August 2000

Summary

World oil markets, while remaining sensitive to near-term supply indicators, including U.S. inventory levels, are, in our estimation, still on track to deliver gradually declining crude oil prices through the end of this year and through 2001 as well. World supply in 2000 (76.6 million barrels per day) is expected to exceed demand (75.8 million barrels per day), leading to a reversal of the downshift in petroleum inventories in industrialized countries observed since mid-1999. Our base case projections imply that, while average crude prices will have risen over $9 per barrel in 2000, an average decline of $4 - $5 per barrel is seen for 2001.

In midsummer, weekly retail gasoline prices have retreated sharply since late June, exceeding our previous estimates of expected declines. Weekly price averages fell 20 cents per gallon from the third week in June to the end of July. Relief to the Midwest, hard-pressed to meet summer gasoline supplies in June, has exceeded expectations. This development has contributed sharply to average U.S. price reductions (the observed price reductions were only marginally contributed to by state tax relief initiatives). As spot prices for gasoline have shown upward momentum in recent trading sessions, we cannot rule out the possibility of some increases at the pump before summer's end. The industry still needs to get through August. On the other hand, we note that motor gasoline stocks have moved rapidly into more comfortable territory, standing well within the normal range at the end of July.

 U.S. gasoline demand statistics continue to show weakness, such that the probability of seeing any net growth at all in 2000 has rapidly fallen.   Through the first seven months of this year, gasoline demand was apparently below the corresponding 1999 consumption rate by 0.8 percent. Our below-normal growth expectations for gasoline demand reported in previous Outlooks have apparently been surpassed, suggesting that the price elasticity of demand for gasoline, while remaining small in the short term, is alive and well.

Natural gas market activity continues to reveal the backdrop of vulnerability of the U.S. market to potential supply shortfalls, particularly in view of burgeoning power sector demands and large potential increases in heating demand just a few months down the road. While forward wellhead gas prices have retreated from the observed highs in June, a resurgence in early August in spot and futures

prices illustrates continued volatility amidst uncertainty regarding North American supply adequacy, demand potential, and even potential hurricane damage. While weather reigns supreme in the hierarchy of short-run factors affecting the natural gas demand and supply balance, the other important factor that bears watching is the anticipated turnaround in North American gas production performance. High (and growing) rates of gas drilling activity promise solid improvement, but apparent performance so far in 2000 curtails optimism about significant improvements before the onset of the heating season.

For the nation as a whole, a relatively cool start to the peak air conditioning season has probably minimized the appearance of system-straining peak electric demand episodes so far this summer. Cooling degree-days (nationally) for July were 22 percent below 1999 levels throughout much of the nation and about 10 percent below normal. As it is, very hot conditions in California have placed the statewide supply system at critically low levels of reserves more than once this summer. This experience and a broader set of problems seen in July 1999 may be warning shots over the bows of electric systems as they restructure, and may be signals for needed infrastructure improvements and expansions to avoid reliability problems. In any case, the appearance of abnormally cool conditions, such as those seen in July, should offer little solace to key regions with tight reserves.
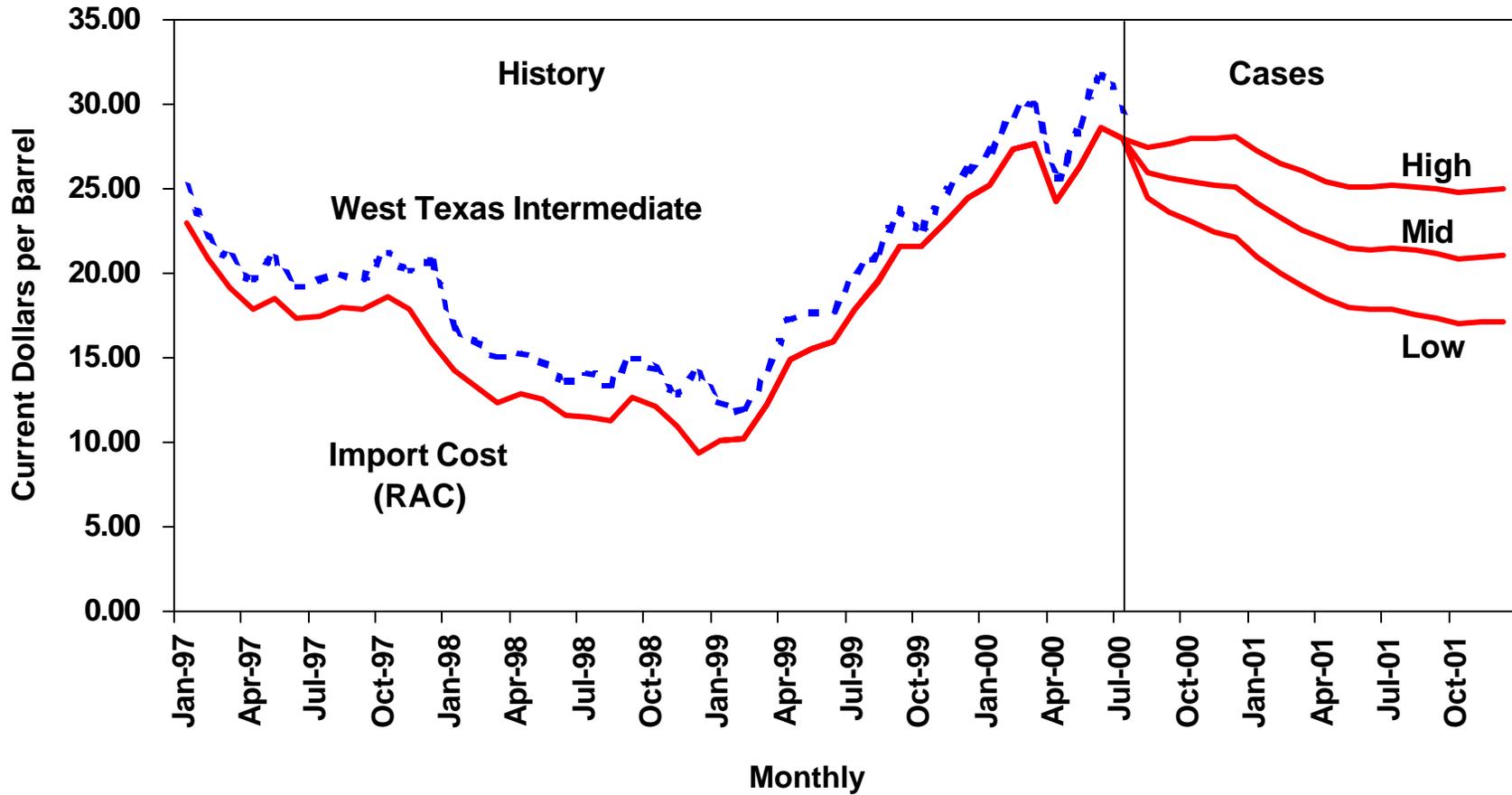
International Oil Markets

Crude Oil Prices: The monthly U.S. imported crude oil price fell in July to an estimated $27.70 per barrel level ($29.70 estimated for West Texas Intermediate crude oil), over $1 less than in June ([Figure 1](#)) and comparable to March levels. On July 19, the average OPEC basket price over a 20-day period fell below the $28 level that OPEC had set as an upper band for its target price during the March OPEC meeting, and the daily price continued to decline to the $25 range in early August.

EIA estimates of world oil supply and demand suggest that the monthly U.S. imported crude oil price will begin to decline to $25 per barrel by the end of the summer (corresponding to $27 for West Texas Intermediate crude oil), and remain in this range for the rest of the year. Prices are then expected to gradually decline in 2001 and average about $22 per barrel, more than $5.00 below the annual average for 2000. This price projection is comparable to the July Outlook projection with the exception that 2000 prices decline to $25 per barrel by the end of summer, one quarter sooner than previously projected.

International Oil Supply: At its June meeting, the OPEC 10 (Organization of Petroleum Exporting Countries excluding Iraq) agreed to increase their

Figure 1. U.S. Monthly Crude Oil Prices

History

Cases

West Texas Intermediate

High

Mid

Low

Import Cost
(RAC)

Current Dollars per Barrel

Monthly

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

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production quotas by 708,000 barrels per day beginning July 1. Concerns that this quota adjustment would not be sufficient to lower prices significantly led Saudi Arabia to announce on July 3 that it wanted to bring the OPEC basket price down to $25 per barrel, and that crude oil supplies would be increased by an additional 500,000 barrels per day if oil prices remained high. Although this proposal has not been agreed upon by OPEC as a group, EIA assumes that some of this oil will still be forthcoming, primarily from Saudi Arabia, as Saudi oil production increases by over 550,000 barrels per day in the third quarter compared with the 230,000 barrels per day increase allowed under the quota adjustments that took effect July 1. Some evidence of increased Saudi Arabian production has already been seen in the Asian and U.S. markets.

After this latest round of quota adjustments and production increases, only Saudi Arabia, Kuwait and, to a lesser degree, the United Arab Emirates will have significant capacity to expand production. Under this scenario, production above quota by the OPEC 10 countries will increase to over 740,000 barrels per day as OPEC 10 crude oil production reaches 26.1 million barrels per day in the third quarter (Figure 2). The forecast then assumes additional increases so that OPEC 10 production in the fourth quarter of 2001 will be 0.2 million barrels per day higher than year-earlier levels for the corresponding period.

Iraqi crude oil production is estimated to have increased from 2.3 million barrels per day in the first quarter to 2.9 million barrels per day in the second quarter of 2000. Iraqi oil production is projected to increase to 3.0 - 3.1 million barrels per day through the remainder of the year, and increase to 3.3 million barrels per day by end-2001. These projections of Iraqi crude oil production are assumptions that do not reflect any official U.S. Government view, and are less than Iraq's own estimate that production could reach as high as 3.5 million barrels per day in 2001.

Non-OPEC production is expected to increase by 1.1 million barrels per day in 2000 and by another 0.7 million barrels per day in 2001, primarily from the former Soviet Union, Mexico, South America and Africa (Table 3). Oil production from the former Soviet Union has risen as Russian production has recovered, and further increases are expected at end-2001 with the opening of the Caspian Pipeline Consortium (CPC)'s pipeline to transport oil from Kazakhstan to world oil markets. No further increases are expected in the North Sea in 2001 as output from new fields is not expected to outstrip declines in maturing fields.

International Oil Demand: This month's forecast assumes growth in world oil demand in 2000 of about 1 million barrels per day (about 1.3 percent), to average almost 76 million barrels per day for the year (Table 3). Other than in 1998, when Asian economies were suffering from a financial crisis, this is the lowest growth

Figure 2. OPEC Crude Oil Production 1999-2001

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

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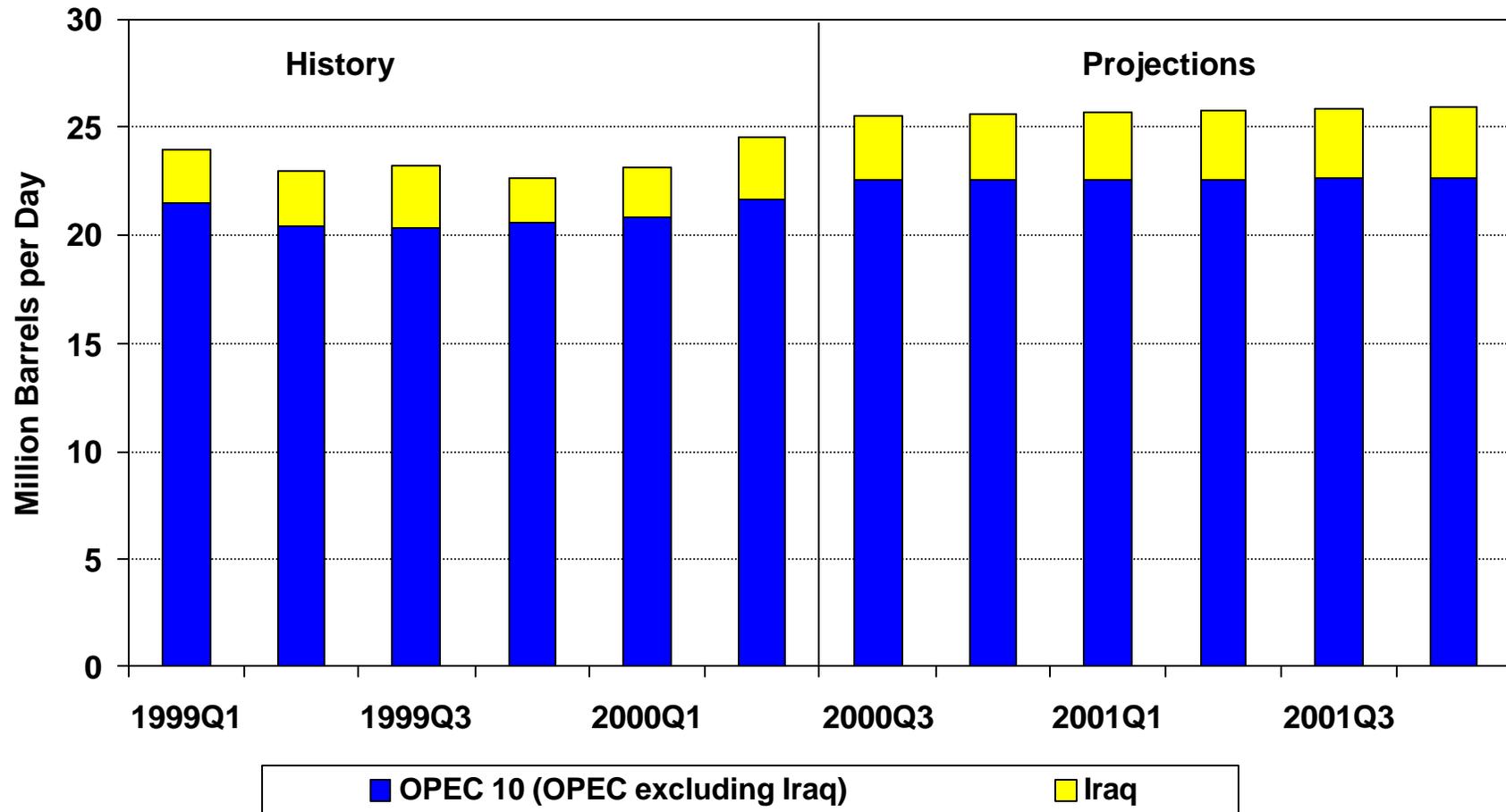
rate since 1993. World oil demand growth in 2001 is expected to be about 2 million barrels per day, similar to the growth that was seen in the 1995-1997 period.

Non-OECD Asia is expected once again to be the predominant region for oil demand growth this year, although near-term growth rates there are unlikely to match those seen in the early to mid 1990s. By 2001, not only is non-OECD oil demand expected to grow even more, but OECD oil demand growth is expected to be strong as well (Figure 3).

World Oil Inventories: While EIA does not attempt to estimate oil inventory levels on a global basis, the direction oil inventories are headed is discerned from EIA's world oil supply and demand estimates. Following a 0.8-million-barrel-per-day implied draw on world inventories in 1999, oil inventories are expected to be built by 0.8 million barrels per day in 2000, as both OPEC and non-OPEC oil production increase substantially. However, while this leaves global oil inventories in a better position than in last month's forecast, stocks would still be low when viewed on a forward-cover or days-supply basis. In 2001, a build of 0.6 million barrels per day in world oil inventories is projected, as supply exceeds demand once again.

OECD stock levels, which EIA does estimate, are expected to increase with the rise in OPEC production to reach average 1990-1995 levels by end-2000 (Figure 4). This means that inventories will not be at the extremely low levels seen earlier this year, and that there will be greater flexibility in the world oil system to react to a cutoff in oil supplies somewhere or an extreme cold snap during next winter.

U. S. Energy Prices

Motor Gasoline. At $1.68 per gallon, the retail price of regular unleaded (self-service) motor gasoline reached the highest level recorded by EIA (in nominal, not inflation-adjusted terms) in the third week of June. Since then, the average pump price for regular gasoline has fallen by more than 20 cents per gallon. A critical portion of the price runup was the rapid price rise that occurred in the Midwest region of the country. There, pump prices were the highest in the country, climbing an average of nearly 40 cents per gallon from the end of the third week of May to the third week of June. Pipeline disruptions and difficulties in meeting the Federal reformulated gasoline (RFG) Phase 2 Summer specifications propelled prices to record levels. However, by the last week of July, the average pump price in the Midwest had dropped by more than 50 cents per gallon, as supplies of gasoline from other regions poured in and Phase 2 startup problems were resolved. Now, gasoline prices in the Midwest are the lowest in the nation. In response to the unusually high pump prices in June, two
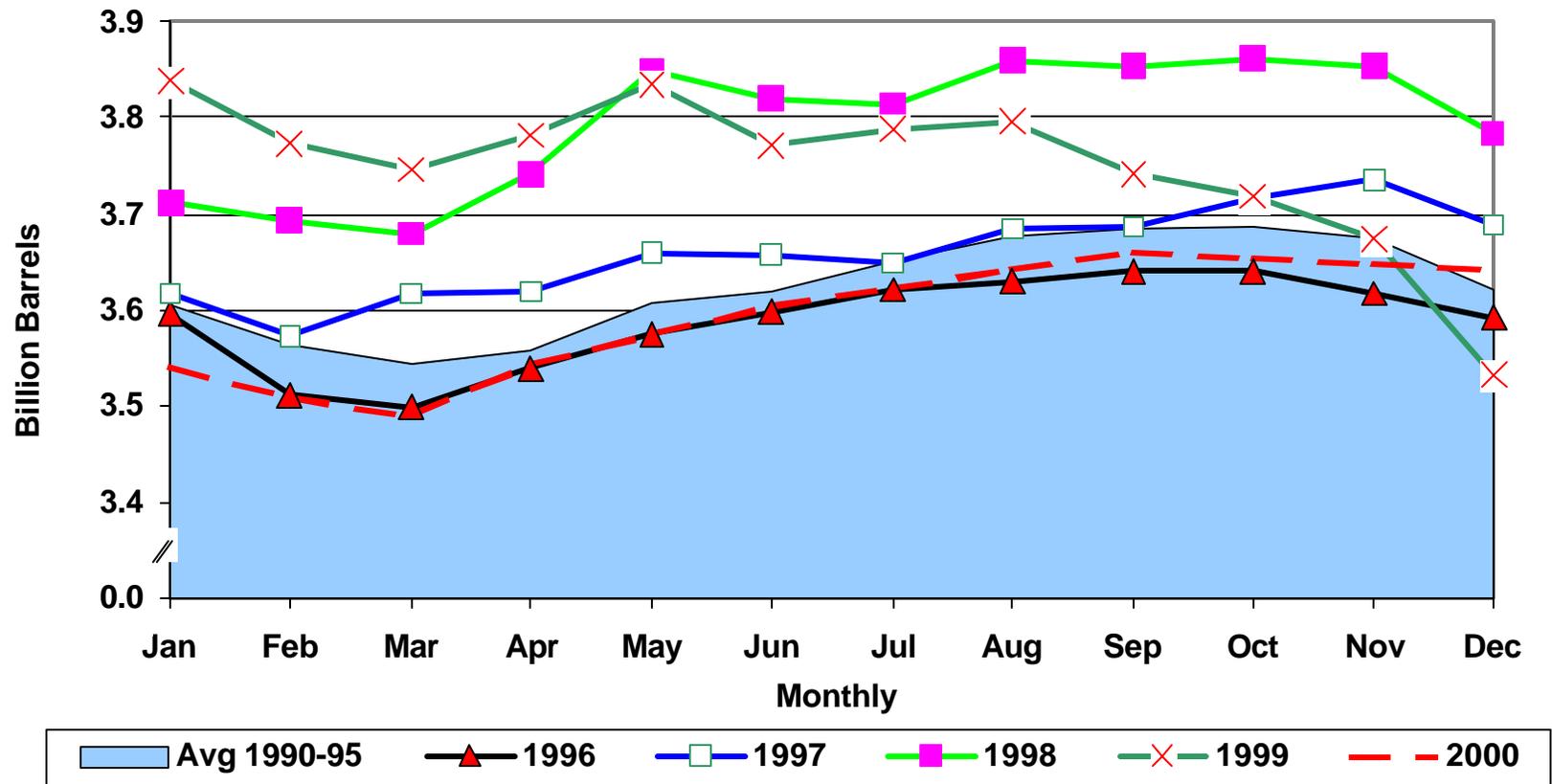
Figure 3. Annual World Oil Demand
(Changes from Previous Year)

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

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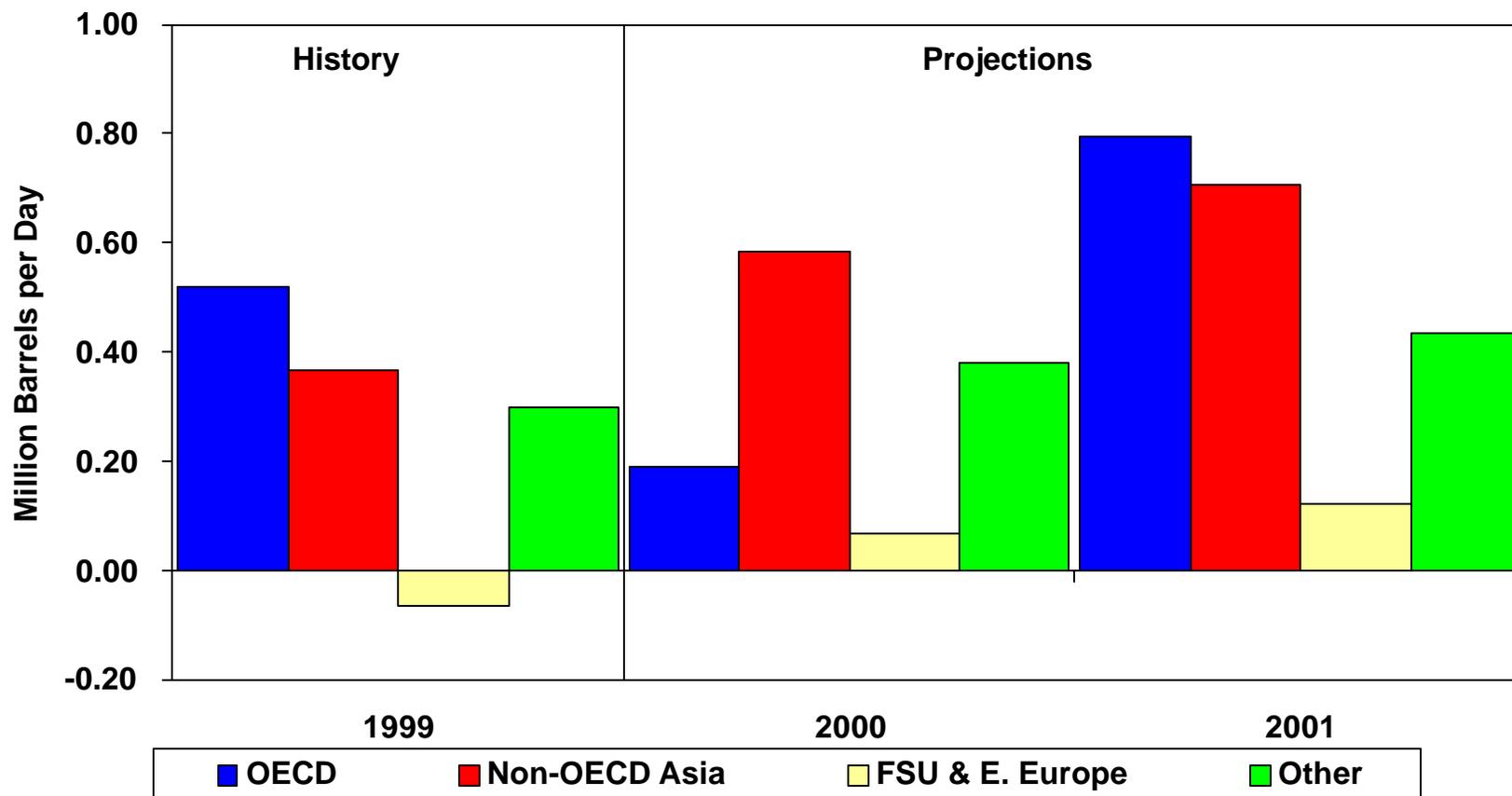
Figure 4. Total OECD Oil Stocks*

*Total includes commercial and government stocks.

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

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states, Indiana and Illinois, temporarily rolled back a portion (about 5 cents per gallon) of their state sales on motor gasoline. This action, however, resulted in an estimated lowering of the average Midwest gasoline price of only about 1 cent per gallon.

It appears that the monthly average retail regular gasoline price reached its peak in June, at $1.63 per gallon (Figure 5). It is worth noting that in March 1981, motor gasoline prices were almost 60 percent higher than the June 2000 price, when adjusted for inflation.   In July, the average pump price dropped by 8 cents per gallon.   Assuming that our declining crude oil price path holds, we project that these prices will continue to fall though the end of the year.   By December, the retail price of regular unleaded (self-service) motor gasoline is projected to be about 30 cents per gallon lower than the June average.

Since the summer is not over, and since August brings peak refinery utilization rates and gasoline demand levels, there is little sense in becoming altogether complacent about the gasoline market just yet. Outside of the Midwest, spot gasoline prices are now noticeably above low points reached at the start of the last week in July (Figure 6). Between 5- and 14-cents-per-gallon increases in spot prices have been seen in the East, Gulf Coast and California over the last two weeks, with spot prices in Los Angeles showing the largest increases. These increases may ultimately blunt potential pump price declines in August, although we still envision sufficient downward momentum to yield an August pump price average below that seen in July. Partly behind this belief is a rapid return of gasoline inventories comfortably into the normal range (Figure 7). Our end-July estimate for total gasoline stocks stands at 205 million barrels, which (thanks partly to revised historical estimates) is about 8 million barrels per day above our projected level from one month ago.

For 2001, we expect an annual average price dip of about 15 cents per gallon at the pump, again assuming that our declining base case crude oil price path holds (Table 4).

Distillate Fuel (Heating Oil and Diesel Fuel)

Strong demand for diesel fuel, coupled with low inventories for distillate, will exert upward pressure on distillate fuel oil prices when the heating season begins in October. With the summer more than half over, the level of distillate stocks remains low, thus creating the possibility of price instability for the distillate fuels when the heating season commences (Figure 8). It was only last February that a combination of factors, including severe weather in the Northeast and extremely low inventories of distillate fuel, led to heating oil and diesel fuel

Figure 5. Retail Gasoline Price Cases*
(Base Case and 95 Percent Confidence Range)
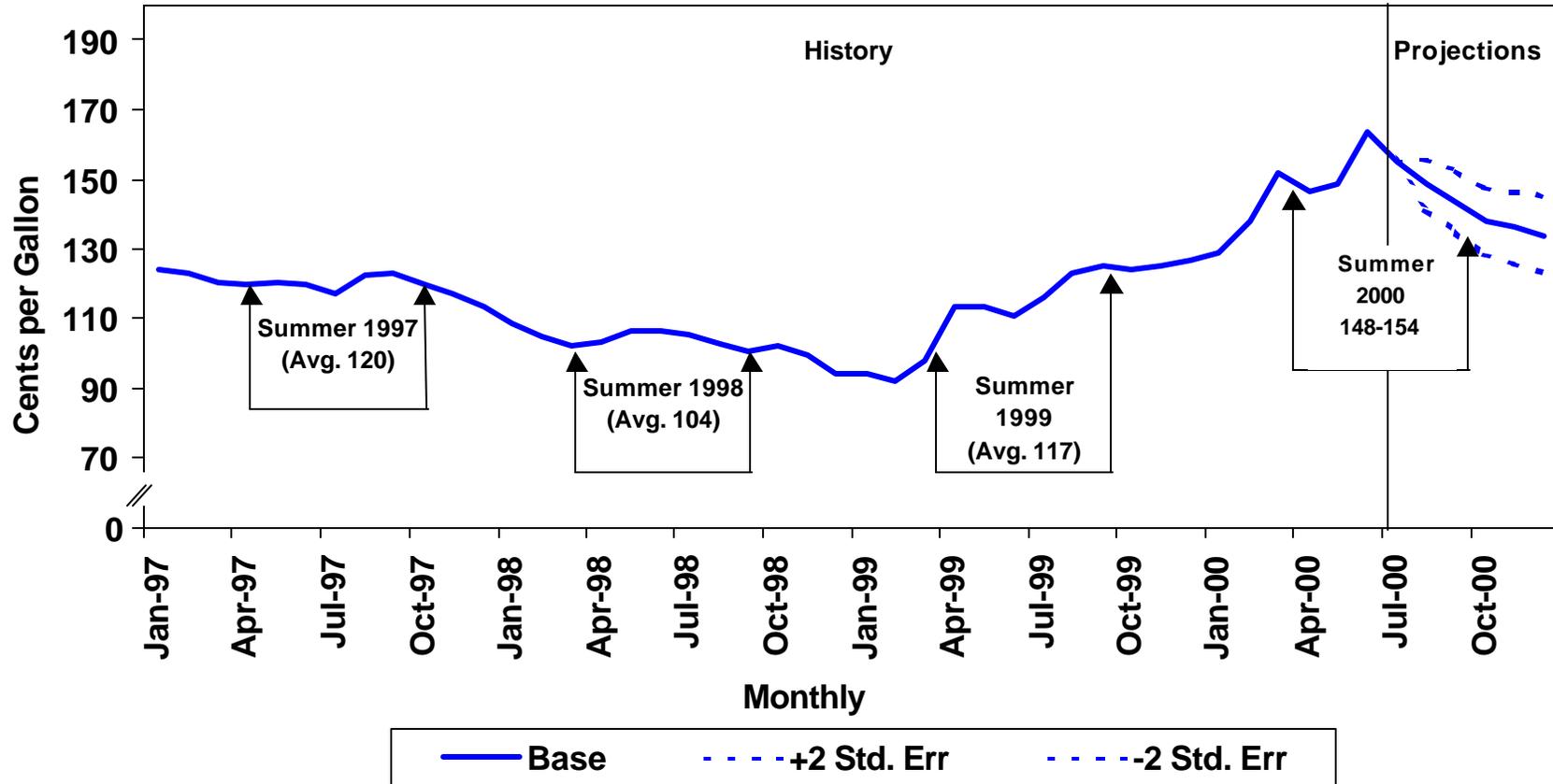
* Regular gasoline, self-serve cash.

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

Figure 6. Weekly Motor Gasoline Prices

Retail Regular Unleaded Price

Composite Spot Price
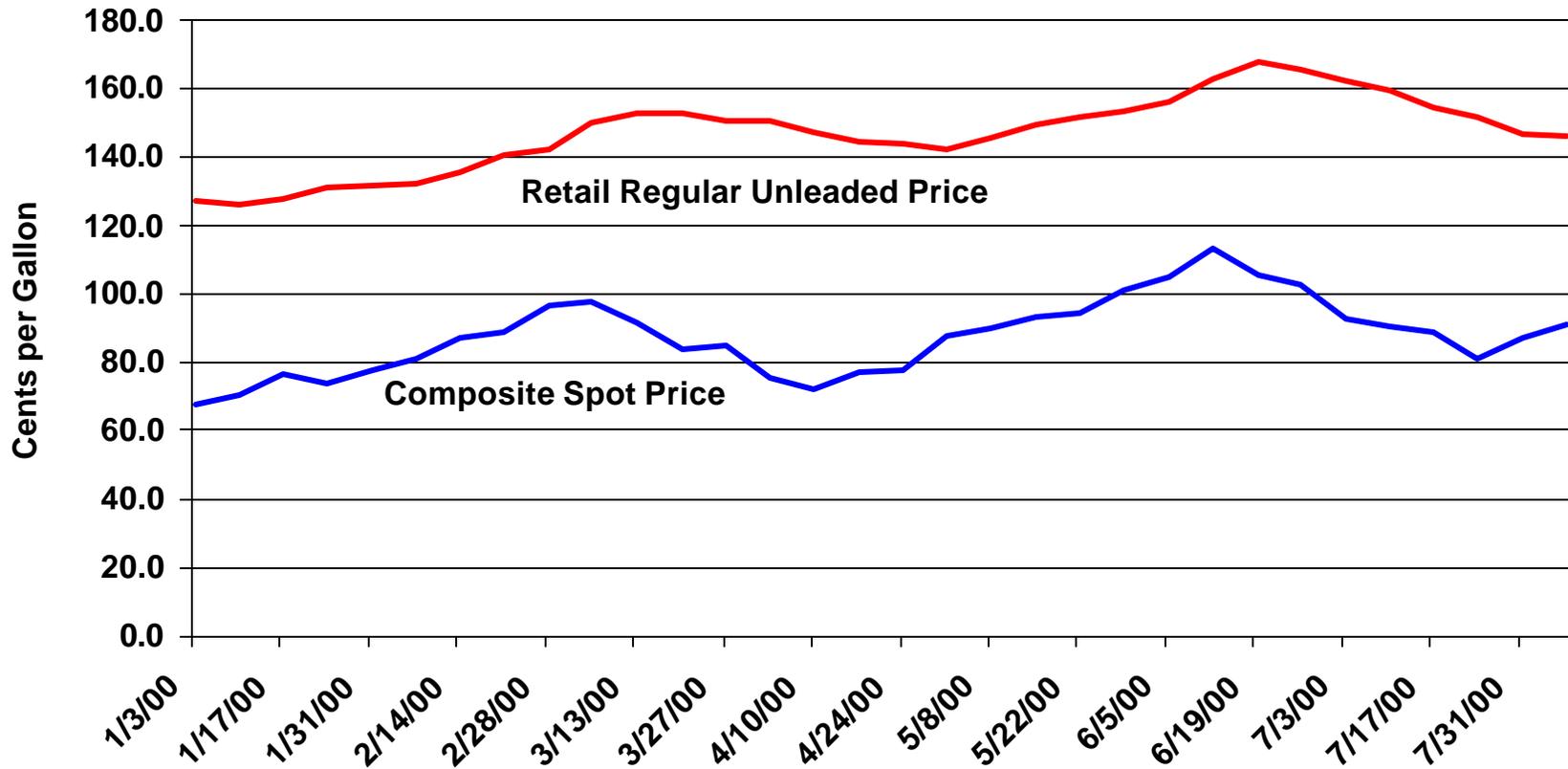
Sources: History: Retail: EIA's Weekly Gasoline Price Survey; Spot: EIA calculation.

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Figure 7. U.S. Total Gasoline Stocks

NOTE: Colored Bands are Normal Stock Ranges

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

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Figure 8. Total U.S. Distillate Stocks
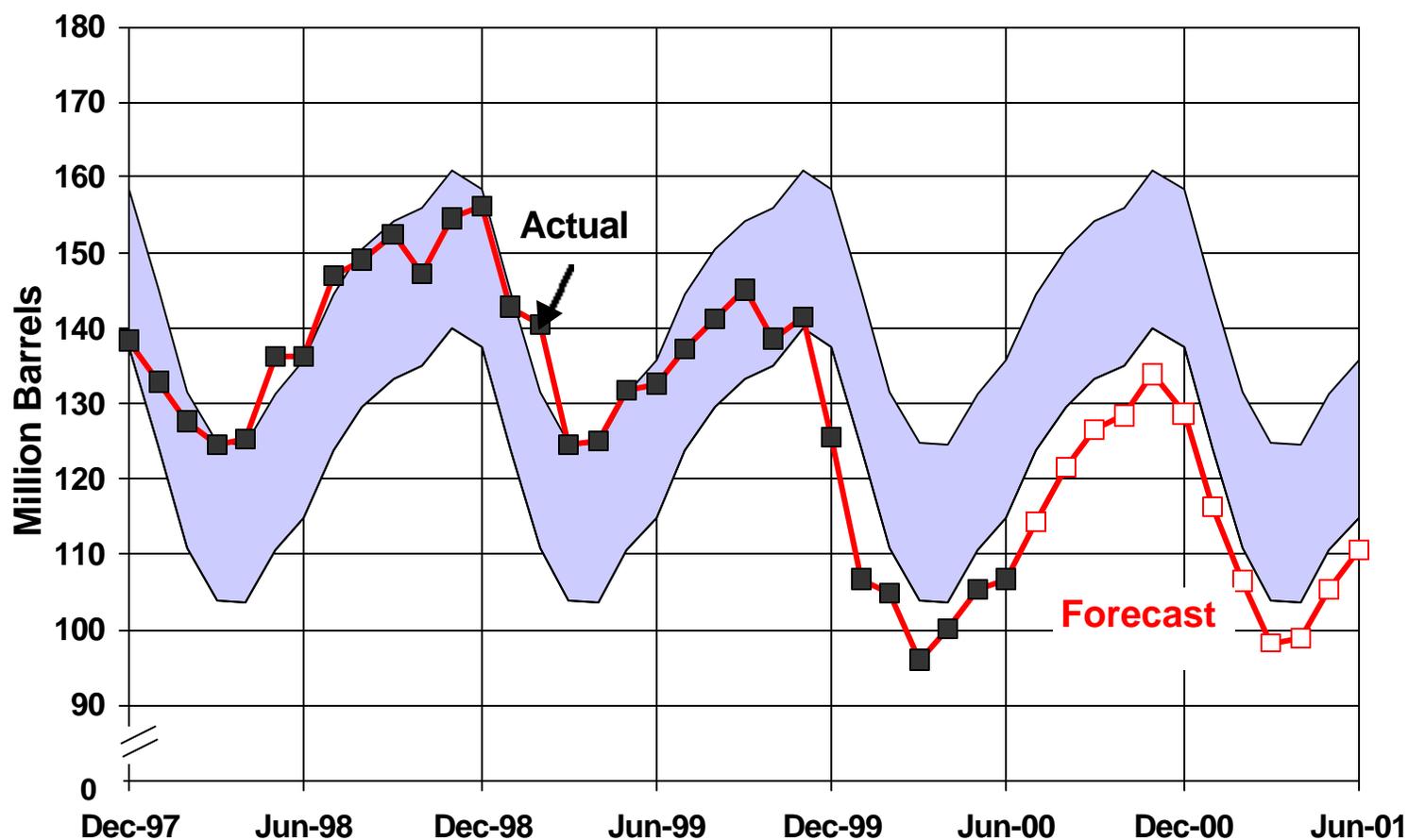
NOTE: Colored Bands are Normal Stock Ranges

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

prices that temporarily averaged more than $2.00 per gallon in New England and other areas in the Northeast.

There is a risk of price spikes similar to last winter in the Northeast for heating oil as well as for diesel fuel if inventories are not built to adequate levels by the end of the year. Stocks of high-sulfur distillate fuel oil (heating oil), particularly in the Northeast where most of the nation's heating oil is consumed, are currently at low levels.

On a national basis, distillate stocks are now about 10 million barrels below the low end of the average distillate stock range. *It should be noted that EIA's definition of the average range for petroleum product stocks is based on 3 years of monthly data: January 1997- December 1999. It is important to point out that end-of-July distillate stock levels for those three years were unusually high. Thus, the "average range" that current stocks are compared with, is considerably above the 10-year or 20-year average stock level for the end of July.* Nevertheless, by historical standards, distillate stocks are currently low and will be closely monitored over the next several months. We are projecting that distillate inventories will grow through November and, by the middle of the winter, the levels will be tight but somewhat higher than those of last year. Still, these projected stock levels will not leave much of a buffer if the winter in the Northeast is unusually cold. A mild winter in the Northeast would ease potential price pressures.

Assuming normal heating demand, adequate but tight stocks, and positing that crude oil prices which, while declining now, are likely to be above year-ago levels this fall, we expect that fourth-quarter residential heating oil prices to average $1.15 per gallon, or about 15 cents more per gallon compared to the same period last year (Figure 9 and Table 4). For the first quarter of 2001, these heating oil prices are projected to also average $1.15 per gallon. Of course, this assumes no unusual price spikes due to weather or transportation factors.

Natural Gas. Since June, daily spot wellhead prices have been averaging between $3.50 and $4.50 per thousand cubic feet. This is nearly double the price of one year ago and as much as a $2.00 per thousand cubic feet gain since the beginning of the year. The rapid rise in gas prices is evident on a monthly average basis (Figure 10). Although rising crude oil prices may have encouraged natural gas prices to grow, the principal basis of these raised gas prices has been the precarious supply situation. In other words, the injection rate for gas into storage continues to be too gradual to calm the market for next winter's heating season. Underground working gas storage levels are currently about 18 percent below year-ago levels (Figure 11).   At current injection rates, the availability of natural gas for next winter has become an issue, as indicated by the volatility and levels of today's prices. Hot summer weather in portions of the country,

Figure 9. Petroleum Product Prices

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

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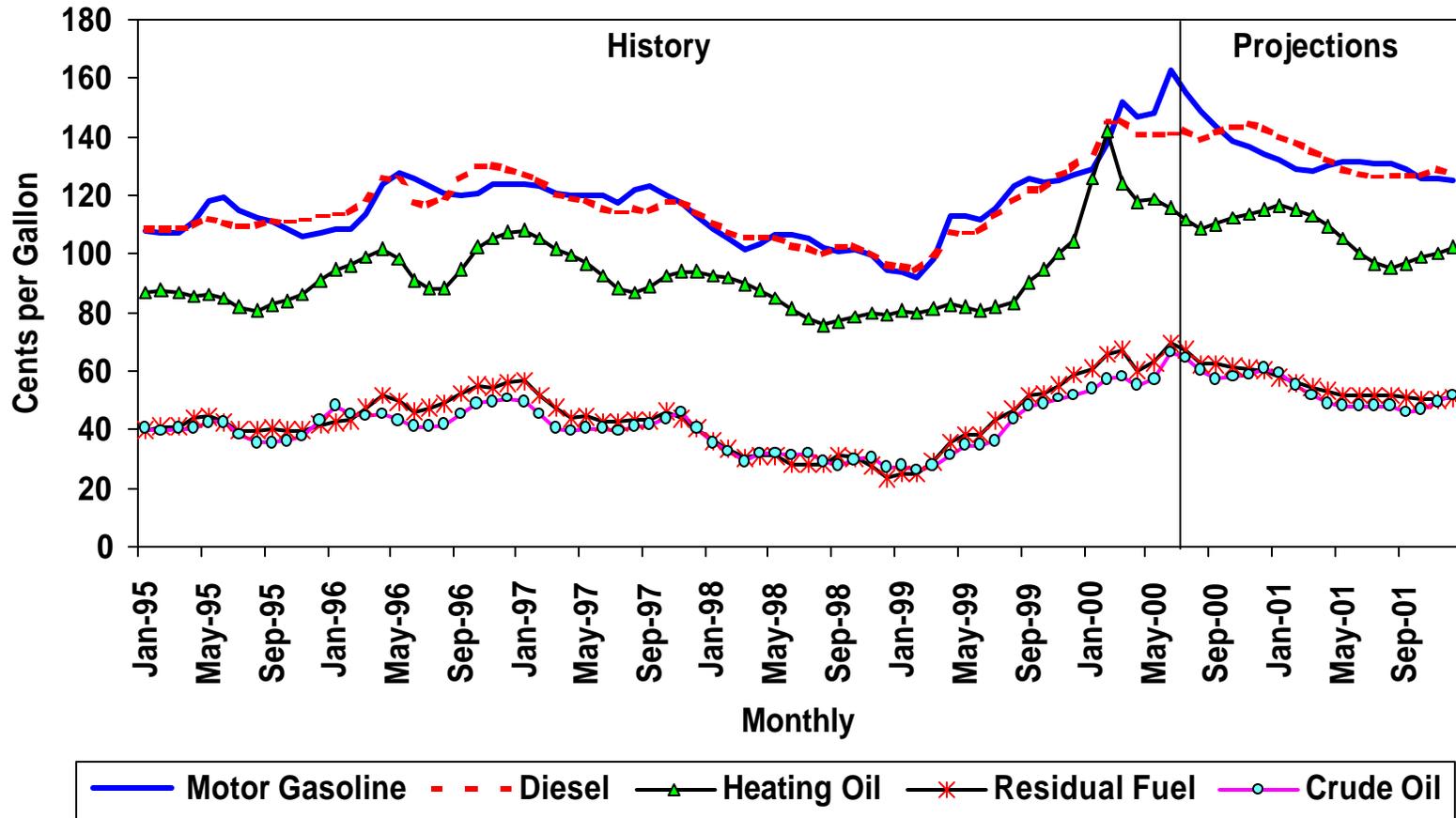
# Figure 10. Natural Gas Wellhead Prices: Composite and Spot
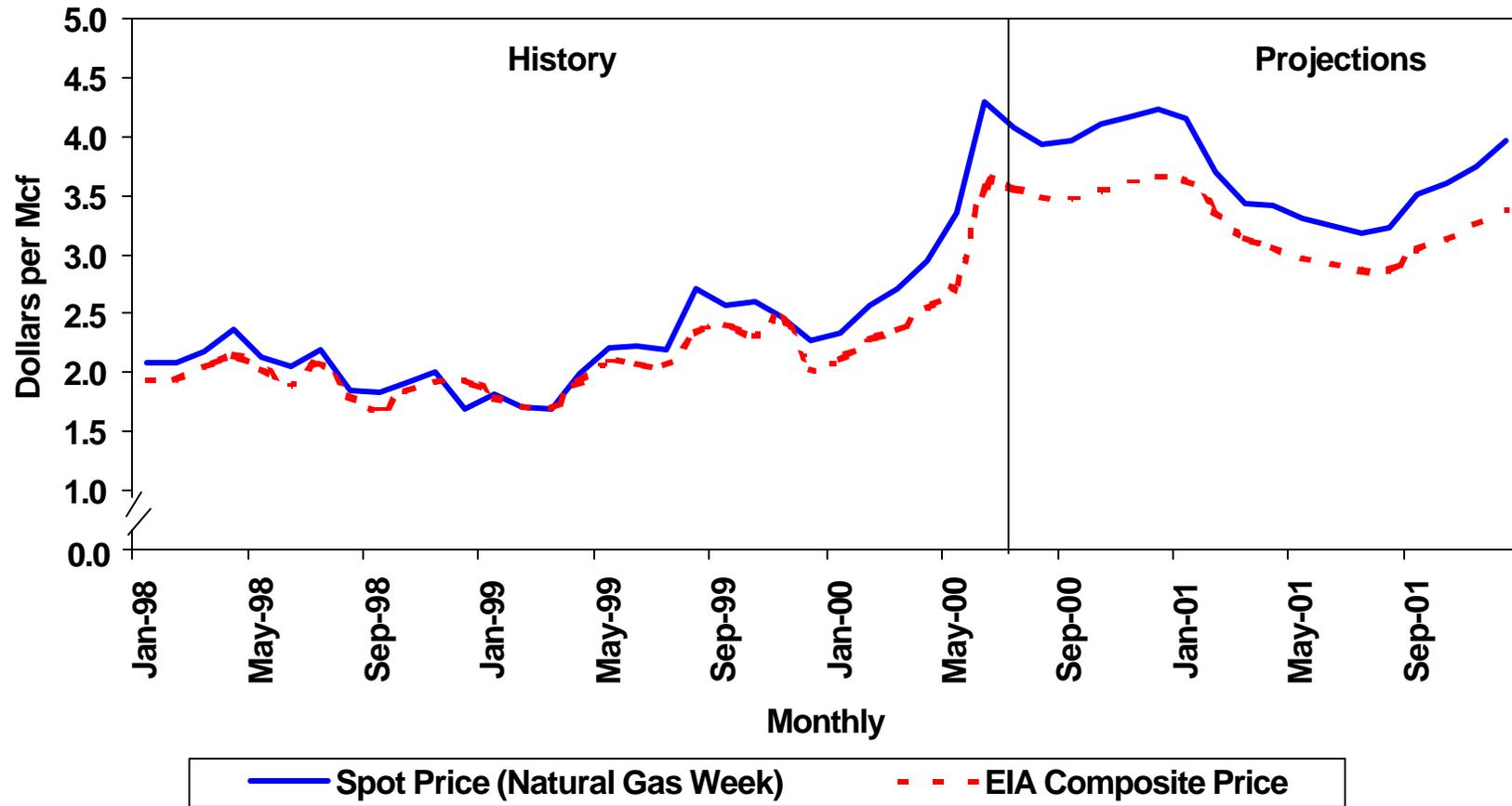
Sources: History: EIA and Natural Gas Week;
Projections: Short-Term Energy Outlook, August 2000.

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Figure 11. Working Gas in Underground Storage
(Percent Change from Year Ago)

History

Projections

Percent

30.0%
20.0%
10.0%
0.0%
-10.0%
-20.0%
-30.0%
-40.0%

Jan-99 Mar-99 May-99 Jul-99 Sep-99 Nov-99 Jan-00 Mar-00 May-00 Jul-00 Sep-00 Nov-00 Jan-01 Mar-01 May-01 Jul-01 Sep-01 Nov-01

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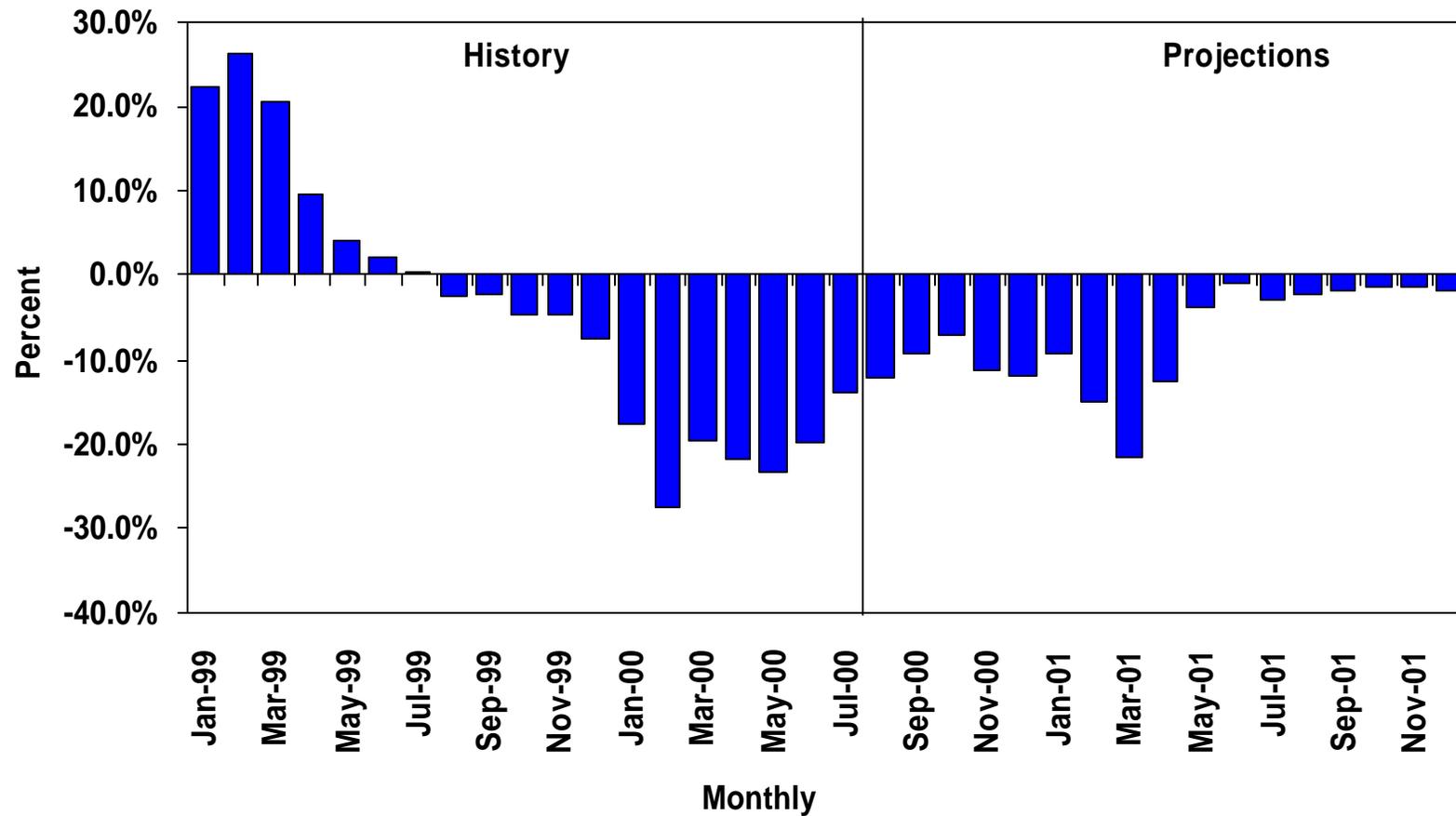
Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2000.

particularly Texas and California (which consume large amounts of gas-generated electricity) has also contributed to the low storage injection rate. Natural gas that would normally be added to storage has, to some extent, been used (indirectly through electric utilities) to run air conditioners. Furthermore, demand for natural gas has been growing due to the expanding economy over the last 7-8 years and the widening role of gas generation at power facilities.

While natural gas imports have generally been rising significantly in recent years, the United States may be running into some short-term supply constraints. Several years of relatively low prices have slowed down exploration and drilling for new sources of supply. Recent higher prices have caused drilling to bounce back, but additional supplies are not likely to expand production significantly before the heating season gets under way.

We are projecting that natural gas prices at the wellhead will increase by about 55 percent this winter (October-March) compared to last winter. Of course, higher end-use prices will result from higher projected wellhead prices. For all of 2000, the average wellhead price for natural gas is projected to be $3.09 per thousand cubic feet (Table 4). In nominal terms, this projected price would be the highest annual wellhead price on record (though higher wellhead prices have been reached for shorter periods). In real (inflation-adjusted) terms, this projected price would be the highest annual average price since 1985. Our base case projections assume normal weather for both the summer and winter. There is a downside risk to any high priced commodity: the market reacts rather quickly. If mild weather occurs for prolonged periods of time in the gas consuming regions of the nation, these projected price increases could vanish. For the year 2001, we are projecting higher prices in the first half of the year compared to the previous year, but lower prices for the second half of the year.

Electric Utility Fuels. Natural gas for power generation is projected to yield its apparent average price advantage over residual fuel oil by the end of the summer. On average, residual fuel oil is also projected to be the cheaper of the two fuels, on a delivered-to-power-plant basis, throughout the year 2001 (Figure 12).

U. S. Petroleum Demand

Total petroleum products demand in 1999 increased by 600,000 barrels per day, or 3.2 percent, from demand in the previous year. That robust increase, which almost matches that of 1988, occurred despite the increase in energy prices that started early in the year. Transportation demand for petroleum rose a strong 335,000 barrels per day, buoyed not only by brisk increases in gasoline and diesel fuel demand but also by a strong recovery in jet fuel markets from the previous

Figure 12. Fossil Fuel Prices to Electric Utilities

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

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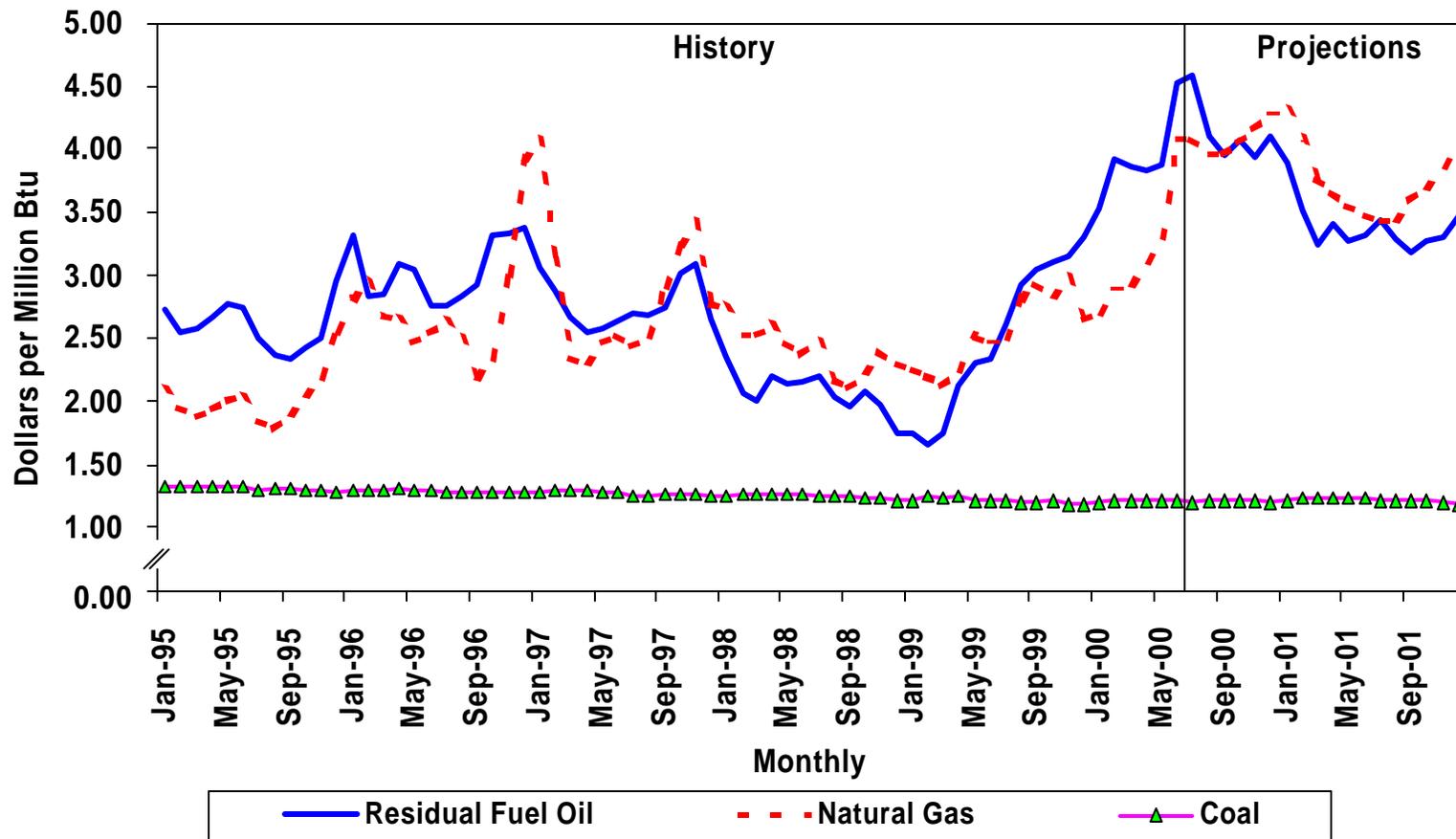
year's weakness brought about by a collapse in international jet fuel demand. In addition, petrochemical demand grew by 300,000 barrels per day. Price movements, however, contributed to a 60,000 barrels-per-day decline in residual fuel oil shipments as power generators switched to other fuels. Large increases in nuclear power availability in the Northeast last year also contributed to lower oil demand for power generation in 1999.

The current year is projected to witness an absence of growth in petroleum product demand (Figure 13). Transportation-related demand is projected to increase by 150,000 barrels per day but the major demand component, motor gasoline, is projected to remain flat for the year. Demand for motor gasoline appears to have experienced a decline in the second quarter. Although these figures are subject to revision, it seems that the increase in retail prices during the last 18 months has affected gasoline demand more than previously anticipated. The projection for the rest of the year shows demand growth in motor gasoline remaining flat, on average, despite projected price declines. Although retail motor gasoline prices have begun to ease from their historical highs in June, the decline is projected to be gradual throughout the rest of the year, but sufficient to stabilize demand. In contrast, diesel demand is projected to increase at rates exceeding 4 percent. Total jet fuel demand is also projected to continue to increase robustly, led by a more than 3-percent increase in commercial jet fuel purchases.

Declining electric power sector demand for petroleum products, caused by milder-than-normal weather patterns and increases in fuel costs, is projected to contribute to a net decline in residual fuel oil of 110,000 barrels per day in 2000. Despite concerns about electricity supplies in certain regions, such as California, due to hot weather spells, third-quarter weather in the lower 48, in terms of cooling degree-days, is projected to be 10 percent milder than during the same period last year. As a result, third-quarter electricity demand is projected to be slightly less than for the same period in 1999.

Continued economic growth and price declines, as well as a presumed return to normal winter and summer weather, are expected to boost total petroleum demand by 500,000 barrels per day, or 2.6 percent, in 2001. Transportation-related shipments are projected to increase by almost 330,000 barrels per day, buoyed by 180,000 barrels-per-day growth in motor gasoline demand. The combined effects of lower petroleum prices, normal weather patterns, and stable or declining output from nuclear and hydroelectric power plants are expected to result in renewed growth in fuel for power generation and heating in 2001.

Figure 13. Annual Petroleum Demand by Product
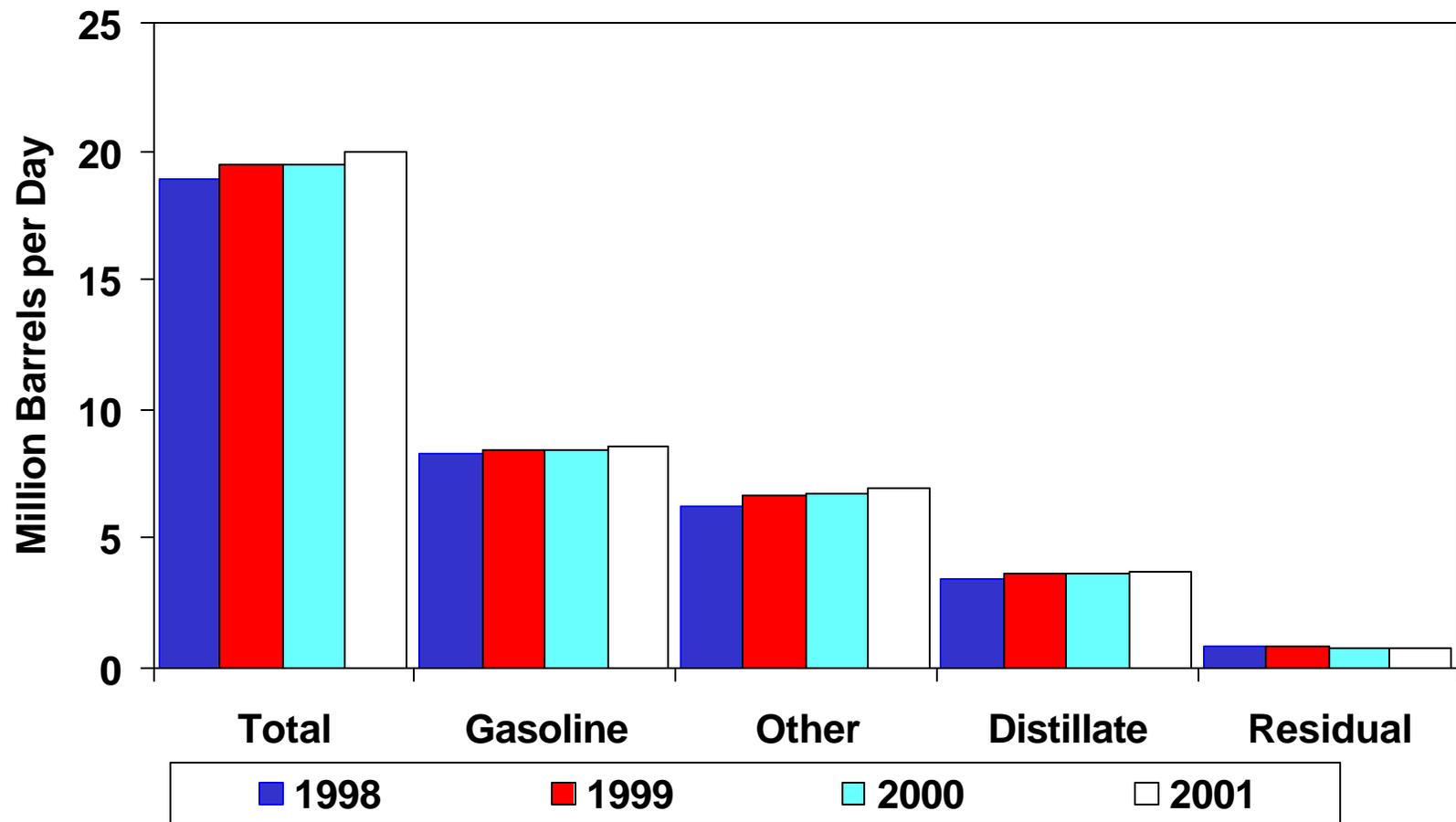
Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2000.

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U. S. Petroleum Supply

Average domestic oil production is expected to decrease by an average 50 thousand barrels per day in both 2000 and 2001 (Table 5 and Figure 14).

Lower 48 States oil production is expected to increase by 32,000 barrels per day to a rate of 4.86 million barrels per day in 2000, followed by a decrease of 25,000 barrels per day in 2001. Oil production from the Mars, Auger, Troika Ursa and Diana Hoover Federal Offshore fields is expected to account for more than 9 percent of the Lower-48 oil production by the fourth quarter of 2001. Shell started production in 1999 in their Ursa field, which will peak in production in the year 2000. Exxon's Diana and Hoover fields will produce together and have started production. Additional production has started on Texaco's Petroneus and Shell's Europa fields.

Although Alaskan crude oil production represented as much as 20 percent of total U.S. oil production as recently as 1997, it is expected to account for just over 16 percent in 2001. Its oil production is expected to decrease by nearly 8 percent in 2000 and again by nearly 3 percent in 2001. Alaskan crude oil production is anticipated to remain below 1.0 million barrels per day rate starting in May 2000. A substantial portion of the oil production from Alaska comes from the giant Prudhoe Bay Field. Other than the routine maintenance, no major investments are planned for this field during the forecast period. Therefore, the field is expected to follow a steeper decline during this period. Oil production from recent discoveries, such as Sambuca and Midnight Sun, will partially offset the decline in oil production from the Prudhoe Bay and other fields in the North Slope in 2000. Production from the Kuparuk River field plus production from West Sak, Tabasco and Tarn fields is expected to stay at an average of 237,000 barrels per day in 2000-2001 forecast period. The Alpine field is expected to come on in the last quarter of 2000 at an initial rate of 40,000 barrels per day, peaking at 80,000 barrels per day in mid 2001.

Crude oil stocks continue at the lowest levels since the 1970s (note - this forecast does not include the decline in crude oil stocks reported in the survey for the week ending July 28). Even with increasing world oil supply, the demand to replenish petroleum product inventories may keep crude oil inventories from showing significant recovery. With respect to the 10.6 million-barrel drop in U.S. crude oil stocks between July 21 and July 28, we expect that that particular detour away from normal levels to be largely reversed in the next week or two.

Figure 14. U.S. Crude Oil Production
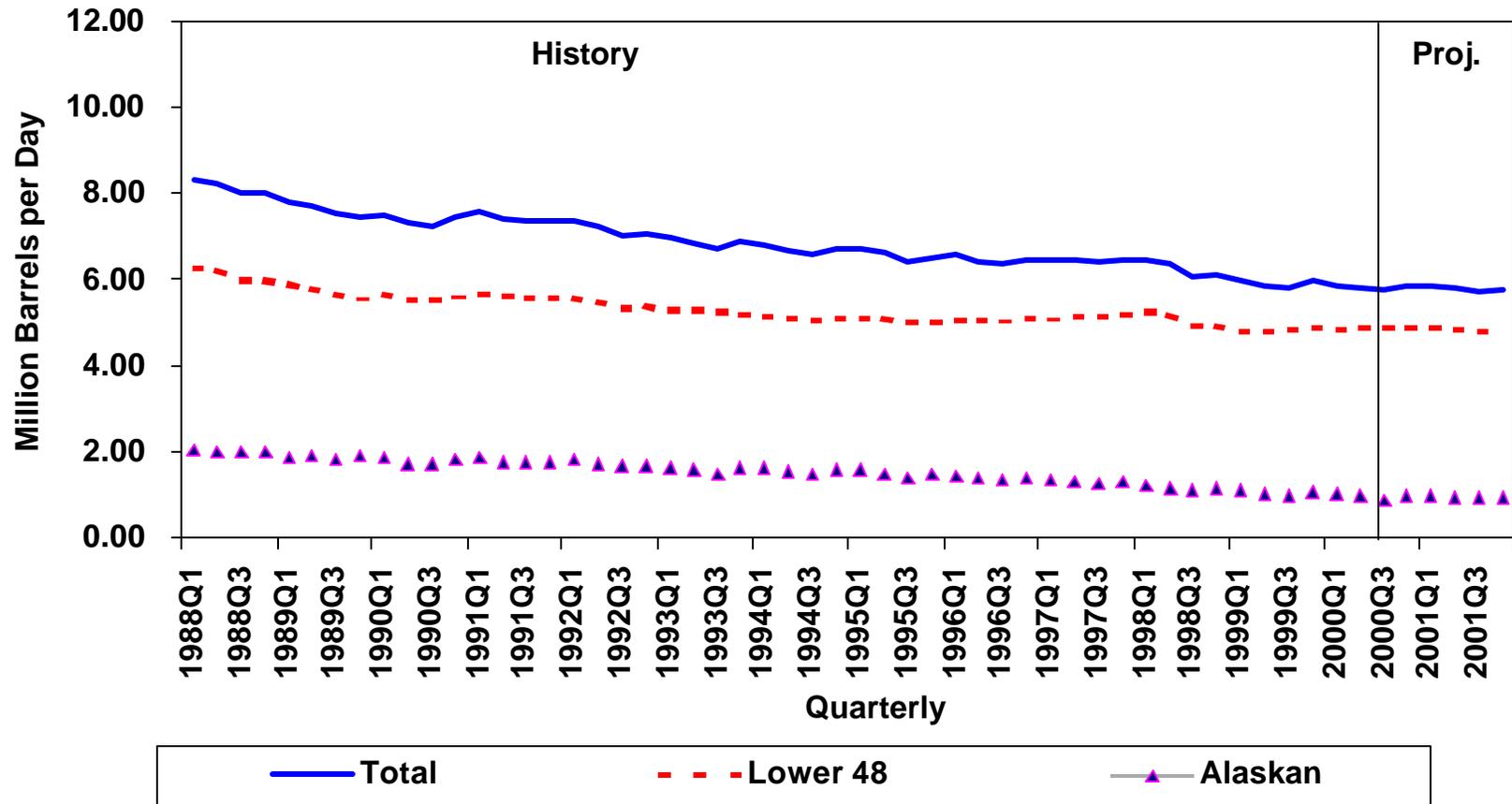
Sources: History: EIA; Projections: Short-Term Energy Outlook, August 2000.

Natural Gas Supply and Demand

The forecast for overall natural gas demand in 2000 and 2001 remains at the levels previously forecasted in our July Outlook. This is a 4.3 percent annual growth rate in 2000 and a 3.2 percent growth rate in 2001 (Figure 15). The industrial sector is the leading sector for demand increases at 9.9 percent in 2000, while electric utility demand is expected to decline by 5.2 percent this year. This dichotomy is due in part to sales of electric generating plants by electric utilities to unregulated generating companies, fuel consumption by which is recorded by EIA in the industrial sector. For the power generation sector as a whole, gas demand is expected to post a 4.6 percent growth rate in 2000.

Concerns regarding the natural gas supply and demand balance in the rest of 2000 and in early 2001 have been the primary factors driving gas prices upward. Concerns focus particularly on gas storage levels, which are expected to be about 7 percent below last year's level at the end of October, the beginning of the heating season. Likewise, the high price of natural gas has been a disincentive to increasing storage injections. It should be noted that it is not so much the absolute level of inventories that are of concern (we expect gas storage to be within a few percentage points of the 1995-1999 average at the beginning of the upcoming heating season). Given the strong propensity for incremental power demand to be met by gas-fired units (particularly if hydroelectric power continues to decline and nuclear power output does not grow significantly), and given a strong likelihood that heating demand will be up sharply this winter, expected demand relative to anticipated storage levels may be the highest it has been in many years. The impact of this situation on prices is, we think, strengthened by the lack of significant domestic production increases yet this year.

The American Gas Association (AGA) reported that during the week ending July 28 the total amount of working gas in storage was 1,920 billion cubic feet (bcf), or 58 percent full. This implies that stocks are now about 386 bcf (17 percent) lower than at the same time last year, the equivalent of about 5 days of total U.S. gas consumption during the peak heating month (January). Working gas in all Canadian storage facilities were 328.5 bcf as of July 28 compared with 377.3 bcf a year ago.

For the time being, we are maintaining a conservative view of possible increases in domestic gas production for 2000 and 2001, with assumed increases of 0.5 percent and 1.0 percent, respectively, for this year and next. The effects of increased drilling for gas are not expected to appear in the form of significantly increased production until after the next heating season. The U.S. natural gas rig count on August 4 was at a recent high of 772 rigs. Exploration and production

Figure 15. Annual Changes in Natural Gas Demand by Sector
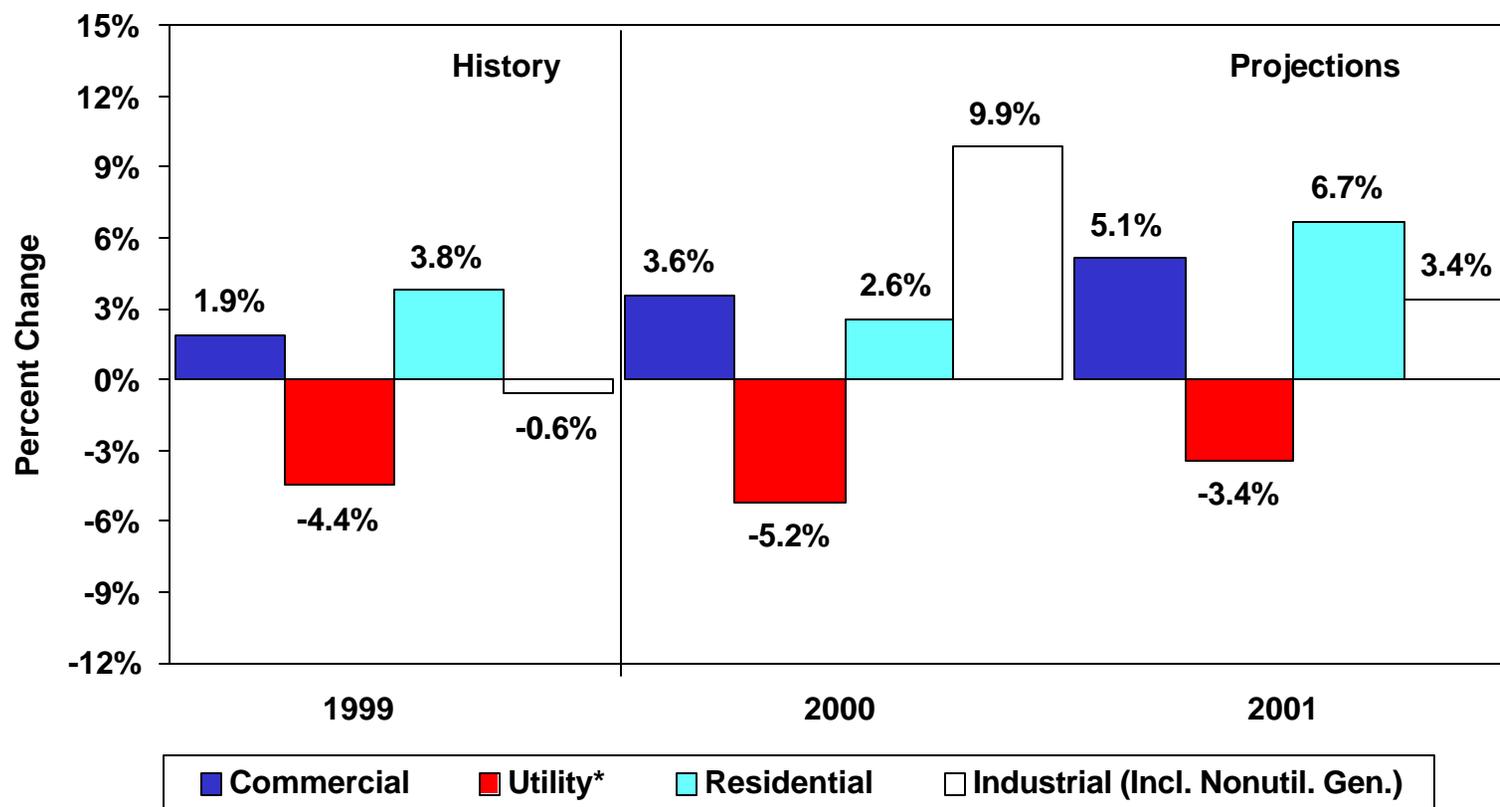
* Electric utility gas demand changes in recent years in part reflect sale of assets to the nonutility sector.

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

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budgets for many natural gas producers are expected to increase sharply in 2000, spurred by higher prices and greatly improved current and expected revenues from producing assets. Still, given that gas-directed drilling in the United States has exceeded 600 rigs since late last October (compared to the low point of 362 reached in late April 1999) and has exhibited 20-percent to 70-percent year-over-year increases since that time with little evidence of rapidly improving production performance through the first half of 2000, expectations of strong increases in U.S. production before the end of this year are probably optimistic if not entirely unwarranted.

On the other hand, net imports of natural gas are projected to rise by about 12 percent in 2001. A primary factor precipitating this increase is the opening of the Alliance pipeline from northeast British Columbia to near Chicago, with an initial capacity of 1.35 billion cubic feet per day, to expand to 1.83 billion cubic feet per day in the future. Other factors are, of course, increased U.S. demand together with increased wellhead prices.

Electricity Demand and Supply

Total annual electricity demand for 2000 and 2001 has been revised somewhat compared with the July Outlook. Total electricity demand in 1999 has been revised upward slightly, while 2000 demand expectations have been revised downward slightly due to the generally cooler than normal summer temperatures overall, despite periods of high temperatures in the South and West. Annual electricity demand growth is now projected to be 2.1 percent in 2000 and 2.45 percent in 2001.

Fears of electric power reliability for this summer persist as a result of the power outages and other problems of last summer as well as the periods of high temperatures in the West and South experienced this year in July. High temperatures in the Rocky Mountain and Pacific Southwest regions during the week ending July 29 increased electricity output by 16.6 and 26.6 percent, respectively, relative to the same week a year ago, according to the Edison Electric Institute. Much of California has recently seen temperatures of over 100 degrees, leading the California Independent System Operator (ISO) to raise the level of statewide electric emergency to Stage 2 on August 1. This means that utilities activate voluntary load management, requiring curtailment of enough megawatts to maintain 5 percent of operating reserves with minimum impact to customers. Interruptible customers, mainly commercial users, receive a reduced rate in exchange for curtailing power. Operating reserves for much of the western U.S. are slim due to the widespread heat wave. Maintenance on the El Paso Natural Gas system in New Mexico, lower than normal production at hydroelectric dams because of low river flows and unplanned outages of major

power plants in Washington, Wyoming and Montana, have also curtailed available electricity supply. Electricity imports from the Northwest and Southwest are scarce due to the high heat in those areas also. This has been a factor in California's shortage of operational reserves, since California normally counts on imports at this time of year.

However, this summer's cooling degree-days (CDD) are expected to be 4.6 percent below last summer's CDD (Figure 16). In July alone, overall CDD was 10 percent below normal and about 22 percent below the July 1999 level. Still, underlying demand remains strong and shortages cannot be ruled out in some areas, particularly if August turns out to be a hot month. Major concerns for utilities are the possibility of severely spiking power prices and transmission equipment failure during hot spells.

Figure 16. U.S. Electric Output and Cooling Demand Indicators

(Percent Change from Year Ago)
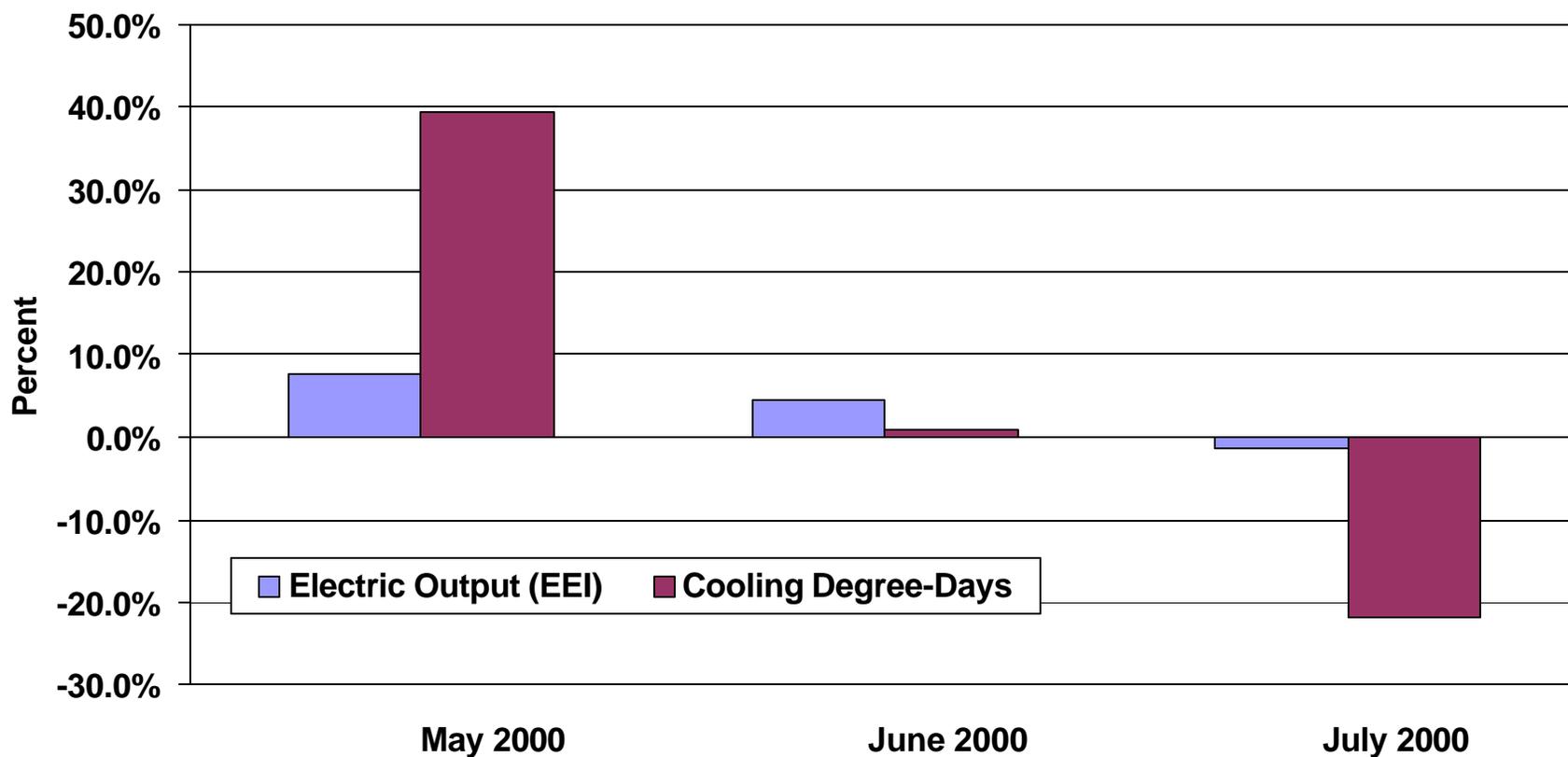
Sources: Output: Edison Electric Institute; Degree-days: National Oceanographic and Atmospheric Administration.

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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 1996 dollars)	**8513**	**8864**	*9303*	*9676*	**4.1**	*5.0*	*4.0*
Imported Crude Oil Price [a] (nominal dollars per barrel).........................	**12.08**	**17.21**	*26.29*	*21.82*	**42.5**	*52.8*	*-17.0*
Petroleum Supply (million barrels per day) Crude Oil Production [b]	**6.25**	**5.88**	*5.83*	*5.78*	**-5.9**	*-0.9*	*-0.9*
Total Petroleum Net Imports (including SPR)	**9.76**	**9.91**	*10.14*	*10.76*	**1.5**	*2.3*	*6.1*
Energy Demand							
World Petroleum (million barrels per day).............................	**73.6**	**74.8**	*75.8*	*77.8*	**1.6**	*1.3*	*2.6*
Petroleum (million barrels per day).............................	**18.92**	**19.52**	*19.49*	*19.98*	**3.2**	*-0.2*	*2.5*
Natural Gas (trillion cubic feet)	**21.26**	**21.36**	*22.28*	*23.00*	**0.5**	*4.3*	*3.2*
Coal [c] (million short tons)	**1039**	**1039**	*1068*	*1100*	**0.0**	*2.8*	*3.0*
Electricity (billion kilowatthours)							
Utility Sales [d]	**3240**	**3296**	*3357*	*3436*	**1.7**	*1.9*	*2.4*
Nonutility/Sales [e]	**156**	**173**	*183*	*191*	**10.9**	*5.8*	*4.4*
Total	**3396**	**3469**	*3541*	*3627*	**2.1**	*2.1*	*2.4*
Total Energy Demand [f] (quadrillion Btu)...	**94.4**	**96.2**	*97.5*	*99.8*	**1.9**	*1.4*	*2.3*
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	**11.09**	**10.85**	*10.48*	*10.31*	**-2.2**	*-3.4*	*-1.6*
Renewable Energy as Percent of Total [g] ...	**7.0**	**7.0**	*6.8*	*6.6*			

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[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 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."

[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 1999 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 CONTROL0600.

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 1996 dollars - SAAR).........	**8731**	**8772**	**8901**	**9051**	**9171**	*9263*	*9341*	*9438*	*9541*	*9635*	*9726*	*9803*	**8864**	*9303*	*9676*
Percentage Change from Prior Year	**3.8**	**3.7**	**4.4**	**4.6**	**5.0**	*5.6*	*4.9*	*4.3*	*4.0*	*4.0*	*4.1*	*3.9*	**4.1**	*5.0*	*4.0*
Annualized Percent Change from Prior Quarter.......................................	**3.6**	**1.9**	**5.9**	**6.8**	**5.3**	*4.0*	*3.4*	*4.2*	*4.4*	*3.9*	*3.8*	*3.2*			
GDP Implicit Price Deflator (Index, 1996=1.000)	**1.039**	**1.042**	**1.044**	**1.050**	**1.057**	*1.063*	*1.067*	*1.071*	*1.076*	*1.080*	*1.084*	*1.089*	**1.044**	*1.065*	*1.082*
Percentage Change from Prior Year	**1.4**	**1.4**	**1.2**	**1.6**	**1.8**	*2.1*	*2.1*	*2.0*	*1.8*	*1.6*	*1.6*	*1.6*	**1.4**	*2.0*	*1.7*
Real Disposable Personal Income (billion chained 1996 Dollars - SAAR)	**6284**	**6333**	**6385**	**6453**	**6488**	*6557*	*6641*	*6716*	*6826*	*6916*	*6982*	*7048*	**6364**	*6601*	*6943*
Percentage Change from Prior Year	**4.2**	**4.0**	**3.8**	**3.7**	**3.3**	*3.5*	*4.0*	*4.1*	*5.2*	*5.5*	*5.1*	*4.9*	**3.9**	*3.7*	*5.2*
Manufacturing Production (Index, 1992=1.000)	**1.392**	**1.409**	**1.425**	**1.449**	**1.473**	*1.484*	*1.500*	*1.513*	*1.525*	*1.541*	*1.557*	*1.570*	**1.419**	*1.493*	*1.549*
Percentage Change from Prior Year	**3.5**	**4.1**	**4.4**	**4.8**	**5.8**	*5.4*	*5.3*	*4.4*	*3.5*	*3.8*	*3.8*	*3.8*	**4.2**	*5.2*	*3.7*
OECD Economic Growth (percent) [b]													**2.6**	*3.5*	*3.1*
Weather [c]															
Heating Degree-Days															
U.S...	**2153**	**489**	**79**	**1448**	**2025**	*496*	*85*	*1623*	*2236*	*519*	*86*	*1622*	**4169**	*4229*	*4463*
New England	**3040**	**784**	**86**	**2043**	**3055**	*923*	*176*	*2239*	*3177*	*885*	*167*	*2238*	**5953**	*6393*	*6467*
Middle Atlantic......................................	**2816**	**628**	**68**	**1839**	**2725**	*703*	*102*	*2004*	*2895*	*701*	*105*	*2003*	**5351**	*5534*	*5703*
U.S. Gas-Weighted.................................	**2275**	**517**	**85**	**1522**	**2079**	*519*	*90*	*1714*	*2354*	*555*	*90*	*1714*	**4399**	*4402*	*4714*
Cooling Degree-Days (U.S.)	**35**	**353**	**831**	**58**	**36**	*383*	*747*	*75*	*32*	*346*	*781*	*76*	**1277**	*1241*	*1235*

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

[b]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.

[c]Population-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 CONTROL0600.

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 1996 dollars-SAAR)	1556	1581	1607	1618	1693	*1718*	*1739*	*1761*	*1796*	*1819*	*1842*	*1858*	1591	*1728*	*1829*
Real Exchange Rate															
(index)	1.134	1.170	1.163	1.144	1.174	*1.213*	*1.223*	*1.226*	*1.201*	*1.173*	*1.149*	*1.127*	1.153	*1.209*	*1.163*
Business Inventory Change															
(billion chained 1996 dollars-SAAR)	0.0	-8.3	1.7	8.2	12.8	*5.2*	*11.6*	*18.0*	*14.9*	*15.4*	*18.7*	*21.8*	0.4	*11.9*	*17.7*
Producer Price Index															
(index, 1982=1.000)	1.228	1.245	1.268	1.277	1.299	*1.317*	*1.323*	*1.320*	*1.314*	*1.305*	*1.305*	*1.312*	1.255	*1.315*	*1.309*
Consumer Price Index															
(index, 1982-1984=1.000)....................	1.649	1.662	1.672	1.684	1.699	*1.714*	*1.721*	*1.727*	*1.735*	*1.740*	*1.749*	*1.761*	1.667	*1.715*	*1.746*
Petroleum Product Price Index															
(index, 1982=1.000)	0.446	0.591	0.682	0.716	0.833	*0.914*	*0.859*	*0.812*	*0.793*	*0.736*	*0.698*	*0.691*	0.609	*0.854*	*0.730*
Non-Farm Employment															
(millions)	127.8	128.4	128.9	129.8	130.6	*131.6*	*132.0*	*132.7*	*133.5*	*134.2*	*134.9*	*135.5*	128.7	*131.8*	*134.5*
Commercial Employment															
(millions)	88.6	89.2	89.8	90.5	91.2	*91.7*	*92.5*	*93.1*	*93.8*	*94.6*	*95.2*	*95.8*	89.5	*92.1*	*94.9*
Total Industrial Production															
(index, 1992=1.000)	1.346	1.361	1.377	1.395	1.416	*1.428*	*1.443*	*1.456*	*1.468*	*1.481*	*1.495*	*1.506*	1.370	*1.436*	*1.488*
Housing Stock															
(millions)	115.4	115.8	116.0	116.1	116.5	*116.8*	*117.1*	*117.5*	*117.8*	*118.1*	*118.4*	*118.7*	115.8	*117.0*	*118.3*
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1992=1.000)	1.179	1.176	1.186	1.212	1.219	*1.225*	*1.229*	*1.235*	*1.242*	*1.250*	*1.258*	*1.263*	1.188	*1.227*	*1.253*
Vehicle Miles Traveled [b]															
(million miles/day)...............................	6731	7556	7706	7358	6847	*7621*	*7770*	*7387*	*6949*	*7805*	*8014*	*7629*	7341	*7407*	*7602*
Vehicle Fuel Efficiency															
(index, 1999=1.000)	0.991	0.992	1.007	1.006	1.000	*1.017*	*1.014*	*1.010*	*0.999*	*1.012*	*1.026*	*1.024*	0.999	*1.010*	*1.015*
Real Vehicle Fuel Cost															
(cents per mile).................................	2.98	3.35	3.51	3.76	4.15	*4.26*	*4.14*	*3.94*	*3.80*	*3.62*	*3.51*	*3.51*	3.40	*4.12*	*3.61*
Air Travel Capacity															
(mill. available ton-miles/day)..............	431.0	453.8	469.4	462.1	452.9	*479.9*	*496.4*	*484.0*	*480.7*	*501.7*	*518.8*	*508.4*	454.2	*478.4*	*502.5*
Aircraft Utilization															
(mill. revenue ton-miles/day)..............	242.2	264.2	277.5	266.0	254.9	*282.1*	*295.2*	*280.3*	*275.8*	*293.7*	*308.1*	*293.4*	262.6	*278.2*	*292.8*
Airline Ticket Price Index															
(index, 1982-1984=1.000)....................	2.130	2.186	2.180	2.254	2.309	*2.419*	*2.435*	*2.430*	*2.447*	*2.440*	*2.426*	*2.440*	2.188	*2.398*	*2.438*
Raw Steel Production															
(millions tons)	25.11	25.97	26.26	28.54	29.02	*26.98*	*26.60*	*27.37*	*27.80*	*28.03*	*27.68*	*28.07*	105.88	*109.97*	*111.58*

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

[b] Includes 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 CONTROL0600.

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	19.8	19.8	19.1	19.2	19.7	20.0	19.7	19.8	20.1	20.4	19.5	19.5	20.0
U.S. Territories	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
Canada............................	1.9	1.9	2.0	2.0	1.9	1.8	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	2.0
Europe.............................	15.2	13.8	14.0	15.0	14.6	13.7	14.5	15.2	14.9	14.0	14.5	15.2	14.5	14.5	14.6
Japan	6.2	5.0	5.2	5.9	6.0	5.1	5.3	5.8	6.2	5.1	5.3	5.7	5.6	5.5	5.6
Australia and New Zealand..........	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0	1.1	1.0	1.0	1.0
Total OECD....................	43.8	41.2	42.4	44.0	42.9	41.1	42.9	44.4	44.1	42.1	43.4	44.8	42.8	42.8	43.6
Non-OECD															
Former Soviet Union..........	3.8	3.5	3.6	3.7	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.6	3.7	3.7
Europe.............................	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.7
China..............................	4.4	4.3	4.3	4.3	4.6	4.5	4.5	4.5	4.8	4.8	4.7	4.8	4.3	4.5	4.8
Other Asia........................	8.8	8.8	8.7	9.0	9.2	9.2	9.0	9.4	9.7	9.7	9.4	9.9	8.8	9.2	9.7
Other Non-OECD..............	13.4	13.6	13.7	13.7	13.7	14.0	14.1	14.0	14.2	14.4	14.5	14.5	13.6	14.0	14.4
Total Non-OECD.............	31.9	31.8	31.7	32.3	32.9	33.0	32.8	33.2	34.2	34.3	34.0	34.5	31.9	33.0	34.2
Total World Demand..............	75.7	73.1	74.1	76.3	75.7	74.1	75.7	77.5	78.4	76.4	77.4	79.2	74.8	75.8	77.8
Supply [b]															
OECD															
U.S. (50 States)	8.8	8.9	9.0	9.3	9.1	9.1	9.0	9.1	9.1	9.1	9.0	9.0	9.0	9.1	9.0
Canada............................	2.6	2.6	2.6	2.7	2.7	2.6	2.7	2.8	2.8	2.8	2.8	2.8	2.6	2.7	2.8
North Sea [c]	6.3	6.0	6.2	6.7	6.6	6.4	6.5	6.5	6.5	6.5	6.5	6.6	6.3	6.5	6.5
Other OECD......................	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.5	1.7	1.8
Total OECD....................	19.2	19.0	19.3	20.2	20.2	19.8	19.9	20.1	20.1	20.0	20.0	20.2	19.4	20.0	20.1
Non-OECD															
OPEC..............................	30.4	28.9	29.2	28.7	29.3	30.7	31.8	31.8	32.0	32.0	32.2	32.3	29.3	30.9	32.1
Former Soviet Union..........	7.3	7.3	7.5	7.5	7.6	7.8	7.8	7.8	7.9	7.9	8.0	8.1	7.4	7.8	8.0
China..............................	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.3	3.3
Mexico............................	3.6	3.4	3.3	3.3	3.5	3.5	3.6	3.6	3.7	3.7	3.7	3.7	3.4	3.5	3.7
Other Non-OECD..............	11.3	11.2	11.2	11.2	11.2	10.9	11.2	11.3	11.3	11.4	11.4	11.5	11.2	11.1	11.4
Total Non-OECD.............	55.7	54.0	54.5	54.0	54.9	56.1	57.6	57.8	58.1	58.2	58.5	58.8	54.5	56.6	58.4
Total World Supply	74.9	72.9	73.8	74.2	75.1	75.9	77.5	77.9	78.1	78.2	78.5	79.1	73.9	76.6	78.5
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)..........	0.3	-0.2	0.3	1.3	0.2	-0.6	-0.3	0.3	0.2	-0.6	-0.2	0.5	0.4	-0.1	0.0
Other................................	0.5	0.4	0.0	0.8	0.5	-1.2	-1.4	-0.7	0.0	-1.2	-0.9	-0.3	0.4	-0.7	-0.6
Total Stock Withdrawals	0.8	0.1	0.3	2.1	0.7	-1.8	-1.8	-0.4	0.2	-1.8	-1.1	0.1	0.8	-0.8	-0.6
OECD Comm. Stocks, End (bill. bbls.).....	2.8	2.8	2.8	2.6	2.5	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.6	2.7	2.8
Non-OPEC Supply	44.6	44.0	44.5	45.4	45.8	45.2	45.7	46.1	46.2	46.2	46.3	46.8	44.6	45.7	46.4
Net Exports from Former Soviet Union...	3.5	3.8	3.9	3.8	3.9	4.2	4.2	4.2	4.0	4.2	4.3	4.4	3.8	4.1	4.2

[a]Demand 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.

[b]Includes 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.

[c]Includes 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)	10.91	15.44	19.63	23.01	26.84	26.49	26.59	25.29	23.36	21.67	21.38	20.97	17.21	26.29	21.82
Natural Gas Wellhead															
(dollars per thousand cubic feet)	1.74	2.04	2.27	2.26	2.26	2.96	3.52	3.61	3.39	3.00	2.93	3.27	2.08	3.09	3.15
Petroleum Products															
Gasoline Retail [b] (dollars per gallon)															
All Grades	0.99	1.17	1.25	1.30	1.44	1.57	1.53	1.40	1.34	1.34	1.33	1.29	1.18	1.48	1.33
Regular Unleaded	0.95	1.13	1.21	1.26	1.40	1.53	1.49	1.36	1.30	1.31	1.30	1.25	1.14	1.45	1.29
No. 2 Diesel Oil, Retail															
(dollars per gallon)	0.97	1.08	1.18	1.26	1.42	1.41	1.41	1.44	1.38	1.30	1.27	1.28	1.12	1.42	1.31
No. 2 Heating Oil, Wholesale															
(dollars per gallon)	0.36	0.44	0.56	0.65	0.85	0.79	0.80	0.82	0.77	0.67	0.64	0.65	0.51	0.82	0.69
No. 2 Heating Oil, Retail															
(dollars per gallon)	0.80	0.82	0.86	1.01	1.31	1.18	1.10	1.14	1.15	1.06	0.96	1.01	0.88	1.22	1.07
No. 6 Residual Fuel Oil, Retail [c]															
(dollars per barrel)	11.28	14.03	17.94	21.06	23.62	25.08	25.58	24.98	23.28	20.35	19.87	20.67	15.92	24.83	21.07
Electric Utility Fuels															
Coal															
(dollars per million Btu)	1.24	1.23	1.21	1.20	1.21	1.22	1.21	1.21	1.22	1.23	1.21	1.20	1.22	1.21	1.22
Heavy Fuel Oil [d]															
(dollars per million Btu)	1.73	2.26	2.82	3.17	3.74	4.17	4.24	4.04	3.56	3.32	3.31	3.36	2.39	4.09	3.39
Natural Gas															
(dollars per million Btu)	2.19	2.42	2.74	2.82	2.85	3.57	4.02	4.16	4.05	3.55	3.48	3.85	2.57	3.70	3.66
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	6.07	6.86	8.64	6.83	6.48	7.73	9.65	8.13	7.66	8.02	9.29	7.79	6.62	7.43	7.88
Electricity															
(cents per kilowatthour)	7.76	8.25	8.40	8.10	7.76	8.35	8.51	8.04	7.61	8.15	8.37	7.90	8.14	8.18	8.02

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] Average self-service cash prices.
[c] Average for all sulfur contents.
[d] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the first 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)

	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]	5.94	5.84	5.79	5.96	5.86	5.82	5.77	5.87	5.84	5.79	5.74	5.75	5.88	5.83	5.78
Alaska	1.13	1.04	0.98	1.05	1.02	0.95	0.91	0.98	0.96	0.94	0.93	0.94	1.05	0.97	0.94
Lower 48	4.80	4.80	4.82	4.91	4.84	4.86	4.86	4.89	4.88	4.85	4.81	4.81	4.83	4.86	4.84
Net Imports (including SPR) [b]	8.43	8.90	8.85	8.27	8.10	8.95	9.57	9.16	8.93	9.62	9.67	9.37	8.61	8.95	9.40
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.17	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.08	0.00
SPR Stock Withdrawn or Added (-)	-0.01	-0.03	-0.01	0.09	-0.02	0.01	-0.06	-0.07	0.00	0.00	0.00	0.00	0.01	-0.04	0.00
Other Stock Withdrawn or Added (-)	-0.24	0.15	0.31	0.21	-0.14	0.04	0.10	-0.01	-0.20	-0.03	0.17	0.02	0.11	0.00	-0.01
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	0.30	0.15	0.27	0.05	0.32	0.60	0.29	0.21	0.21	0.22	0.22	0.21	0.19	0.36	0.22
Total Crude Oil Supply	14.42	15.01	15.22	14.57	14.16	15.41	15.68	15.15	14.78	15.60	15.80	15.35	14.80	15.10	15.39
Other Supply															
NGL Production	1.72	1.82	1.90	1.95	1.97	1.95	1.95	1.98	1.99	1.98	1.96	1.98	1.85	1.96	1.98
Other Hydrocarbon and Alcohol Inputs	0.37	0.37	0.38	0.38	0.37	0.40	0.37	0.40	0.38	0.37	0.36	0.39	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	0.82	0.86	0.90	0.97	0.93	0.94	0.92	0.90	0.86	0.92	0.93	0.91	0.89	0.92	0.90
Net Product Imports [c]	1.34	1.52	1.41	0.92	1.33	1.13	1.19	1.12	1.23	1.43	1.46	1.29	1.30	1.19	1.36
Product Stock Withdrawn or Added (-) [c]	0.54	-0.36	0.00	1.03	0.33	-0.64	-0.38	0.40	0.42	-0.54	-0.39	0.46	0.30	-0.07	-0.02
Total Supply	19.21	19.23	19.80	19.83	19.09	19.19	19.72	19.95	19.65	19.77	20.12	20.38	19.52	19.49	19.98
Demand															
Motor Gasoline	7.95	8.60	8.61	8.55	8.02	8.46	8.63	8.55	8.14	8.71	8.79	8.71	8.43	8.41	8.59
Jet Fuel	1.69	1.63	1.68	1.69	1.64	1.65	1.74	1.78	1.77	1.73	1.79	1.81	1.67	1.70	1.78
Distillate Fuel Oil	3.71	3.38	3.45	3.75	3.75	3.56	3.46	3.71	3.93	3.59	3.53	3.78	3.57	3.62	3.71
Residual Fuel Oil	0.93	0.78	0.84	0.78	0.71	0.71	0.76	0.69	0.79	0.75	0.75	0.71	0.83	0.72	0.75
Other Oils [d]	4.93	4.84	5.23	5.05	4.97	4.81	5.13	5.24	5.02	4.98	5.25	5.37	5.01	5.04	5.16
Total Demand	19.21	19.23	19.80	19.83	19.09	19.19	19.72	19.95	19.65	19.77	20.12	20.38	19.52	19.49	19.98
Total Petroleum Net Imports	9.77	10.43	10.27	9.19	9.43	10.09	10.76	10.28	10.16	11.06	11.13	10.66	9.91	10.14	10.76
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	345	332	304	284	297	294	285	286	304	307	292	290	284	286	290
Total Motor Gasoline	217	217	207	193	204	208	201	204	206	204	198	202	193	204	202
Finished Motor Gasoline	169	173	162	154	157	162	159	162	161	163	157	161	154	162	161
Blending Components	48	44	45	39	47	46	43	42	46	41	41	41	39	42	41
Jet Fuel	42	46	49	41	40	45	45	43	41	43	45	43	41	43	43
Distillate Fuel Oil	125	133	145	125	96	107	127	129	98	110	131	130	125	129	130
Residual Fuel Oil	40	42	41	36	36	37	37	39	35	36	38	39	36	39	39
Other Oils [e]	280	298	294	246	235	274	295	253	250	287	304	259	246	253	259
Total Stocks (excluding SPR)	1048	1068	1039	926	908	963	989	954	934	986	1007	963	926	954	963
Crude Oil in SPR	572	575	575	567	569	568	574	580	580	580	580	580	567	580	580
Total Stocks (including SPR)	1620	1642	1615	1493	1478	1532	1563	1534	1514	1566	1587	1543	1493	1534	1543

[a] Includes lease condensate.

[b] Net imports equals gross imports plus SPR imports minus exports.

[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

[d] Includes 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.

[e] 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 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%

[a] Percent change in demand quantity resulting from specified percent changes in model inputs.
[b] Short-Term Integrated Forecasting System.
[c] Refiner acquisitions cost of imported crude oil.
[d] Average unit value of marketed natural gas production reported by States.
[e] Refers to percent changes in degree-days.
[f] Response 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	6.16	5.23	0.93	0.08	0.85
Lower 48 States...........................	5.20	4.30	0.90	0.07	0.83
Alaska...	0.96	0.93	0.03	0.02	0.02

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	4.69	4.66	4.64	4.67	4.61	4.71	4.72	4.72	4.72	4.73	4.75	4.75	18.66	18.76	18.94
Net Imports	0.83	0.79	0.87	0.88	0.87	0.80	0.87	0.92	0.95	0.93	1.00	1.00	3.38	3.46	3.88
Supplemental Gaseous Fuels..................	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.03	0.03	0.10	0.11	0.12
Total New Supply	5.55	5.48	5.54	5.58	5.51	5.53	5.62	5.67	5.70	5.69	5.78	5.78	22.14	22.33	22.95
Total Underground Storage															
Opening..	7.04	5.79	6.50	7.24	6.88	5.51	6.09	6.97	6.58	5.27	6.08	6.92	7.04	6.88	6.58
Closing...	5.79	6.50	7.24	6.88	5.51	6.09	6.97	6.58	5.27	6.08	6.92	6.54	6.88	6.58	6.54
Net Withdrawals.................................	1.25	-0.71	-0.74	0.36	1.37	-0.58	-0.88	0.40	1.31	-0.81	-0.85	0.39	0.16	0.31	0.04
Total Supply..	6.80	4.77	4.79	5.94	6.88	4.95	4.73	6.07	7.01	4.88	4.93	6.17	22.30	22.63	22.99
Balancing Item [a]	-0.03	-0.06	-0.30	-0.54	0.00	-0.04	-0.07	-0.24	0.29	0.12	-0.14	-0.25	-0.94	-0.35	0.01
Total Primary Supply..................................	6.77	4.70	4.49	5.40	6.87	4.92	4.66	5.83	7.30	5.00	4.79	5.92	21.36	22.28	23.00
Demand															
Lease and Plant Fuel..............................	0.31	0.31	0.31	0.31	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31	1.23	1.23	1.23
Pipeline Use...	0.20	0.14	0.13	0.16	0.21	0.14	0.13	0.17	0.21	0.14	0.13	0.17	0.64	0.64	0.65
Residential...	2.24	0.80	0.38	1.27	2.20	0.80	0.37	1.44	2.45	0.86	0.38	1.45	4.69	4.81	5.13
Commercial..	1.25	0.58	0.42	0.80	1.24	0.62	0.43	0.87	1.38	0.62	0.44	0.89	3.06	3.16	3.33
Industrial (Incl. Nonutility Use)	2.24	2.03	2.10	2.27	2.36	2.24	2.40	2.48	2.49	2.29	2.48	2.55	8.63	9.49	9.81
Electric Utilities.......................................	0.53	0.85	1.15	0.59	0.56	0.81	1.02	0.56	0.47	0.78	1.06	0.54	3.11	2.95	2.85
Total Demand..	6.77	4.70	4.49	5.40	6.87	4.92	4.66	5.83	7.30	5.00	4.79	5.92	21.36	22.28	23.00

[a]The 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.........................	283.5	264.0	273.9	272.6	274.1	262.4	277.1	286.4	275.7	286.1	279.3	286.5	**1094.0**	1100.0	1127.6
Appalachia.......................	114.8	103.4	103.0	102.1	109.5	100.7	101.8	104.9	108.0	107.5	100.3	102.8	**423.3**	416.9	418.5
Interior...........................	40.4	40.8	42.4	38.9	36.1	39.1	41.2	39.0	36.1	41.0	39.8	37.2	**162.5**	155.4	154.1
Western..........................	128.3	119.8	128.5	131.6	128.5	122.6	134.1	142.5	131.6	137.6	139.3	146.5	**508.2**	527.7	555.0
Primary Stock Levels [a]															
Opening............................	36.5	42.4	41.5	35.1	36.4	41.3	41.9	35.5	36.4	41.3	41.9	35.5	**36.5**	36.4	36.4
Closing.............................	42.4	41.5	35.1	36.4	41.3	41.9	35.5	36.4	41.3	41.9	35.5	34.6	**36.4**	36.4	34.6
Net Withdrawals...............	-5.8	0.8	6.5	-1.3	-4.9	-0.6	6.4	-0.9	-4.9	-0.6	6.4	0.9	**0.2**	(S)	1.7
Imports............................	2.2	2.1	2.4	2.4	2.8	2.5	2.5	2.6	2.9	2.9	2.9	2.9	**9.1**	10.5	11.6
Exports	13.0	14.4	16.1	15.0	13.6	13.6	15.2	15.2	14.9	15.1	15.3	15.2	**58.5**	57.6	60.5
Total Net Domestic Supply............	267.0	252.5	266.6	258.7	258.4	250.7	270.8	273.0	258.8	273.4	273.3	275.1	**1044.8**	1052.9	1080.5
Secondary Stock Levels [b]															
Opening...........................	129.4	143.3	151.9	139.7	143.5	139.8	144.6	132.7	139.1	128.5	140.8	126.1	**129.4**	143.5	139.1
Closing.............................	143.3	151.9	139.7	143.5	139.8	144.6	132.7	139.1	128.5	140.8	126.1	131.9	**143.5**	139.1	131.9
Net Withdrawals................	-13.9	-8.6	12.2	-3.8	3.7	-4.8	11.9	-6.5	10.6	-12.2	14.7	-5.8	**-14.1**	4.4	7.3
Waste Coal Supplied to IPPs [c]	2.1	2.2	2.6	2.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	**9.7**	12.2	12.2
Total Supply........................	255.2	246.1	281.4	257.6	265.2	249.0	285.8	269.6	272.5	264.2	291.0	272.3	**1040.4**	1069.5	1100.0
Demand															
Coke Plants........................	6.8	7.1	7.0	7.2	7.3	7.4	7.0	7.2	7.4	7.2	7.1	7.3	**28.1**	29.0	29.0
Electricity Production															
Electric Utilities....................	216.4	213.8	247.3	216.7	214.1	203.0	236.0	218.3	222.4	216.9	240.5	220.2	**894.1**	871.3	900.0
Nonutilities (Excl. Cogen.) [d]	8.4	10.3	12.3	15.0	23.2	22.3	25.5	24.2	23.8	22.8	26.1	24.8	**45.9**	95.2	97.6
Retail and General Industry................	18.6	17.1	16.9	17.6	18.1	16.9	17.3	19.9	18.8	17.3	17.3	20.1	**70.3**	72.2	73.4
Total Demand [e]	250.2	248.3	283.6	256.5	262.7	249.5	285.8	269.6	272.5	264.2	291.0	272.3	**1038.5**	1067.6	1100.0
Discrepancy [f]	5.0	-2.1	-2.1	1.2	2.4	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	**1.9**	1.9	0.0

[a] Primary stocks are held at the mines, preparation plants, and distribution points.

[b] Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

[c] Estimated independent power producers' (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

[d] Estimates 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 1999 and projections for 2000 and 2001 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).

[e] Total Demand includes estimated IPP consumption.

[f] The 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..	430.0	423.8	487.6	426.2	425.7	412.8	474.3	435.7	444.0	434.0	480.5	437.2	1767.7	1748.6	1795.6
Petroleum..................................	25.7	22.2	27.4	11.7	11.0	13.3	19.8	13.2	18.4	18.6	22.4	15.1	86.9	57.3	74.5
Natural Gas...............................	51.5	80.7	107.5	56.7	54.4	77.6	97.2	53.7	44.9	74.6	100.9	51.9	296.4	282.9	272.3
Nuclear	181.2	166.1	195.0	182.6	185.0	184.1	184.2	166.1	180.8	164.1	192.7	173.7	725.0	719.4	711.2
Hydroelectric	83.4	79.8	69.9	60.9	66.9	78.2	65.3	61.9	72.8	74.5	62.0	61.1	293.9	272.4	270.4
Geothermal and Other [a]	1.6	1.0	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	3.7	2.2	2.2
Subtotal...................................	773.4	773.6	888.0	738.7	743.4	766.6	841.5	731.2	761.4	766.2	859.1	739.6	3173.7	3082.7	3126.3
Nonutility Generation [b]															
Coal..	19.4	22.9	32.4	39.2	55.2	52.2	60.2	57.6	56.2	53.1	61.7	59.0	113.9	225.2	230.0
Petroleum..................................	7.8	8.7	8.7	6.9	11.1	7.5	8.1	9.1	7.7	7.5	8.1	9.1	32.1	35.8	32.5
Natural Gas...............................	53.2	58.6	77.7	69.9	66.9	66.7	88.6	79.7	75.4	76.0	101.0	90.8	259.5	301.9	343.3
Other Gaseous Fuels [c]	2.0	2.2	2.9	2.6	2.5	2.0	2.0	2.3	2.0	1.9	2.1	2.3	9.5	8.8	8.2
Nuclear	0.0	0.0	1.1	2.1	5.2	3.9	3.1	2.8	3.0	2.7	3.2	2.9	3.2	14.9	11.8
Hydroelectric	3.7	3.8	2.9	3.1	3.9	3.4	2.7	3.2	2.8	2.8	2.8	3.2	13.5	13.3	11.7
Geothermal and Other [d]	19.6	21.4	23.5	21.2	21.8	22.7	25.0	27.9	24.0	23.4	25.1	26.3	85.7	97.3	98.8
Subtotal...................................	105.6	117.6	149.2	145.0	166.6	158.5	189.7	182.5	171.2	167.5	204.0	193.7	517.4	697.2	736.3
Total Generation	879.0	891.2	1037.2	883.6	910.0	925.0	1031.2	913.7	932.6	933.8	1063.1	933.3	3691.1	3780.0	3862.7
Net Imports [e]	2.0	7.6	11.5	8.2	6.7	7.6	9.0	7.2	6.2	7.7	10.5	7.0	29.3	30.5	31.4
Total Supply	881.0	898.8	1048.7	891.9	916.7	932.6	1040.2	920.9	938.7	941.5	1073.5	940.3	3720.4	3810.4	3894.0
Losses and Unaccounted for [f] ...	53.3	76.9	62.3	59.0	59.3	83.0	63.9	63.5	54.1	81.7	66.1	64.8	251.5	269.7	266.7
Demand															
Electric Utility Sales															
Residential	287.7	251.0	350.9	256.1	294.2	265.9	335.9	268.2	306.8	266.3	349.7	273.6	1145.7	1164.2	1196.4
Commercial	227.8	238.6	279.6	236.8	234.7	245.9	281.0	244.9	245.4	250.1	290.9	251.4	982.9	1006.5	1037.8
Industrial	252.1	267.7	277.6	265.7	258.4	270.1	280.3	269.8	261.7	273.3	284.1	273.4	1063.3	1078.6	1092.4
Other..	24.7	25.3	28.4	25.7	26.3	26.0	29.2	26.5	26.3	26.5	29.8	26.9	104.2	108.0	109.5
Subtotal...................................	792.4	782.6	936.6	784.4	813.6	807.9	926.4	809.4	840.2	816.3	954.4	825.2	3296.0	3357.3	3436.1
Nonutility Use/Sales [b]	35.3	39.3	49.8	48.4	43.8	41.7	49.9	48.0	44.4	43.5	53.0	50.3	172.8	183.4	191.2
Total Demand..........................	827.7	821.9	986.5	832.8	857.4	849.6	976.3	857.4	884.6	859.7	1007.4	875.5	3468.9	3540.7	3627.3
Memo:															
Nonutility Sales to															
Electric Utilities [b]	70.4	78.3	99.4	96.5	122.8	116.8	139.8	134.5	126.7	124.0	151.0	143.4	344.5	513.8	545.2

[a] "Other" includes generation from wind, wood, waste, and solar sources.

[b] Electricity(net Generation) from nonutility sources, including cogenerators and small power producers.

[c] Includes refinery still gas and other process or waste gases and liquefied petroleum gases.

[d] Includes geothermal, solar, wind, wood, waste, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

[e] Data for 1999 are estimates.

[f] Balancing item, mainly transmission and distribution losses.

[g] 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 1999 are estimates.

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**	**3.069**	*2.844*	*2.823*	**-3.4**	*-7.3*	*-0.7*
Geothermal, Solar and Wind Energy [b]	**0.109**	**0.036**	*0.004*	*0.004*	**-67.0**	*-88.9*	*0.0*
Biofuels [c]	**0.021**	**0.021**	*0.021*	*0.021*	**0.0**	*0.0*	*0.0*
Total	**3.307**	**3.125**	*2.869*	*2.847*	**-5.5**	*-8.2*	*-0.8*
Nonutility Power Generators							
Hydroelectric Power [a]	**0.149**	**0.139**	*0.137*	*0.120*	**-6.7**	*-1.4*	*-12.4*
Geothermal, Solar and Wind Energy [b]	**0.240**	**0.315**	*0.404*	*0.436*	**31.3**	*28.3*	*7.9*
Biofuels [c]	**0.523**	**0.702**	*0.715*	*0.700*	**34.2**	*1.9*	*-2.1*
Total..	**0.912**	**1.156**	*1.256*	*1.257*	**26.8**	*8.7*	*0.1*
Total Power Generation............................	**4.219**	**4.281**	*4.124*	*4.104*	**1.5**	*-3.7*	*-0.5*
Other Sectors [d]							
Residential and Commercial [e]	**0.568**	**0.574**	*0.583*	*0.583*	**1.1**	*1.6*	*0.0*
Industrial [f]	**1.515**	**1.542**	*1.569*	*1.569*	**1.8**	*1.8*	*0.0*
Transportation [g]	**0.095**	**0.100**	*0.108*	*0.106*	**5.3**	*8.0*	*-1.9*
Total..	**2.178**	**2.216**	*2.260*	*2.258*	**1.7**	*2.0*	*-0.1*
Net Imported Electricity [h]	**0.224**	**0.237**	*0.247*	*0.254*	**5.8**	*4.2*	*2.8*
Total Renewable Energy Demand	**6.621**	**6.735**	*6.632*	*6.617*	**1.7**	*-1.5*	*-0.2*

[a]Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

[b]Also includes photovoltaic and solar thermal energy. Sharp declines since 1998 in the electric utility sector and corresponding increases in the nonutility sector for this category mostly reflect sale of geothermal facilities to the nonutility sector.

[c]Biofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

[d]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.

[e]Includes biofuels and solar energy consumed in the residential and commercial sectors.

[f]onsists primarily of biofuels for use other than in electricity cogeneration.

[g]Ethanol blended into gasoline.

[h]Represents 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

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Real Gross Domestic Product (GDP)															
(billion chained 1996 dollars)	6093	6349	6569	6684	6669	6891	7054	7338	7537	7813	8165	8513	8864	*9303*	*9676*
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	17.21	*26.29*	*21.82*
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	5.88	*5.83*	*5.78*
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	9.91	*10.14*	*10.76*
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	74.8	*75.8*	*77.8*
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	19.52	*19.49*	*19.98*
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	21.36	*22.28*	*23.00*
Coal															
(million short tons)......................................	830	877	891	897	898	907	943	950	962	1006	1029	1039	1039	*1068*	*1100*
Electricity (billion kilowatthours)															
Utility Sales [c]	2457	2578	2647	2713	2762	2763	2861	2935	3013	3098	3140	3240	3296	*3357*	*3436*
Nonutility Own Use [d]	NA	NA	91	113	119	122	127	138	145	145	148	156	173	*183*	*191*
Total	NA	NA	2738	2826	2881	2885	2988	3073	3159	3243	3288	3396	3469	*3541*	*3627*
Total Energy Demand [e]															
(quadrillion Btu)	NA	NA	84.2	84.2	84.5	85.6	87.4	89.2	90.9	93.9	94.2	94.4	96.2	*97.5*	*99.8*
Total Energy Demand per Dollar of GDP															
(thousand Btu per 1992 Dollar)..................	NA	NA	12.82	12.60	12.67	12.42	12.39	12.16	12.07	12.02	11.54	11.09	10.85	*10.48*	*10.31*

[a] Refers to the imported cost of crude oil to U.S. refiners.

[b] Includes lease condensate.

[c] Total 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.

[d] 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 1999 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 compehensive 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.

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 1996 dollars)	6093	6349	6569	6684	6669	6891	7054	7338	7537	7813	8165	8513	8864	9303	9676
GDP Implicit Price Deflator (Index, 1996=1.000)	0.779	0.805	0.835	0.868	0.897	0.917	0.942	0.961	0.982	1.000	1.017	1.029	1.044	1.065	1.082
Real Disposable Personal Income (billion chained 1996 Dollars)	4563	4766	4885	4991	5026	5200	5254	5388	5533	5678	5885	6122	6364	6601	6943
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	1.419	1.493	1.549
Real Fixed Investment (billion chained 1996 dollars)	856	887	911	895	833	887	958	1046	1109	1213	1316	1472	1591	1728	1829
Real Exchange Rate (Index, 1990=1.000)	NA	NA	NA	0.999	1.007	1.013	1.057	1.034	0.961	1.017	1.104	1.152	1.153	1.209	1.163
Business Inventory Change (billion chained 1996 dollars)	8.4	16.9	14.2	8.9	-6.8	-4.7	3.6	12.1	14.1	10.1	22.1	25.0	0.4	11.9	17.7
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	1.315	1.309
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	1.667	1.715	1.746
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	0.609	0.854	0.730
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	128.7	131.8	134.5
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	92.1	94.9
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	1.370	1.436	1.488
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	117.0	118.3
Weather [a]															
Heating Degree-Days															
U.S.	4334	4653	4726	4016	4200	4441	4700	4483	4531	4713	4542	3951	4169	4229	4463
New England	6546	6715	6887	5848	5960	6844	6728	6672	6559	6679	6662	5680	5953	6393	6467
Middle Atlantic	5699	6088	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5351	5534	5703
U.S. Gas-Weighted	4391	4804	4856	4139	4337	4458	4754	4659	4707	4980	4802	4183	4399	4402	4714
Cooling Degree-Days (U.S.)	1269	1283	1156	1260	1331	1040	1218	1220	1293	1180	1156	1410	1277	1241	1235

[a]Population-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 CONTROL0600.

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	*19.5*	*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	14.5	*14.5*	*14.6*
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	5.6	*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*	*3.4*
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	*42.8*	*43.6*
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*	*4.8*
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	8.8	*9.2*	*9.7*
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	13.6	*14.0*	*14.4*
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	*33.0*	*34.2*
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	74.8	*75.8*	*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*	*9.0*
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*	*2.8*
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	*6.5*	*6.5*
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	*1.7*	*1.8*
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	19.4	*20.0*	*20.1*
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	*30.9*	*32.1*
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	*7.8*	*8.0*
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	*3.3*	*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	11.2	*11.1*	*11.4*
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	54.5	*56.6*	*58.4*
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	73.9	*76.6*	*78.5*
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	0.8	*-0.8*	*-0.6*
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	*2.7*	*2.8*
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	3.8	*4.1*	*4.2*

[a] Demand 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.

[b] OECD Europe includes the former East Germany.

[c] Includes 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.

[d] Includes 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)	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.21	*26.29*	*21.82*
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	2.08	*3.09*	*3.15*
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	*1.48*	*1.33*
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	*1.45*	*1.29*
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	*1.42*	*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	*0.82*	*0.69*
No. 2 Heating Oil, Retail															
(dollars per gallon)	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.87	0.99	0.99	0.85	0.88	*1.22*	*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	15.92	*24.83*	*21.07*
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	*1.21*	*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	2.39	*4.09*	*3.39*
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	2.57	*3.70*	*3.66*
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	6.62	*7.43*	*7.88*
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	8.1	*8.2*	*8.0*

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] Average self-service cash prices.
[c] Average for all sulfur contents.
[d] Includes 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)

	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	5.88	*5.83*	*5.78*
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	1.05	*0.97*	*0.94*
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	4.83	*4.86*	*4.84*
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	8.61	*8.95*	*9.40*
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	0.00	*0.08*	*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	0.10	*-0.01*	*-0.01*
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	0.19	*0.36*	*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	14.80	*15.10*	*15.39*
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	1.85	*1.96*	*1.98*
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	*0.38*	*0.38*
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	0.89	*0.92*	*0.90*
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	1.30	*1.19*	*1.36*
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	0.30	*-0.07*	*-0.02*
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	19.52	*19.49*	*19.98*
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	8.43	*8.41*	*8.59*
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	*1.70*	*1.78*
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	3.57	*3.62*	*3.71*
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	0.83	*0.72*	*0.75*
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	5.01	*5.04*	*5.16*
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	19.52	*19.49*	*19.98*
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	9.91	*10.14*	*10.76*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	349	330	341	323	325	318	335	337	303	284	305	324	284	*286*	*290*
Total Motor Gasoline	226	228	213	220	219	216	226	215	202	195	210	216	193	*204*	*202*
Jet Fuel	50	44	41	52	49	43	40	47	40	40	44	45	41	*43*	*43*
Distillate Fuel Oil	134	124	106	132	144	141	141	145	130	127	138	156	125	*129*	*130*
Residual Fuel Oil	47	45	44	49	50	43	44	42	37	46	40	45	36	*39*	*39*
Other Oils [f]	260	267	257	261	267	263	273	275	258	250	259	291	246	*253*	*259*

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] For 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.
[e] Includes 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.
[f] 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*, 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 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	18.66	*18.76*	*18.94*
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	3.38	*3.46*	*3.88*
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	*0.11*	*0.12*
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	22.14	*22.33*	*22.95*
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	*6.88*	*6.58*
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	*6.58*	*6.54*
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	*0.31*	*0.04*
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	22.30	*22.63*	*22.99*
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	-0.94	*-0.35*	*0.01*
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	21.36	*22.28*	*23.00*
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	*1.23*	*1.23*
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	*0.64*	*0.65*
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	4.69	*4.81*	*5.13*
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	3.06	*3.16*	*3.33*
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	8.63	*9.49*	*9.81*
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	3.11	*2.95*	*2.85*
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	21.36	*22.28*	*23.00*

[a] The 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	1117.5	1094.0	*1100.0*	*1127.6*
Appalachia.................................	NA	NA	464.8	489.0	457.8	456.6	409.7	445.4	434.9	451.9	467.8	460.4	423.3	*416.9*	*418.5*
Interior..	NA	NA	198.1	205.8	195.4	195.7	167.2	179.9	168.5	172.8	170.9	168.4	162.5	*155.4*	*154.1*
Western	NA	NA	317.9	334.3	342.8	345.3	368.5	408.3	429.6	439.1	451.3	488.8	508.2	*527.7*	*555.0*
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	36.5	*36.4*	*36.4*
Closing	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	36.4	*36.4*	*34.6*
Net Withdrawals	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	5.8	-5.3	-2.6	0.2	*S*	*1.7*
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	*10.5*	*11.6*
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	*57.6*	*60.5*
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	1045.7	1044.8	*1052.9*	*1080.5*
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	129.4	*143.5*	*139.1*
Closing	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	143.5	*139.1*	*131.9*
Net Withdrawals	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	11.7	16.6	-23.0	-14.1	*4.4*	*7.3*
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	8.6	9.7	*12.2*	*12.2*
Total Supply	834.4	882.3	896.5	899.4	891.4	907.8	936.5	954.0	960.4	1006.7	1033.2	1031.3	1040.4	*1069.5*	*1100.0*
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	28.1	*29.0*	*29.0*
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	894.1	*871.3*	*900.0*
Nonutilities (Excl. Cogen.) [d]	NA	NA	0.9	1.6	10.2	14.6	17.1	19.5	20.8	22.2	21.6	26.9	45.9	*95.2*	*97.6*
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	73.0	70.3	*72.2*	*73.4*
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	1039.0	1038.5	*1067.6*	*1100.0*
Discrepancy [f]	4.4	5.8	5.9	2.4	-6.4	0.8	-6.6	4.3	-1.3	1.2	4.0	-7.7	1.9	*1.9*	*0.0*

[a]Primary stocks are held at the mines, preparation plants, and distribution points.

[b]Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

[c]Estimated independent power producers (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

[d]Estimates 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 1999 and projections for 2000 and 2001 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1999, and (2) annual coal-fired generation at nonutilities from Form EIA-867 (Annual Nonutility Power Producer Report).

[e]Total Demand includes estimated IPP consumption.

[f]The 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	1767.7	1748.6	1795.6
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	86.9	57.3	74.5
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	296.4	282.9	272.3
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	719.4	711.2
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	293.9	272.4	270.4
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	3.7	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	3173.7	3082.7	3126.3
Nonutility Generation [b]	0.0	0.0	187.6	216.7	246.3	286.1	314.4	343.1	363.3	369.6	371.7	405.7	517.4	697.2	736.3
Total Generation................................	2572.1	2704.3	2971.9	3024.9	3071.3	3083.4	3196.9	3253.8	3357.8	3447.0	3494.2	3617.9	3691.1	3780.0	3862.7
Net Imports [c]	46.3	31.8	11.0	2.3	19.6	25.4	27.8	44.8	39.2	38.0	36.6	27.6	29.3	30.5	31.4
Total Supply	2618.5	2736.0	2982.8	3027.2	3091.0	3108.8	3224.7	3298.6	3397.1	3485.0	3530.8	3645.5	3720.4	3810.4	3894.0
Losses and Unaccounted for [d]	NA	NA	243.1	207.3	215.0	223.6	236.3	225.7	238.4	242.3	242.9	249.4	251.5	269.7	266.7
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	1145.7	1164.2	1196.4
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	982.9	1006.5	1037.8
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	1063.3	1078.6	1092.4
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	104.2	108.0	109.5
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	3296.0	3357.3	3436.1
Nonutility Own Use [e]	NA	NA	94.7	101.5	108.0	121.8	126.9	138.4	145.4	144.9	148.2	156.2	172.8	183.4	191.2
Total Demand....................................	NA	NA	2739.7	2819.9	2875.9	2885.1	2988.4	3073.0	3158.7	3242.7	3287.9	3396.0	3468.9	3540.7	3627.3
Memo:															
Nonutility Sales															
to Electric Utilities	NA	NA	92.9	115.2	138.3	164.4	187.5	204.7	217.9	224.6	223.5	249.5	344.5	513.8	545.2

[a]Other includes generation from wind, wood, waste, and solar sources.
[b]Net generation.
[c]Data for 1999 are estimates.
[d]Balancing item, mainly transmission and distribution losses.
[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 1999 are estimates.
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.