.8 | 14.7 | 11.8 | 14.5 | 15.2 | 15.1 | 14.3 | 14.5 | 14.7 | 14.6 | 58.5 | 56.7 | 58.1 |
| Total Net Domestic Supply..... | 258.3 | 254.5 | 262.0 | 259.9 | 271.4 | 275.4 | 277.0 | 277.9 | 270.6 | 269.3 | 286.9 | 276.1 | 1034.8 | 1101.8 | 1102.9 |
| Secondary Stock Levels ^b | | | | | | | | | | | | | | | |
| Opening..... | 143.5 | 141.2 | 137.2 | 120.3 | 108.1 | 113.8 | 117.9 | 103.1 | 110.0 | 109.2 | 115.8 | 102.3 | 143.5 | 108.1 | 110.0 |
| Closing..... | 141.2 | 137.2 | 120.3 | 108.1 | 113.8 | 117.9 | 103.1 | 110.0 | 109.2 | 115.8 | 102.3 | 110.3 | 108.1 | 110.0 | 110.3 |
| Net Withdrawals..... | 2.3 | 3.9 | 16.9 | 12.2 | -5.7 | -4.1 | 14.9 | -6.9 | 0.8 | -6.5 | 13.4 | -8.0 | 35.4 | -1.9 | -0.3 |
| Waste Coal Supplied to IPPs ^c | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 2.6 | 2.6 | 2.6 | 2.8 | 2.8 | 2.8 | 2.8 | 10.1 | 10.6 | 11.1 |
| Total Supply..... | 263.2 | 261.0 | 281.5 | 274.6 | 268.3 | 274.0 | 294.5 | 273.6 | 274.2 | 265.6 | 303.1 | 270.9 | 1080.3 | 1110.5 | 1113.7 |
| Demand | | | | | | | | | | | | | | | |
| Coke Plants..... | 7.3 | 7.4 | 7.3 | 6.9 | 6.8 | 6.7 | 6.9 | 6.5 | 7.0 | 6.9 | 7.1 | 6.5 | 28.9 | 26.9 | 27.4 |
| Electricity Production | | | | | | | | | | | | | | | |
| Electric Utilities..... | 214.5 | 202.6 | 227.8 | 214.5 | 203.9 | 200.7 | 230.4 | 209.4 | 209.8 | 206.6 | 238.1 | 206.1 | 859.3 | 844.4 | 860.6 |
| Nonutilities (Excl. Cogen.) ^d | 25.6 | 27.6 | 35.1 | 35.0 | 37.7 | 34.7 | 40.4 | 38.1 | 38.4 | 35.4 | 41.2 | 38.8 | 123.3 | 151.0 | 153.8 |
| Retail and General Industry..... | 18.3 | 16.4 | 16.8 | 18.6 | 17.8 | 16.7 | 16.9 | 19.6 | 19.0 | 16.7 | 16.7 | 19.5 | 70.0 | 71.1 | 71.8 |
| Total Demand ^e | 265.6 | 254.0 | 287.0 | 275.0 | 266.3 | 258.9 | 294.5 | 273.6 | 274.2 | 265.6 | 303.1 | 270.9 | 1081.5 | 1093.3 | 1113.7 |
| Discrepancy ^f | -2.4 | 7.0 | -5.5 | -0.3 | 2.1 | 15.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1.3 | 17.2 | 0.0 |

^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.^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 2000 and projections for 2001 and 2002 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1999 and 2000, 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.

