January 2001

Overview

This month's Outlook incorporates our first set of projections through 2002. Key assumptions include: a soft landing for the U.S. economy in 2001 and solid growth in 2002; generally declining oil and gas prices, although price levels remain relatively high by historical standards; solid growth in natural gas demand (partly related to weather this year but fundamentally tied to increases in demand from the electric generation sector from spring 2001 on); and a return to approximately normal growth in petroleum demand in the United States for 2001 and 2002 as prices abate and transportation requirements continue to grow.

Since the end of November, crude oil prices have fallen sharply (the average price for West Texas Intermediate was $34.30 per barrel in November and $28.40 in December). Our analysis of industrialized country stocks suggests that additional weakening in the price through 2001 should be limited, especially given the likelihood of a significant output cut by OPEC before the winter is done. Indeed, some intermediate increases from the average December level are likely, in our view. Still, we see average annual prices declining by about $1.00-$1.50 per barrel in 2001 and by perhaps $5 per barrel in 2002.

Despite scaling back the extent of expected heating oil price rises this winter, we conclude that typical homes heating with oil will pay about 40 percent more for oil heat this winter than last year, which is another upward revision in the estimate (Figure 1). Somewhat lower average prices are being offset by higher demand (particularly in November and December, both of which exhibited about 28 percent more heating degree-days in the Northeast in 2000 than they did in 1999). While prices have eased some in recent weeks, the heating oil market is still relatively tight and subject to significant volatility. Still, it is worth noting that, despite very cold temperatures over the last 2 months, the heating oil market has held up rather well.

The natural gas market has served up sharply higher prices since last month, generating significant upward adjustments in our average winter gas price projections. Very large increases in heating-related demand appear to have materialized in November and December, resulting in a sharp reduction of gas available in storage to well below the previous low recorded by EIA. (The end-December 2000 estimated working gas storage level is approximately 10 percent below the previous low seen since 1973 which occurred in 1976). Continued strong demand (from normal weather) this winter would keep gas stocks at minimal levels for the remainder of the heating season and ensure

Figure 1. Consumer Winter Heating Oil Costs

Average Northeast Household Heating With Oil

	97-98	98-99	99-00	00-01
	Actual	Actual	Actual	Base Fcst.
Gal	636	650	644	717
$/gal	$0.92	$0.80	$1.18	$1.48
Cost ($)	$585	$520	$760	$1,061

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strong injection-season demand next spring and summer. We see average gas wellhead prices as averaging about $5.20 per thousand cubic feet (mcf) in 2001 (compared to an estimated $3.70 in 2000) and about $4.50 per mcf in 2002.

We have raised our estimates of increased heating expenses for residential consumers who heat with natural gas to approximately 70 percent above 1999-2000 levels for the current heating season (Figure 2). Our previous estimate was between 50 and 55 percent. Much higher estimated demand (particularly due to the cold weather in November and December) as well as somewhat higher residential prices combined to generate the higher estimates. The expected 45-percent increase in the nominal average residential price would be the highest season-to-season growth rate since at least 1975.

International

Crude Oil Prices. We currently estimate that the monthly average U.S. imported crude oil price in December was $25.50 per barrel (about $28.40 for West Texas Intermediate crude oil), or about $6 per barrel lower than in November (Figure 3).

EIA had earlier expected that the tight oil stock situation in the OECD countries would continue to provide price support, and prevent prices from falling significantly until mid-2001. Recent price declines have indicated more weakness in the near-term market. However, EIA believes that the OPEC basket oil price (roughly equivalent to the average U.S. imported crude oil price) will remain well within (and probably toward the higher end of) OPEC's target range of $22 - $28 per barrel in 2001, particularly if OPEC institutes significant cuts in oil production in the early part of 2001. In fact, we believe that some near term price increases may appear until the extent of any OPEC cuts is sorted out. EIA then projects that oil prices will decline in 2002 toward the lower end of the target range as industrialized country oil stocks move closer to normal levels.

International Oil Supply. OPEC members have suggested that an agreement in principle has been reached to reduce production quotas at its January 17 meeting. EIA's assumes that as a result of this agreement, actual OPEC 10 production levels will decline by about 1 million barrels per day from December levels by spring, with half of this decline coming from Saudi Arabia. With this assumed decline, OPEC 10 production is expected to return to roughly its July 2000 level. Although EIA had previously projected that OPEC would need to cut output to support prices, the larger cutbacks being discussed by OPEC have resulted in EIA's lowering its projection of OPEC production in 2001 by 500,000 barrels per day from the previous Outlook (Figure 4).

Iraqi efforts to end U.N. sanctions have resulted in falling exports and production over the past few weeks. These efforts are assumed to continue, and EIA has lowered its projections slightly for Iraqi exports and production in 2001.

Figure 2. Consumer Winter Natural Gas Costs

Average Midwest Household, U.S. Prices

	97-98	98-99	99-00	00-01
	Actual	Actual	Actual	Base Fcst
Mcf	82.4	84.5	81.7	96.8
($/Mcf)	$6.56	$6.27	$6.61	$9.58
Cost ($)	$541	$530	$540	$927

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

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Figure 3. WTI Crude Oil Price: Base Case and 95% Confidence Interval
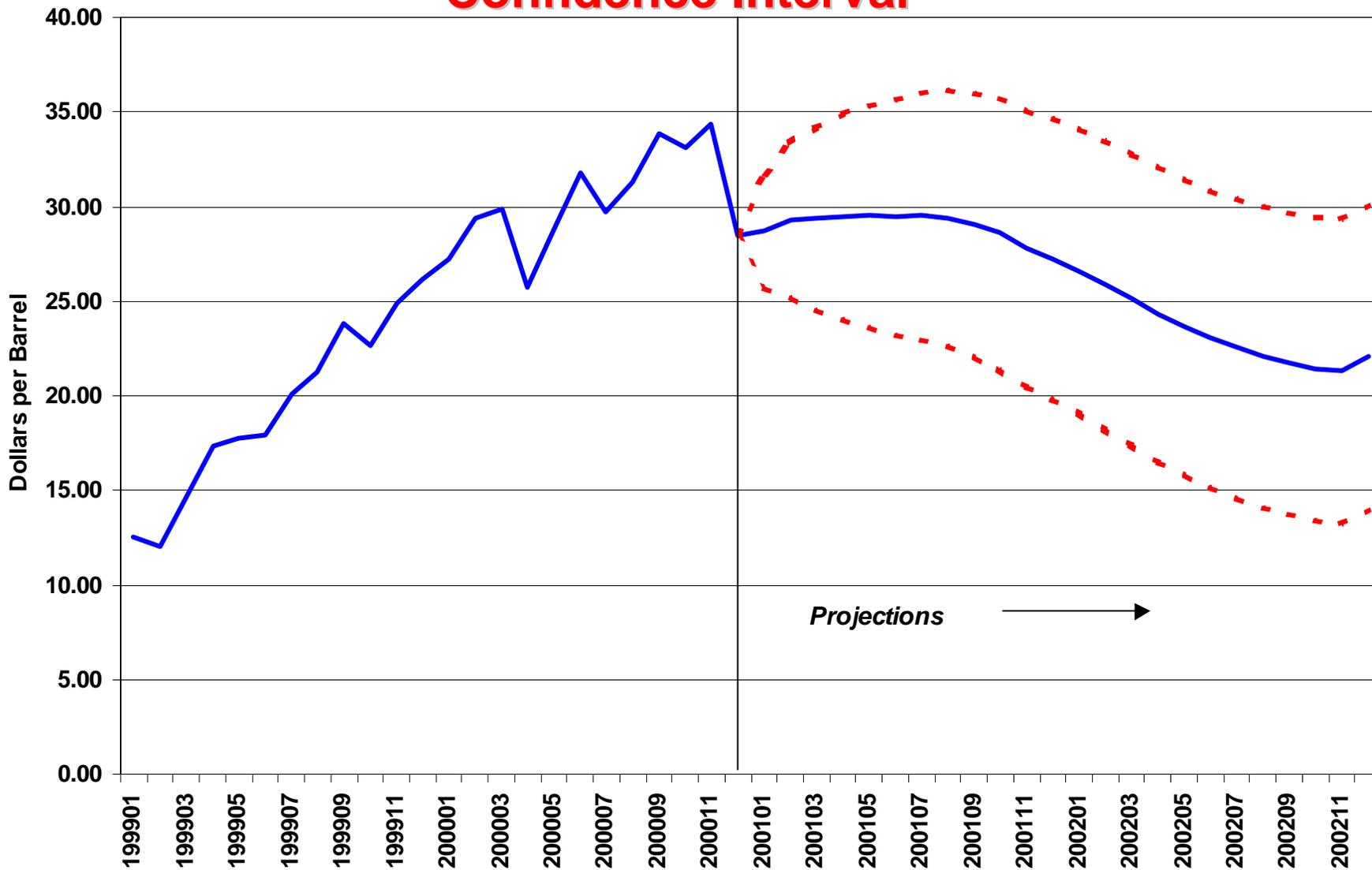
Projections →

Dollars per Barrel

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

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Figure 4. OPEC Crude Oil Production 2000-2002
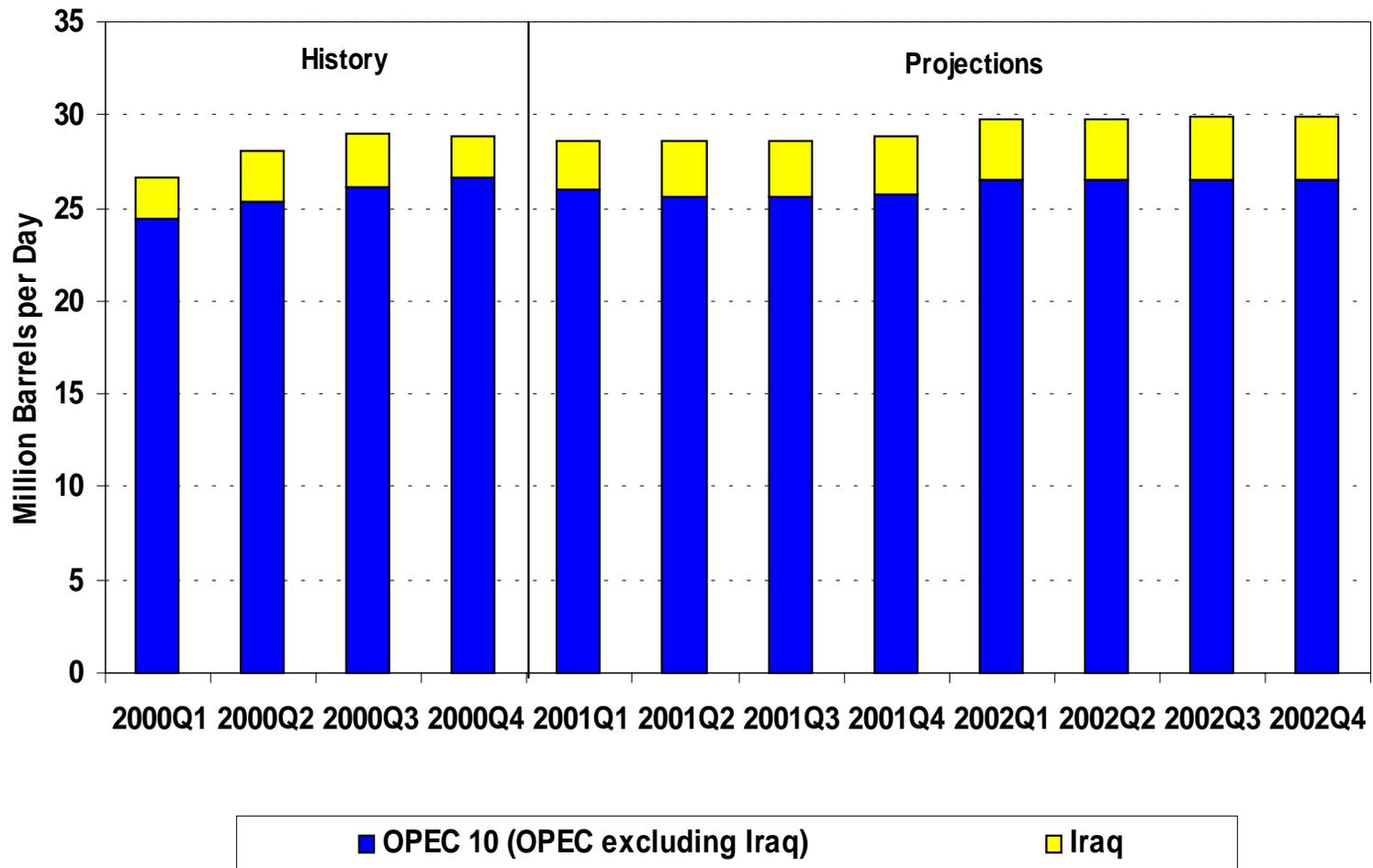
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

Non-OPEC production is expected to increase by about 0.8 million barrels per day in 2001 and 2002 after posting an estimated increase of 1.2 million barrels per day in 2000. Between 40 percent and 50 percent of these increases are expected to come from the former Soviet Union, with smaller increases from other regions (Table 3). No further increases are expected from the North Sea as output from new fields is not expected to outstrip declines in maturing fields.

International Oil Demand. World oil demand is expected to continue to grow despite concerns over a gradual economic slowdown in the industrialized countries (Figure 5). In part, this is due to the projected decline in world oil prices over the next 2 years. World oil demand growth in 2001 and 2002 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 leading 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.

World Oil Inventories. EIA does not attempt to estimate oil inventory levels on a global basis; however, the direction global oil inventories are headed is discerned from EIA's world oil supply and demand estimates. These estimates provide only a rough guide because of what has come to be known as the "missing barrels problem". The available limited data for tracking inventories suggest that inventories have not been building as fast as any of the global supply/demand estimates (including EIA's) would indicate, and that some of the oil that is counted as being produced worldwide simply becomes unaccounted for. As a result, EIA's estimated global inventory increases are likely overstated because they include an uncertain "missing barrels" component.

EIA estimates that total OECD oil stocks (including strategic reserves) reached 3,740 million barrels at the end of December 2000 (Figure 6). That represented a year-to-year increase of about 40 million barrels. More than all of that increase came from outside the United States, since total U.S. stocks declined by about 20 million barrels over the period. We have allowed for some strong increases in industrialized country stocks in 2001, such that normal levels may be reached by the beginning of 2002. That sort of development would seem to be required for world oil prices to move into the lower end of OPEC's target range for prices in 2002.

U. S. Energy Prices

Distillate Fuel (Heating Oil and Diesel Fuel). Particularly because crude oil prices have weakened since late November, but also because heating oil stock levels have not deteriorated recently despite very cold weather in the Northeast, our current estimate for average heating oil prices in the late fourth quarter of 2000 have been reduced. We now think that Q4 2000 heating oil prices probably averaged $1.45 per gallon, 6 cents lower than our previous estimate. We now anticipate winter average prices to be

Figure 5. Annual World Oil Demand
(Changes from Previous Year)
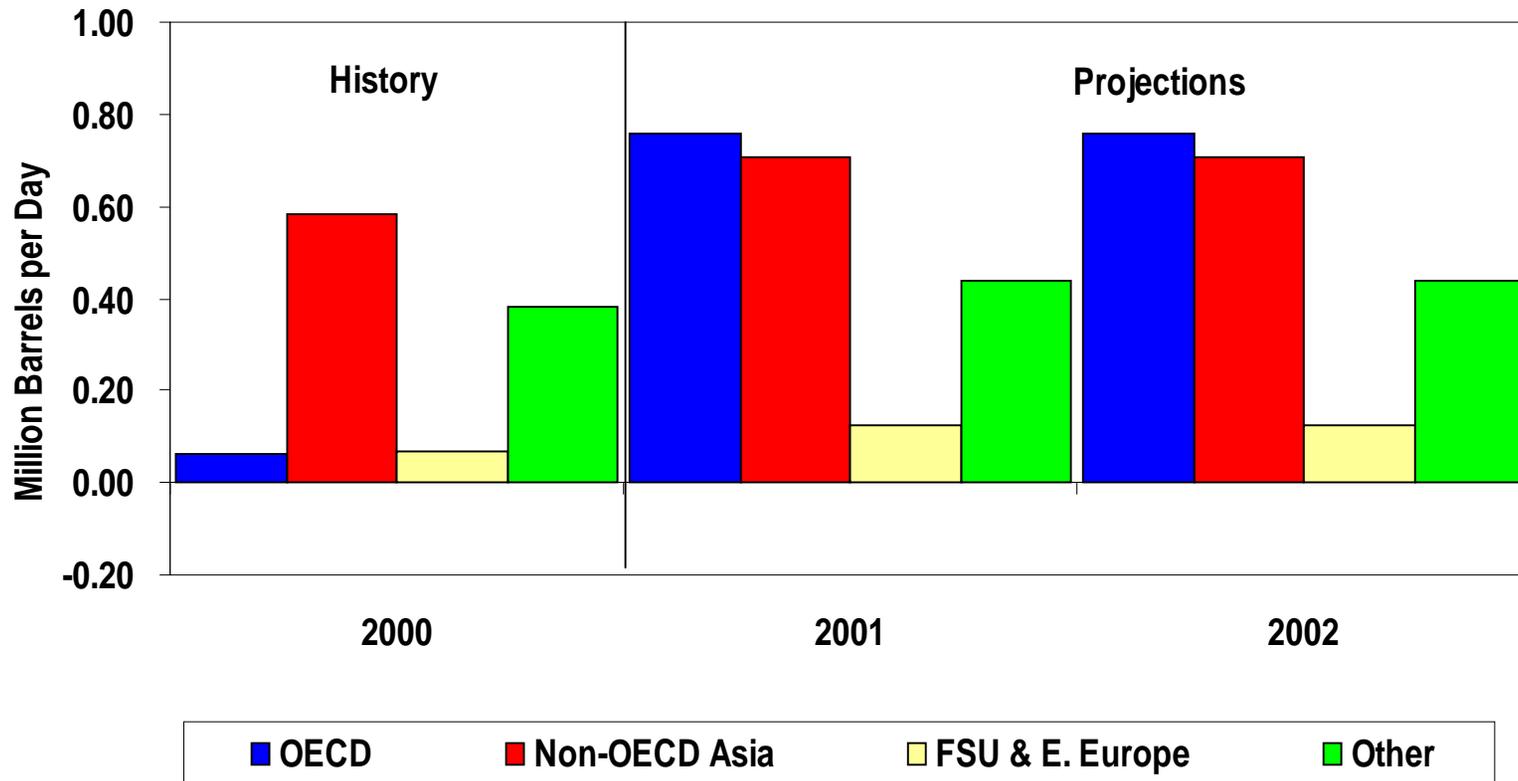
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

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Figure 6. Total OECD Oil Stocks*
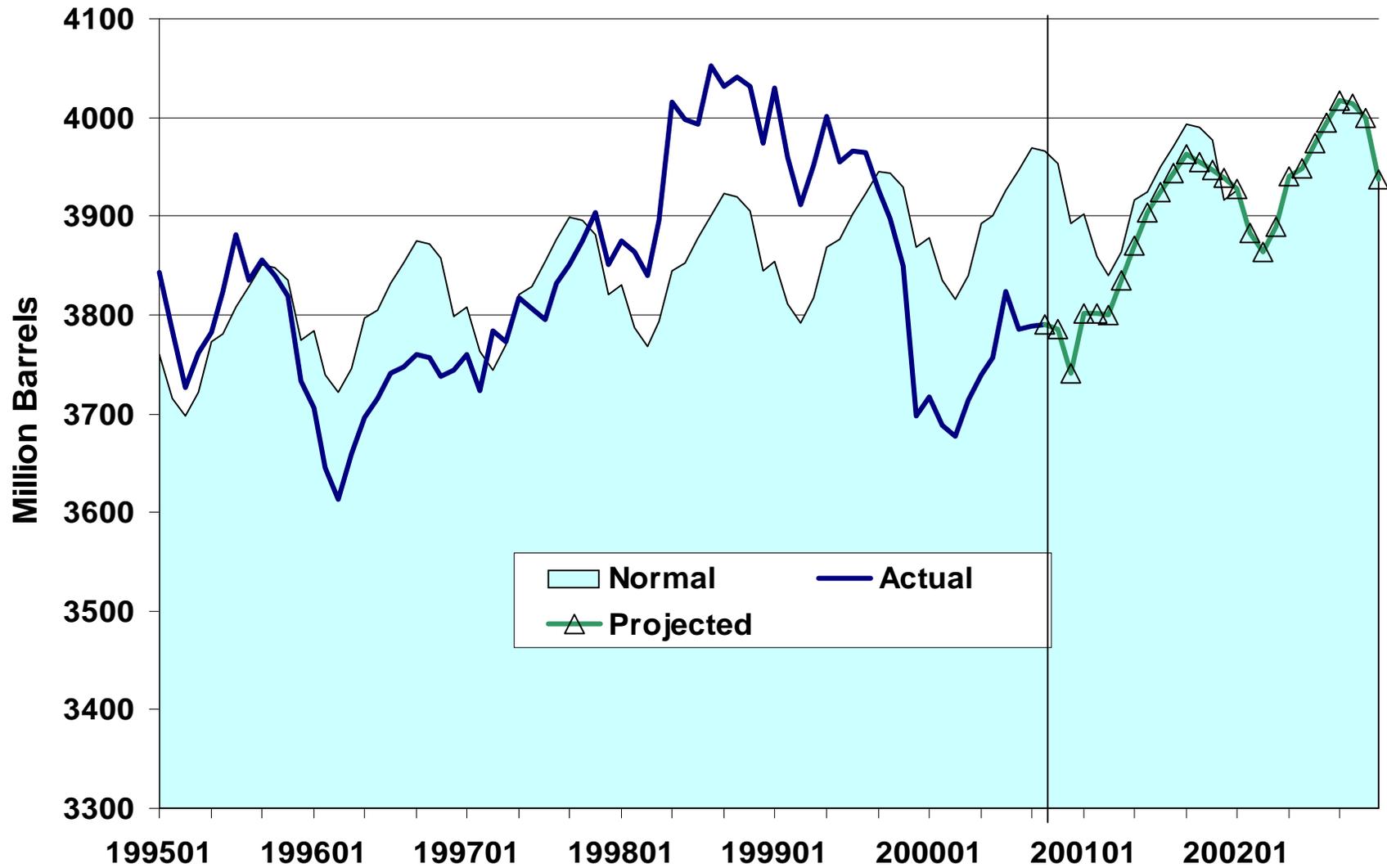
*Total includes commercial and government stocks

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

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distributed around $1.48 compared to $1.52 in our previous Outlook. Despite this, retail heating oil prices, which averaged an estimated $1.48 per gallon this past December, were at the highest monthly levels recorded (in nominal terms). Prices have increased substantially since July, gaining 33 cents per gallon in 5 months (Figure 7). The national average price in December, was 44 cents per gallon above the December 1999 price. The considerably low level of inventories for distillate fuel, particularly heating oil, explains most of price rise. Given the currently low level of distillate stocks, a prolonged cold spell in the Northeast could lead to a repeat of last year's heating oil price spikes. Just recently, the monthly average spread of 80 cents per gallon between the December 2000 retail heating oil price and the crude oil (WTI) price exceeded the record 72 cents per gallon that occurred last February. At that time, a period of very cold weather in the Northeast, in combination with notably low stocks of distillate fuel, led to sharp spikes in heating oil and diesel fuel prices in New England and other areas in the region. (For the month of February 2000, the national average prices of heating oil and diesel fuel were $1.42 and $1.45 per gallon, respectively.) It should be noted that except for a period from late January through the first half of February, the winter in the Northeast (where 75 percent of the nation's heating oil is consumed) was actually warmer than normal.

Thus despite some bearish signs lately, a risk still exists this winter for further sharp price jumps similar to what happened last February, especially if the weather stays unusually cold in the Northeast. For the U.S., distillate stocks are currently about 21 million barrels below the low end of the normal range (Figure 8). The additional supplies of crude oil released from the Strategic Petroleum Reserve under an exchange program in late October of last year probably prevented the U.S. distillate supply situation from becoming even tighter than it is now.

Unless the remainder of the winter in the Northeast is unusually mild or world crude oil prices drop substantially, the projected high prices for heating oil and diesel fuel will continue until next spring. In December, crude oil prices did plunge significantly from the previous month, declining by $6.00 per barrel or about 14 cents per gallon. However, crude oil prices currently are showing some signs of heading back up. Nevertheless, the December drop in crude oil prices allowed retail heating oil prices to ease a bit. Assuming normal heating demand, with tight stocks and relatively high crude oil prices, we expect that winter residential heating oil prices will average $1.48 per gallon, or about 30 cents more per gallon compared to the last winter (Figure 1). We note that this average is about 4 cents per gallon below our winter average projections reported last month.

Motor Gasoline. Pump prices seem to have been heading back down. The retail price for regular unleaded motor gasoline fell an estimated 9 cents per gallon from October to December. Assuming that our crude oil price path holds, we project that retail motor

Figure 7. Residential Heating Oil Prices: Base Case and 95% Confidence Interval
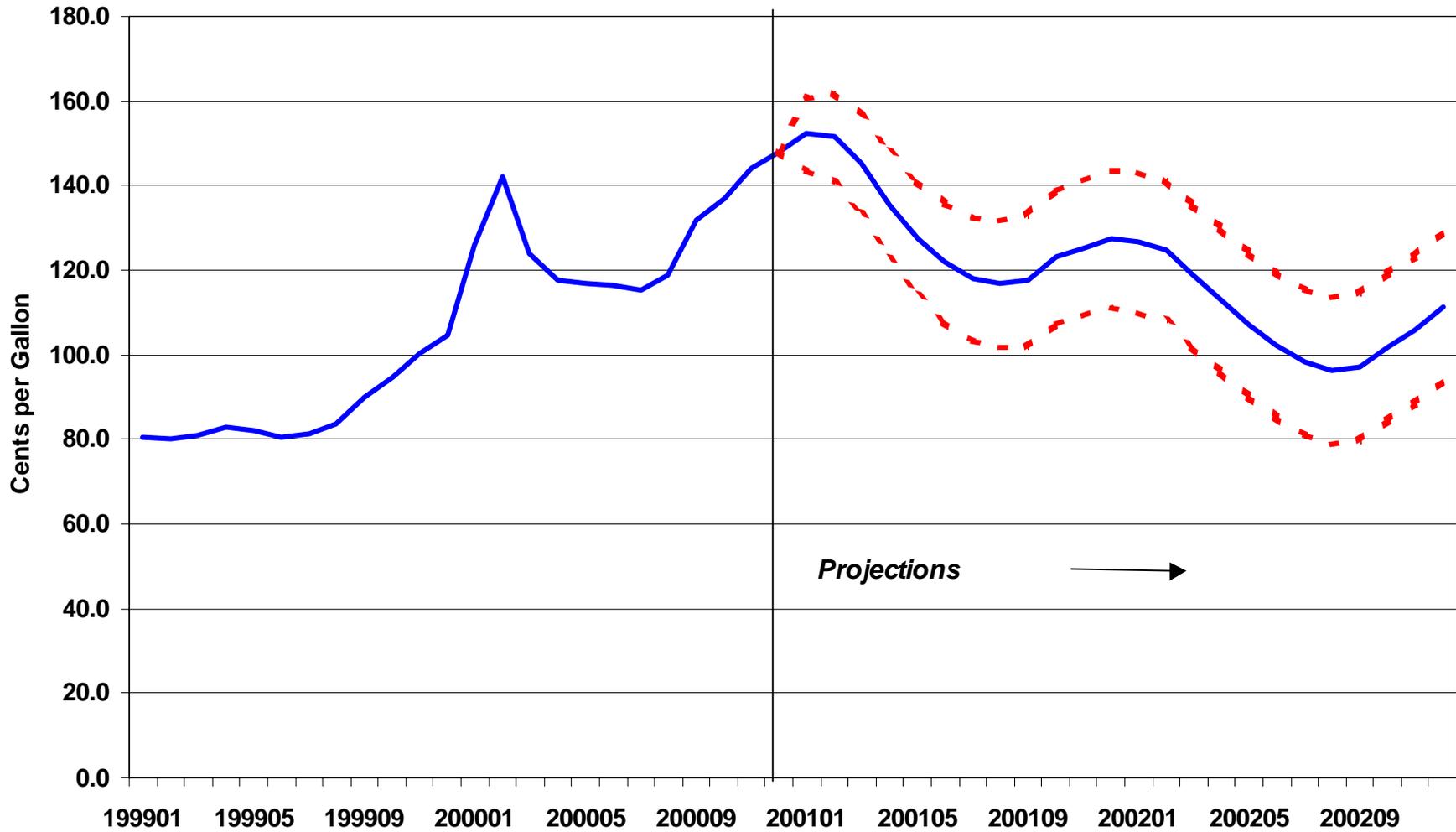
Projections →

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

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Figure 8. U.S. Total Distillate Fuel Stocks
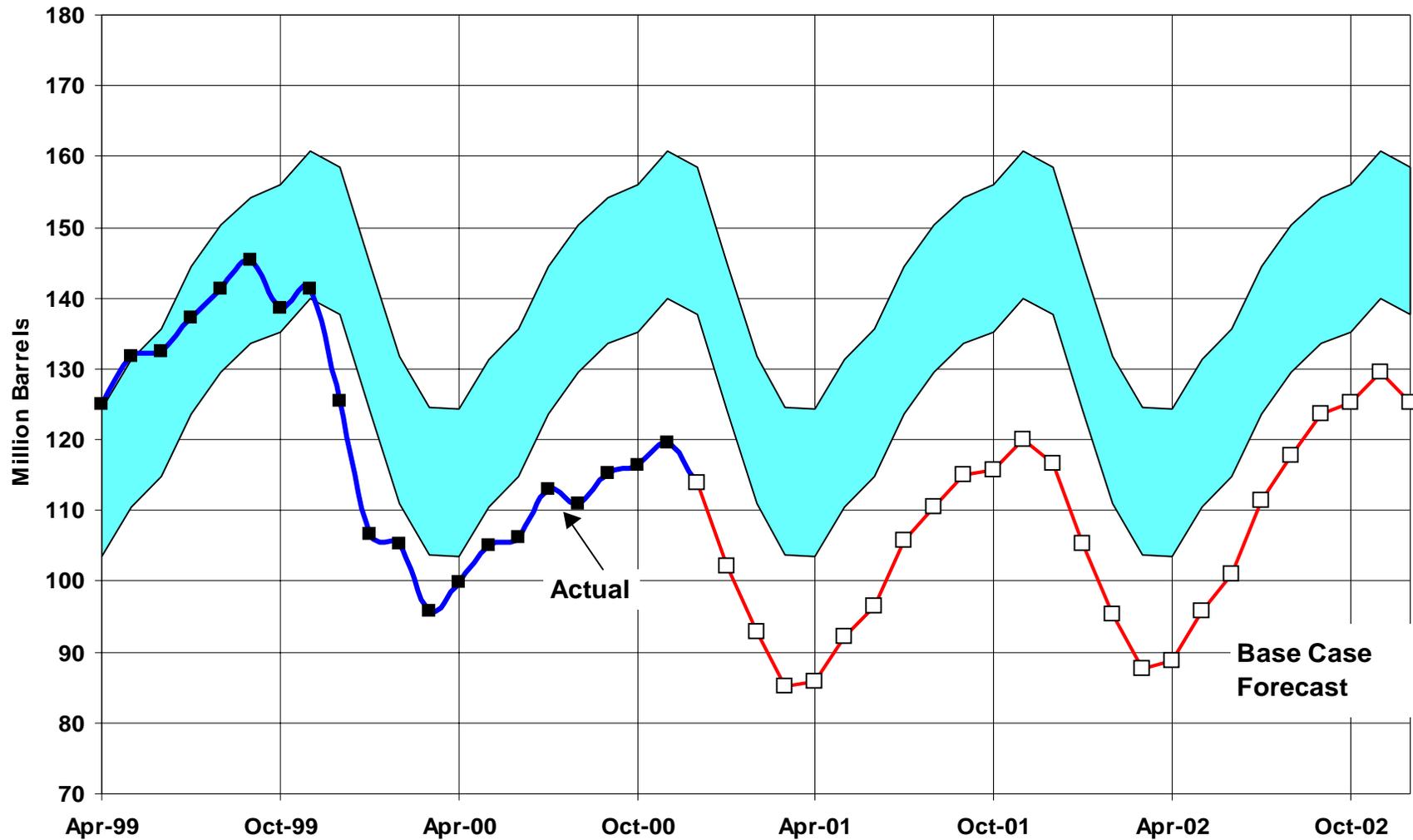
NOTE: *Colored band is normal stock range*

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

gasoline prices will decline an additional 6 cents this month, then rise modestly as the 2001 driving season begins in the spring. (Figure 9). For the summer of 2001, we expect little change from the average price of $1.50 per gallon seen during the previous driving season, as motor gasoline stocks going into the driving season are projected to be slightly less than they were last year (Figure 10). Such a development could set the stage for some regional imbalances in supply that could once again bring about significant price volatility in the U.S. gasoline market.

Natural Gas. Spot wellhead prices have shown some spectacular gains since the summer, averaging well over $4.00 per thousand cubic feet during a normally low-price season. For most of September through November, these prices have floated above $5.00 per thousand cubic feet, more than double the price of one year ago (Figure 11). For the month of December, the spot wellhead price averaged an unheard of $8.36 per thousand cubic feet. Never have spot gas prices at the wellhead been this high for such a sustained period of time. Although high oil prices have encouraged the current strength in gas prices, the predominant reason for these sustained high gas prices was, and still is, uneasiness about the winter supply situation. For much of the summer, low levels of underground storage raised concerns about the availability of winter supplies. Now that the winter has really started, the most severe assumptions about low storage levels have come true. The low levels of gas storage have put the spot market in an extremely volatile position. This was evident last month and early this month when short-term forecasts of colder weather resulted in one-day spot price jumps of $2.00 per thousand cubic feet. The spot wellhead price breached $10.00 per thousand cubic feet on four separate days last December. Forecasts of warmer weather had the opposite effect, producing downward price plunges of well over $1.00 per thousand cubic feet in a period of one trading day.

Underground working gas storage levels are currently about 31 percent below year-ago levels and a remarkable 23 percent below the previous 5-year average. Thus, assuming normal weather for the remainder of the heating season, wellhead prices this winter should probably stay above $6.00 per thousand cubic feet. We are projecting that winter (October-March) natural gas prices at the wellhead will average about $6.23 per thousand cubic feet, more than two and one half times the price of last winter. Without question, higher end-use prices will result from higher projected wellhead prices. If our base case projections hold, residential prices for natural gas this winter would be about 46 percent higher than last year during that period. For the entire year 2000, the average wellhead price for natural gas averaged an estimated $3.73 per thousand cubic feet, an increase of 72 percent from the previous year (Table A4). Prices should descend from their winter highs in the spring and summer of this year by about $2.00 per thousand cubic feet as the weather-related demand recedes. Still, for the year 2001, assuming normal weather and our projection of low underground storage levels through most of the year, we do not expect wellhead prices to drop below $4.00 per thousand cubic feet.

Figure 9. Retail Motor Gasoline Prices*: Base Case and 95% Confidence Interval

Cents per Gallon
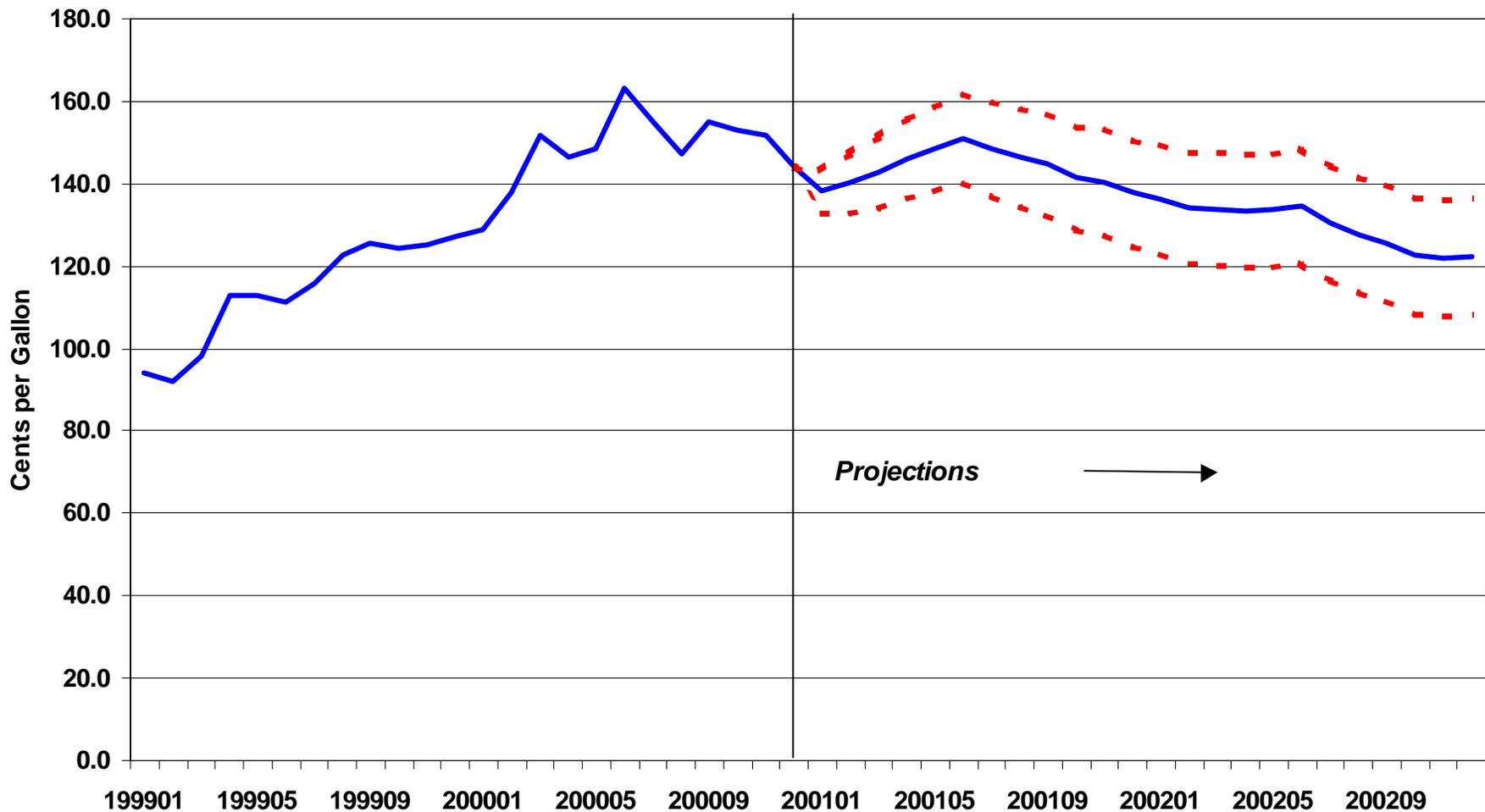
Projections

* Regular unleaded self-service

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

Figure 10. Gasoline Stocks

Million Barrels

Actual

Base Case
Forecast

Average Range

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

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Figure 11. Natural Gas Spot Prices: Base Case and 95% Confidence Interval

Projections →

Dollars per Thousand Cubic Feet
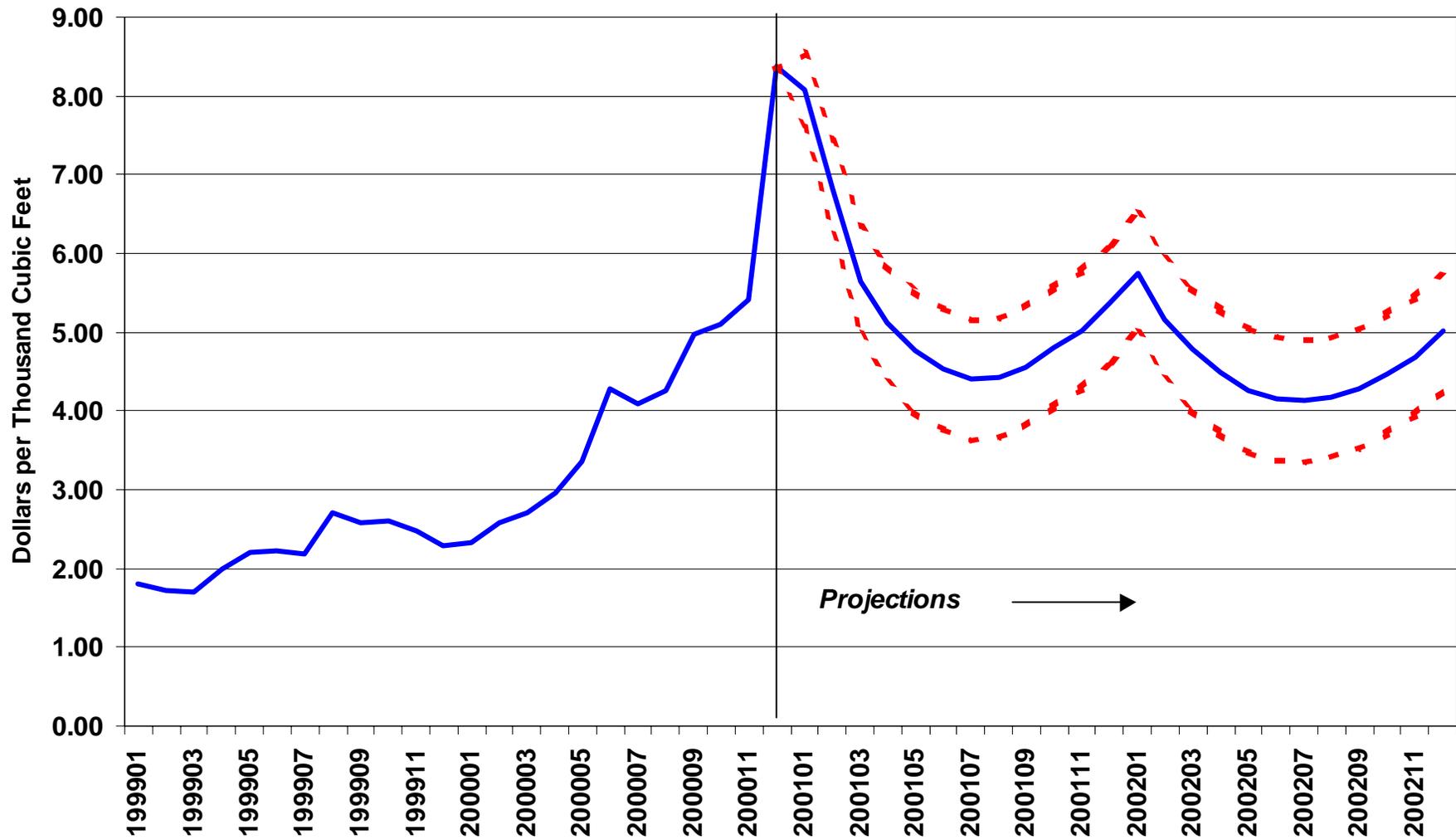
Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, January 2001.

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In fact, our forecast calls for an annual average wellhead price of over $5.00 per thousand cubic feet. Next year, we expect the storage situation to improve modestly and with that, a decrease in the average annual wellhead price. Increases in production and imports of natural gas needed to keep pace with the rapidly growing demand for natural gas will be accompanied, for the time being, by relatively expensive supplies for gas due to rising production costs and capacity constraints on the pipelines.

California continues to suffer particularly high natural gas prices (more than twice as high as recent national averages). High demand for gas-fired electricity generation, relatively low gas storage levels, low hydroelectric and nuclear power availability, coupled with heavy demand for gas for heating due to relatively cold temperatures in the region, has severely strained the gas supply system in that State. Adequate supplies of gas from out of state to meet strong gas demand are seriously limited due to pipeline capacity constraints at the State border.

Electric Utility Fuels. The rapid rise in gas prices last summer and fall has pulled delivered gas prices above heavy fuel oil prices, on a cost per Btu basis. ([Figure 12](#)). As this situation is likely to persist, we anticipate some recovery in the amount of oil used for power generation over the very low levels seen since late 1999.

U.S. Oil Demand

The most recently available data indicate that total petroleum demand in 2000 grew less than 30,000 barrels per day, or 0.1 percent, from that of the previous year. That contrasts with the 600,000 barrels-per-day, or 3.2-percent growth of the previous year. Both first-quarter warm weather and price increases contributed to the sharp slowdown in growth. Motor gasoline demand declined an estimated 0.7 percent for the year in response to the mid-year run-up in retail prices. Although those prices have retreated somewhat from their mid-year peak, they are still well above those of a year ago. As a result, the decline in motor gasoline demand accelerated during the course of the year. Total jet fuel growth in 2000 averaged 1.8 percent compared to 3.1 percent in 1999. Commercial jet fuel demand, however, registered a 3.9-percent increase, even larger than the previous year's 3.5-percent growth rate despite an almost 10-percent increase in ticket prices. But jet fuel used as a winter-season blending component in diesel fuel declined substantially as a result of warm weather in the first quarter. Distillate fuel oil demand, however, grew an estimated 3.7 percent in 2000. The 5.4-percent growth in transportation demand, buoyed by continued robust economic expansion, was partly offset by the 1.7-percent decline in space-heating demand resulting from the mild winter weather. Despite rising prices and warm weather that depressed demand in the first half of the year, residual fuel oil demand eked out an estimated 1.1-percent growth

Figure 12. Fossil Fuel Prices to Electric Utilities
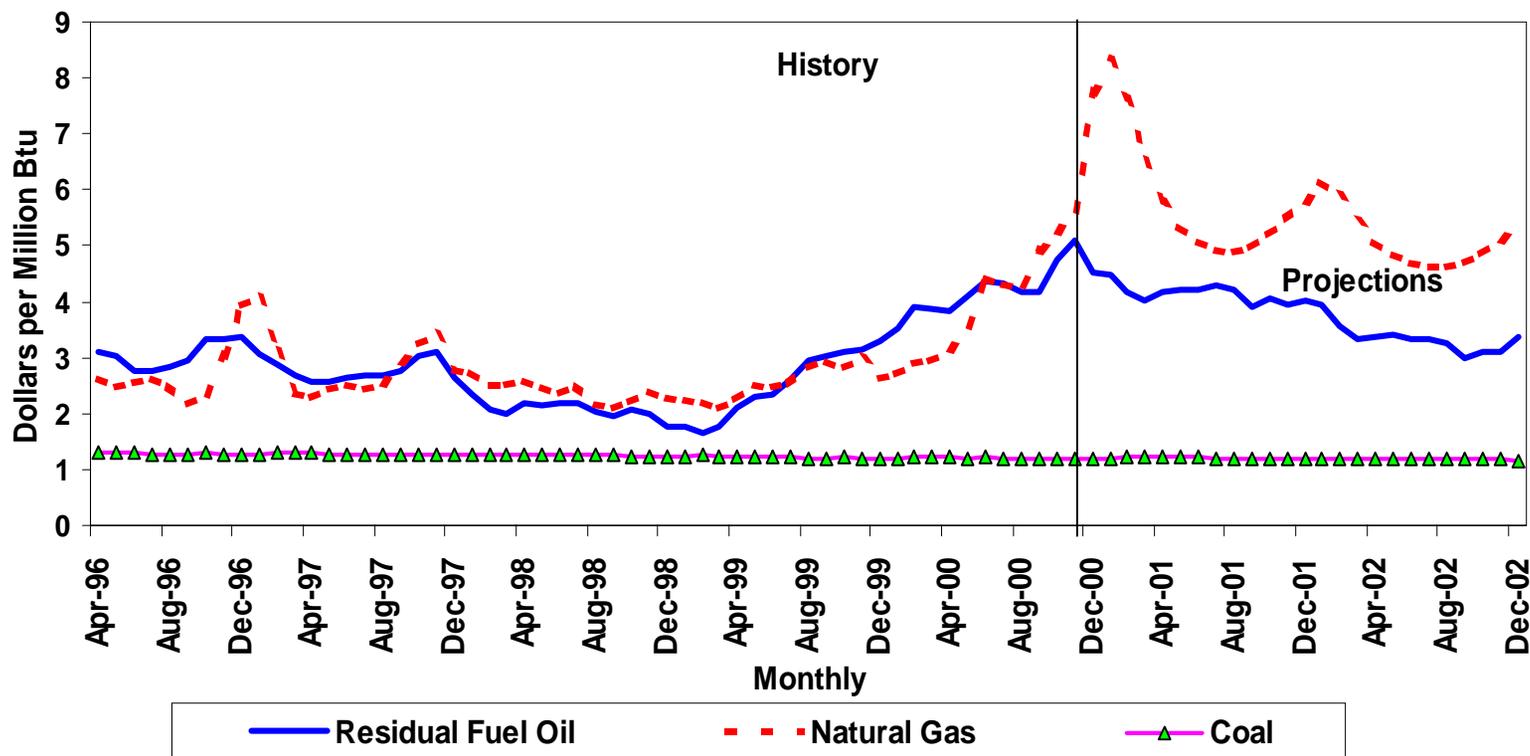
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

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for 2000, led by recent recovery of demand by industrial customers and power generators. The colder-than-average weather, a retreat in prices from their mid-year peak, and the recent spike in natural gas prices contributed to a recovery in the second half of 2000. Industrial demand for residual fuel oil staged a dramatic comeback beginning in the third quarter, and power-generation demand, having languished for much of the year, picked up substantially in the final quarter of the year.

During the next 2 years, energy prices are projected to continue to moderate, disposable personal income is expected to grow at robust rates due in part to reductions in tax rates, and weather patterns are assumed to be normal. Petroleum demand is therefore projected to exhibit strong growth throughout the forecast interval, averaging 440,000 barrels per day, or 2.2 percent, per year (Figure 13). In the current year, total petroleum demand is projected to average 20 million barrels per day for the first time. Reversing last year's decline, motor gasoline demand is projected to increase once again, with growth averaging 1.8 percent per year. Commercial jet fuel demand is projected to continue to increase steadily at a 3.1-percent average rate. That demand is bolstered not only by continued increases in disposable income but also a slow taming of ticket-price inflation to 3 percent compared to 8 percent in the previous 2 years. Distillate fuel oil demand is projected to increase at a 2-percent average rate. Transportation diesel fuel demand is projected to expand 3 percent, but space-heating fuel demand is projected to remain flat. Residual fuel oil demand, however, is expected to remain flat during the forecast interval. Increases in shipments to power generators, reflecting price declines and assumptions of normal weather, are projected to be offset by declines in the other sectors brought about by a recovery by natural gas demand.

U.S. Oil Supply

Average domestic oil production is expected to increase by 58,000 barrels per day or 1.0 percent in 2001, to a level of 5.89 million barrels of oil per day (Figure 14). For 2002, a 0.9 percent decrease is expected and results in a production rate of 5.84 million barrels of oil per day average for the year.

Lower-48 States oil production is expected to increase by 5,000 barrels per day to a rate of 4.87 million barrels per day in 2001, and followed by a decrease of 77,000 barrels per day in 2002. Oil production from the Mars, Auger, Troika, Ursa, and Diana-Hoover Federal Offshore fields is expected to account for about 8.44 percent of the lower-48 oil production by the 4th quarter of 2002.

Figure 13. Petroleum Products Demand (Year-to-Year Change)
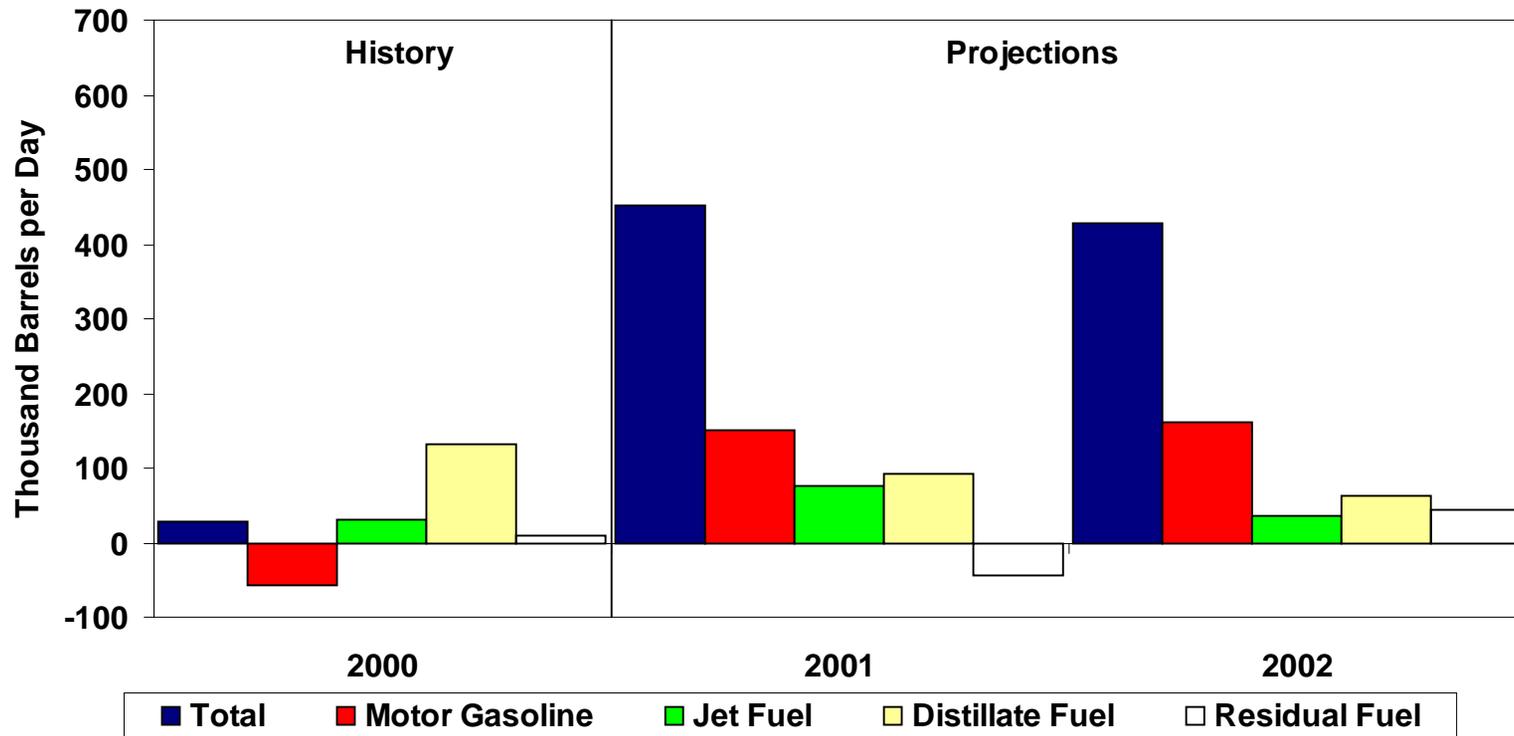
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

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Figure 14. U.S. Crude Oil Production
(Year-to-Year Change)
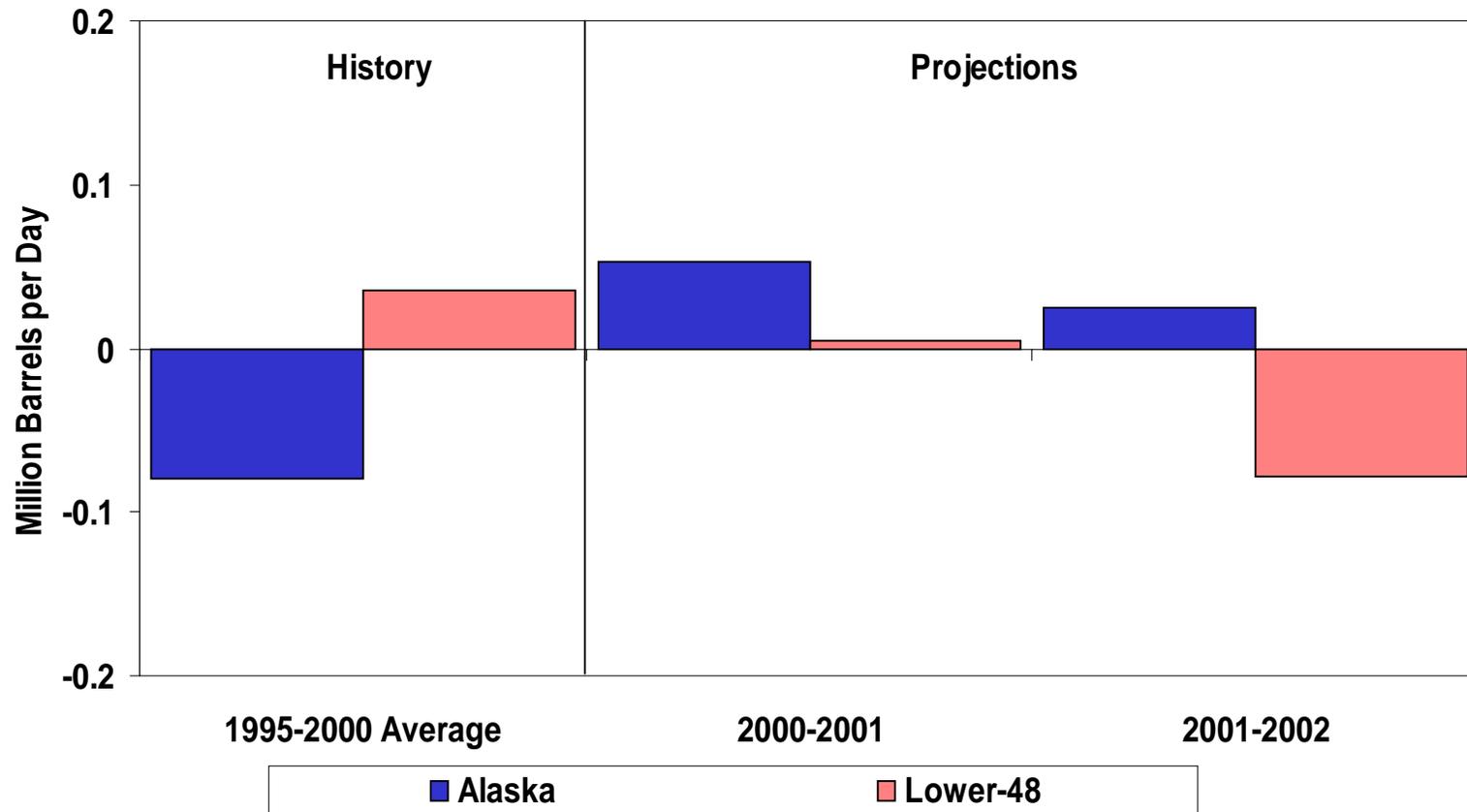
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

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Alaska is expected to account for 17.9 percent of the total U.S. oil production in 2002. Its oil production is expected to increase by 5.4 percent in 2001 and again increase by 2.4 percent in 2002. A substantial portion of the oil production from Alaska comes from the giant Prudhoe Bay Field. Production from the Kuparuk River field plus like production from West Sak, Tabasco and Tarn fields is expected to stay at an average of 236,000 barrels per day in 2001. The Alpine field is expected to come on in last quarter of 2000 at an initial rate of 40,000 barrels per day peaking at 80,000 barrels per day in mid 2001.

Natural Gas Demand and Supply

We estimate that severe winter weather in November and December 2000 pushed natural gas demand in these months to levels averaging 15 percent higher than a year ago, led by the residential and commercial sectors. The jump in natural gas prices served to dampen higher demand levels in the industrial and utility sectors, however, as generating units able to switch to other fuels presumably did so. Assuming normal weather for the remainder of the forecast period, natural gas demand is projected to grow by 2.9 percent in 2001 and by 2.7 percent in 2002, compared with estimated demand of 4.5 percent in 2000.

For the fourth quarter of 2000, gas-weighted heating degree-days were estimated to have been up by 28 percent over last year's relatively mild fourth quarter. Gas demand likewise is estimated to have increased by 10 percent over year ago. Over the entire 6 months of winter (October 1, 2000 to March 31, 2001) natural gas demand is expected to be up by 7 percent over last winter, assuming normal weather for the remainder of the season. This strong overall growth rate follows from the calculation that residential and commercial sector demand could be up by 17 percent over last winter.

The forecast for overall natural gas demand growth in 2001 is 2.9 percent for the year, down considerably from our projected growth rate in last month's Outlook (Figure 15). Partly, this lower growth rate for 2001 results from higher estimates for Q4 2000 demand due to colder-than-normal weather. Higher gas price projections also reduce expected industrial use in 2001 more than previously estimated. In 2002, the forecast calls for a somewhat slower 2.7 percent growth rate.

In 2001 and 2002, natural gas demand in the industrial sector is expected to increase by 4.0 percent and 5.7 percent, respectively. Natural gas demand for nonutility electricity generation in 2001 is now expected to be up by a solid 9.0 percent. Electric utility gas demand is still expected to remain about level with consumption rates seen in 2000. This distinction is due in part to sales of electric generating plants by electric utilities to unregulated generating companies, fuel consumption by which is currently recorded by EIA in the industrial sector. We assume, for the purposes of the forecast, that no additional sales of generating units to unregulated entities occur, but that assumption

Figure 15. Annual Changes in Natural Gas Demand by Sector

History

Projections

10.9%

5.1%

4.2%

-2.3%

2.4%

4.1%

4.0%

-1.7%

0.8%

1.3%

-0.2%

5.7%

Percent Change

17%
14%
11%
8%
5%
2%
-1%
-4%
-7%
-10%
-13%
-16%

2000

2001

2002

■ Commercial   ■ Utility*   ■ Residential   □ Industrial (Incl. Nonutil. Gen.)
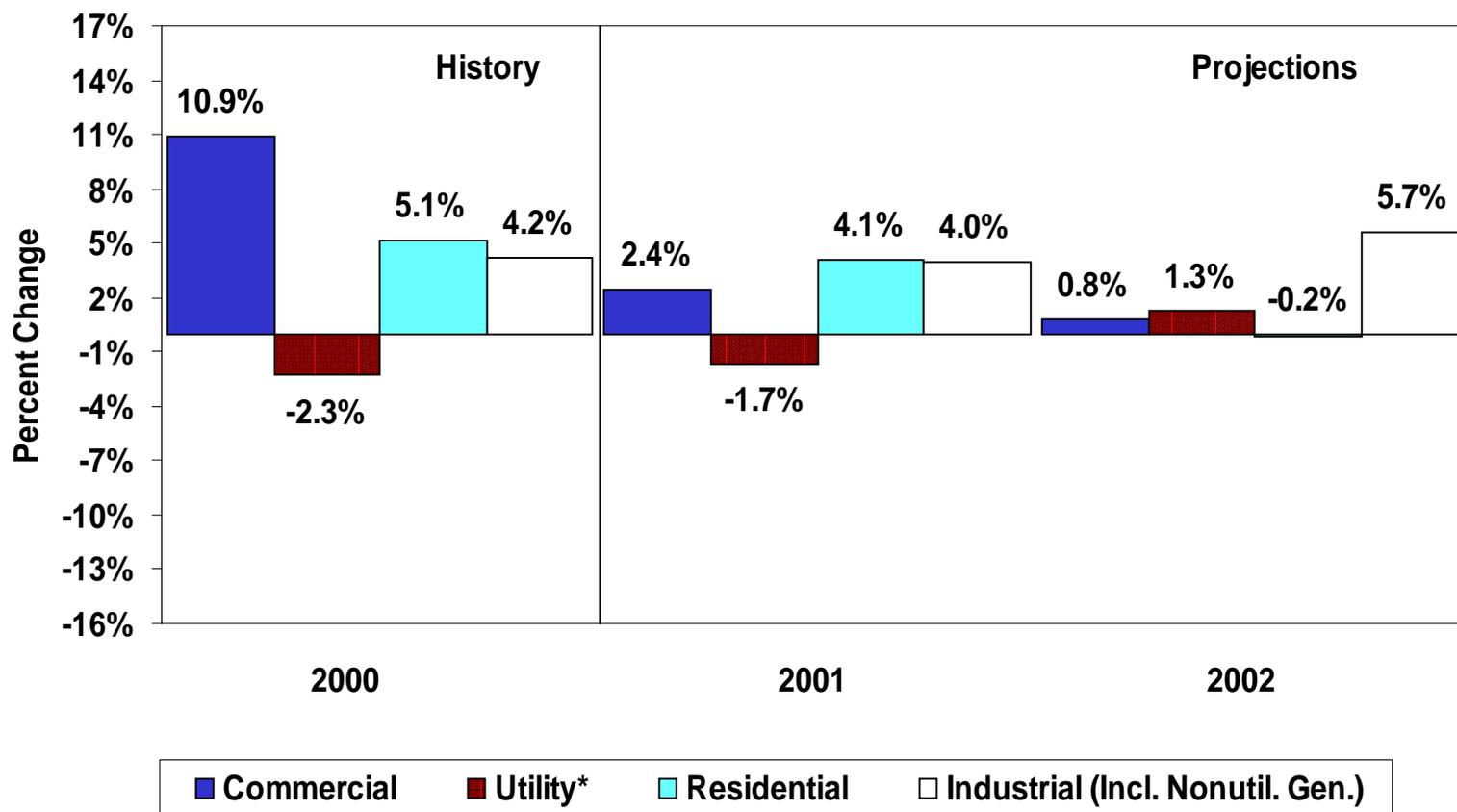
* Electric utility gas demand changes in recent years in part reflect sale of assets to the nonutility sector

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

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merely affects the label attached to the fuel demand source, not the overall demand trend.

We have increased our expected rate of gas production growth in North America for the year 2001. Significant increases in new supply will be required to meet expected increases in demand for space heating and power generation and to prevent storage conditions from deteriorating to a worse condition than has already been experienced this year. Domestic gas production for 2001 and 2002 is expected to increase as production responds to the high rates of drilling experienced over the past year. Production is estimated to have risen by 1.1 percent in 2000 and it is forecast to increase by significantly higher rates of 5.4 percent rate in 2001 and 2.5 percent in 2002. The U.S. natural gas rig count on December 29 was 879 rigs.

According to the American Gas Association (AGA), during the week ending December 29, a total of 209 billion cubic feet was withdrawn from storage, bringing the total of working gas to 53 percent full, or 1,729 bcf. Translating the AGA data into EIA end-month statistics, we estimate that gas stocks were about 780 bcf below year-ago levels and about 520 bcf below the previous 5-year average (Figure 16). With almost three months of winter still to go, falling stocks have raised fears about the domestic supply situation, helping to elevate spot and futures prices.

Net imports of natural gas are projected to rise by about 16 percent in 2001 and by another 4 percent in 2002. During the winter months, net imports are about 10 percent higher than flows during the rest of the year and usually increase to full pipeline capacity. While Canadian export capacity may not be fully utilized this winter, we expect net imports to be 7.8 percent higher than last winter's imports. The Alliance Pipeline began carrying gas from western Canada to the Midwest on December 1, having been delayed from its original October 2 opening. A new report by Canada's National Energy Board predicts that gas deliverability from Western Canada will rise by 1.1 bcf/d by 2002, due to the ongoing drilling boom. Western Canada supplies 15 percent of the gas consumed in the United States.

The critical power situation in California highlights the inter-related tightness in both electricity and gas markets. As environmental regulations on coal and oil fired generation units have become more strict over the past few years, gas fired generators began to take on more of the baseload burden. And as power generation demand has increased, demand for gas has increased with it.

California lacks the pipeline capacity to provide enough natural gas to all the new power plants in development, let alone its current supply demands. Also, the region is short on the electricity generating capacity and transmission wires to deliver enough power into a market that is growing at 4% annually. California had the highest gas

Figure 16. Working Gas in Storage (Percentage Difference from Previous 5-Year Average)
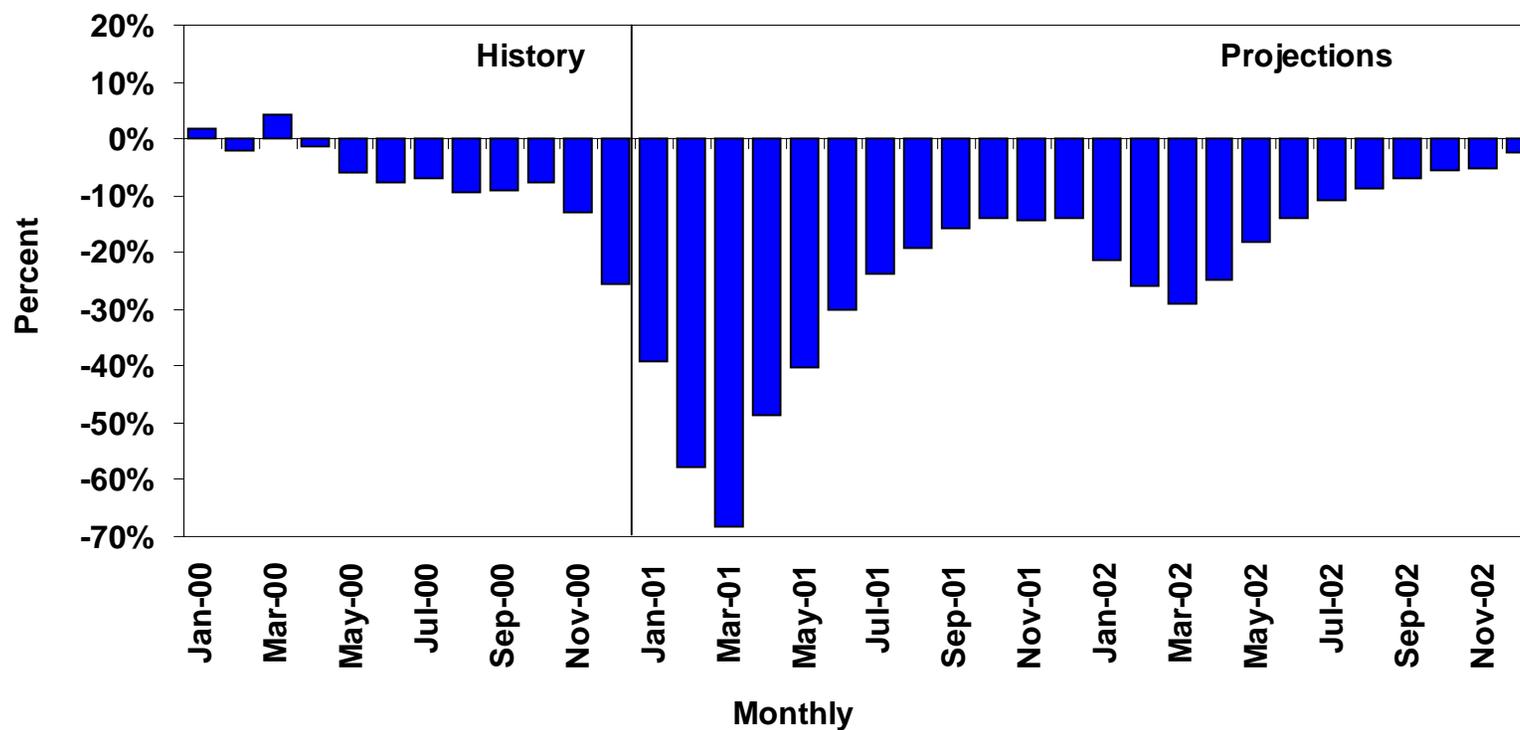
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prices in the nation during the month of December. The lack of adequate power reserves this winter has been a repeat of last summer's situation. The economic impact of high natural gas and electricity prices is that many manufacturers of various commodities have chosen to interrupt operations and resell contracted energy back into the regional market.

Electricity Demand and Supply

Total annual electricity demand growth (utility sales plus industrial generation for own use) is projected at 1.7 percent in 2001 and 1.8 percent in 2002. This is compared with estimated sales in 2000 that were 5.3 percent higher than the previous year's level, as much a result of the surprisingly low growth rate reported for 1999 as an indicator of robust growth in 2000. Electricity demand growth is expected to be slower in the forecast years than it was in 2000 partly because economic growth is also slowing from its higher 2000 level.

This winter's overall heating degree-days (HDD) are assumed to be almost 18 percent above last winter's HDD, which were well below normal. This is based on the very cold temperatures seen in November and December, as well as on the assumption that the remainder of the winter will be normal. This winter, total electricity sales by electric utilities are expected to be up by 3.9 percent over last winter's sales, driven by increased demand in the residential and commercial sectors, which are expected to be up by 6.6 and 3.4 percent, respectively (Figure 17 and Table 10).

In the fourth quarter of 2000, previously falling demand for oil-fired generation began to turn around as the price differential between natural gas and oil in the electricity generating sector shifted to favor oil, prompting those plants which can switch to oil to do so. The favorable price differential for oil relative to gas is expected to continue through the forecast period. Growth in coal-fired generation also turned positive in the fourth quarter of 2000. Nevertheless, by the second half of 2001, expected increases in gas-fired capacity are expected to keep gas demand for power generation growing.

Supply problems in California for gas-fired electricity generation have helped to boost gas prices and have frequently caused interruptible customers to be cut off in that state. The situation in California is characterized by low gas storage, gas pipeline bottlenecks, continuing cold weather, high demand and low hydro and nuclear electric power availability. California spot gas prices have spiked at as high as $59 per million Btu in December. Average California gas prices have dramatically outstripped prices elsewhere in the country this fall (Figure 18). These supply problems are following on last summer's supply problems with no obvious end currently visible.

Figure 17. Annual Changes in U.S. Electricity Demand
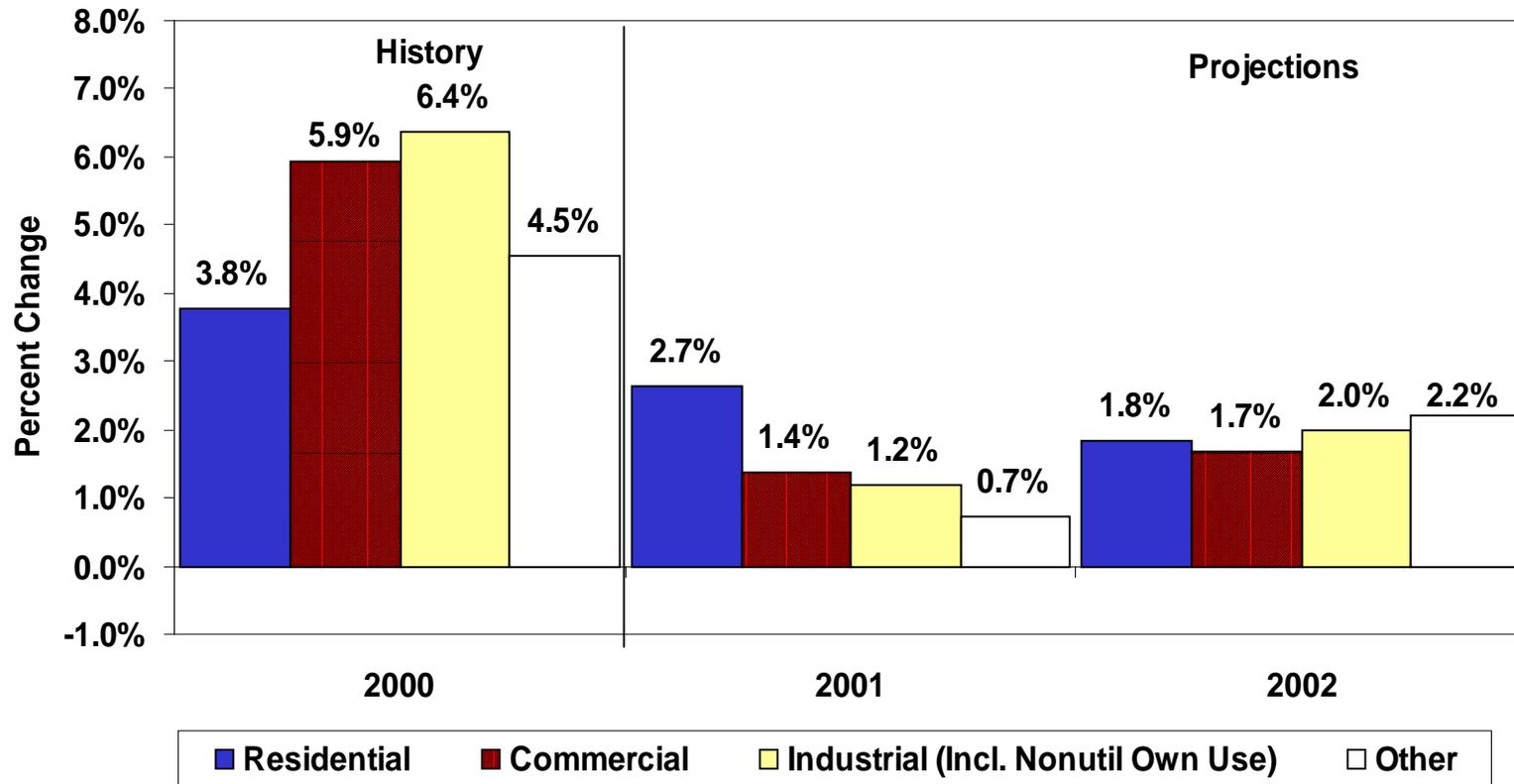
Sources: History: EIA; Projections: Short-Term Energy Outlook, January 2001.

www.eia.doe.gov

Figure 18.Comparison of Key Natural Gas Prices: Monthly Average Delivered to Pipeline Prices in 2000

Legend: Henry Hub — NYC GATE — No.Calif. — So.Calif.
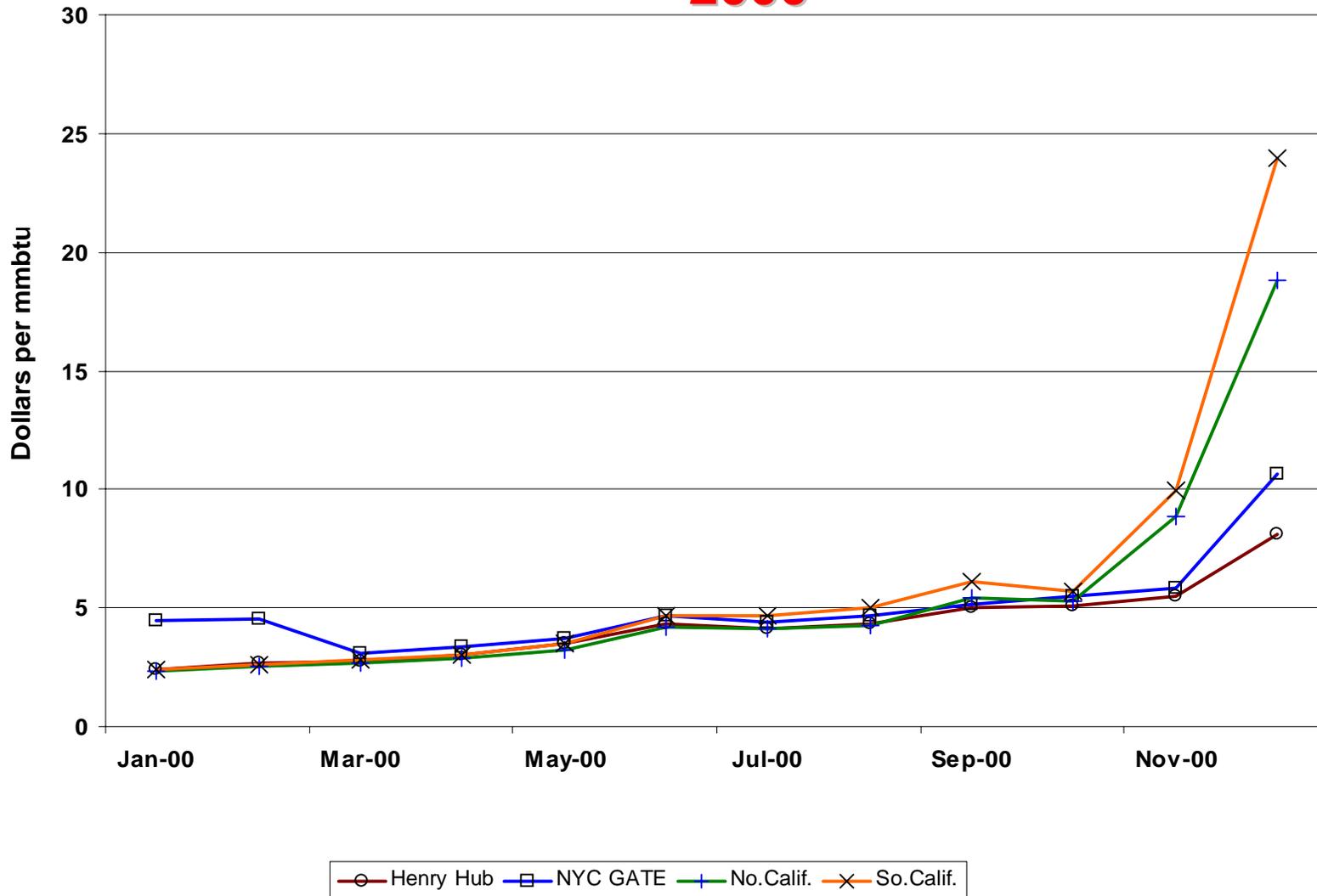
Source: Natural Gas Week

www.eia.doe.gov

On December 13, 2000, the Clinton administration invoked its emergency powers to require power generators and marketers to sell their surplus electricity to California to prevent imminent blackouts. Under the Federal Power Act, out-of-state generators and marketers who were balking at selling power into California were required to do so immediately. A number of state generators were also refusing to sell power, fearing the utilities would not be able to pay spot market prices which have been as high as $3,000 per megawatt-hour, about 100 times higher than a year ago. However, on January 2, the FERC refused to order power generators to sell electricity to California utilities at rates under their cost of service, and on January 3, the California Public Utilities Commission (CPUC) issued an order that gave the utilities less than half the rate increases they were requesting. Pacific Gas and Electric and Southern California Edison both claim they are now facing bankruptcy due to unrecovered costs related to power sales.

Table HL1. U. S. Energy Supply and Demand

	Year				Annual Percentage Change		
	1999	2000	2001	2002	1999-2000	2000-2001	2001-2002
Real Gross Domestic Product (GDP) (billion chained 1996 dollars)	**8876**	*9334*	*9634*	*10033*	*5.2*	*3.2*	*4.1*
Imported Crude Oil Price [a] (nominal dollars per barrel).........................	**17.22**	*27.86*	*26.92*	*21.28*	*61.8*	*-3.4*	*-21.0*
Petroleum Supply (million barrels per day) Crude Oil Production [b]	**5.88**	*5.84*	*5.89*	*5.84*	*-0.7*	*0.9*	*-0.8*
Total Petroleum Net Imports (including SPR)	**9.91**	*10.08*	*10.76*	*11.18*	*1.7*	*6.7*	*3.9*
Energy Demand							
World Petroleum (million barrels per day)..............................	**74.8**	*75.9*	*77.9*	*79.9*	*1.5*	*2.6*	*2.6*
Petroleum (million barrels per day)..............................	**19.52**	*19.55*	*20.00*	*20.43*	*0.2*	*2.3*	*2.2*
Natural Gas (trillion cubic feet)	**21.70**	*22.69*	*23.35*	*23.98*	*4.6*	*2.9*	*2.7*
Coal [c] (million short tons)	**1044**	*1063*	*1105*	*1133*	*1.8*	*4.0*	*2.5*
Electricity (billion kilowatthours)							
Utility Sales [d]	**3236**	*3398*	*3447*	*3512*	*5.0*	*1.4*	*1.9*
Nonutility/Sales [e]	**185**	*206*	*218*	*220*	*11.4*	*5.8*	*0.9*
Total	**3421**	*3603*	*3665*	*3733*	*5.3*	*1.7*	*1.9*
Total Energy Demand [f] (quadrillion Btu)...	**97.1**	*98.3*	*100.2*	*102.3*	*1.2*	*1.9*	*2.1*
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	**10.94**	*10.53*	*10.40*	*10.19*	*-3.7*	*-1.2*	*-2.0*
Renewable Energy as Percent of Total [g] ...	**7.2**	*7.1*	*7.0*	*7.0*			

[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 CONTROL1200.

Table 1. U.S. Macroeconomic and Weather Assumptions

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Macroeconomic [a]															
Real Gross Domestic Product (billion chained 1996 dollars - SAAR)	**9192**	**9319**	**9374**	*9453*	*9520*	*9591*	*9669*	*9757*	*9866*	*9972*	*10087*	*10207*	*9334*	*9634*	*10033*
Percentage Change from Prior Year	**5.3**	**6.1**	**5.3**	*4.1*	*3.6*	*2.9*	*3.1*	*3.2*	*3.6*	*4.0*	*4.3*	*4.6*	*5.2*	*3.2*	*4.1*
Annualized Percent Change from Prior Quarter	**4.7**	**5.5**	**2.3**	*3.4*	*2.8*	*3.0*	*3.2*	*3.7*	*4.5*	*4.3*	*4.6*	*4.8*			
GDP Implicit Price Deflator (Index, 1996=1.000)	**1.062**	**1.068**	**1.073**	*1.080*	*1.087*	*1.092*	*1.096*	*1.101*	*1.107*	*1.112*	*1.116*	*1.121*	*1.071*	*1.094*	*1.114*
Percentage Change from Prior Year	**1.8**	**2.1**	**2.3**	*2.6*	*2.4*	*2.2*	*2.2*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	*2.2*	*2.2*	*1.8*
Real Disposable Personal Income (billion chained 1996 Dollars - SAAR)	**6443**	**6502**	**6541**	*6560*	*6646*	*6735*	*6818*	*6888*	*6977*	*7059*	*7139*	*7221*	*6512*	*6771*	*7099*
Percentage Change from Prior Year	**2.9**	**3.1**	**3.1**	*2.3*	*3.1*	*3.6*	*4.2*	*5.0*	*5.0*	*4.8*	*4.7*	*4.8*	*2.9*	*4.0*	*4.8*
Manufacturing Production (Index, 1996=1.000)	**1.216**	**1.239**	**1.251**	*1.262*	*1.275*	*1.285*	*1.295*	*1.303*	*1.313*	*1.323*	*1.336*	*1.348*	*1.242*	*1.290*	*1.330*
Percentage Change from Prior Year	**5.9**	**6.6**	**6.5**	*5.6*	*4.9*	*3.7*	*3.5*	*3.2*	*3.0*	*3.0*	*3.2*	*3.5*	*6.2*	*3.8*	*3.1*
OECD Economic Growth (percent) [b]													*3.7*	*3.1*	*3.3*
Weather [c]															
Heating Degree-Days															
U.S.	**2023**	**485**	**96**	*1854*	*2236*	*519*	*86*	*1622*	*2234*	*518*	*86*	*1622*	*4458*	*4463*	*4459*
New England	**3007**	**909**	**200**	*2383*	*3177*	*885*	*167*	*2238*	*3174*	*883*	*167*	*2237*	*6499*	*6467*	*6462*
Middle Atlantic	**2713**	**692**	**126**	*2194*	*2895*	*701*	*105*	*2003*	*2891*	*700*	*105*	*2002*	*5725*	*5703*	*5698*
U.S. Gas-Weighted	**2115**	**512**	**100**	*1956*	*2354*	*555*	*90*	*1714*	*2351*	*555*	*90*	*1714*	*4683*	*4714*	*4710*
Cooling Degree-Days (U.S.)	**45**	**380**	**759**	*68*	*32*	*346*	*781*	*76*	*33*	*347*	*782*	*76*	*1252*	*1235*	*1237*

[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 CONTROL1200.

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

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Macroeconomic [a]															
Real Fixed Investment															
(billion chained 1996 dollars-SAAR)	**1731**	**1779**	**1792**	*1815*	*1834*	*1854*	*1868*	*1881*	*1898*	*1926*	*1956*	*1988*	*1779*	*1860*	*1942*
Real Exchange Rate															
(index)	**1.163**	**1.210**	**1.247**	*1.277*	*1.287*	*1.263*	*1.257*	*1.240*	*1.210*	*1.197*	*1.187*	*1.173*	*1.224*	*1.262*	*1.192*
Business Inventory Change															
(billion chained 1996 dollars-SAAR)	**10.3**	**17.6**	**21.0**	*14.4*	*7.6*	*5.8*	*5.4*	*3.9*	*5.3*	*5.2*	*6.4*	*7.3*	*15.8*	*5.7*	*6.0*
Producer Price Index															
(index, 1982=1.000)	**1.301**	**1.321**	**1.334**	*1.351*	*1.359*	*1.349*	*1.340*	*1.336*	*1.342*	*1.346*	*1.349*	*1.353*	*1.327*	*1.346*	*1.347*
Consumer Price Index															
(index, 1982-1984=1.000)....................	**1.702**	**1.717**	**1.730**	*1.746*	*1.756*	*1.762*	*1.768*	*1.775*	*1.785*	*1.793*	*1.802*	*1.811*	*1.724*	*1.765*	*1.798*
Petroleum Product Price Index															
(index, 1982=1.000)	**0.833**	**0.911**	**0.931**	*0.959*	*0.936*	*0.903*	*0.859*	*0.847*	*0.827*	*0.753*	*0.691*	*0.693*	*0.909*	*0.886*	*0.741*
Non-Farm Employment															
(millions)	**130.6**	**131.6**	**131.6**	*132.1*	*132.2*	*132.5*	*132.8*	*133.1*	*133.5*	*133.8*	*134.4*	*134.9*	*131.5*	*132.7*	*134.1*
Commercial Employment															
(millions)	**91.2**	**91.7**	**92.1**	*92.6*	*92.9*	*93.2*	*93.6*	*94.0*	*94.4*	*94.9*	*95.4*	*96.0*	*91.9*	*93.4*	*95.2*
Total Industrial Production															
(index, 1996=1.000)	**1.187**	**1.210**	**1.221**	*1.229*	*1.241*	*1.250*	*1.258*	*1.265*	*1.273*	*1.282*	*1.294*	*1.307*	*1.212*	*1.253*	*1.289*
Housing Stock															
(millions)	**115.7**	**115.8**	**116.2**	*116.6*	*116.9*	*117.2*	*117.5*	*117.8*	*118.1*	*118.4*	*118.7*	*119.1*	*116.1*	*117.4*	*118.6*
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1996=1.000)	**1.096**	**1.096**	**1.091**	*1.095*	*1.102*	*1.112*	*1.121*	*1.130*	*1.140*	*1.148*	*1.156*	*1.164*	*1.094*	*1.116*	*1.152*
Vehicle Miles Traveled [b]															
(million miles/day).............................	**6820**	**7596**	**7632**	*7240*	*7046*	*7755*	*7782*	*7338*	*7088*	*7828*	*8049*	*7620*	*7323*	*7482*	*7649*
Vehicle Fuel Efficiency															
(index, 1999=1.000)	**1.004**	**1.018**	**0.994**	*1.003*	*1.019*	*1.021*	*1.000*	*0.994*	*1.011*	*1.014*	*1.013*	*1.009*	*1.004*	*1.008*	*1.012*
Real Vehicle Fuel Cost															
(cents per mile).................................	**4.17**	**4.28**	**4.27**	*4.28*	*4.00*	*4.04*	*3.98*	*3.97*	*3.82*	*3.61*	*3.38*	*3.36*	*4.25*	*4.00*	*3.54*
Air Travel Capacity															
(mill. available ton-miles/day)..............	**452.9**	**481.0**	**498.5**	*485.9*	*482.5*	*505.1*	*522.0*	*510.7*	*505.4*	*525.4*	*543.0*	*532.8*	*479.7*	*505.2*	*526.8*
Aircraft Utilization															
(mill. revenue ton-miles/day)...............	**254.9**	**283.9**	**297.1**	*281.4*	*276.9*	*295.6*	*309.6*	*294.4*	*289.2*	*308.0*	*322.7*	*308.8*	*279.4*	*294.2*	*307.3*
Airline Ticket Price Index															
(index, 1982-1984=1.000)....................	**2.309**	**2.419**	**2.474**	*2.381*	*2.449*	*2.479*	*2.487*	*2.513*	*2.545*	*2.546*	*2.536*	*2.549*	*2.396*	*2.482*	*2.544*
Raw Steel Production															
(millions tons)	**29.02**	**29.30**	**29.10**	*29.14*	*28.99*	*29.00*	*28.36*	*28.64*	*28.57*	*28.94*	*28.61*	*29.17*	*116.56*	*114.99*	*115.29*

[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 CONTROL1200.

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

(Million Barrels per Day, Except OECD Commercial Stocks)

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Demand [a]															
OECD															
U.S. (50 States)	19.1	19.3	19.8	19.9	19.8	19.8	20.1	20.3	20.2	20.2	20.6	20.7	19.5	20.0	20.4
U.S. Territories	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.4
Canada...............................	1.9	1.9	2.0	2.0	2.0	1.9	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1
Europe...............................	14.5	13.9	14.4	15.2	14.9	14.0	14.5	15.2	15.1	14.1	14.7	15.3	14.5	14.7	14.8
Japan	6.0	5.0	5.4	5.9	6.2	5.1	5.3	5.7	6.2	5.1	5.3	5.8	5.6	5.6	5.6
Australia and New Zealand..............	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.1
Total OECD.......................	42.9	41.4	42.9	44.5	44.3	42.2	43.4	44.8	45.0	42.9	44.2	45.5	42.9	43.7	44.4
Non-OECD															
Former Soviet Union.................	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.9	3.7	3.7	3.7	3.7	3.7	3.8
Europe...............................	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.6	1.7	1.7
China.................................	4.6	4.5	4.5	4.5	4.8	4.8	4.7	4.8	5.1	5.0	5.0	5.0	4.5	4.8	5.0
Other Asia...........................	9.2	9.2	9.0	9.4	9.7	9.7	9.4	9.9	10.2	10.2	9.9	10.4	9.2	9.7	10.2
Other Non-OECD...................	13.7	14.0	14.1	14.0	14.2	14.4	14.5	14.5	14.5	14.8	14.9	14.8	14.0	14.4	14.8
Total Non-OECD	32.9	33.0	32.8	33.2	34.2	34.3	34.0	34.5	35.5	35.5	35.2	35.7	33.0	34.2	35.5
Total World Demand..............	75.8	74.4	75.8	77.6	78.6	76.5	77.4	79.2	80.5	78.4	79.4	81.2	75.9	77.9	79.9
Supply [b]															
OECD															
U.S. (50 States)	9.1	9.1	9.0	9.1	9.2	9.2	9.1	9.2	9.1	9.2	9.1	9.1	9.1	9.2	9.1
Canada...............................	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.8	2.8	3.0	3.0	2.7	2.8	2.9
North Sea [c]	6.6	6.2	6.2	6.4	6.4	6.2	6.3	6.7	6.4	6.1	6.2	6.7	6.4	6.4	6.4
Other OECD........................	1.7	1.7	1.6	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Total OECD.......................	20.2	19.7	19.6	20.1	20.1	19.9	20.0	20.6	20.0	19.8	20.0	20.5	19.9	20.1	20.1
Non-OECD															
OPEC.................................	29.3	30.7	31.6	31.5	31.3	31.3	31.3	31.5	32.4	32.4	32.5	32.5	30.8	31.4	32.5
Former Soviet Union.............	7.6	7.7	7.9	8.0	8.0	8.1	8.3	8.3	8.3	8.5	8.6	8.6	7.8	8.2	8.5
China.................................	3.3	3.3	3.2	3.3	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.3	3.2	3.1
Mexico...............................	3.5	3.5	3.5	3.6	3.8	3.8	3.8	3.7	4.0	4.0	4.0	3.9	3.5	3.8	4.0
Other Non-OECD...................	11.2	11.2	11.4	11.4	11.1	11.2	11.4	11.5	11.4	11.5	11.7	11.8	11.3	11.3	11.6
Total Non-OECD	54.8	56.4	57.7	57.8	57.4	57.7	58.0	58.3	59.2	59.5	60.0	60.0	56.7	57.8	59.7
Total World Supply	75.0	76.1	77.3	77.8	77.4	77.5	78.0	78.9	79.2	79.3	80.0	80.5	76.6	78.0	79.8
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)..........	0.2	-0.6	0.0	0.6	0.2	-0.6	-0.4	0.2	0.2	-0.6	-0.3	0.4	0.1	-0.1	-0.1
Other.................................	0.6	-1.1	-1.5	-0.8	1.0	-0.5	-0.3	0.2	1.1	-0.3	-0.3	0.2	-0.7	0.1	0.2
Total Stock Withdrawals	0.7	-1.7	-1.5	-0.2	1.1	-1.1	-0.6	0.4	1.2	-0.9	-0.6	0.6	-0.7	0.0	0.1
OECD Comm. Stocks, End (bill. bbls.).....	2.6	2.6	2.6	2.6	2.7	2.8	2.8	2.8	2.7	2.8	2.9	2.8	2.6	2.8	2.8
Non-OPEC Supply	45.7	45.4	45.7	46.3	46.1	46.2	46.7	47.3	46.8	46.9	47.4	48.0	45.8	46.6	47.3
Net Exports from Former Soviet Union...	3.9	4.1	4.3	4.4	4.2	4.5	4.6	4.6	4.5	4.7	4.9	4.9	4.2	4.5	4.7

[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.

(Energy Information Administration/Short-Term Energy Outlook -- January 2001)

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

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Imported Crude Oil Prices															
Imported Average [a]	26.84	26.55	29.11	28.85	26.99	27.45	27.32	25.91	23.86	21.66	20.13	19.61	27.86	26.92	21.28
WTI [b] Spot Average	28.82	28.78	31.61	31.96	29.14	29.49	29.33	27.89	25.87	23.66	22.13	21.62	30.29	28.96	23.32
Natural Gas Wellhead															
(dollars per thousand cubic feet)	2.26	3.06	3.87	5.61	6.82	4.82	4.38	4.89	5.20	4.34	4.15	4.59	3.73	5.22	4.57
Petroleum Products															
Gasoline Retail [c] (dollars per gallon)															
All Grades	1.44	1.57	1.56	1.54	1.44	1.52	1.50	1.44	1.39	1.37	1.31	1.26	1.53	1.48	1.33
Regular Unleaded	1.40	1.53	1.52	1.50	1.40	1.49	1.47	1.40	1.35	1.34	1.28	1.22	1.49	1.44	1.30
No. 2 Diesel Oil, Retail															
(dollars per gallon)	1.42	1.41	1.50	1.59	1.59	1.52	1.47	1.46	1.39	1.34	1.29	1.30	1.48	1.51	1.33
No. 2 Heating Oil, Wholesale															
(dollars per gallon)	0.85	0.78	0.91	0.98	0.94	0.84	0.82	0.84	0.78	0.66	0.61	0.66	0.89	0.87	0.69
No. 2 Heating Oil, Retail															
(dollars per gallon)	1.31	1.17	1.23	1.45	1.50	1.31	1.17	1.26	1.24	1.09	0.97	1.08	1.33	1.37	1.14
No. 6 Residual Fuel Oil, Retail [d]															
(dollars per barrel)	23.64	24.56	25.11	29.49	27.56	25.69	24.98	24.91	23.53	20.56	19.28	19.83	25.93	25.85	20.80
Electric Utility Fuels															
Coal															
(dollars per million Btu)	1.21	1.21	1.19	1.19	1.20	1.21	1.20	1.19	1.19	1.20	1.18	1.17	1.20	1.20	1.19
Heavy Fuel Oil [e]															
(dollars per million Btu)	3.74	4.18	4.22	4.69	4.27	4.20	4.16	4.01	3.64	3.36	3.23	3.21	4.23	4.17	3.36
Natural Gas															
(dollars per million Btu)	2.85	3.78	4.47	6.00	7.42	5.39	4.97	5.47	5.85	4.88	4.68	5.14	4.28	5.53	4.99
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	6.43	7.68	10.08	8.99	9.95	10.46	10.72	9.02	9.16	9.99	10.94	9.11	7.73	9.83	9.42
Electricity															
(cents per kilowatthour)	7.76	8.34	8.56	8.11	7.84	8.46	8.74	8.27	7.95	8.53	8.82	8.35	8.21	8.34	8.43

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

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Supply															
Crude Oil Supply															
Domestic Production [a]	**5.86**	**5.84**	**5.79**	5.85	5.95	5.91	5.83	5.88	5.89	5.87	5.82	5.78	5.84	5.89	5.84
Alaska	**1.02**	**0.97**	**0.91**	0.99	1.02	1.01	0.98	1.08	1.06	1.05	1.04	1.05	0.97	1.02	1.05
Lower 48	**4.84**	**4.87**	**4.88**	4.87	4.93	4.90	4.85	4.81	4.84	4.82	4.78	4.74	4.87	4.87	4.79
Net Imports (including SPR) [b]	**8.12**	**9.16**	**9.49**	8.68	8.82	9.43	9.72	9.34	9.15	9.88	9.99	9.54	8.86	9.33	9.64
Other SPR Supply	**0.02**	**0.17**	**0.07**	0.07	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.00	0.08	0.09	0.00
SPR Stock Withdrawn or Added (-)	**-0.02**	**0.01**	**-0.02**	0.33	0.00	0.00	-0.17	-0.17	0.00	0.00	0.00	0.00	0.07	-0.09	0.00
Other Stock Withdrawn or Added (-)	**-0.13**	**0.06**	**0.12**	-0.09	-0.19	-0.02	0.17	0.03	-0.22	-0.05	0.14	0.00	-0.01	0.00	-0.03
Product Supplied and Losses	**0.00**	**0.00**	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unaccounted-for Crude Oil	**0.31**	**0.37**	**0.22**	0.36	0.21	0.22	0.22	0.21	0.21	0.22	0.23	0.22	0.31	0.21	0.22
Total Crude Oil Supply	**14.16**	**15.41**	**15.63**	15.10	14.79	15.54	15.77	15.30	15.03	15.92	16.17	15.54	15.08	15.35	15.67
Other Supply															
NGL Production	**1.97**	**1.94**	**1.93**	1.92	1.95	1.95	1.93	2.00	2.01	2.00	1.96	2.03	1.94	1.96	2.00
Other Inputs	**0.37**	**0.40**	**0.38**	0.41	0.38	0.37	0.37	0.39	0.35	0.34	0.34	0.36	0.39	0.38	0.35
Crude Oil Product Supplied	**0.00**	**0.00**	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processing Gain	**0.94**	**0.94**	**0.95**	0.94	0.90	0.93	0.94	0.91	0.88	0.94	0.95	0.92	0.94	0.92	0.92
Net Product Imports [c]	**1.36**	**1.22**	**1.09**	1.19	1.41	1.50	1.44	1.36	1.52	1.58	1.57	1.50	1.21	1.43	1.54
Product Stock Withdrawn or Added (-)	**0.32**	**-0.62**	**-0.13**	0.40	0.36	-0.54	-0.35	0.37	0.38	-0.56	-0.39	0.37	-0.01	-0.04	-0.05
Total Supply	**19.12**	**19.29**	**19.84**	19.95	19.80	19.76	20.09	20.34	20.16	20.21	20.60	20.72	19.55	20.00	20.43
Demand															
Motor Gasoline	**8.03**	**8.49**	**8.58**	8.39	8.16	8.65	8.70	8.58	8.28	8.79	8.88	8.78	8.37	8.52	8.68
Jet Fuel	**1.64**	**1.67**	**1.78**	1.72	1.75	1.74	1.80	1.82	1.80	1.77	1.83	1.85	1.70	1.78	1.81
Distillate Fuel Oil	**3.76**	**3.56**	**3.61**	3.89	4.02	3.68	3.62	3.86	4.08	3.74	3.69	3.93	3.70	3.80	3.86
Residual Fuel Oil	**0.73**	**0.75**	**0.90**	0.97	0.90	0.73	0.79	0.76	0.86	0.84	0.92	0.74	0.84	0.79	0.84
Other Oils [d]	**4.96**	**4.82**	**4.97**	4.97	4.97	4.95	5.18	5.32	5.14	5.08	5.29	5.42	4.93	5.11	5.23
Total Demand	**19.12**	**19.29**	**19.84**	19.93	19.80	19.76	20.09	20.34	20.16	20.21	20.60	20.72	19.55	20.00	20.43
Total Petroleum Net Imports	**9.48**	**10.38**	**10.58**	9.87	10.24	10.93	11.16	10.70	10.67	11.45	11.56	11.04	10.08	10.76	11.18
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	**296**	**291**	**280**	289	306	308	292	289	310	314	302	301	289	289	301
Total Motor Gasoline	**205**	**210**	**197**	197	204	203	197	202	206	206	200	205	197	202	205
Finished Motor Gasoline	**158**	**165**	**154**	157	157	162	156	161	160	164	159	163	157	161	163
Blending Components	**47**	**45**	**43**	40	46	42	41	41	46	42	41	41	40	41	41
Jet Fuel	**41**	**44**	**42**	45	41	42	44	44	41	42	43	44	45	44	44
Distillate Fuel Oil	**96**	**106**	**115**	114	85	97	115	117	88	101	124	125	114	117	125
Residual Fuel Oil	**36**	**37**	**38**	35	33	34	37	38	35	35	37	38	35	38	38
Other Oils [e]	**235**	**272**	**288**	253	249	285	300	258	255	291	307	265	253	258	265
Total Stocks (excluding SPR)	**908**	**960**	**961**	933	917	968	985	948	934	989	1012	979	933	948	979
Crude Oil in SPR	**569**	**569**	**570**	540	540	540	556	572	572	572	572	572	540	572	572
Heating Oil Reserve	**0**	**0**	**0**	2	2	2	2	2	2	2	2	2	2	2	2
Total Stocks (including SPR)	**1478**	**1529**	**1531**	1473	1458	1509	1541	1520	1506	1561	1584	1550	1473	1520	1550

[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.

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	6.11	5.48	0.63	0.08	0.55
Lower 48 States...	5.04	4.44	0.60	0.07	0.53
Alaska...	1.07	1.03	0.04	0.02	0.02

Note: Components provided are for the fourth quarter 2002. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

(Energy Information Administration/Short-Term Energy Outlook -- January 2001)

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

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Supply															
Total Dry Gas Production	4.62	4.61	4.72	4.87	4.89	4.88	4.95	5.12	5.07	5.04	5.05	5.17	18.83	19.84	20.34
Net Imports	0.87	0.82	0.87	0.92	0.98	0.97	1.04	1.04	1.04	1.02	1.07	1.06	3.49	4.03	4.19
Supplemental Gaseous Fuels..................	0.03	0.02	0.02	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.10	0.12	0.13
Total New Supply	5.52	5.46	5.62	5.82	5.91	5.88	6.01	6.20	6.15	6.09	6.15	6.27	22.42	24.00	24.65
Working Gas in Storage															
Opening...	2.51	1.15	1.71	2.47	1.74	0.44	1.37	2.33	2.00	0.88	1.68	2.58	2.51	1.74	2.00
Closing..	1.15	1.71	2.47	1.74	0.44	1.37	2.33	2.00	0.88	1.68	2.58	2.27	1.74	2.00	2.27
Net Withdrawals.................................	1.36	-0.56	-0.77	0.73	1.30	-0.93	-0.96	0.33	1.12	-0.80	-0.90	0.31	0.77	-0.26	-0.26
Total Supply...	6.88	4.90	4.85	6.55	7.21	4.95	5.05	6.52	7.27	5.29	5.25	6.58	23.19	23.74	24.39
Balancing Item [a]	0.05	0.07	-0.14	-0.48	0.06	0.15	-0.07	-0.54	0.15	0.01	-0.04	-0.54	-0.50	-0.39	-0.41
Total Primary Supply.................................	6.93	4.98	4.71	6.07	7.28	5.11	4.98	5.99	7.42	5.31	5.21	6.05	22.69	23.35	23.98
Demand															
Lease and Plant Fuel..............................	0.31	0.30	0.31	0.32	0.32	0.31	0.31	0.33	0.32	0.32	0.32	0.33	1.24	1.27	1.28
Pipeline Use..	0.21	0.15	0.15	0.18	0.22	0.15	0.15	0.18	0.22	0.16	0.15	0.18	0.68	0.70	0.71
Residential..	2.22	0.77	0.38	1.59	2.50	0.85	0.38	1.44	2.46	0.86	0.38	1.46	4.97	5.17	5.16
Commercial...	1.29	0.64	0.47	0.99	1.44	0.64	0.45	0.92	1.43	0.66	0.46	0.94	3.38	3.46	3.49
Industrial (Incl. Nonutility Use)	2.35	2.29	2.34	2.40	2.38	2.34	2.55	2.49	2.52	2.47	2.70	2.61	9.38	9.76	10.31
Electric Utilities......................................	0.56	0.83	1.06	0.59	0.42	0.80	1.15	0.63	0.46	0.84	1.20	0.53	3.04	2.99	3.03
Total Demand..	6.93	4.98	4.71	6.07	7.28	5.11	4.98	5.99	7.42	5.31	5.21	6.05	22.69	23.35	23.98

[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)

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Supply															
Production...	274.1	260.5	278.5	293.8	282.5	284.5	287.4	287.1	281.5	290.6	304.0	283.1	1106.9	1141.6	1159.2
Appalachia...	109.5	105.3	108.1	108.6	111.1	112.9	102.6	103.7	108.8	113.0	105.9	100.1	431.5	430.3	427.8
Interior...	36.1	35.2	41.3	39.8	35.4	36.8	40.8	36.8	33.5	35.8	41.2	34.5	152.4	149.7	145.1
Western...	128.5	120.0	129.1	145.3	136.0	134.9	144.0	146.6	139.1	141.8	156.8	148.6	522.9	561.6	586.4
Primary Stock Levels [a]															
Opening...	39.5	44.4	40.4	37.1	34.2	41.3	40.2	36.5	34.9	40.8	41.0	36.2	39.5	34.2	34.9
Closing..	44.4	40.4	37.1	34.2	41.3	40.2	36.5	34.9	40.8	41.0	36.2	35.2	34.2	34.9	35.2
Net Withdrawals.............................	-4.9	4.0	3.3	2.9	-7.1	1.1	3.7	1.6	-6.0	-0.2	4.8	1.0	5.3	-0.7	-0.3
Imports..	2.8	2.7	3.6	2.6	3.0	2.9	2.9	3.0	3.0	3.0	3.0	3.0	11.7	11.8	12.0
Exports	13.6	14.4	15.8	15.2	14.9	15.1	15.3	15.2	15.3	15.4	15.7	15.6	58.9	60.5	62.0
Total Net Domestic Supply.............	258.3	252.8	269.6	284.1	263.5	273.5	278.8	276.5	263.3	278.0	296.1	271.5	1064.9	1092.3	1108.9
Secondary Stock Levels [b]															
Opening...	143.5	140.4	136.3	119.2	124.6	117.2	131.1	116.2	124.6	111.7	118.3	105.7	143.5	124.6	124.6
Closing..	140.4	136.3	119.2	124.6	117.2	131.1	116.2	124.6	111.7	118.3	105.7	113.0	124.6	124.6	113.0
Net Withdrawals.............................	3.1	4.1	17.2	-5.5	7.5	-14.0	15.0	-8.4	12.9	-6.6	12.6	-7.3	18.9	0.1	11.6
Waste Coal Supplied to IPPs [c]	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	12.2	12.2	12.2
Total Supply...	264.5	260.0	289.8	281.7	274.0	262.6	296.9	271.1	279.2	274.4	311.8	267.3	1096.0	1104.6	1132.7
Demand															
Coke Plants...	7.3	7.2	7.2	7.3	7.2	7.2	7.1	7.1	7.1	7.2	7.2	7.3	28.9	28.6	28.7
Electricity Production															
Electric Utilities..................................	214.1	202.1	227.3	214.8	215.4	207.4	237.3	210.4	220.2	218.8	251.5	205.8	858.2	870.5	896.3
Nonutilities (Excl. Cogen.) [d]	25.3	24.7	28.0	26.7	32.9	31.0	35.5	33.9	33.5	31.5	36.2	34.5	104.7	133.3	135.8
Retail and General Industry................	18.1	16.7	17.1	19.6	18.5	17.0	17.0	19.7	18.4	16.9	16.9	19.7	71.5	72.2	71.9
Total Demand [e]	264.8	250.7	279.6	268.4	274.0	262.6	296.9	271.1	279.2	274.4	311.8	267.3	1063.4	1104.6	1132.7
Discrepancy [f]	-0.3	9.3	10.2	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.6	0.0	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)

	2000				2001				2002				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2000	2001	2002
Supply															
Net Utility Generation															
Coal..	425.7	401.2	445.9	427.0	435.4	417.7	477.4	420.4	435.8	435.3	498.6	401.3	1699.8	1750.9	1771.0
Petroleum.................................	11.0	16.4	23.3	14.5	23.2	17.1	24.4	17.2	21.9	23.7	32.1	16.6	65.1	81.9	94.3
Natural Gas..............................	54.4	79.1	100.5	55.5	39.6	76.1	108.7	59.4	43.7	80.0	113.8	49.9	289.5	283.8	287.4
Nuclear	185.0	177.4	182.0	163.3	173.7	165.9	175.2	159.7	167.5	153.0	179.3	163.5	707.6	674.6	663.3
Hydroelectric	66.9	73.0	57.4	61.3	67.8	73.3	60.5	60.4	71.4	75.2	63.1	62.3	258.6	262.0	272.0
Geothermal and Other [a]	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	2.2	2.2	2.2
Subtotal....................................	743.4	747.6	809.6	722.2	740.2	750.6	846.9	717.7	740.9	767.8	887.5	694.0	3022.8	3055.3	3090.2
Nonutility Generation [b]															
Coal..	55.2	58.5	82.1	60.5	59.1	59.2	69.3	59.0	60.9	61.6	61.6	71.3	256.2	246.7	255.4
Petroleum.................................	11.1	8.8	11.7	9.9	9.7	9.7	11.3	9.6	10.0	10.1	10.1	11.7	41.4	40.4	41.8
Natural Gas..............................	66.9	76.0	98.0	76.1	73.0	83.5	114.4	90.1	84.1	83.5	95.2	128.9	317.0	361.1	391.7
Other Gaseous Fuels [c]	2.5	2.8	3.6	2.3	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	11.1	8.5	8.9
Nuclear	5.2	5.0	16.7	20.2	21.5	20.5	21.7	19.7	20.7	18.9	22.2	20.2	47.1	83.4	82.0
Hydroelectric	3.9	5.0	4.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	17.7	18.0	18.0
Geothermal and Other [d]	21.8	22.2	23.4	23.3	22.1	22.0	22.3	22.7	22.1	22.0	22.3	22.7	90.7	89.1	89.1
Subtotal....................................	166.6	178.3	239.7	196.7	192.0	201.6	245.6	207.9	204.6	202.7	218.0	261.4	781.2	847.1	886.7
Total Generation	910.0	925.9	1049.2	918.9	932.2	952.2	1092.5	925.5	945.5	970.5	1105.5	955.4	3804.1	3902.4	3976.9
Net Imports [e]	9.2	8.7	13.1	8.3	7.7	8.8	12.0	8.6	7.3	8.3	11.7	8.6	39.3	37.2	35.9
Total Supply	919.2	934.6	1062.3	927.2	939.9	961.0	1104.5	934.2	952.8	978.8	1117.2	964.0	3843.3	3939.6	4012.8
Losses and Unaccounted for [f] ...	60.3	73.3	41.1	65.4	55.9	84.1	68.1	66.7	56.7	86.0	69.6	68.1	240.1	274.9	280.3
Demand															
Electric Utility Sales															
Residential	292.5	264.2	352.8	274.4	309.2	273.1	361.0	272.0	310.6	279.9	369.6	277.5	1183.9	1215.3	1237.6
Commercial	236.2	254.3	294.4	243.4	241.3	255.5	300.8	244.7	244.2	259.8	306.2	249.5	1028.2	1042.3	1059.7
Industrial	260.0	268.5	280.5	265.0	256.8	269.0	280.8	270.3	263.1	274.9	286.5	275.7	1074.0	1076.8	1100.3
Other..	26.4	27.4	30.6	27.3	27.0	27.3	30.5	27.6	27.5	27.8	31.3	28.3	111.6	112.4	114.9
Subtotal....................................	815.1	814.3	958.2	810.1	834.2	824.9	973.1	814.5	845.3	842.5	993.5	831.0	3397.7	3446.8	3512.4
Nonutility Use/Sales [b]	43.8	46.9	63.1	51.8	49.7	52.0	63.2	52.9	50.8	50.3	54.1	64.9	205.5	217.8	220.2
Total Demand...........................	858.9	861.2	1021.3	861.9	884.0	876.9	1036.4	867.4	896.1	892.9	1047.7	895.9	3603.3	3664.7	3732.6
Memo:															
Nonutility Sales to															
Electric Utilities [b]	122.8	131.4	176.6	144.9	142.3	149.6	182.4	155.0	153.8	152.4	163.9	196.5	575.7	629.2	666.5

[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		
	1999	2000	2001	2002	1999-2000	2000-2001	2001-2002
Electric Utilities							
Hydroelectric Power [a]	**3.079**	2.709	2.745	2.849	-12.0	1.3	3.8
Geothermal, Solar and Wind Energy [b]	**0.036**	0.003	0.004	0.004	-91.7	33.3	0.0
Biofuels [c]	**0.021**	0.021	0.021	0.021	0.0	0.0	0.0
Total	**3.136**	2.733	2.769	2.874	-12.9	1.3	3.8
Nonutility Power Generators							
Hydroelectric Power [a]	**0.149**	0.183	0.186	0.186	22.8	1.6	0.0
Geothermal, Solar and Wind Energy [b]	**0.373**	0.338	0.333	0.333	-9.4	-1.5	0.0
Biofuels [c]	**0.523**	0.741	0.729	0.729	41.7	-1.6	0.0
Total	**1.045**	1.262	1.249	1.249	20.8	-1.0	0.0
Total Power Generation.............................	**4.180**	3.995	4.017	4.122	-4.4	0.6	2.6
Other Sectors [d]							
Residential and Commercial [e]	**0.553**	0.576	0.547	0.577	4.2	-5.0	5.5
Industrial [f]	**1.942**	2.003	2.008	2.058	3.1	0.2	2.5
Transportation [g]	**0.100**	0.110	0.111	0.117	10.0	0.9	5.4
Total	**2.595**	2.688	2.666	2.751	3.6	-0.8	3.2
Net Imported Electricity [h]	**0.249**	0.320	0.302	0.292	28.5	-5.6	-3.3
Total Renewable Energy Demand	**7.023**	7.003	6.986	7.165	-0.3	-0.2	2.6

[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

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Real Gross Domestic Product (GDP) (billion chained 1996 dollars)	6368	6592	6708	6676	6880	7063	7348	7544	7813	8159	8516	8876	*9334*	*9634*	*10033*
Imported Crude Oil Price [a] (nominal dollars per barrel)	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.22	*27.86*	*26.92*	*21.28*
Petroleum Supply															
Crude Oil Production [b] (million barrels per day)	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.88	*5.84*	*5.89*	*5.84*
Total Petroleum Net Imports (including SPR) (million barrels per day)	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.50	9.16	9.76	9.91	*10.08*	*10.76*	*11.18*
Energy Demand															
World Petroleum (million barrels per day)	64.8	65.9	66.0	66.6	66.8	67.0	68.3	69.9	71.4	73.1	73.6	74.8	*74.8*	*75.9*	*77.9*
U.S. Petroleum (million barrels per day)	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.52	*19.55*	*20.00*	*20.43*
Natural Gas (trillion cubic feet)	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.70	*22.69*	*23.35*	*23.98*
Coal (million short tons)	877	891	897	898	907	943	950	962	1006	1029	1039	1044	*1063*	*1105*	*1133*
Electricity (billion kilowatthours)															
Utility Sales [c]	2578	2647	2713	2762	2763	2861	2935	3013	3098	3140	3240	3236	*3398*	*3447*	*3512*
Nonutility Own Use [d]	NA	91	113	119	122	127	138	145	145	148	156	185	*206*	*218*	*220*
Total	NA	2738	2826	2881	2885	2988	3073	3159	3243	3288	3396	3421	*3603*	*3665*	*3733*
Total Energy Demand [e] (quadrillion Btu)	NA	84.2	84.2	84.5	85.6	87.4	89.2	90.9	93.9	94.2	95.2	97.1	*98.3*	*100.2*	*102.3*
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	NA	12.77	12.55	12.66	12.44	12.37	12.14	12.07	12.02	11.54	11.18	10.94	*10.53*	*10.40*	*10.20*

[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														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Macroeconomic															
Real Gross Domestic Product (billion chained 1996 dollars)	6368	6592	6708	6676	6880	7063	7348	7544	7813	8159	8516	8876	*9334*	*9634*	*10033*
GDP Implicit Price Deflator (Index, 1996=1.000)	0.802	0.833	0.865	0.897	0.919	0.941	0.960	0.981	1.000	1.020	1.032	1.048	*1.071*	*1.094*	*1.114*
Real Disposable Personal Income (billion chained 1996 Dollars)	4784	4907	5014	5033	5189	5261	5397	5539	5678	5854	6134	6331	*6512*	*6771*	*7099*
Manufacturing Production (Index, 1996=1.000)	0.801	0.816	0.812	0.793	0.825	0.855	0.907	0.955	1.000	1.070	1.123	1.170	*1.242*	*1.290*	*1.330*
Real Fixed Investment (billion chained 1996 dollars)	887	911	895	833	886	958	1046	1109	1213	1329	1485	1621	*1779*	*1860*	*1942*
Real Exchange Rate (Index, 1996=1.000)	NA	NA	0.963	0.966	0.960	1.001	0.981	0.927	1.000	1.102	1.122	1.118	*1.224*	*1.262*	*1.192*
Business Inventory Change (billion chained 1996 dollars)	17.0	14.2	8.9	-6.8	-4.7	3.6	12.1	14.1	10.1	15.2	25.6	0.1	*15.8*	*5.7*	*6.0*
Producer Price Index (index, 1982=1.000)	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.247	1.277	1.275	1.244	1.255	*1.327*	*1.346*	*1.347*
Consumer Price Index (index, 1982-1984=1.000)	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	1.570	1.606	1.631	1.667	*1.724*	*1.765*	*1.798*
Petroleum Product Price Index (index, 1982=1.000)	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.608	0.701	0.680	0.513	0.609	*0.909*	*0.886*	*0.741*
Non-Farm Employment (millions)	105.2	107.9	109.4	108.3	108.6	110.7	114.1	117.2	119.6	122.7	125.8	128.8	*131.5*	*132.7*	*134.1*
Commercial Employment (millions)	67.8	70.0	71.3	70.8	71.2	73.2	76.1	78.8	81.1	83.9	86.6	89.5	*91.9*	*93.4*	*95.2*
Total Industrial Production (index, 1996=1.000)	0.815	0.830	0.828	0.812	0.837	0.866	0.914	0.958	1.000	1.063	1.108	1.147	*1.212*	*1.253*	*1.289*
Housing Stock (millions)	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.6	111.0	112.5	114.1	115.7	*116.1*	*117.4*	*118.6*
Weather [a]															
Heating Degree-Days															
U.S.	4653	4726	4016	4200	4441	4700	4483	4531	4713	4542	3951	4169	*4458*	*4463*	*4459*
New England	6715	6887	5848	5960	6844	6728	6672	6559	6679	6662	5680	5952	*6499*	*6467*	*6462*
Middle Atlantic	6088	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5351	*5725*	*5703*	*5698*
U.S. Gas-Weighted	4804	4856	4139	4337	4458	4754	4659	4707	4980	4802	4183	4399	*4683*	*4714*	*4710*
Cooling Degree-Days (U.S.)	1283	1156	1260	1331	1040	1218	1220	1293	1180	1156	1410	1297	*1252*	*1235*	*1237*

[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 CONTROL1200.

Table A3. Annual International Petroleum Supply and Demand Balance

(Millions Barrels per Day, Except OECD Commercial Stocks)

								Year							
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Demand [a]															
OECD															
U.S. (50 States)	17.3	17.3	17.0	16.7	17.0	17.2	17.7	17.7	18.3	18.6	18.9	19.5	*19.5*	*20.0*	*20.4*
Europe [b]	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*	*14.7*	*14.8*
Japan..	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.9	5.7	5.5	5.6	*5.6*	*5.6*	*5.6*
Other OECD	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.1	3.3	*3.3*	*3.4*	*3.6*
Total OECD	37.1	37.6	37.5	38.1	38.8	39.0	39.9	40.6	41.4	41.8	42.3	42.9	*42.9*	*43.7*	*44.4*
Non-OECD															
Former Soviet Union.................................	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*	*3.8*
Europe	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*	*1.7*
China..	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*	*5.0*
Other Asia	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*	*10.2*
Other Non-OECD.......................................	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*	*14.8*
Total Non-OECD..................................	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*	*35.5*
Total World Demand...................................	64.8	65.9	66.0	66.6	66.8	67.0	68.3	69.9	71.4	73.1	73.6	74.8	*75.9*	*77.9*	*79.9*
Supply [c]															
OECD															
U.S. (50 States)	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*	*9.2*	*9.1*
Canada	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*	*2.9*
North Sea [d]	3.8	3.7	3.9	4.1	4.5	4.8	5.5	5.9	6.3	6.2	6.2	6.3	*6.4*	*6.4*	*6.4*
Other OECD	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*	*1.7*	*1.7*
Total OECD	17.8	17.1	17.1	17.5	17.9	18.0	18.7	19.2	19.7	19.9	19.7	19.4	*19.9*	*20.1*	*20.1*
Non-OECD															
OPEC	21.5	23.3	24.5	24.6	25.8	26.6	27.0	27.6	28.3	29.9	30.4	29.3	*30.8*	*31.4*	*32.5*
Former Soviet Union..................................	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*	*8.2*	*8.5*
China..	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*	*3.2*	*3.1*
Mexico..	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*	*3.8*	*4.0*
Other Non-OECD.......................................	7.3	12.0	8.0	8.1	8.4	8.7	9.2	9.9	10.2	10.5	10.8	11.2	*11.3*	*11.3*	*11.6*
Total Non-OECD..................................	47.0	48.9	49.7	49.1	49.1	49.4	49.6	50.7	52.0	54.2	55.2	54.5	*56.7*	*57.8*	*59.7*
Total World Supply.....................................	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*	*78.0*	*79.8*
Total Stock Withdrawals.............................	0.1	0.0	-0.8	-0.1	-0.3	-0.4	0.0	0.0	-0.4	-1.0	-1.3	0.9	*-0.7*	*0.0*	*0.1*
OECD Comm. Stocks, End (bill. bbls.)	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.7	2.8	2.6	*2.6*	*2.8*	*2.8*
Net Exports from Former Soviet Union..............	3.6	3.4	3.0	2.1	2.1	2.3	2.4	2.6	3.0	3.3	3.5	3.8	*4.2*	*4.5*	*4.7*

[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														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Imported Crude Oil Prices															
Imported Average[a]	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.22	*27.86*	*26.92*	*21.28*
WTI[b] Spot Average	15.98	19.78	24.48	21.60	20.54	18.49	17.16	18.41	22.11	20.61	14.45	19.25	*30.29*	*28.96*	*23.32*
Natural Gas Wellhead															
(dollars per thousand cubic feet)	1.69	1.69	1.71	1.64	1.74	2.04	1.85	1.55	2.17	2.32	1.95	2.17	*3.73*	*5.22*	*4.57*
Petroleum Products															
Gasoline Retail [b] (dollars per gallon)															
All Grades	0.92	1.02	1.17	1.15	1.14	1.13	1.13	1.16	1.25	1.24	1.07	1.18	*1.53*	*1.48*	*1.33*
Regular Unleaded	0.91	0.99	1.13	1.10	1.09	1.07	1.08	1.11	1.20	1.20	1.03	1.14	*1.49*	*1.44*	*1.30*
No. 2 Diesel Oil, Retail															
(dollars per gallon)	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.10	1.22	1.19	1.04	1.12	*1.48*	*1.51*	*1.33*
No. 2 Heating Oil, Wholesale															
(dollars per gallon)	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	0.64	0.59	0.42	0.51	*0.89*	*0.87*	*0.69*
No. 2 Heating Oil, Retail															
(dollars per gallon)	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.87	0.99	0.99	0.85	0.88	*1.33*	*1.37*	*1.14*
No. 6 Residual Fuel Oil, Retail [c]															
(dollars per barrel)	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.49	19.01	17.82	12.83	16.02	*25.93*	*25.85*	*20.80*
Electric Utility Fuels															
Coal															
(dollars per million Btu)	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.27	1.25	1.22	*1.20*	*1.20*	*1.19*
Heavy Fuel Oil [d]															
(dollars per million Btu)	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	3.01	2.79	2.07	2.39	*4.23*	*4.17*	*3.36*
Natural Gas															
(dollars per million Btu)	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	2.64	2.76	2.38	2.57	*4.28*	*5.53*	*4.99*
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.06	6.35	6.95	6.83	6.69	*7.73*	*9.83*	*9.42*
Electricity															
(cents per kilowatthour)	7.49	7.64	7.85	8.05	8.23	8.34	8.40	8.40	8.36	8.43	8.26	8.16	*8.21*	*8.34*	*8.43*

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

	Year														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Supply															
Crude Oil Supply															
Domestic Production [a]	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.88	5.84	5.89	5.84
Alaska	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	1.02	1.05
Lower 48	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.08	5.07	5.16	5.08	4.83	4.87	4.87	4.79
Net Imports (including SPR) [b]	4.95	5.70	5.79	5.67	5.99	6.69	6.96	7.14	7.40	8.12	8.60	8.61	8.86	9.33	9.64
Other SPR Supply	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.02	0.01	0.08	0.09	0.00
Stock Draw (Including SPR)	0.00	-0.09	0.02	-0.01	0.00	-0.08	-0.02	0.09	0.05	-0.06	-0.07	0.09	-0.02	0.00	-0.03
Product Supplied and Losses	-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	0.00
Unaccounted-for Crude Oil	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.22	0.14	0.11	0.19	0.31	0.21	0.22
Total Crude Oil Supply	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.19	14.66	14.89	14.80	15.08	15.35	15.67
Other Supply															
NGL Production	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.83	1.82	1.76	1.85	1.94	1.96	2.00
Other Inputs	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.31	0.34	0.38	0.38	0.39	0.38	0.35
Crude Oil Product Supplied	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	0.00
Processing Gain	0.66	0.66	0.68	0.71	0.77	0.77	0.77	0.77	0.84	0.85	0.89	0.89	0.94	0.92	0.92
Net Product Imports [c]	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.75	1.10	1.04	1.17	1.30	1.21	1.43	1.54
Product Stock Withdrawn	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	0.03	-0.09	-0.17	0.30	-0.01	-0.04	-0.05
Total Supply	17.33	17.37	17.04	16.76	17.10	17.26	17.72	17.72	18.31	18.62	18.92	19.52	19.55	20.00	20.43
Demand															
Motor Gasoline [d]	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.89	8.02	8.25	8.43	8.37	8.52	8.68
Jet Fuel	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	1.81
Distillate Fuel Oil	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.21	3.37	3.44	3.46	3.57	3.70	3.80	3.86
Residual Fuel Oil	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.85	0.80	0.89	0.83	0.84	0.79	0.84
Other Oils [e]	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.36	4.63	4.77	4.69	5.01	4.93	5.11	5.23
Total Demand	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.52	19.55	20.00	20.43
Total Petroleum Net Imports	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.50	9.16	9.76	9.91	10.08	10.76	11.18
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	330	341	323	325	318	335	337	303	284	305	324	284	289	289	301
Total Motor Gasoline	228	213	220	219	216	226	215	202	195	210	216	193	197	202	205
Jet Fuel	44	41	52	49	43	40	47	40	40	44	45	41	45	44	44
Distillate Fuel Oil	124	106	132	144	141	141	145	130	127	138	156	125	114	117	125
Residual Fuel Oil	45	44	49	50	43	44	42	37	46	40	45	36	35	38	38
Other Oils [f]	267	257	261	267	263	273	275	258	250	259	291	246	253	258	265

[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														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Supply															
Total Dry Gas Production	17.10	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.85	18.90	18.71	18.62	*18.83*	*19.84*	*20.34*
Net Imports	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.69	2.78	2.84	2.99	3.42	*3.49*	*4.03*	*4.19*
Supplemental Gaseous Fuels...............	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	*0.10*	*0.12*	*0.13*
Total New Supply	18.42	18.69	19.38	19.45	19.88	20.42	21.39	21.40	21.75	21.84	21.80	22.14	*22.42*	*24.00*	*24.65*
Working Gas in Storage															
Opening..	2.76	2.85	2.51	3.07	2.82	2.60	2.32	2.61	2.15	2.17	2.17	2.73	*2.51*	*1.74*	*2.00*
Closing...	2.85	2.51	3.07	2.82	2.60	2.32	2.61	2.15	2.17	2.17	2.73	2.51	*1.74*	*2.00*	*2.27*
Net Withdrawals................................	-0.09	0.34	-0.56	0.24	0.23	0.28	-0.28	0.45	-0.02	0.00	-0.56	0.22	*0.77*	*-0.26*	*-0.26*
Total Supply...	18.33	19.03	18.82	19.70	20.11	20.70	21.11	21.85	21.73	21.84	21.25	22.36	*23.19*	*23.74*	*24.39*
Balancing Item [a]	-0.30	-0.23	-0.11	-0.66	-0.56	-0.42	-0.40	-0.27	0.24	0.11	0.01	-0.67	*-0.50*	*-0.39*	*-0.41*
Total Primary Supply................................	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.70	*22.69*	*23.35*	*23.98*
Demand															
Lease and Plant Fuel............................	1.10	1.07	1.24	1.13	1.17	1.17	1.12	1.22	1.25	1.20	1.16	1.08	*1.24*	*1.27*	*1.28*
Pipeline Use..	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.70	0.71	0.75	0.64	0.74	*0.68*	*0.70*	*0.71*
Residential...	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.24	4.98	4.52	4.73	*4.97*	*5.17*	*5.16*
Commercial..	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.03	3.16	3.21	3.00	3.04	*3.38*	*3.46*	*3.49*
Industrial (Incl. Nonutilities)....................	6.38	6.82	7.02	7.23	7.53	7.98	8.17	8.58	8.87	8.83	8.69	9.00	*9.38*	*9.76*	*10.31*
Electric Utilities.....................................	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.20	2.73	2.97	3.26	3.11	*3.04*	*2.99*	*3.03*
Total Demand.....................................	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.70	*22.69*	*23.35*	*23.98*

[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														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Supply															
Production..	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1033.0	1063.9	1089.9	1117.5	1100.2	*1106.9*	*1141.6*	*1159.2*
Appalachia...	NA	464.8	489.0	457.8	456.6	409.7	445.4	434.9	451.9	467.8	460.4	425.4	*431.5*	*430.3*	*427.8*
Interior..	NA	198.1	205.8	195.4	195.7	167.2	179.9	168.5	172.8	170.9	168.4	162.5	*152.4*	*149.7*	*145.1*
Western	NA	317.9	334.3	342.8	345.3	368.5	408.3	429.6	439.1	451.3	488.8	512.3	*522.9*	*561.6*	*586.4*
Primary Stock Levels [a]															
Opening..	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	*39.5*	*34.2*	*34.9*
Closing	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	39.5	*34.2*	*34.9*	*35.2*
Net Withdrawals	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	5.8	-5.3	-2.6	-2.9	*5.3*	*-0.7*	*-0.3*
Imports	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.1	7.5	8.7	9.1	*11.7*	*11.8*	*12.0*
Exports...	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.5	83.5	78.0	58.5	*58.9*	*60.5*	*62.0*
Total Net Domestic Supply	855.3	884.2	921.6	890.9	897.8	886.9	961.8	950.4	986.3	1008.5	1045.7	1047.9	*1064.9*	*1092.3*	*1108.9*
Secondary Stock Levels [b]															
Opening..	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*	*124.6*	*124.6*
Closing	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	143.5	*124.6*	*124.6*	*113.0*
Net Withdrawals	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	11.7	16.6	-23.0	-14.1	*18.9*	*0.1*	*11.6*
Waste Coal Supplied to IPPs [c]	0.0	0.0	0.0	0.0	6.0	6.4	7.9	8.5	8.8	8.1	8.6	12.0	*12.2*	*12.2*	*12.2*
Total Supply	882.3	896.5	899.4	891.4	907.8	936.5	954.0	960.4	1006.7	1033.2	1031.3	1045.8	*1096.0*	*1104.6*	*1132.7*
Demand															
Coke Plants	41.9	40.5	38.9	33.9	32.4	31.3	31.7	33.0	31.7	30.2	28.2	28.1	*28.9*	*28.6*	*28.7*
Electricity Production															
Electric Utilities	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.0	874.7	900.4	910.9	894.1	*858.2*	*870.5*	*896.3*
Nonutilities (Excl. Cogen.) [d]	NA	0.9	1.6	10.2	14.6	17.1	19.5	20.8	22.2	21.6	26.9	51.7	*104.7*	*133.3*	*135.8*
Retail and General Industry......................	76.3	82.3	83.1	81.5	80.2	81.1	81.2	78.9	76.9	77.1	73.0	70.3	*71.5*	*72.2*	*71.9*
Total Demand [e]	876.5	890.6	897.1	897.8	907.0	943.1	949.7	961.7	1005.6	1029.2	1039.0	1044.3	*1063.4*	*1104.6*	*1132.7*
Discrepancy [f]	5.8	5.9	2.4	-6.4	0.8	-6.6	4.3	-1.3	1.2	4.0	-7.7	1.6	*32.6*	*0.0*	*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														
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Supply															
Net Utility Generation															
Coal..	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1652.9	1737.5	1787.8	1807.5	1767.7	*1699.8*	*1750.9*	*1771.0*
Petroleum	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.8	67.3	77.8	110.2	86.9	*65.1*	*81.9*	*94.3*
Natural Gas.............................	252.8	266.6	264.1	264.2	263.9	258.9	291.1	307.3	262.7	283.6	309.2	296.4	*289.5*	*283.8*	*287.4*
Nuclear....................................	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	674.7	628.6	673.7	725.0	*707.6*	*674.6*	*663.3*
Hydroelectric............................	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	328.0	337.2	304.4	293.9	*258.6*	*262.0*	*272.0*
Geothermal and Other [a]	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*	*2.2*
Subtotal............................	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3077.4	3122.5	3212.2	3173.7	*3022.8*	*3055.3*	*3090.2*
Nonutility Generation [b]	0.0	187.6	187.6	216.7	246.3	314.4	343.1	363.3	369.6	371.7	405.7	554.7	*781.2*	*847.1*	*886.7*
Total Generation.....................	2704.3	2971.9	3024.9	3071.3	3083.4	3196.9	3253.8	3357.8	3447.0	3494.2	3617.9	3728.4	*3804.1*	*3902.4*	*3976.9*
Net Imports [c]	31.8	11.0	2.3	19.6	25.4	27.8	44.8	39.2	38.0	36.6	27.6	30.6	*39.3*	*37.2*	*35.9*
Total Supply	2736.0	2982.8	3027.2	3091.0	3108.8	3224.7	3298.6	3397.1	3485.0	3530.8	3645.5	3759.0	*3843.3*	*3939.6*	*4012.8*
Losses and Unaccounted for [d]	NA	243.2	207.3	215.0	223.6	236.4	225.7	238.4	242.3	242.9	249.4	337.7	*240.1*	*274.9*	*280.3*
Demand															
Electric Utility Sales															
Residential...............................	892.9	905.5	924.0	955.4	935.9	994.8	1008.5	1042.5	1082.5	1075.8	1127.7	1140.8	*1183.9*	*1215.3*	*1237.6*
Commercial..............................	699.1	725.9	751.0	765.7	761.3	794.6	820.3	862.7	887.4	928.4	968.5	970.6	*1028.2*	*1042.3*	*1059.7*
Industrial.................................	896.5	925.7	945.5	946.6	972.7	977.2	1008.0	1012.7	1030.4	1032.7	1040.0	1017.8	*1074.0*	*1076.8*	*1100.3*
Other......................................	89.6	89.8	92.0	94.3	93.4	94.9	97.8	95.4	97.5	102.9	103.5	106.8	*111.6*	*112.4*	*114.9*
Subtotal............................	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3013.3	3097.8	3139.8	3239.8	3235.9	*3397.7*	*3446.8*	*3512.4*
Nonutility Own Use [e]	NA	92.9	94.7	101.5	108.0	126.9	138.4	145.4	144.9	148.2	156.2	185.3	*205.5*	*217.8*	*220.2*
Total Demand.........................	NA	2739.7	2819.9	2875.9	2885.2	2988.4	3073.0	3158.7	3242.7	3287.9	3396.1	3421.2	*3603.3*	*3664.7*	*3732.6*
Memo:															
Nonutility Sales															
to Electric Utilities	NA	NA	92.9	115.2	138.3	187.5	204.7	217.9	224.7	223.5	249.5	369.4	*575.7*	*629.2*	*666.5*

[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.