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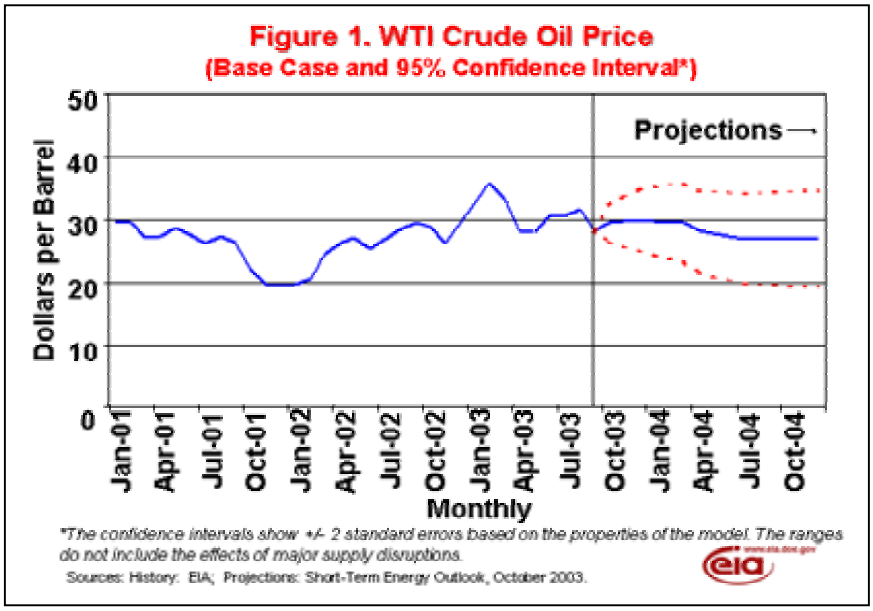
Energy Information Administration

# Short-Term Energy Outlook

**October 2003**




## Overview

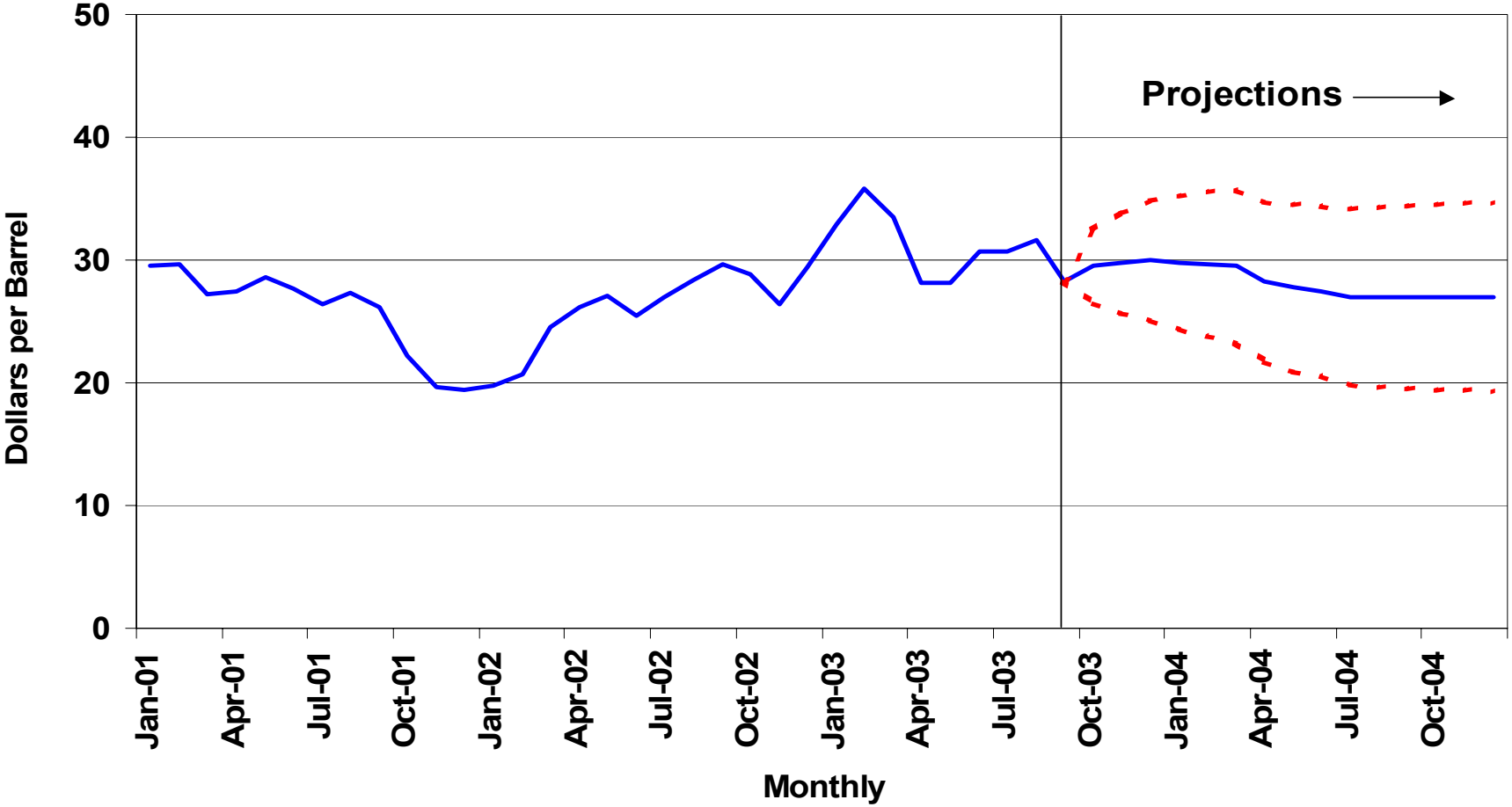
**World Oil Markets.** EIA's outlook is for world oil prices to remain near $30 per barrel through the coming winter of 2003/2004. Prices remain firm rather than declining primarily because of OPEC's decision to lower oil production quotas.

OPEC's decision to cut its production targets reduces the chances for a large end-of-year stockbuild that OPEC feared could undermine oil prices. Even before OPEC's decision to lower quotas, EIA had projected that the Organization for Economic Cooperation and Development (OECD) commercial inventory situation would remain tight until the end of the year. Until these inventories are rebuilt above observed 5-year lows, which is not expected to occur until early 2004, West Texas Intermediate (WTI) crude oil prices should remain relatively high over the 3-6 months, then gradually slide to roughly $27 per barrel by late 2004 (Figure 1).

**Winter Fuels Outlook.** Heating fuel markets are poised to start the 2003-2004 heating season (October-March) with near-average inventory levels. As a result, the status of heating fuel inventories is not expected to significantly increase normal risk of sharp price spikes during the heating season. However, tight oil and natural gas markets have generated relatively high levels of crude oil and petroleum product prices during much of this year and natural gas spot prices are expected to average over $5 per thousand cubic feet for all of 2003, about 70 percent above the 2002 average. Heating fuel consumption levels, and heating oil and natural gas prices, are highly weather-dependent. EIA's baseline scenario, which assumes normal weather, projects average wholesale and retail prices of heating oil to be close to those observed last winter. Continued increases in residential prices are expected for natural gas, reflecting tightness in supplies for much of 2003 and lagged cost recovery by gas distribution companies in consumer bills. Residential electricity prices, which are much less volatile than natural gas or heating oil prices, are expected to be up only slightly this winter from year-ago averages. Compared to last winter, projected net changes in residential heating prices and expenditures compared to last winter are: Prices: almost no change for heating oil and propane; +9 percent for natural gas; +3 percent for electricity. Expenditures: -8 percent for heating oil; + 5 percent for natural gas; +2 percent for electricity; -3 percent for propane. All the above projections assume normal weather.

**U.S. Natural Gas Markets.** Natural gas demand is expected to fall by 1.1 percent in 2003 due mainly to high prices discouraging demand, particularly in the industrial and electric power sectors, but also due to

# Figure 1. WTI Crude Oil Price
## (Base Case and 95% Confidence Interval*)




**The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.*

**Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.**

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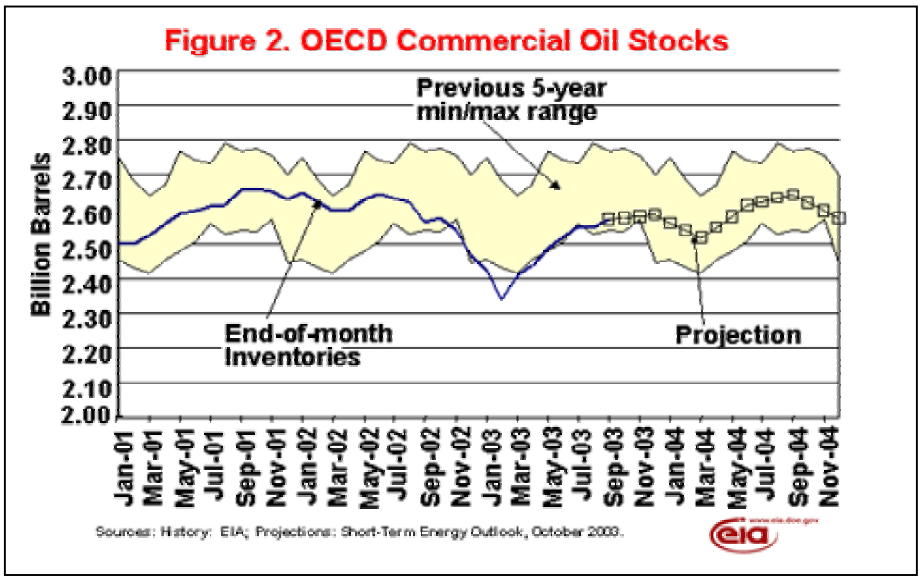
the lower weather-related demand following the first quarter of 2003. Accelerated economic growth and generally lower prices are projected to increase consumption in 2004. Working natural gas in storage is estimated to have surpassed 2.84 billion cubic feet (bcf) at the end of September, 6.7 percent below the year-ago level, but actually about normal. Natural gas production is expected to increase by about 2.1 percent this year. High natural gas prices and sharply higher oil and natural gas field revenues following the downturn in 2002 have resulted in strong natural gas-directed drilling activity this year.

## Details

### World Oil Markets

**Crude Oil Prices.** Average monthly prices for the major marker crude oils fell in September after having risen from June-August. Average prices in September were $2-$3 per barrel lower than in August and $1 per barrel higher than in September 2002. However, oil prices firmed near the end of September following OPEC's decision to lower production quotas sending end-month prices nearly as high as they were at the beginning of September. The OPEC basket price continued within its target range for the eighteenth consecutive month and has not fallen below this range since March 2002.



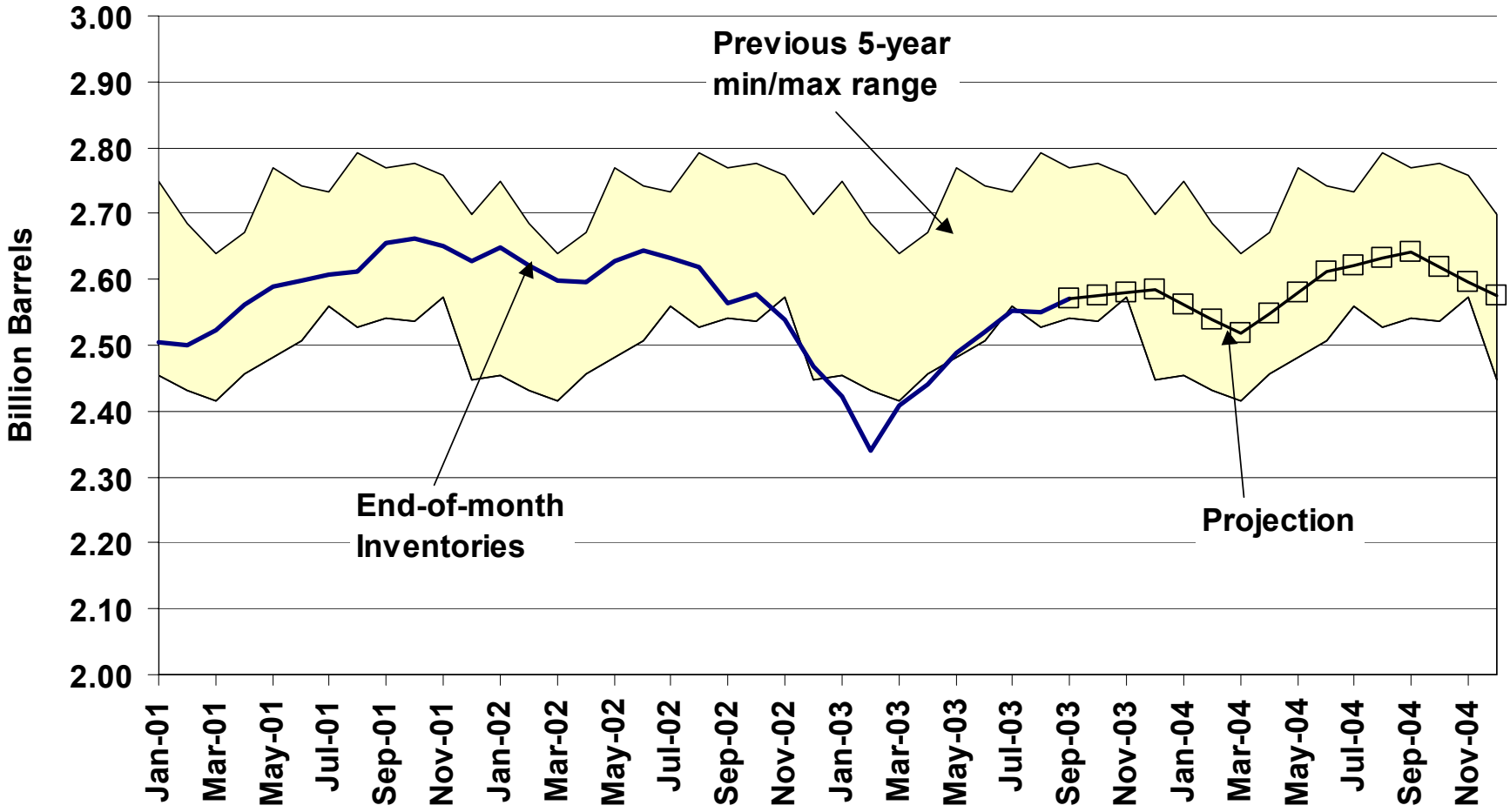

EIA's outlook for oil prices for the rest of 2003 remains firm, largely because OPEC members decided to reduce oil quotas, a factor absent from last month's EIA projection. The current *Outlook* projects oil prices remaining near $30 per barrel through the upcoming winter (Figure 1).

OPEC's decision to cut its production targets reduces the chances for a large end-of-year stockbuild that OPEC feared could undermine oil prices. Even before OPEC's decision to lower quotas, EIA had projected that the Organization for Economic Cooperation and Development (OECD) commercial inventory situation would remain tight until the end of the year June (Figure 2). Until these inventories are rebuilt above observed 5-year lows, which is not expected to occur until early 2004, West Texas Intermediate (WTI) crude oil prices should remain firm over the 3-6 months, then gradually slide to roughly $27 per barrel by late 2004.

**International Oil Supply**. OPEC 10 oil production (excluding Iraq) in September stabilized at an estimated 25.6 million barrels per day, about the same as their estimated production levels in August, and only 0.2 million barrels per day above the OPEC production targets that took effect June 1 (Figure 3).

Non-OPEC production is expected to grow by 1.3 million barrels per day in 2004 after growing by 1 million barrels per day in 2003. Most of this growth is expected to come from Russia and the Caspian Sea region, as supplies from these countries are expected to increase by over 800,000 barrels per day. Additional increments from this region are not expected to come until new export pipeline capacity is added after the end of the projection period for the *Outlook*.

# Figure 2. OECD Commercial Oil Stocks




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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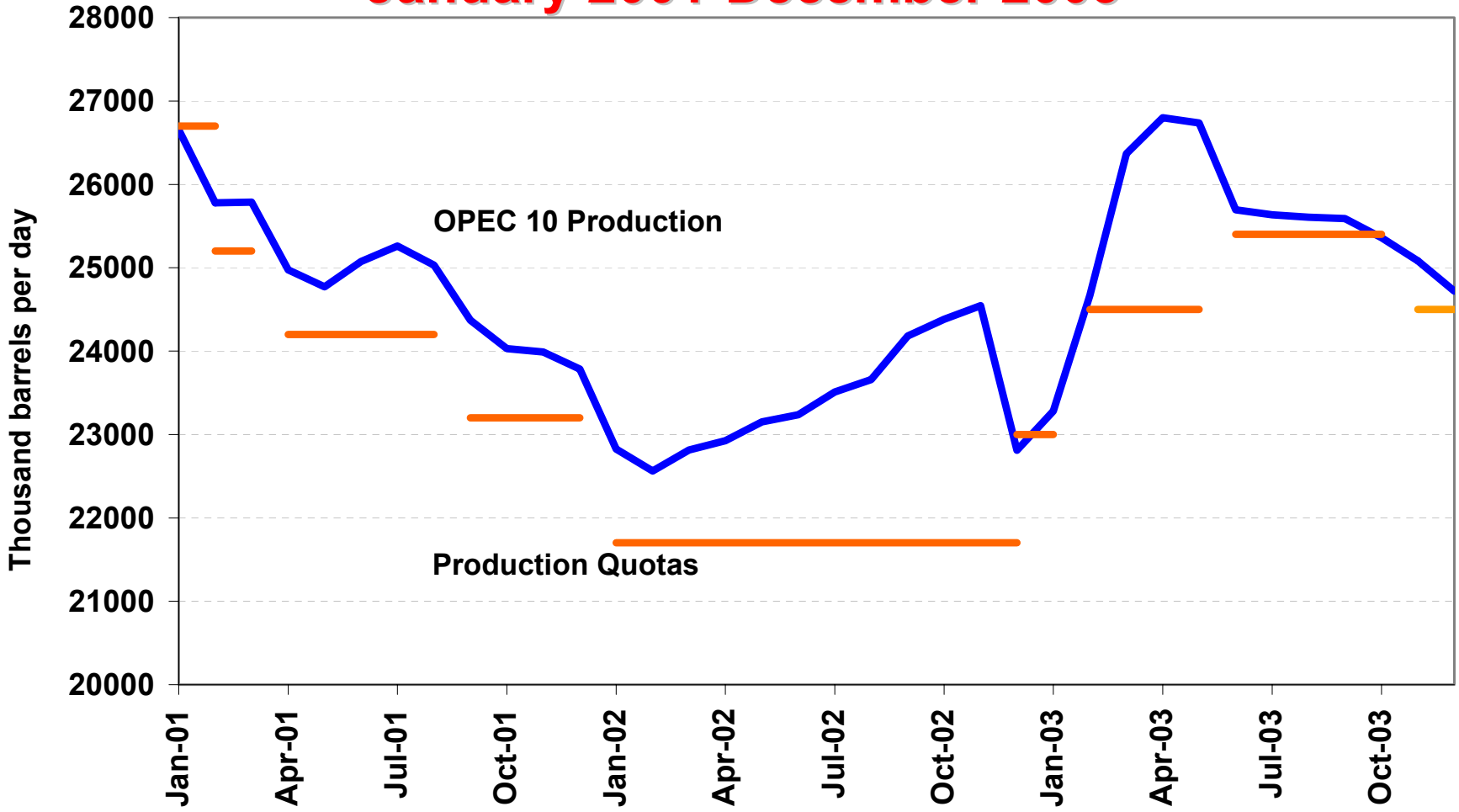
# Figure 3. OPEC 10 Crude Oil Production vs. Quotas, January 2001-December 2003




OPEC 10 Production for October-December 2003 is a Projection. The quota shown for November-December 2003 is the most recent quota. Source: EIA

**Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.**

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**International Oil Demand**. World oil demand is projected to grow by about 1 million barrels per day in 2003-2004 (Figure 4). Despite weak U.S. growth this year, the OECD is expected to contribute about 70 percent of the growth in 2003 while the bulk of the demand growth in 2004 comes from outside the OECD

**U. S. Energy Prices**

**Motor Gasoline:** Motor gasoline prices experienced a late summer price surge in the latter half of August, setting new weekly records for motor gasoline prices in the last week of August. Contributing factors included low levels of gasoline inventories, unanticipated supply disruptions, strong demand, and high crude oil prices. However, by the middle of September, a turnaround in the supply and demand conditions resulted in an easing of retail gasoline prices. Weekly average pump prices have fallen by about 16 cents per gallon from the record high set less than two months ago (Figure 5). Weakening pump prices should continue through the winter. In 2004, the annual average pump price is projected to be $1.46 per gallon (down roughly 10 cents per gallon from the projected 2003 average), as crude oil prices and average refiner margins decline. This year, refiner margins had soared in March and again in August as supplies of gasoline fell to low levels. Next year, the assumption of normal stock levels for gasoline should lower the average refiner margin. At the end of September, gasoline inventories remained just below the 5-year min/max range (Figure 6).

The current price of $1.91 per gallon for regular motor gasoline in California is about 32 cents per gallon higher than the national average price of $1.59 per gallon, a trend that has persisted over the last 6 weeks.

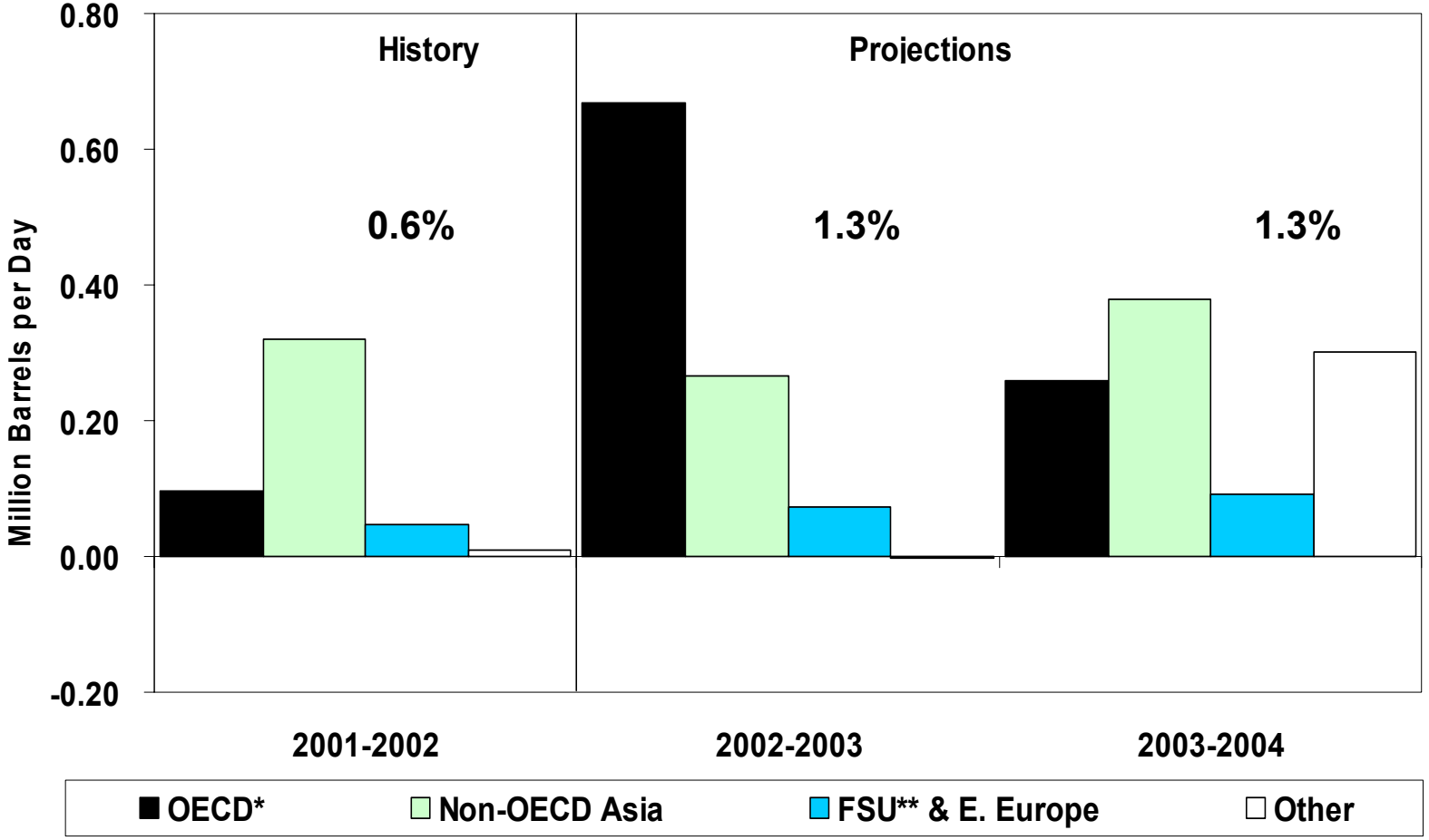
**Distillate Fuel Oil (Diesel Fuel and Heating Oil):** Diesel fuel oil prices were more stable than motor gasoline prices during the past summer. For example, when motor gasoline prices increased by 10 cents per gallon from the second quarter to the third quarter, average diesel prices remained flat over the same period. However, now that the heating season (October-March) has begun, diesel prices are expected to rise, pulled up by the seasonal demand patterns of heating oil. Heating oil prices this winter season (October-March), are expected to average about $1.33 per gallon, about the same as last winter's average price (Figure 7). However, further increases in world oil prices or the early arrival of cold weather on the East Coast could spike prices this heating season (October-March), and draw down distillate inventory levels. Cold weather could add an additional 8-16 cents per gallon to our base case projections and perhaps even more at the local level. At the end of September, distillate fuel oil inventories were about 132 million barrels, a level close to the middle of the 5-year min/max range (Figure 8).

**Natural Gas:** Historically high levels of natural gas have been injected into underground storage during the current injection season (April-October), pushing inventories of working gas to levels comfortably into the 5-year min/max range. As the winter season (October-March) commences, cash prices at the Henry Hub are below $5.00 per million Btu, a number high by historical standards but lower than the unseasonably high prices of the second quarter of this year. Displacement of gas demand by persistently high prices allowed the strong storage builds to occur. The target of 3 trillion cubic of working gas in storage by November 1 is likely to be exceeded. Assuming normal weather, spot prices in the $4.50-$5.00 per million Btu range can be expected for the winter of 2003-2004 (Figure 9).

At the end of September, working gas in storage was about 7 percent below end-of-September 2002 levels, but only 1 percent below the previous 5-year average. For 2003, wellhead prices are projected to show an increase of about $2.00 per thousand cubic feet (the largest U.S. annual wellhead price increase on record) over the 2002 level, pushing the annual average for this year to about $4.90 per thousand cubic feet. For 2004, average annual wellhead prices are projected to dip by about $0.90 per cubic feet (about 19 percent) as lower injection demand increases in net imports of gas (about 7 percent from 2003 levels) coupled with

# Figure 4. World Oil Demand Growth

## (Change from Year Ago)




* Note: OECD now defined to include the Czech Republic, Hungary, Mexico, Poland and South Korea in EIA's statistics.
** FSU = Former Soviet Union

**Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.**

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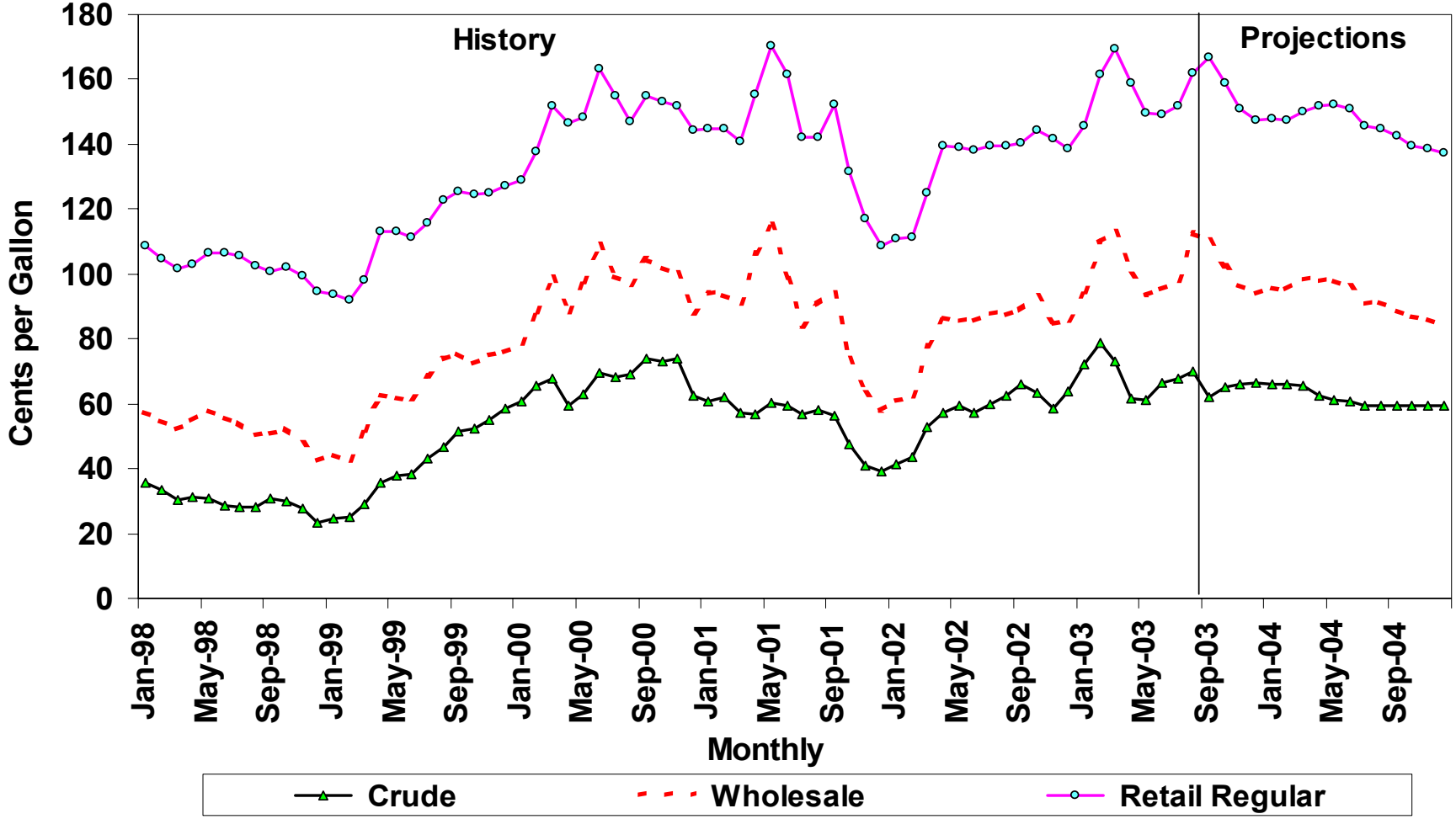
# Figure 5. Gasoline Prices and Crude Oil Costs




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003

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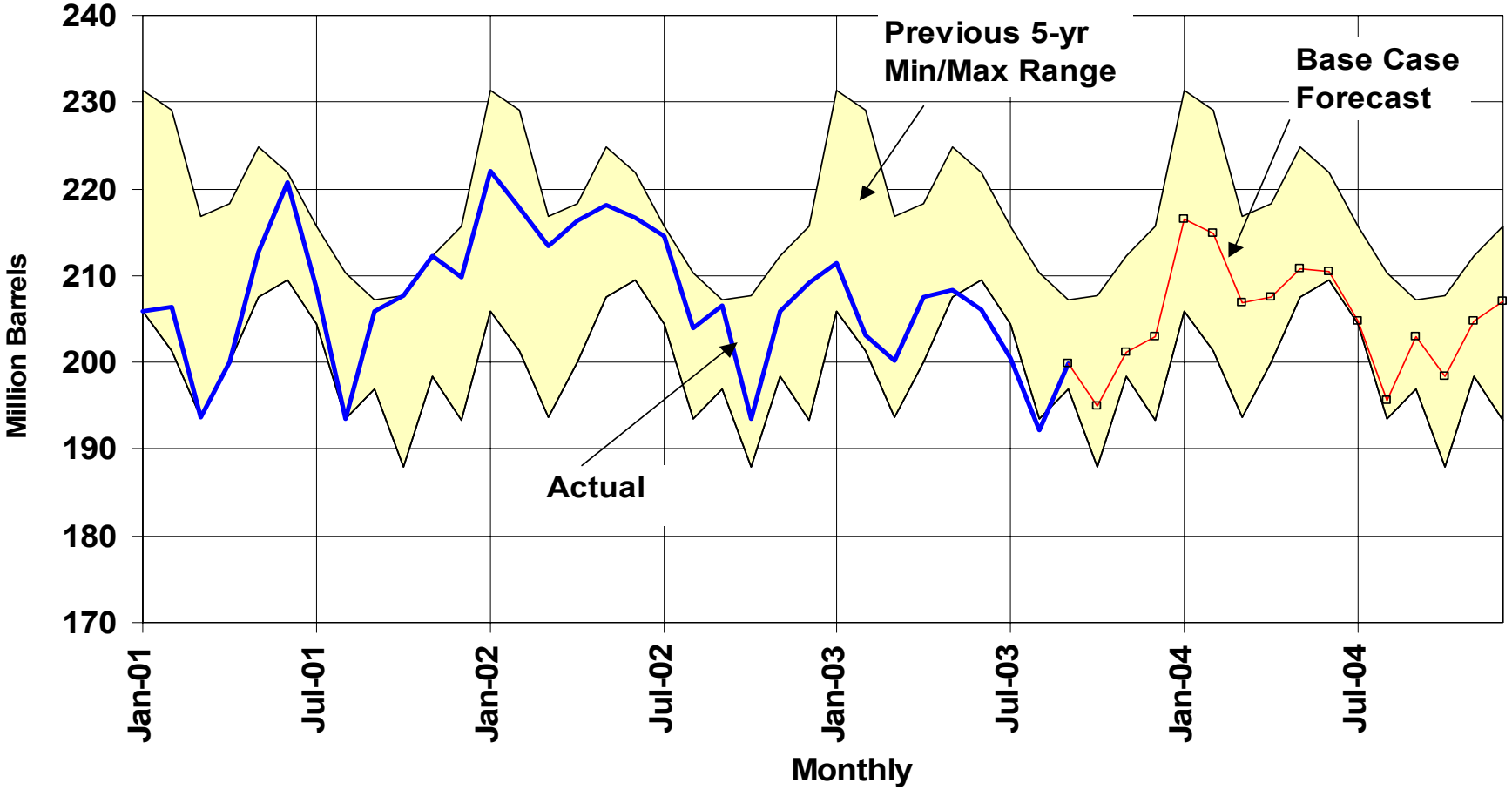
# Figure 6. U.S. Gasoline Inventories




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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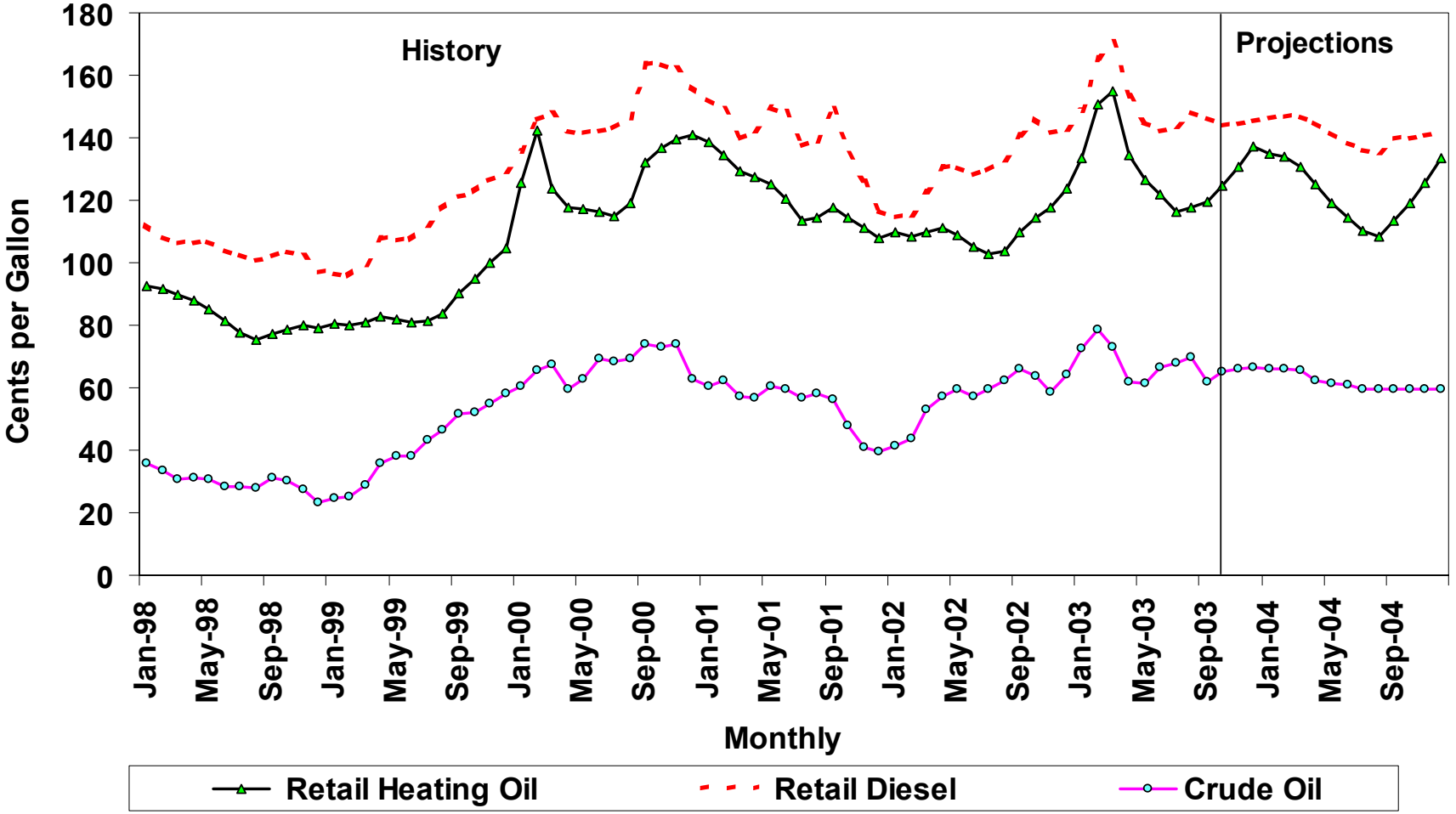
# Figure 7. Distillate Fuel Prices




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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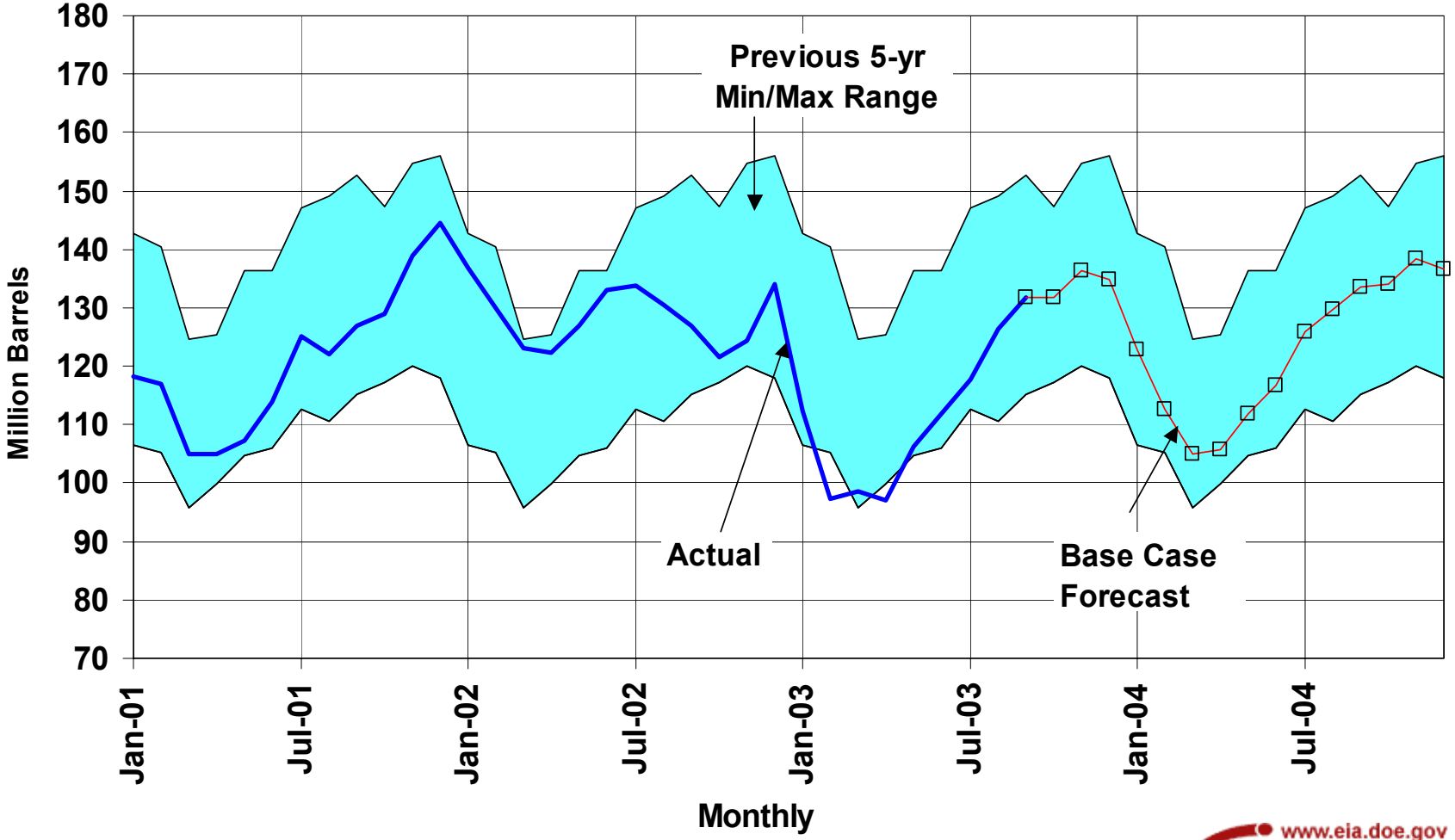
# Figure 8. Distillate Fuel Inventories




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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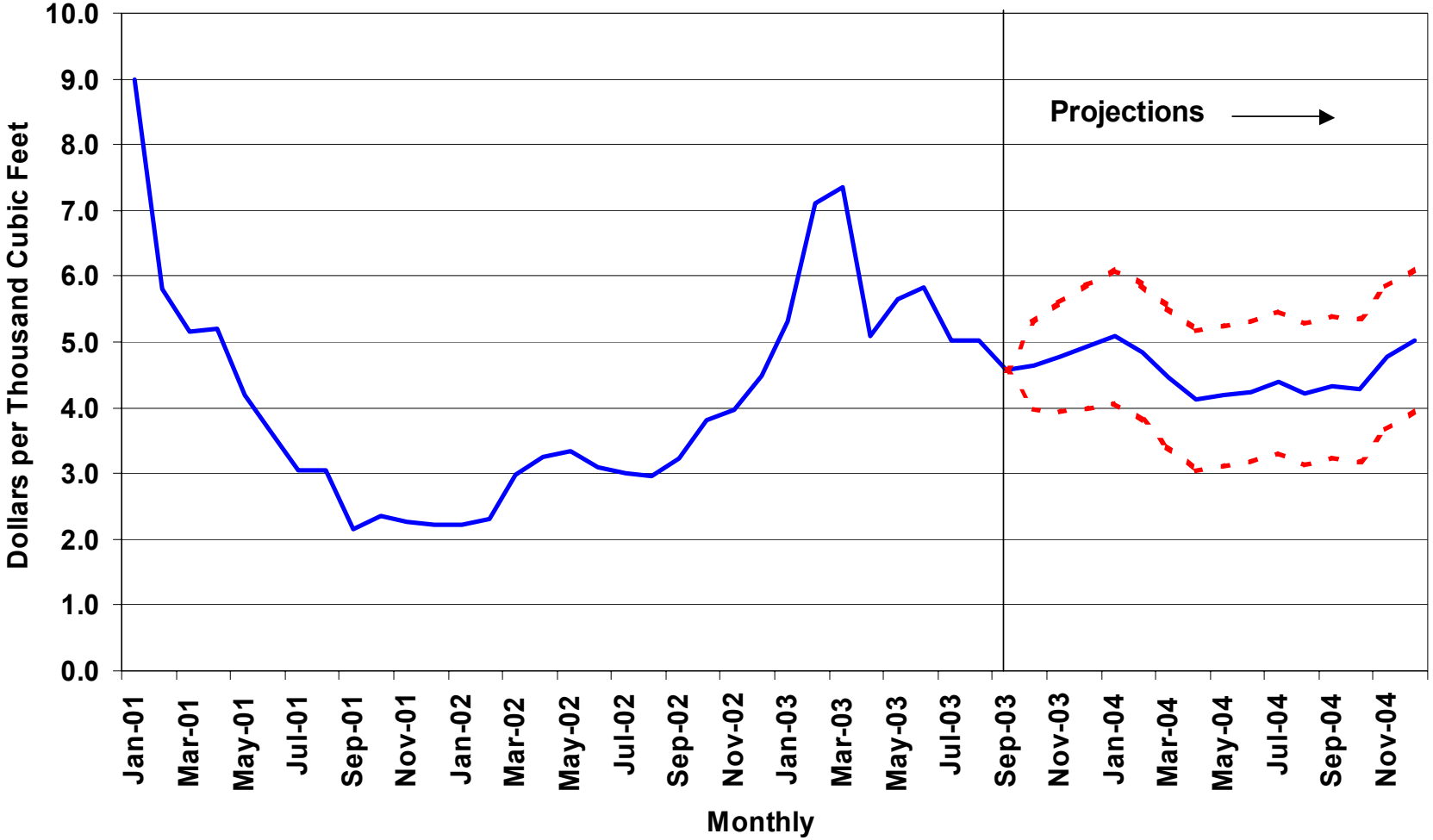
# Figure 9. Natural Gas Spot Prices
## (Base Case and 95% Confidence Interval*)




**The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.*

**Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, October 2003.**

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lower projected crude oil prices offset lower domestic production and higher consumption. Assuming normal weather, residential natural gas prices this heating season (October-March) are expected to be about 9 percent higher than last winter's average prices.

**U. S. Oil Demand**

In 2003, total petroleum demand is projected to increase by about 170,000 barrels per day above last year's average, or by 0.9 percent, to 19.94 million barrels per day (Figure 10). Demand for motor gasoline, which accounts for the largest amount of oil-based products, is projected to increase 1 percent for the year as a whole. Published highway travel data have shown little growth during the first half of the year, and motor gasoline demand patterns are consistent with that data. The second half of the year, however, calls for a 2-percent increase in motor gasoline demand due largely to the economic recovery, which is expected to induce growth in highway travel.

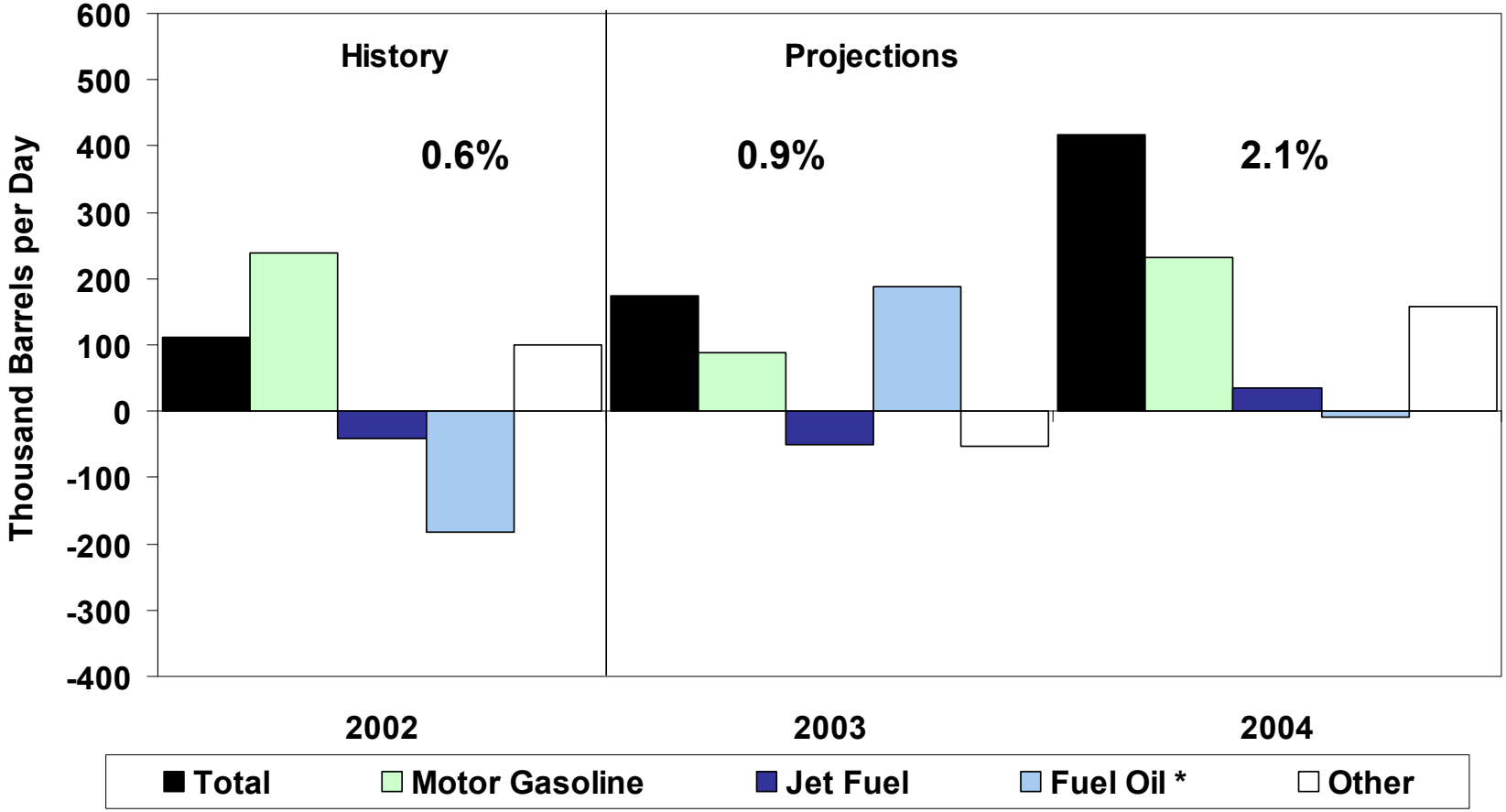
Jet fuel markets, having been adversely affected by several outbreaks of the SARS epidemic and the Iraqi military campaign earlier in the year, are expected to remain sluggish for the rest of the year as well. For the first half of 2003, revenue ton-miles showed virtually no growth, but capacity continued to expand. Recently published data from the FAA show continued year-to-year declines in jet fuel purchases. Airlines, however, seeking to increase load factors, have announced plans to trim capacity further during the rest of this year. As a result, commercial jet fuel demand is projected to contract by 1.0 percent this year. Moreover, domestic military demand will likely decline as a result of an increase in overseas activity, contributing to the projected year-over-year decline of 3.1 percent in total jet fuel demand.

Distillate fuel oil consumption is projected to increase 3.7 percent in 2003, buoyed by the harsh weather during the first quarter and relatively high sales to the power generation sector during the spring and summer in the wake of spikes in natural gas prices. Transportation demand, the largest distillate component, is projected to increase 2.9 percent, reflecting an acceleration of economic activity during the second half of the year. Residual fuel oil demand, bolstered by firm natural gas prices throughout the year, is projected to register an increase of about 7 percent. Despite the colder-than-average first quarter, liquefied petroleum gas demand is projected to decline 5.5 percent for the year as a whole, largely as a result of weakness in petrochemical activity as well as high natural gas prices.

Total 2004 petroleum demand is projected to grow by 420,000 barrels per day, or 2.1 percent, to an average 20.35 million barrels per day. All the major products (except residual fuel oil) are expected to contribute to this growth. Motor gasoline demand is projected to increase 2.6 percent, reflecting a continued acceleration of economic growth and a 6 percent decline in retail pump prices. Jet fuel demand, having declined for two consecutive years, is projected to post a growth rate of 2.3 percent to average 1.60 million barrels per day, still below the 2001 average. Distillate demand growth is projected to moderate to 1.9 percent, as demand reductions resulting from a forward projection of "normal" weather partly counteracts the projected 3.4-percent growth in distillate demand in the transportation sector. Residual fuel oil deliveries, having experienced growth in 2003, are projected to retrench by 11 percent in 2004. That reversal reflects the assumptions of normal weather and greater competition from natural gas, for which prices are projected to decline to levels that more effectively compete with those of other fossil fuels. Demand for liquefied petroleum gas is expected to recover smartly from the weaknesses of the previous year, exhibiting growth of about 7 percent. Growth in both petrochemical activity and declines in natural gas feedstock prices are both expected to offset the year-to-year decline in weather-related space-heating demand under assumptions of normal weather during the 2003-04 winter season.

**Oil Supply**

# Figure 10. Petroleum Products Demand Growth
## (Change from Year Ago)




* Sum of distillate and residual fuel.

Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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Average domestic oil production is expected to remain essentially flat in 2003, followed by a decline of 78 thousand barrels per day, or 1.4 percent, in 2004. (Figure 11)

Lower-48 States oil production is expected to decrease by 3 thousand barrels per day to a rate of 4.76 million barrels per day in 2003, followed by a further decrease of 46 thousand barrels per day in 2004. Oil production from the Mars, Mad Dog, Ursa, Thunder Horse and Nakika Federal Offshore fields is expected to account for about 12 percent of the lower-48 oil production by the fourth quarter of 2004.

Alaska is expected to account for 16.7 percent of the total U.S. oil production in 2004. Alaksan oil production is expected to decrease by 0.6 percent in 2003 and decrease by 3.2 percent in 2004. The combined production rate from the Alpine and North Star fields averaged nearly 173 thousand barrels per day during June 2003. Production from the Kuparuk River field plus the production from West Sak, Tobasco, Tarn and Meltwater fields is expected to stay at an average of 210 thousand barrels per day over the forecast period.

**Natural Gas Supply and Demand**

Natural gas demand is expected to fall by 1.1 percent in 2003 due mainly to high prices discouraging demand, particularly in the industrial and electric power sectors (Figure 12). The increase in consumption projected for 2004 is attributed to accelerated economic growth and generally lower prices.

This winter, demand for natural gas is expected to be about 2.4 percent lower than last winter's level, due largely to the effect of weaker heating-related demand. Gas-weighted heating degree-days for the season (Q4 2003 and Q1 2004) under our assumption of normal weather would be about 3.7 percent below year-ago levels. Winter natural gas prices are projected to be about 9 percent higher than last winter in the residential sector. In the event of colder-than-normal weather this winter, natural gas prices could go higher.

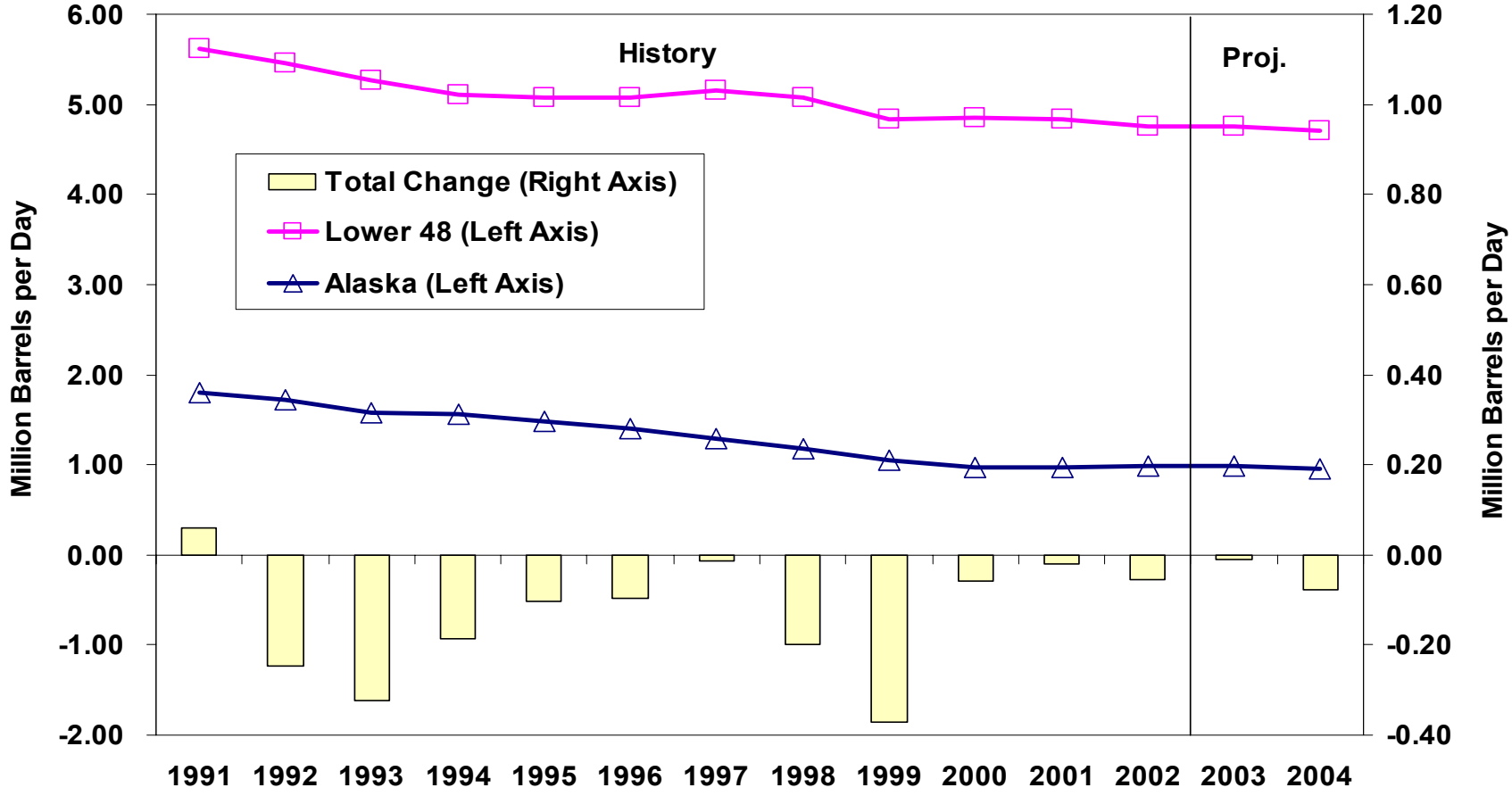
Working natural gas in storage is estimated to have reached 2.84 billion cubic feet (Bcf) at the end of September, about 7 percent below the year-ago level (Figure 13), but well within recent historical norms. This marks a strong improvement in the storage situation since the spring lows.

Natural gas production is expected to increase by about 2.1 percent this year. High natural gas prices and sharply higher oil and natural gas field revenues have resulted in strong natural gas-directed drilling activity this year following the downturn in 2002 (Figure 14). Monthly oil and natural gas field revenues are expected to continue to average over $400 million this year (Figure 15). The prospects for significant reductions in natural gas wellhead prices over the forecast period hinge on the productivity of the increased drilling in terms of expected output. An average natural gas wellhead price of about $3.97 per thousand cubic feet (mcf) is projected for 2004, about $0.90 per mcf lower than the expected 2003 average, partly based on our belief that natural gas production will rise modestly in 2003 and remain close to improved levels in 2004.

**Electricity Demand and Supply**

Electricity demand in 2003 is expected to remain at close to last year's levels (Figure 16). Following the relative increase in demand in the first quarter due to cold weather, declines in demand occurred during the second and third quarters, also driven largely by weather factors, i.e., lower cooling demand this summer than last summer. In 2004, annual electricity demand is projected to grow by about 1.1 percent, a slower

# Figure 11. U.S. Crude Oil Production Trends




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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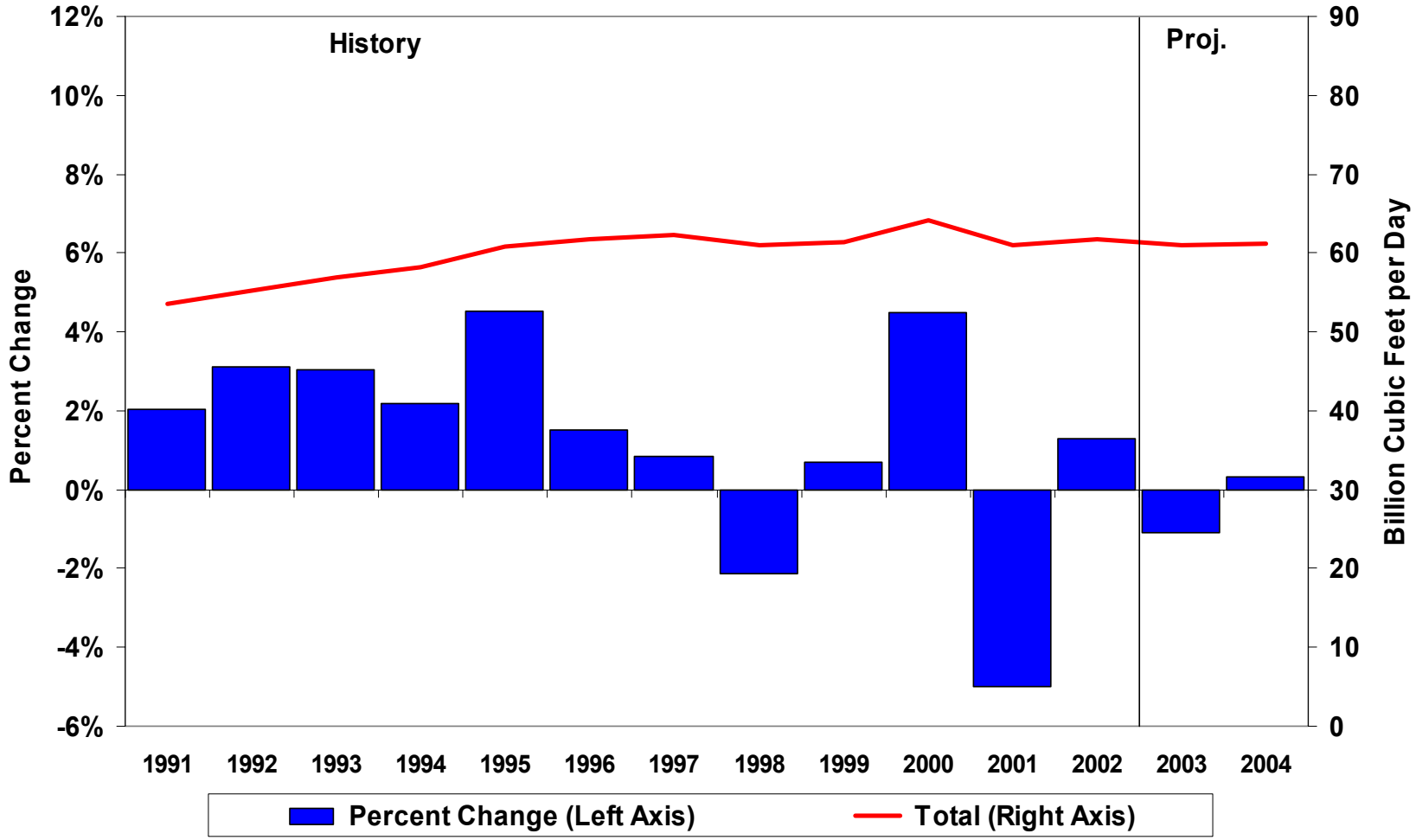
# Figure 12. Total Natural Gas Demand Growth Patterns




Note: This chart replaces a previous Figure 12 because of revised data for October 2003.

**Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.**

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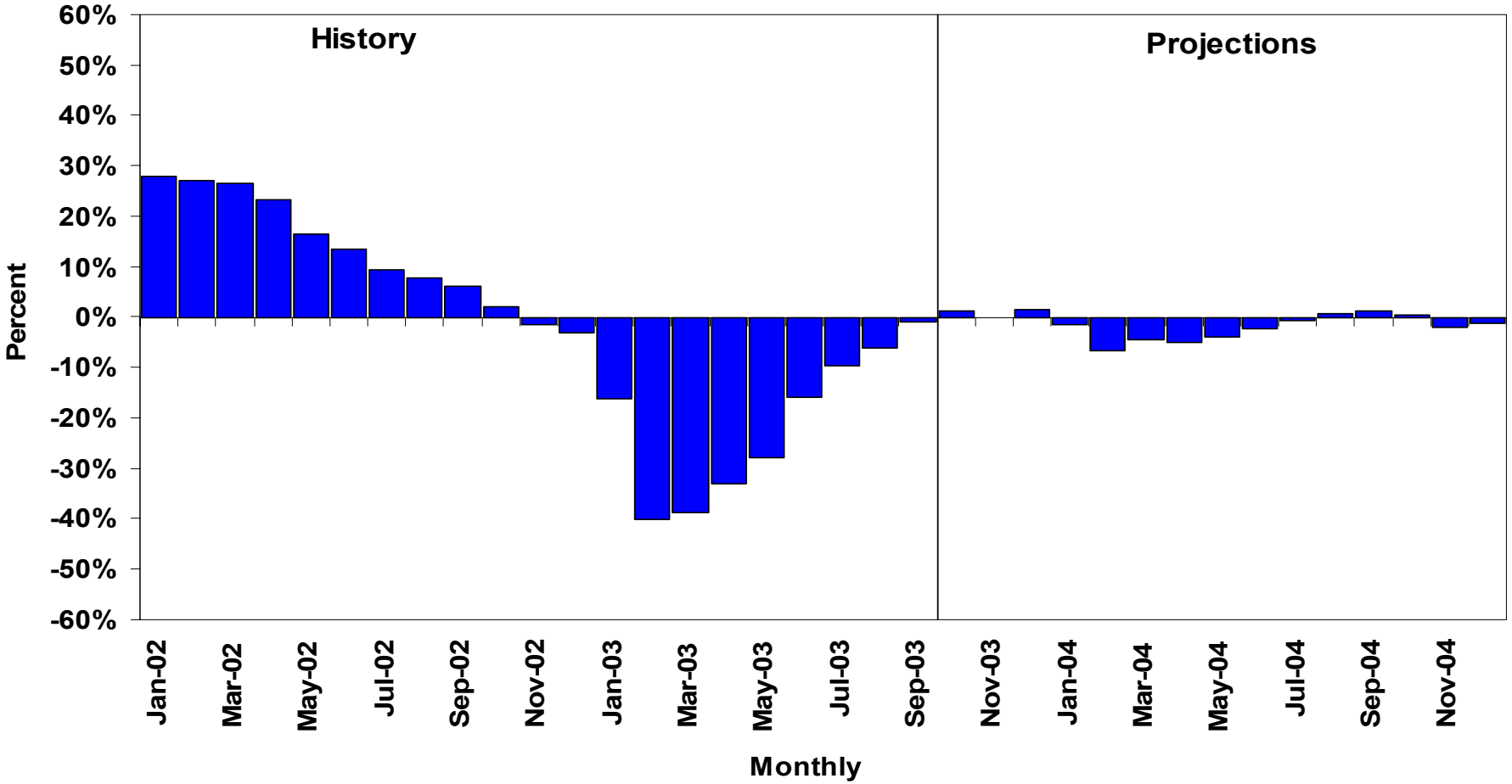
# Figure 13. Working Gas in Storage
## (Difference from Previous 5-Year Average)




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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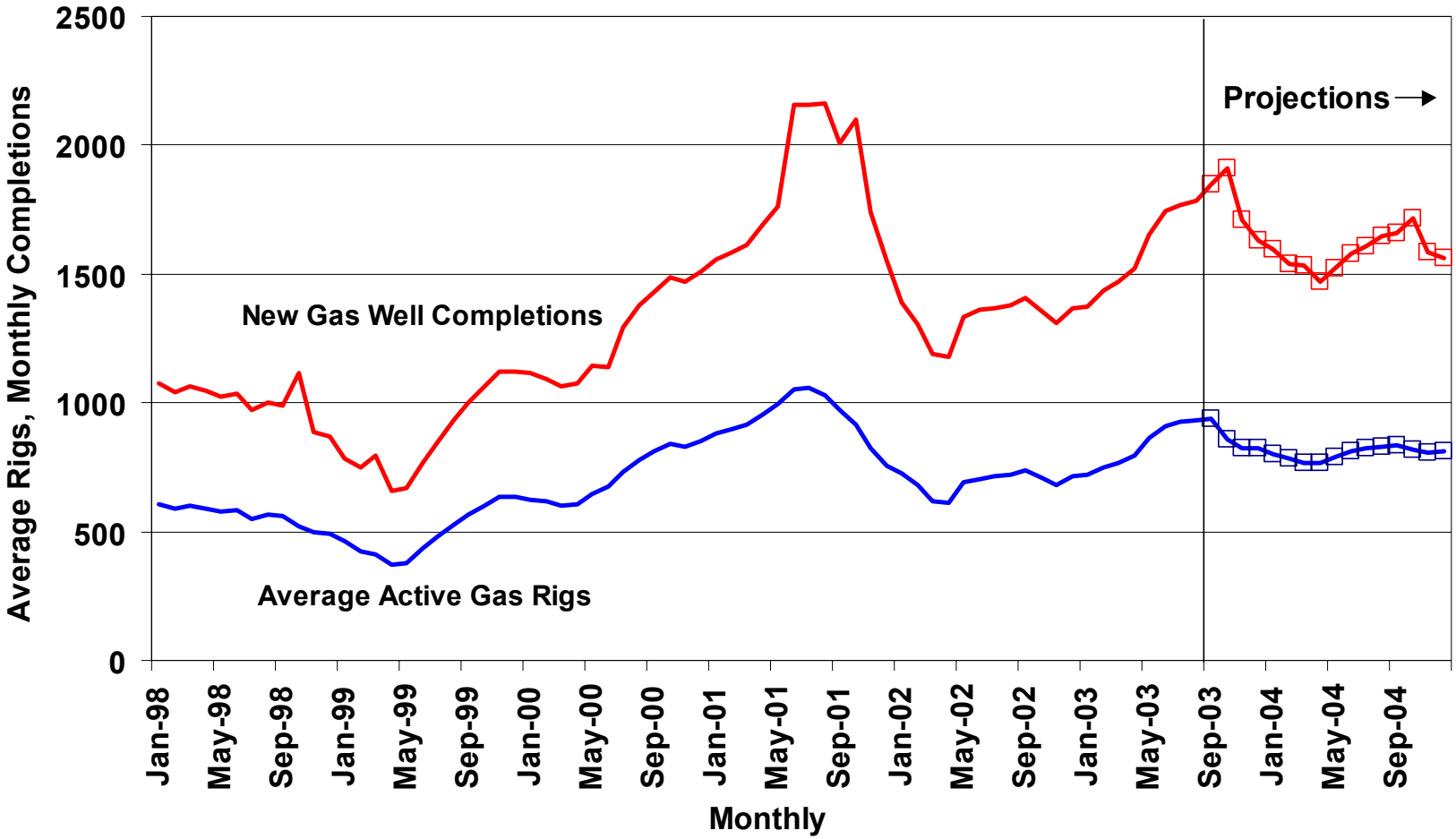
# Figure 14. U.S. Natural Gas-Directed Drilling Activity




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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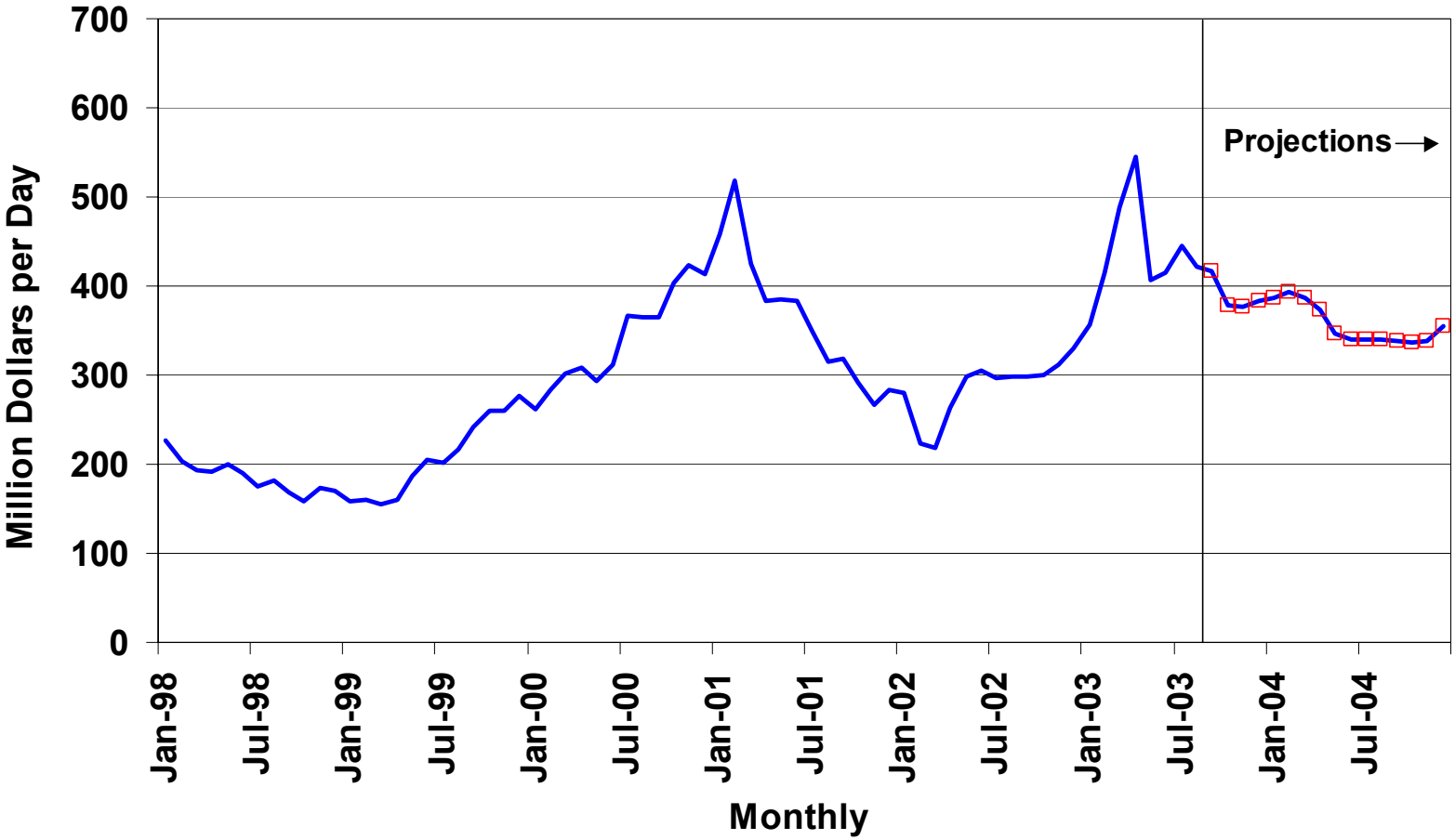
# Figure 15. U.S. Oil and Gas Production Revenues




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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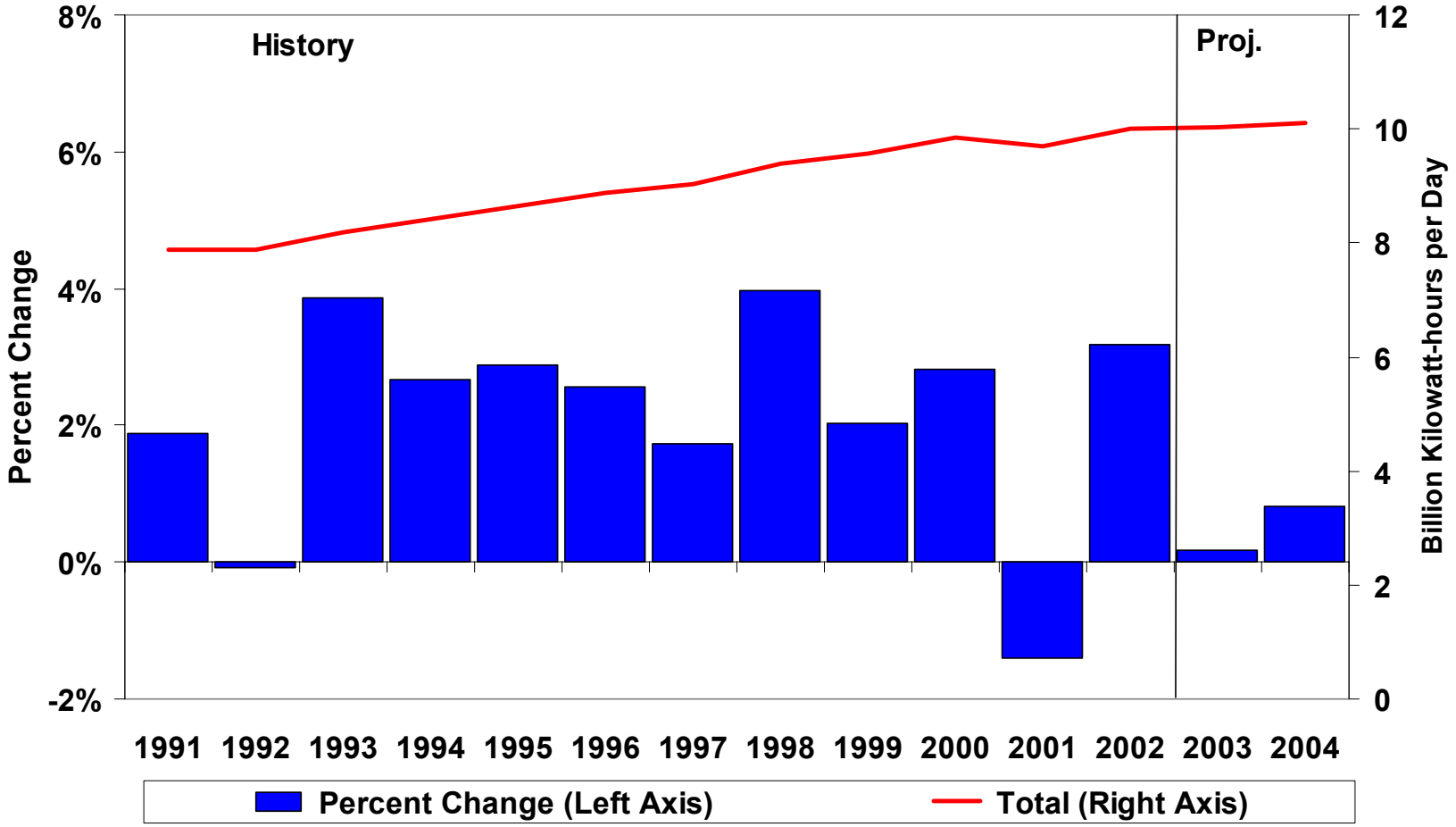
# Figure 16. Total Electricity Demand Growth Patterns




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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rate than might be indicated by economic growth, due partly to relatively weak heating market increases in the first quarter compared with the same period in 2003.

Natural gas-fired electricity production is expected to decrease by 3.6 percent in 2003 due to fuel substitution related to high natural gas prices, as indicated by increasing oil-fired plant utilization beyond what otherwise might have been projected. For all of 2003, petroleum-generated electricity production is expected to increase by about 16 percent. In 2004, petroleum-generated electricity production is projected to fall back to below 2002 levels. Hydroelectric generation in 2003, due to more normal water levels, is expected to increase by 4.6 percent overall. Nuclear generation in 2003 is expected to be lower than last year by about 2 percent. Part (at least) of the reason for the lower nuclear generation is that two nuclear plants have been in extended shutdown mode. However, nuclear and hydropower for electricity generation are expected to be in greater supply this winter than they were last winter. Those nuclear plants that have experienced extended outages are expected to be back on line in 2004, when nuclear generation increases 2.5 percent over what it was in 2003. Hydroelectric generation is also expected to rise significantly due to the high levels of precipitation seen this year.

**Coal Demand and Supply**

For the first six months of 2003, coal consumed to generate electricity was 3.8 percent higher than for the same period in 2002. Coal, nuclear and gas-fired generation are typically used to meet baseload demand, although natural gas is also the primary peaking demand fuel. Year-to-date nuclear generation is down 3 percent and natural gas-fired generation is down 9 percent. Coal-fired generation, up 3 percent, has taken up the slack in baseload demand. Despite flatness in total electricity demand and total electric sector generation, electric sector coal-fired generation is expected to grow by 0.6 percent and electric sector coal consumption to grow by 1.1 percent in 2003 (Figure 17). These trends are expected to reverse in 2004, as electricity demand and total electric sector generation grow slightly (each at 1.1 percent), while coal-fired generation declines by 0.3 percent. High projected nuclear power and hydroelectric availability are the reason for the expected decline in coal-fired generation.

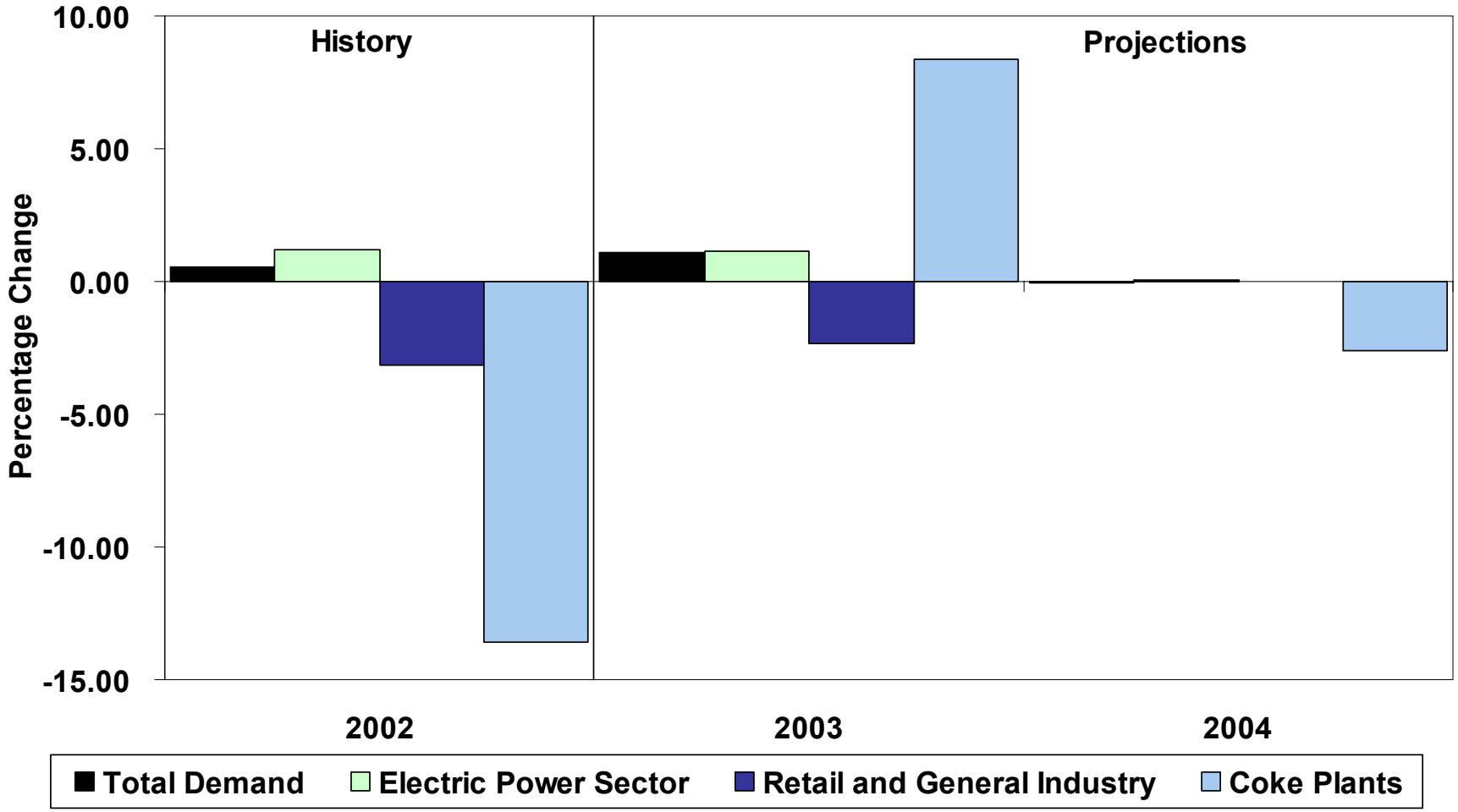
Demand in other coal-consuming sectors is expected to grow moderately in 2003. Expected increases in the coke plant sector (1.9 million short tons (mmst) or 8.4 percent) are nearly offset by a projected decline in consumption in the retail and general industry sectors (1.5 mmst or –2.3 percent). Total non-electric sector coal demand growth for 2003 is projected to be 0.4 percent. Non-electric sector growth is expected to decline in 2004, as demand for coal as a boiler fuel continues to decline.

Total U.S. coal production is expected to decline by 0.3 percent in 2003 (Figure 18). Year-to-date U.S. coal production (January through August) is estimated to total 711.1 mmst, or 2.4 percent lower than the same period of 2002. Western region coal production is expected to grow at 2 percent, while Appalachian and Interior production falls 3.5 and 0.8 percent respectively. In 2004, flat coal demand is expected to lead to a very small decline in total coal production (0.1 percent), but Western region coal production is projected to continue to grow at a rate of 3.4 percent.

**Representation of Uncertainty in STEO Using the STIFS Model**

The EIA uses its Short-Term Integrated Forecasting System (STIFS) model to analyze monthly trends in U.S. energy demands and prices, both nationally and by sector, and to generate its monthly *Short-Term Energy Outlook* (*STEO*). This model consists of approximately 920 endogenous variables, 216 of which are stochastic (i.e., have error distributions associated with them).

# Figure 17. U.S. Coal Demand




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

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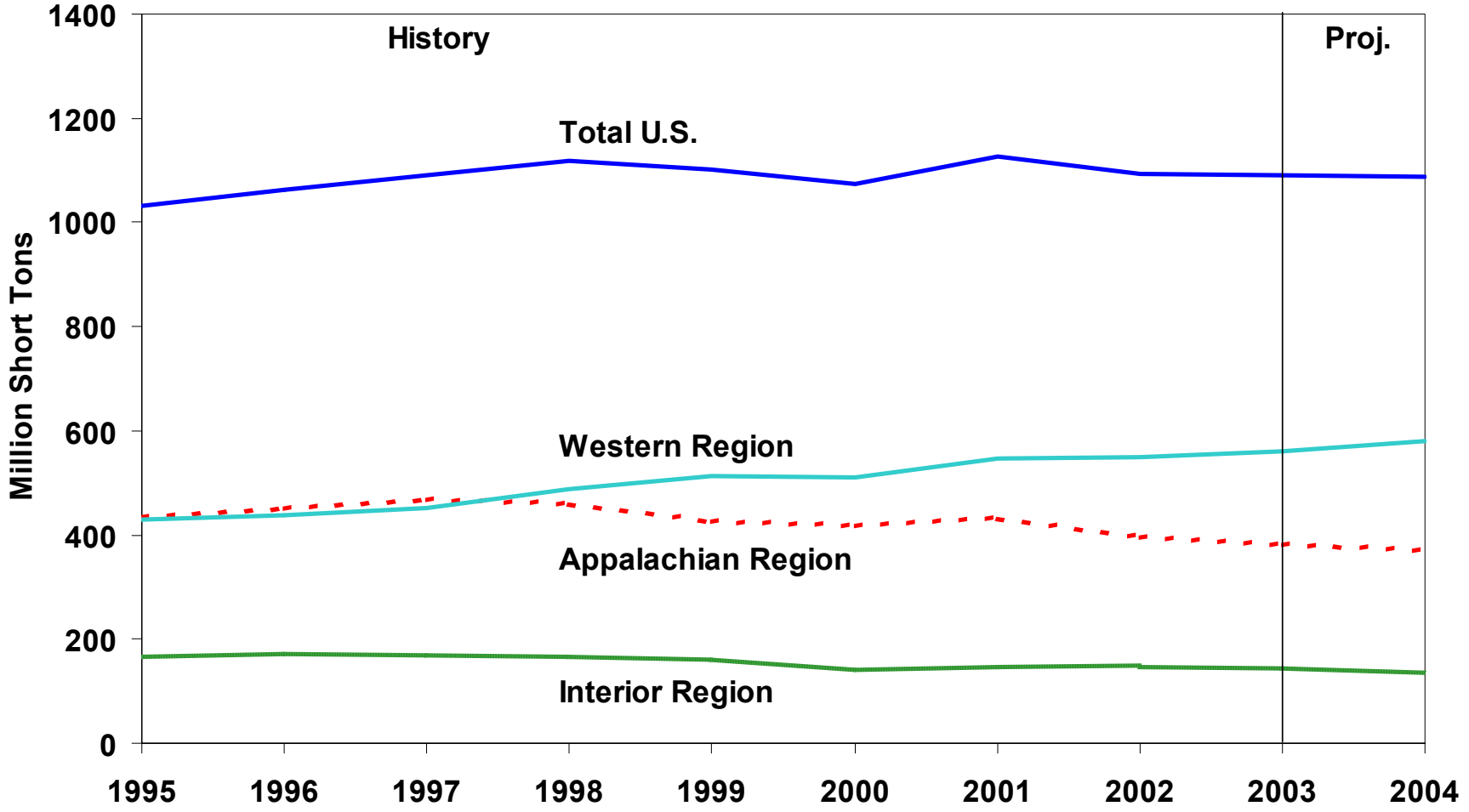
# Figure 18. U.S. Coal Production




Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2003.

www.eia.doe.gov

Confidence intervals presented in the *STEO* for a selected STIFS variable, such as the crude oil price, gasoline price and natural gas spot price, are analytically calculated using information about the error distribution of the modeled variable and the error distributions of any endogenous variables that may affect the variable of interest. These confidence intervals, based on +/- 2 standard errors within the STIFS model, do not include the impact of major supply disruptions and other phenomena not represented in the model. To the extent that supply disruptions in world oil markets and/or other phenomena not included in the STIFS model do significantly affect future market developments, confidence intervals presented in the *STEO* likely will be less than the usual 95 percent, all other factors being equal.

# Table HL1. U.S. Energy Supply and Demand: Base Case

| | Year | | | | Annual Percentage Change | | |
|---|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2003 | 2004 | 2001-2002 | 2002-2003 | 2003-2004 |
| **Real Gross Domestic Product (GDP)** | | | | | | | |
| (billion chained 1996 dollars) | **9215** | **9440** | *9683* | *10077* | **2.4** | *2.6* | *4.1* |
| Imported Crude Oil Price [a] | | | | | | | |
| (nominal dollars per barrel) | **22.00** | **23.69** | *27.60* | *25.35* | **7.7** | *16.5* | *-8.2* |
| **Petroleum Supply** (million barrels per day) | | | | | | | |
| Crude Oil Production [b] | **5.80** | **5.75** | *5.74* | *5.66* | **-1.0** | *-0.2* | *-1.4* |
| Total Petroleum Net Imports | | | | | | | |
| (including SPR) | **10.90** | **10.54** | *11.19* | *11.49* | **-3.3** | *6.1* | *2.7* |
| **Energy Demand** | | | | | | | |
| World Petroleum | | | | | | | |
| (million barrels per day) | **77.1** | **77.6** | *78.6* | *79.7* | **0.6** | *1.3* | *1.3* |
| Petroleum | | | | | | | |
| (million barrels per day) | **19.65** | **19.76** | *19.94* | *20.35* | **0.6** | *0.9* | *2.1* |
| Natural Gas | | | | | | | |
| (trillion cubic feet) | **22.23** | **22.52** | *22.27* | *22.40* | **1.3** | *-1.1* | *0.6* |
| Coal [c] | | | | | | | |
| (million short tons) | **1060** | **1066** | *1077* | *1077* | **0.5** | *1.1* | *0.0* |
| Electricity (billion kilowatthours) | | | | | | | |
| Retail Sales [d] | **3370** | **3475** | *3486* | *3521* | **3.1** | *0.3* | *1.0* |
| Other Use/Sales [e] | **173** | **180** | *176* | *181* | **4.2** | *-2.3* | *3.0* |
| Total | **3543** | **3655** | *3662* | *3702* | **3.2** | *0.2* | *1.1* |
| Total Energy Demand [f] | | | | | | | |
| (quadrillion Btu) | **96.3** | **97.6** | *97.8* | *99.6* | **1.3** | *0.2* | *1.9* |
| Total Energy Demand per Dollar of GDP | | | | | | | |
| (thousand Btu per 1996 Dollar) | **10.45** | **10.34** | *10.10* | *9.89* | **-1.1** | *-2.3* | *-2.1* |
| Renewable Energy as Percent of Total [g] | **5.6%** | **6.2%** | *6.4%* | *6.7%* | | | |

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

[b]Includes lease condensate.

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

[d]Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA's Electric Power Monthly and Electric Power Annual. Power marketers' sales for historical periods are reported in EIA's Electric Sales and Revenue, Appendix C. Data for 2001 are estimates.

[e]Defined as the sum of facility use of onsite net electricity generation plus direct sales of power by industrial- or commercial-sector generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 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 Monthly DOE/EIA-0520; Weekly Petroleum Status Report, DOE/EIA-0208. Macroeconomic projections are based on Global Insight Forecast CONTROL0903.

## Table 1. U.S. Macroeconomic and Weather Assumptions: Base Case

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Macroeconomic** [a] | | | | | | | | | | | | | | | |
| Real Gross Domestic Product (billion chained 1996 dollars - SAAR) | **9363** | **9392** | **9486** | **9518** | *9552* | *9626* | *9732* | *9823* | *9924* | *10014* | *10133* | *10235* | **9440** | *9683* | *10077* |
| Percentage Change from Prior Year | **1.4** | **2.2** | **3.3** | **2.9** | *2.0* | *2.5* | *2.6* | *3.2* | *3.9* | *4.0* | *4.1* | *4.2* | **2.4** | *2.6* | *4.1* |
| Annualized Percent Change from Prior Quarter | **5.0** | **1.2** | **4.0** | **1.4** | *1.4* | *3.1* | *4.4* | *3.7* | *4.1* | *3.6* | *4.8* | *4.0* | | | |
| GDP Implicit Price Deflator (Index, 1996=1.000) | **1.101** | **1.105** | **1.108** | **1.112** | *1.119* | *1.121* | *1.126* | *1.129* | *1.133* | *1.136* | *1.140* | *1.145* | **1.107** | *1.124* | *1.138* |
| Percentage Change from Prior Year | **1.4** | **1.1** | **0.8** | **1.3** | *1.6* | *1.5* | *1.6* | *1.5* | *1.2* | *1.3* | *1.3* | *1.4* | **1.1** | *1.6* | *1.3* |
| Real Disposable Personal Income (billion chained 1996 Dollars - SAAR) | **6961** | **7027** | **7058** | **7082** | *7119* | *7168* | *7299* | *7334* | *7481* | *7517* | *7593* | *7658* | **7032** | *7230* | *7562* |
| Percentage Change from Prior Year | **3.8** | **5.0** | **2.8** | **5.2** | *2.3* | *2.0* | *3.4* | *3.6* | *5.1* | *4.9* | *4.0* | *4.4* | **4.2** | *2.8* | *4.6* |
| Manufacturing Production (Index, 1997=100.0) | **110.8** | **111.8** | **112.6** | **111.5** | *111.3* | *110.4* | *111.4* | *112.6* | *114.2* | *116.3* | *118.9* | *121.4* | **111.7** | *111.4* | *117.7* |
| Percentage Change from Prior Year | **-4.0** | **-1.5** | **0.5** | **1.2** | *0.4* | *-1.2* | *-1.1* | *1.0* | *2.6* | *5.3* | *6.8* | *7.8* | **-1.0** | *-0.3* | *5.7* |
| OECD Economic Growth (percent) [b] | | | | | | | | | | | | | **1.8** | *2.4* | *3.0* |
| **Weather** [c] | | | | | | | | | | | | | | | |
| Heating Degree-Days | | | | | | | | | | | | | | | |
| U.S. | **2072** | **490** | **49** | **1673** | *2297* | *607* | *63* | *1622* | *2254* | *517* | *85* | *1621* | **4284** | *4589* | *4477* |
| New England | **2791** | **865** | **71** | **2372** | *3504* | *1144* | *100* | *2236* | *3205* | *880* | *167* | *2235* | **6099** | *6984* | *6488* |
| Middle Atlantic | **2505** | **664** | **45** | **2158** | *3207* | *896* | *43* | *2001* | *2919* | *697* | *106* | *2001* | **5372** | *6147* | *5723* |
| U.S. Gas-Weighted | **2181** | **558** | **48** | **1773** | *2464* | *598* | *75* | *1713* | *2373* | *554* | *90* | *1713* | **4560** | *4850* | *4730* |
| Cooling Degree-Days (U.S.) | **31** | **387** | **902** | **73** | *28* | *335* | *821* | *76* | *33* | 348 | *784* | *76* | **1393** | *1260* | *1240* |

[a]Macroeconomic projections from Global Insight model forecasts are seasonally adjusted at annual rates and modified as appropriate to the base world oil price case.

[b]OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

[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 2000 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 Global Insight, "World Economic Outlook," Volume 1. Macroeconomic projections are based on Global Insight Forecast CONTROL0903.

## Table 2. U.S. Energy Indicators: Base Case

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Macroeconomic** [a] | | | | | | | | | | | | | | | |
| Real Fixed Investment (billion chained 1996 dollars-SAAR) | **1576** | **1573** | **1572** | **1588** | *1588* | *1614* | *1632* | *1650* | *1667* | *1684* | *1712* | *1744* | **1577** | *1621* | *1702* |
| Real Exchange Rate (index) | **1.193** | **1.152** | **1.105** | **1.102** | *1.049* | *0.999* | *1.004* | *1.010* | *1.005* | *0.999* | *0.990* | *0.981* | **1.138** | *1.015* | *0.994* |
| Business Inventory Change (billion chained 1996 dollars-SAAR) | **-31.9** | **-14.1** | **-2.6** | **2.8** | *-6.1* | *-15.2* | *-1.0* | *-2.5* | *-0.2* | *6.2* | *13.4* | *18.8* | **-11.5** | *-6.2* | *9.6* |
| Producer Price Index (index, 1982=1.000) | **1.291** | **1.306** | **1.313** | **1.335** | *1.383* | *1.369* | *1.367* | *1.364* | *1.354* | *1.349* | *1.357* | *1.354* | **1.311** | *1.371* | *1.353* |
| Consumer Price Index (index, 1982-1984=1.000) | **1.780** | **1.795** | **1.805** | **1.814** | *1.831* | *1.834* | *1.846* | *1.852* | *1.856* | *1.860* | *1.867* | *1.875* | **1.799** | *1.841* | *1.864* |
| Petroleum Product Price Index (index, 1982=1.000) | **0.656** | **0.810** | **0.839** | **0.875** | *1.074* | *0.918* | *0.925* | *0.915* | *0.929* | *0.904* | *0.853* | *0.847* | **0.795** | *0.958* | *0.883* |
| Non-Farm Employment (millions) | **130.5** | **130.4** | **130.2** | **130.3** | *130.2* | *130.0* | *129.9* | *130.1* | *130.9* | *131.7* | *132.6* | *133.2* | **130.4** | *130.0* | *132.1* |
| Commercial Employment (millions) | **91.3** | **91.3** | **91.3** | **91.5** | *91.5* | *91.6* | *91.7* | *92.0* | *92.9* | *93.7* | *94.5* | *95.1* | **91.4** | *91.7* | *94.1* |
| Total Industrial Production (index, 1997=100.0) | **109.3** | **110.5** | **111.4** | **110.4** | *110.5* | *109.5* | *110.3* | *111.1* | *112.6* | *114.4* | *116.7* | *118.7* | **110.4** | *110.4* | *115.6* |
| Housing Stock (millions) | **115.3** | **115.6** | **115.8** | **116.2** | *116.7* | *117.0* | *117.3* | *117.6* | *117.9* | *118.2* | *118.5* | *118.8* | **115.7** | *117.2* | *118.3* |
| **Miscellaneous** | | | | | | | | | | | | | | | |
| Gas Weighted Industrial Production (index, 1997=100.0) | **100.4** | **101.0** | **101.6** | **100.8** | *100.6* | *100.0* | *100.1* | *100.6* | *101.2* | *102.4* | *103.8* | *105.1* | **100.9** | *100.3* | *103.1* |
| Vehicle Miles Traveled [b] (million miles/day) | **7268** | **8033** | **8060** | **7641** | *7220* | *8075* | *8211* | *7731* | *7424* | *8207* | *8348* | *7984* | **7752** | *7812* | *7991* |
| Vehicle Fuel Efficiency (index, 1999=1.000) | **0.997** | **1.040** | **1.037** | **1.006** | *0.990* | *1.043* | *1.042* | *0.995* | *0.985* | *1.036* | *1.038* | *0.999* | **1.020** | *1.018* | *1.015* |
| Real Vehicle Fuel Cost (cents per mile) | **3.31** | **3.75** | **3.76** | **3.91** | *4.39* | *4.01* | *4.04* | *4.16* | *4.10* | *3.95* | *3.76* | *3.72* | **3.69** | *4.14* | *3.88* |
| Air Travel Capacity (mill. available ton-miles/day) | **435.8** | **467.6** | **488.2** | **491.4** | *454.8* | *474.6* | *471.1* | *463.6* | *442.9* | *467.3* | *487.9* | *490.2* | **470.9** | *466.0* | *472.2* |
| Aircraft Utilization (mill. revenue ton-miles/day) | **238.2** | **265.3** | **274.3** | **272.0** | *244.1* | *263.6* | *270.7* | *256.6* | *240.9* | *264.9* | *281.4* | *272.5* | **262.6** | *258.8* | *265.0* |
| Airline Ticket Price Index (index, 1982-1984=1.000) | **2.317** | **2.377** | **2.334** | **2.235** | *2.252* | *2.341* | *2.429* | *2.415* | *2.338* | *2.273* | *2.251* | *2.244* | **2.316** | *2.359* | *2.277* |
| Raw Steel Production (million tons) | **23.92** | **25.03** | **26.34** | **25.68** | *25.61* | *25.52* | *25.06* | *23.56* | *25.32* | *26.57* | *26.20* | *24.36* | **100.98** | *99.75* | *102.45* |

[a]Macroeconomic projections from Global Insight model forecasts are seasonally adjusted at annual rates and modified as appropriate to the base 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.

# Table 3. International Petroleum Supply and Demand: Base Case

(Million Barrels per Day, Except OECD Commercial Stocks)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Demand** [a] | | | | | | | | | | | | | | | |
| OECD | | | | | | | | | | | | | | | |
| U.S. (50 States) | **19.5** | **19.7** | **19.9** | **19.9** | *20.0* | *19.6* | *20.1* | *20.0* | *20.1* | *20.0* | *20.5* | *20.8* | **19.8** | *19.9* | *20.4* |
| U.S. Territories | **0.3** | **0.3** | **0.3** | **0.3** | *0.4* | *0.3* | *0.3* | *0.3* | *0.4* | *0.3* | *0.3* | *0.4* | **0.3** | *0.3* | *0.3* |
| Canada | **2.1** | **2.0** | **2.1** | **2.2** | *2.2* | *2.1* | *2.2* | *2.2* | *2.1* | *2.1* | *2.2* | *2.2* | **2.1** | *2.2* | *2.1* |
| Europe | **15.1** | **14.6** | **15.2** | **15.3** | *15.2* | *14.9* | *15.0* | *15.6* | *15.5* | *14.5* | *15.1* | *15.8* | **15.1** | *15.2* | *15.2* |
| Japan | **5.7** | **4.6** | **5.0** | **5.9** | *6.2* | *5.0* | *5.2* | *5.6* | *5.9* | *4.8* | *5.1* | *5.5* | **5.3** | *5.5* | *5.3* |
| Other OECD | **5.4** | **5.0** | **5.0** | **5.4** | *5.4* | *5.1* | *5.2* | *5.5* | *5.3* | *5.0* | *5.3* | *5.5* | **5.2** | *5.3* | *5.3* |
| Total OECD | **48.1** | **46.3** | **47.5** | **48.9** | *49.3* | *47.0* | *48.0* | *49.3* | *49.3* | *46.7* | *48.5* | *50.2* | **47.7** | *48.4* | *48.7* |
| Non-OECD | | | | | | | | | | | | | | | |
| Former Soviet Union | **4.1** | **3.9** | **3.9** | **3.9** | *4.2* | *3.9* | *3.9* | *4.0* | *4.3* | *4.0* | *3.9* | *4.0* | **3.9** | *4.0* | *4.1* |
| Europe | **0.7** | **0.7** | **0.7** | **0.7** | *0.8* | *0.8* | *0.8* | *0.8* | *0.8* | *0.8* | *0.8* | *0.8* | **0.7** | *0.8* | *0.8* |
| China | **5.3** | **5.3** | **5.2** | **5.3** | *5.5* | *5.4* | *5.2* | *5.6* | *5.7* | *5.6* | *5.4* | *5.8* | **5.3** | *5.4* | *5.6* |
| Other Asia | **7.7** | **7.7** | **7.5** | **7.8** | *7.9* | *7.9* | *7.6* | *7.9* | *8.0* | *8.0* | *7.7* | *8.0* | **7.7** | *7.8* | *8.0* |
| Other Non-OECD | **12.1** | **12.3** | **12.4** | **12.3** | *12.1* | *12.3* | *12.4* | *12.3* | *12.4* | *12.7* | *12.7* | *12.5* | **12.3** | *12.3* | *12.6* |
| Total Non-OECD | **29.9** | **29.9** | **29.7** | **30.0** | *30.4* | *30.2* | *29.8* | *30.4* | *31.2* | *31.1* | *30.5* | *31.1* | **29.9** | *30.2* | *31.0* |
| Total World Demand | **78.0** | **76.2** | **77.2** | **79.0** | *79.7* | *77.2* | *77.8* | *79.8* | *80.5* | *77.8* | *79.0* | *81.3* | **77.6** | *78.6* | *79.7* |
| **Supply** [b] | | | | | | | | | | | | | | | |
| OECD | | | | | | | | | | | | | | | |
| U.S. (50 States) | **9.1** | **9.2** | **8.9** | **8.8** | *9.0* | *8.7* | *8.7* | *8.8* | *8.9* | *8.8* | *8.8* | *8.9* | **9.0** | *8.8* | *8.8* |
| Canada | **2.9** | **2.9** | **2.9** | **3.0** | *3.0* | *3.0* | *3.2* | *3.2* | *3.1* | *3.1* | *3.2* | *3.2* | **2.9** | *3.1* | *3.1* |
| Mexico | **3.6** | **3.6** | **3.6** | **3.6** | *3.8* | *3.8* | *3.8* | *3.8* | *3.9* | *4.0* | *4.0* | *3.9* | **3.6** | *3.8* | *3.9* |
| North Sea [c] | **6.3** | **6.3** | **5.8** | **6.4** | *6.3* | *5.8* | *5.8* | *6.4* | *6.3* | *5.9* | *6.0* | *6.3* | **6.2** | *6.1* | *6.1* |
| Other OECD | **1.7** | **1.6** | **1.7** | **1.6** | *1.6* | *1.6* | *1.6* | *1.6* | *1.6* | *1.6* | *1.7* | *1.6* | **1.7** | *1.6* | *1.6* |
| Total OECD | **23.6** | **23.7** | **23.0** | **23.4** | *23.6* | *22.9* | *23.1* | *23.8* | *23.8* | *23.4* | *23.6* | *24.0* | **23.4** | *23.4* | *23.7* |
| Non-OECD | | | | | | | | | | | | | | | |
| OPEC | **28.5** | **27.9** | **28.8** | **29.5** | *30.1* | *30.0* | *30.0* | *30.2* | *29.5* | *29.7* | *29.2* | *29.2* | **28.7** | *30.1* | *29.4* |
| Crude Oil Portion | **25.2** | **24.6** | **25.5** | **26.3** | *26.9* | *26.7* | *26.7* | *26.9* | *26.1* | *26.4* | *25.8* | *25.8* | **25.4** | *26.8* | *26.0* |
| Former Soviet Union | **9.0** | **9.2** | **9.6** | **9.8** | *9.9* | *10.1* | *10.4* | *10.5* | *10.7* | *10.9* | *11.1* | *11.2* | **9.4** | *10.2* | *11.0* |
| China | **3.3** | **3.4** | **3.4** | **3.4** | *3.4* | *3.4* | *3.4* | *3.4* | *3.3* | *3.4* | *3.4* | *3.4* | **3.4** | *3.4* | *3.4* |
| Other Non-OECD | **11.5** | **11.5** | **11.4** | **11.4** | *11.4* | *11.5* | *11.7* | *11.7* | *11.7* | *11.8* | *12.0* | *12.2* | **11.4** | *11.6* | *11.9* |
| Total Non-OECD | **52.3** | **52.0** | **53.3** | **54.1** | *54.7* | *55.1* | *55.5* | *55.9* | *55.2* | *55.8* | *55.7* | *55.9* | **52.9** | *55.3* | *55.6* |
| Total World Supply | **75.9** | **75.6** | **76.2** | **77.5** | *78.4* | *77.9* | *78.6* | *79.7* | *79.0* | *79.2* | *79.3* | *79.8* | **76.3** | *78.7* | *79.3* |
| Additional unaccounted for supply | **0.3** | **0.3** | **0.3** | **0.3** | *0.3* | *0.3* | *0.3* | *0.3* | *0.3* | *0.3* | *0.3* | *0.3* | **0.3** | *0.3* | *0.3* |
| Stock Changes | | | | | | | | | | | | | | | |
| Net Stock Withdrawals or Additions (-) | | | | | | | | | | | | | | | |
| U.S. (50 States including SPR) | **0.2** | **-0.5** | **0.5** | **0.3** | *0.8* | *-0.9* | *-0.4* | *0.2* | *0.0* | *-0.8* | *-0.2* | *0.3* | **0.1** | *-0.1* | *-0.1* |
| Other | **1.7** | **0.8** | **0.2** | **0.8** | *0.2* | *-0.1* | *-0.8* | *-0.4* | *1.2* | *-1.0* | *-0.4* | *0.8* | **0.9** | *-0.3* | *0.2* |
| Total Stock Withdrawals | **1.8** | **0.3** | **0.7** | **1.1** | *1.1* | *-1.0* | *-1.2* | *-0.2* | *1.2* | *-1.7* | *-0.5* | *1.2* | **1.0** | *-0.4* | *0.0* |
| OECD Comm. Stocks, End (bill. bbls.) | **2.6** | **2.6** | **2.6** | **2.5** | *2.4* | *2.5* | *2.5* | *2.5* | *2.5* | *2.6* | *2.6* | *2.5* | **2.5** | *2.5* | *2.5* |
| Non-OPEC Supply | **47.4** | **47.7** | **47.4** | **48.0** | *48.3* | *47.9* | *48.6* | *49.5* | *49.5* | *49.5* | *50.1* | *50.7* | **47.6** | *48.6* | *50.0* |

[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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico , the Netherlands, New Zealand, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

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 Monthly*, DOE/EIA-0520; Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

## Table 4. U.S. Energy Prices: Base Case
(Nominal Dollars)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Crude Oil Prices** (dollars per barrel) | | | | | | | | | | | | | | | |
| Imported Average [a] | **19.34** | **23.84** | **25.88** | **25.39** | *30.59* | *25.58* | *27.45* | *27.14* | *27.17* | *25.33* | *24.50* | *24.50* | **23.69** | *27.60* | *25.35* |
| WTI [b] Spot Average | **21.66** | **26.25** | **28.34** | **28.22** | *34.10* | *28.98* | *30.19* | *29.75* | *29.67* | *27.83* | *27.00* | *27.00* | **26.12** | *30.76* | *27.88* |
| **Natural Gas Wellhead** (dollars per thousand cubic feet) | **2.34** | **2.99** | **2.88** | **3.60** | *5.55* | *5.01* | *4.67* | *4.28* | *4.27* | *3.75* | *3.81* | *4.04* | **2.96** | *4.88* | *3.97* |
| **Petroleum Products** | | | | | | | | | | | | | | | |
| Gasoline Retail [c] (dollars per gallon) | | | | | | | | | | | | | | | |
| All Grades | **1.20** | **1.43** | **1.44** | **1.46** | *1.63* | *1.57* | *1.64* | *1.57* | *1.53* | *1.56* | *1.49* | *1.42* | **1.39** | *1.60* | *1.50* |
| Regular Unleaded | **1.16** | **1.39** | **1.40** | **1.42** | *1.59* | *1.52* | *1.60* | *1.52* | *1.49* | *1.52* | *1.44* | *1.39* | **1.34** | *1.56* | *1.46* |
| No. 2 Diesel Oil, Retail (dollars per gallon) | **1.18** | **1.30** | **1.35** | **1.44** | *1.62* | *1.47* | *1.46* | *1.45* | *1.47* | *1.42* | *1.37* | *1.41* | **1.32** | *1.50* | *1.42* |
| No. 2 Heating Oil, Wholesale (dollars per gallon) | **0.60** | **0.68** | **0.73** | **0.79** | *1.00* | *0.79* | *0.78* | *0.83* | *0.85* | *0.76* | *0.73* | *0.80* | **0.69** | *0.87* | *0.79* |
| No. 2 Heating Oil, Retail (dollars per gallon) | **1.09** | **1.09** | **1.06** | **1.19** | *1.45* | *1.31* | *1.18* | *1.33* | *1.34* | *1.21* | *1.11* | *1.28* | **1.11** | *1.37* | *1.28* |
| No. 6 Residual Fuel Oil, Retail [d] (dollars per barrel) | **19.34** | **24.11** | **25.73** | **26.22** | *33.71* | *26.66* | *28.59* | *28.16* | *27.87* | *24.37* | *23.59* | *24.18* | **23.81** | *29.48* | *25.07* |
| **Electric Utility Fuels** [e] | | | | | | | | | | | | | | | |
| Coal (dollars per million Btu) | **1.27** | **1.26** | **1.26** | **1.23** | *1.27* | *1.29* | *1.25* | *1.24* | *1.25* | *1.26* | *1.23* | *1.22* | **1.25** | *1.26* | *1.24* |
| Heavy Fuel Oil [f] (dollars per million Btu) | **2.91** | **3.61** | **3.81** | **4.24** | *5.05* | *4.28* | *4.30* | *4.59* | *4.62* | *3.91* | *3.73* | *3.98* | **3.68** | *4.58* | *4.04* |
| Natural Gas (dollars per million Btu) | **2.99** | **3.58** | **3.41** | **4.26** | *6.13* | *5.52* | *4.81* | *4.82* | *4.91* | *4.30* | *4.38* | *4.73* | **3.54** | *5.23* | *4.53* |
| **Other Residential** | | | | | | | | | | | | | | | |
| Natural Gas (dollars per thousand cubic feet) | **7.21** | **8.30** | **10.24** | **7.98** | *8.63* | *10.65* | *12.35* | *9.42* | *9.02* | *9.70* | *10.84* | *8.71* | **7.86** | *9.44* | *9.18* |
| Electricity (cents per kilowatthour) | **8.14** | **8.58** | **8.74** | **8.30** | *8.08* | *8.91* | *8.84* | *8.51* | *8.29* | *8.88* | *9.03* | *8.59* | **8.45** | *8.58* | *8.70* |

[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 independent power producers after January 2002.
[f]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 2003. 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: Base Case

(Million Barrels per Day, Except Closing Stocks)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Crude Oil Supply | | | | | | | | | | | | | | | |
| Domestic Production [a] | **5.87** | **5.90** | **5.67** | **5.55** | *5.88* | *5.78* | *5.64* | *5.64* | *5.74* | *5.70* | *5.61* | *5.59* | **5.75** | *5.74* | *5.66* |
| Alaska | **1.03** | **1.01** | **0.93** | **0.97** | *1.01* | *0.98* | *0.94* | *0.99* | *1.00* | *0.95* | *0.91* | *0.93* | **0.98** | *0.98* | *0.95* |
| Lower 48 | **4.83** | **4.89** | **4.74** | **4.59** | *4.87* | *4.80* | *4.71* | *4.65* | *4.74* | *4.75* | *4.70* | *4.66* | **4.76** | *4.76* | *4.71* |
| Net Commercial Imports [b] | **8.72** | **9.30** | **9.16** | **9.28** | *8.76* | *9.96* | *10.03* | *9.33* | *9.27* | *9.94* | *9.99* | *9.73* | **9.12** | *9.52* | *9.73* |
| Net SPR Withdrawals | **-0.10** | **-0.15** | **-0.12** | **-0.11** | *-0.13* | *-0.16* | *-0.11* | *-0.17* | *-0.11* | *-0.07* | *0.00* | *0.00* | **-0.12** | *-0.14* | *-0.05* |
| Net Commercial Withdrawals | **-0.24** | **0.18** | **0.51** | **-0.08** | *-0.04* | *-0.02* | *0.03* | *0.01* | *-0.21* | *-0.06* | *0.15* | *-0.01* | **0.09** | *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 | **0.19** | **0.12** | **-0.01** | **0.13** | *0.08* | *0.15* | *-0.05* | *0.11* | *0.17* | *0.19* | *0.17* | *0.12* | **0.11** | *0.07* | *0.16* |
| Total Crude Oil Supply | **14.44** | **15.34** | **15.21** | **14.78** | *14.56* | *15.71* | *15.54* | *14.93* | *14.86* | *15.69* | *15.93* | *15.42* | **14.95** | *15.19* | *15.48* |
| Other Supply | | | | | | | | | | | | | | | |
| NGL Production | **1.88** | **1.91** | **1.89** | **1.84** | *1.76* | *1.60* | *1.70* | *1.82* | *1.91* | *1.88* | *1.85* | *1.95* | **1.88** | *1.72* | *1.90* |
| Other Hydrocarbon and Alcohol Inputs | **0.37** | **0.44** | **0.43** | **0.43** | *0.44* | *0.42* | *0.43* | *0.37* | *0.33* | *0.34* | *0.36* | *0.37* | **0.42** | *0.41* | *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 | **0.96** | **0.96** | **0.95** | **0.97** | *0.89* | *0.94* | *0.94* | *0.94* | *0.93* | *0.93* | *0.93* | *0.96* | **0.96** | *0.93* | *0.94* |
| Net Product Imports [c] | **1.37** | **1.56** | **1.37** | **1.36** | *1.49* | *1.74* | *1.78* | *1.64* | *1.72* | *1.79* | *1.76* | *1.75* | **1.42** | *1.66* | *1.76* |
| Product Stock Withdrawn or Added (-) | **0.51** | **-0.49** | **0.06** | **0.49** | *0.87* | *-0.81* | *-0.30* | *0.35* | *0.36* | *-0.64* | *-0.31* | *0.36* | **0.15** | *0.02* | *-0.06* |
| Total Supply | **19.53** | **19.72** | **19.92** | **19.87** | *20.01* | *19.60* | *20.10* | *20.03* | *20.11* | *19.99* | *20.51* | *20.80* | **19.76** | *19.94* | *20.36* |
| **Demand** | | | | | | | | | | | | | | | |
| Motor Gasoline | **8.49** | **9.00** | **9.05** | **8.85** | *8.49* | *9.02* | *9.18* | *9.05* | *8.78* | *9.22* | *9.36* | *9.31* | **8.85** | *8.94* | *9.17* |
| Jet Fuel | **1.57** | **1.61** | **1.63** | **1.65** | *1.54* | *1.51* | *1.59* | *1.61* | *1.52* | *1.56* | *1.64* | *1.68* | **1.61** | *1.56* | *1.60* |
| Distillate Fuel Oil | **3.80** | **3.70** | **3.71** | **3.89** | *4.22* | *3.81* | *3.67* | *3.97* | *4.19* | *3.81* | *3.85* | *4.11* | **3.78** | *3.92* | *3.99* |
| Residual Fuel Oil | **0.73** | **0.69** | **0.62** | **0.76** | *0.86* | *0.73* | *0.77* | *0.63* | *0.72* | *0.58* | *0.65* | *0.71* | **0.70** | *0.75* | *0.66* |
| Other Oils [d] | **4.93** | **4.72** | **4.91** | **4.73** | *4.90* | *4.52* | *4.89* | *4.77* | *4.90* | *4.82* | *5.01* | *4.99* | **4.82** | *4.77* | *4.93* |
| Total Demand | **19.53** | **19.72** | **19.92** | **19.87** | *20.01* | *19.60* | *20.10* | *20.03* | *20.11* | *19.99* | *20.51* | *20.80* | **19.76** | *19.94* | *20.35* |
| Total Petroleum Net Imports | **10.11** | **10.87** | **10.54** | **10.64** | *10.26* | *11.70* | *11.81* | *10.97* | *10.99* | *11.73* | *11.75* | *11.48* | **10.54** | *11.19* | *11.49* |
| **Closing Stocks** (million barrels) | | | | | | | | | | | | | | | |
| Crude Oil (excluding SPR) | **334** | **318** | **271** | **278** | *281* | *283* | *280* | *279* | *298* | *304* | *290* | *291* | **278** | *279* | *291* |
| Total Motor Gasoline | **213** | **217** | **206** | **209** | *200* | *206* | *200* | *203* | *207* | *210* | *203* | *207* | **209** | *203* | *207* |
| Finished Motor Gasoline | **160** | **168** | **157** | **162** | *145* | *153* | *149* | *153* | *151* | *158* | *152* | *156* | **162** | *153* | *156* |
| Blending Components | **54** | **49** | **49** | **47** | *55* | *53* | *51* | *50* | *56* | *53* | *51* | *51* | **47** | *50* | *51* |
| Jet Fuel | **42** | **39** | **41** | **39** | *37* | *38* | *42* | *41* | *39* | *42* | *43* | *42* | **39** | *41* | *42* |
| Distillate Fuel Oil | **123** | **133** | **127** | **134** | *99* | *112* | *132* | *135* | *105* | *117* | *134* | *137* | **134** | *135* | *137* |
| Residual Fuel Oil | **34** | **33** | **33** | **31** | *32* | *36* | *34* | *35* | *33* | *34* | *36* | *37* | **31** | *35* | *37* |
| Other Oils [e] | **265** | **301** | **309** | **258** | *225* | *275* | *288* | *249* | *246* | *285* | *301* | *261* | **258** | *249* | *261* |
| Total Stocks (excluding SPR) | **1011** | **1040** | **987** | **949** | *874* | *950* | *975* | *942* | *928* | *992* | *1007* | *975* | **949** | *942* | *975* |
| Crude Oil in SPR | **561** | **576** | **587** | **599** | *599* | *609* | *623* | *638* | *648* | *655* | *655* | *655* | **599** | *638* | *655* |
| Heating Oil Reserve | **2** | **2** | **2** | **2** | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | **2** | *2* | *2* |
| Total Stocks (incl SPR and HOR) | **1575** | **1618** | **1576** | **1550** | *1475* | *1560* | *1600* | *1582* | *1579* | *1649* | *1664* | *1632* | **1550** | *1582* | *1632* |

[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 model.

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

## Table 6. Approximate Energy Demand Sensitivities[a] for the STIFS[b]
(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 | *5.976* | *5.229* | *0.748* | *0.064* | *0.684* |
| Lower 48 States | *5.021* | *4.355* | *0.666* | *0.044* | *0.622* |
| Alaska | *0.955* | *0.873* | *0.081* | *0.020* | *0.061* |

Note: Components provided are for the fourth quarter 2004. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

## Table 8. U.S. Natural Gas Supply and Demand: Base Case

(Trillion Cubic Feet)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Total Dry Gas Production | **4.69** | **4.77** | **4.78** | **4.81** | 4.84 | 4.87 | 4.88 | 4.86 | 4.80 | 4.73 | 4.79 | 4.86 | **19.05** | *19.45* | *19.19* |
| Gross Imports | **0.98** | **0.95** | **1.03** | **1.04** | 0.95 | 0.93 | 1.13 | 1.15 | 1.09 | 1.10 | 1.15 | 1.15 | **4.01** | *4.16* | *4.49* |
| Pipeline | **0.95** | **0.88** | **0.97** | **0.97** | 0.88 | 0.80 | 0.95 | 0.99 | 0.97 | 0.92 | 0.97 | 1.00 | **3.78** | *3.62* | *3.86* |
| LNG | **0.03** | **0.07** | **0.06** | **0.07** | 0.08 | 0.13 | 0.17 | 0.16 | 0.13 | 0.18 | 0.18 | 0.15 | **0.23** | *0.54* | *0.64* |
| Gross Exports | **0.10** | **0.12** | **0.14** | **0.15** | 0.16 | 0.17 | 0.17 | 0.17 | 0.18 | 0.18 | 0.20 | 0.22 | **0.52** | *0.67* | *0.78* |
| Net Imports | **0.88** | **0.83** | **0.90** | **0.89** | 0.79 | 0.76 | 0.96 | 0.98 | 0.92 | 0.92 | 0.95 | 0.93 | **3.49** | *3.48* | *3.71* |
| Supplemental Gaseous Fuels | **0.02** | **0.02** | **0.02** | **0.02** | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | **0.08** | *0.08* | *0.08* |
| Total New Supply | **5.59** | **5.62** | **5.69** | **5.72** | 5.65 | 5.65 | 5.86 | 5.85 | 5.74 | 5.66 | 5.76 | 5.82 | **22.62** | *23.01* | *22.98* |
| Working Gas in Storage | | | | | | | | | | | | | | | |
| Opening | **2.90** | **1.52** | **2.31** | **3.04** | *2.38* | *0.73* | *1.71* | *2.84* | *2.49* | *1.15* | *1.98* | *2.90* | **2.90** | *2.38* | *2.49* |
| Closing | **1.52** | **2.31** | **3.04** | **2.38** | *0.73* | *1.71* | *2.84* | *2.49* | *1.15* | *1.98* | *2.90* | *2.42* | **2.38** | *2.49* | *2.42* |
| Net Withdrawals | **1.39** | **-0.79** | **-0.73** | **0.67** | *1.64* | *-0.97* | *-1.13* | *0.35* | *1.34* | *-0.84* | *-0.91* | *0.48* | **0.53** | *-0.11* | *0.07* |
| Total Supply | **6.98** | **4.83** | **4.96** | **6.38** | *7.29* | *4.67* | *4.73* | *6.20* | *7.08* | *4.82* | *4.85* | *6.30* | **23.15** | *22.90* | *23.05* |
| Balancing Item [a] | **-0.12** | **0.16** | **-0.06** | **-0.61** | *-0.08* | *-0.08* | *0.07* | *-0.54* | *0.02* | *0.00* | *-0.04* | *-0.63* | **-0.63** | *-0.63* | *-0.65* |
| Total Primary Supply | **6.86** | **4.98** | **4.90** | **5.78** | *7.22* | *4.60* | *4.79* | *5.66* | *7.10* | *4.82* | *4.80* | *5.67* | **22.52** | *22.27* | *22.40* |
| **Demand** | | | | | | | | | | | | | | | |
| Residential | **2.20** | **0.84** | **0.37** | **1.51** | *2.51* | *0.82* | *0.36* | *1.38* | *2.40* | *0.82* | *0.37* | *1.40* | **4.92** | *5.07* | *4.99* |
| Commercial | **1.19** | **0.61** | **0.42** | **0.90** | *1.34* | *0.57* | *0.38* | *0.86* | *1.31* | *0.61* | *0.44* | *0.90* | **3.12** | *3.15* | *3.26* |
| Industrial | **2.16** | **2.04** | **2.00** | **2.09** | *2.11* | *1.88* | *1.97* | *2.10* | *2.17* | *1.96* | *2.00* | *2.16* | **8.29** | *8.06* | *8.29* |
| Lease and Plant Fuel | **0.26** | **0.26** | **0.26** | **0.27** | *0.27* | *0.27* | *0.25* | *0.23* | *0.24* | *0.24* | *0.24* | *0.25* | **1.05** | *1.02* | *0.96* |
| Other Industrial | **1.90** | **1.78** | **1.73** | **1.83** | *1.85* | *1.61* | *1.71* | *1.87* | *1.93* | *1.72* | *1.76* | *1.91* | **7.24** | *7.04* | *7.33* |
| CHP [b] | **0.32** | **0.31** | **0.35** | **0.29** | *0.30* | *0.26* | *0.31* | *0.28* | *0.30* | *0.29* | *0.32* | *0.29* | **1.28** | *1.16* | *1.20* |
| Non-CHP | **1.58** | **1.46** | **1.38** | **1.54** | *1.55* | *1.35* | *1.40* | *1.59* | *1.63* | *1.43* | *1.44* | *1.63* | **5.96** | *5.89* | *6.13* |
| Transportation [c] | **0.20** | **0.14** | **0.14** | **0.17** | 0.21 | 0.13 | 0.16 | 0.18 | 0.22 | 0.15 | 0.13 | 0.17 | **0.65** | *0.67* | *0.67* |
| Electric Power [d] | **1.12** | **1.35** | **1.97** | **1.11** | *1.05* | *1.13* | *1.92* | *1.14* | *1.01* | *1.28* | *1.86* | *1.04* | **5.55** | *5.24* | *5.19* |
| Total Demand | **6.86** | **4.98** | **4.90** | **5.78** | *7.22* | *4.60* | *4.79* | *5.66* | *7.10* | *4.82* | *4.80* | *5.67* | **22.52** | *22.27* | *22.40* |

[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.

[b]Natural gas used for electricity generation and production of useful thermal output by combined heat and power plants at industrial facilities. Includes a small amount of natural gas consumption at electricity-only plants in the industrial sector.

[c]Pipeline fuel use plus natural gas used as vehicle fuel.

[d]Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

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: Base Case

(Million Short Tons)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Production | **282.6** | **266.7** | **270.9** | **274.1** | *264.1* | *267.2* | *275.6* | *284.1* | *275.6* | *258.9* | *276.9* | *278.7* | **1094.3** | *1091.0* | *1090.1* |
| Appalachia | **108.1** | **98.5** | **95.2** | **95.2** | *95.4* | *95.5* | *96.2* | *96.1* | *97.6* | *90.3* | *92.0* | *91.9* | **397.0** | *383.1* | *371.8* |
| Interior | **36.9** | **37.3** | **36.7** | **35.9** | *36.1* | *37.0* | *37.2* | *35.4* | *36.1* | *34.5* | *34.3* | *33.0* | **146.9** | *145.7* | *137.9* |
| Western | **137.6** | **130.8** | **138.9** | **143.1** | *132.5* | *134.7* | *141.5* | *152.5* | *141.9* | *134.1* | *150.6* | *153.8* | **550.4** | *561.3* | *580.4* |
| Primary Stock Levels [a] | | | | | | | | | | | | | | | |
| Opening | **35.9** | **40.3** | **41.3** | **35.7** | *43.3* | *39.0* | *37.7* | *35.0* | *36.8* | *35.4* | *35.0* | *33.4* | **35.9** | *43.3* | *36.8* |
| Closing | **40.3** | **41.3** | **35.7** | **43.3** | *39.0* | *37.7* | *35.0* | *36.8* | *35.4* | *35.0* | *33.4* | *34.7* | **43.3** | *36.8* | *34.7* |
| Net Withdrawals | **-4.4** | **-1.0** | **5.6** | **-7.6** | *4.3* | *1.3* | *2.7* | *-1.8* | *1.4* | *0.3* | *1.7* | *-1.4* | **-7.4** | *6.5* | *2.1* |
| Imports | **4.0** | **3.9** | **4.7** | **4.4** | *5.0* | *6.4* | *5.1* | *4.7* | *5.5* | *5.9* | *5.4* | *5.0* | **16.9** | *21.1* | *21.8* |
| Exports | **9.3** | **11.0** | **9.3** | **10.0** | *8.5* | *11.4* | *11.1* | *10.8* | *10.0* | *10.7* | *10.5* | *10.2* | **39.6** | *41.9* | *41.4* |
| Total Net Domestic Supply | **272.9** | **258.5** | **271.9** | **260.9** | *264.8* | *263.5* | *272.3* | *276.2* | *272.5* | *254.4* | *273.5* | *272.2* | **1064.2** | *1076.7* | *1072.6* |
| Secondary Stock Levels [b] | | | | | | | | | | | | | | | |
| Opening | **146.0** | **153.5** | **158.0** | **142.8** | *149.0* | *136.8* | *148.8* | *140.2* | *157.0* | *160.6* | *171.3* | *157.7* | **146.0** | *149.0* | *157.0* |
| Closing | **153.5** | **158.0** | **142.8** | **149.0** | *136.8* | *148.8* | *140.2* | *157.0* | *160.6* | *171.3* | *157.7* | *164.4* | **149.0** | *157.0* | *164.4* |
| Net Withdrawals | **-7.5** | **-4.6** | **15.3** | **-6.2** | *12.1* | *-11.9* | *8.5* | *-16.8* | *-3.6* | *-10.7* | *13.6* | *-6.7* | **-3.0** | *-8.1* | *-7.4* |
| Waste Coal Supplied to IPPs [c] | **2.8** | **2.8** | **2.8** | **2.8** | *2.9* | *2.9* | *2.9* | *2.9* | *2.9* | *2.9* | *2.9* | *2.9* | **11.1** | *11.6* | *11.6* |
| Total Supply | **268.2** | **256.7** | **290.0** | **257.4** | *279.8* | *254.4* | *283.7* | *262.2* | *271.9* | *246.6* | *290.0* | *268.4* | **1072.3** | *1080.2* | *1076.8* |
| **Demand** | | | | | | | | | | | | | | | |
| Coke Plants | **5.4** | **5.6** | **5.6** | **5.9** | *6.0* | *6.1* | *6.3* | *6.0* | *6.2* | *6.0* | *6.1* | *5.4* | **22.5** | *24.4* | *23.8* |
| Electric Power Sector [d] | **231.6** | **231.3** | **267.3** | **245.7** | *248.7* | *231.4* | *267.8* | *239.0* | *247.8* | *225.1* | *268.4* | *245.8* | **975.9** | *986.9* | *987.2* |
| Retail and General Industry | **17.6** | **16.0** | **16.1** | **17.7** | *17.5* | *16.1* | *15.1* | *17.2* | *17.8* | *15.4* | *15.5* | *17.1* | **67.4** | *65.9* | *65.9* |
| Total Demand [e] | **254.6** | **253.0** | **289.0** | **269.3** | *272.2* | *253.6* | *289.2* | *262.2* | *271.9* | *246.6* | *290.0* | *268.4* | **1065.8** | *1077.2* | *1076.8* |
| Discrepancy [f] | **13.6** | **3.7** | **1.0** | **-11.8** | *7.6* | *0.9* | *-5.5* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | **6.5** | *3.0* | *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]Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

[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 10a. U.S. Electricity Supply and Demand

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Net Electricity Generation** | | | | | | | | | | | | | | | |
| Electric Power Sector [a] | | | | | | | | | | | | | | | |
| Coal | **454.2** | **452.0** | **519.5** | **479.0** | *485.6* | *446.7* | *520.0* | *463.8* | *480.0* | *435.4* | *519.3* | *475.2* | **1904.7** | *1916.0* | *1910.0* |
| Petroleum | **18.0** | **21.6** | **24.9** | **20.2** | *31.5* | *25.8* | *25.3* | *15.4* | *22.5* | *14.0* | *25.3* | *21.0* | **84.6** | *98.0* | *82.8* |
| Natural Gas | **121.9** | **143.8** | **211.3** | **123.5** | *116.9* | *124.6* | *207.7* | *130.0* | *117.1* | *141.9* | *204.3* | *120.7* | **600.5** | *579.2* | *584.0* |
| Nuclear | **195.6** | **187.8** | **205.7** | **190.9** | *190.1* | *183.2* | *201.5* | *190.4* | *195.1* | *191.4* | *206.3* | *191.5* | **780.1** | *765.2* | *784.3* |
| Hydroelectric | **59.9** | **76.8** | **59.4** | **54.7** | *60.0* | *80.0* | *60.2* | *62.1* | *77.3* | *83.6* | *66.9* | *68.2* | **250.8** | *262.3* | *295.9* |
| Geothermal and Other [b] | **13.3** | **14.1** | **14.2** | **13.1** | *13.0* | *13.8* | *14.8* | *14.4* | *15.2* | *15.0* | *15.6* | *15.2* | **54.7** | *56.0* | *61.0* |
| Subtotal | **863.0** | **896.1** | **1035.0** | **881.3** | *897.1* | *874.0* | *1029.5* | *876.0* | *907.0* | *881.4* | *1037.7* | *891.8* | **3675.4** | *3676.6* | *3718.0* |
| Other Sectors [c] | **40.5** | **39.8** | **44.1** | **38.6** | *40.2* | *37.3* | *42.1* | *39.8* | *40.2* | *39.9* | *43.1* | *40.9* | **163.1** | *159.4* | *164.2* |
| Total Generation | **903.5** | **935.9** | **1079.2** | **920.0** | *937.3* | *911.3* | *1071.5* | *915.8* | *947.3* | *921.4* | *1080.9* | *932.7* | **3838.6** | *3836.0* | *3882.2* |
| Net Imports [d] | **6.3** | **4.7** | **8.6** | **3.2** | *2.4* | *4.8* | *9.7* | *3.1* | *2.2* | *2.3* | *5.1* | *2.2* | **22.9** | *20.0* | *11.8* |
| Total Supply | **909.8** | **940.6** | **1087.8** | **923.2** | *939.8* | *916.1* | *1081.2* | *919.0* | *949.5* | *923.6* | *1086.0* | *934.9* | **3861.4** | *3856.0* | *3894.0* |
| Losses and Unaccounted for [e] | **38.6** | **67.6** | **50.8** | **49.2** | *30.3* | *60.5* | *54.2* | *49.2* | *30.4* | *61.0* | *50.6* | *50.0* | **206.1** | *194.2* | *192.1* |
| **Demand** | | | | | | | | | | | | | | | |
| Retail Sales [f] | | | | | | | | | | | | | | | |
| Residential | **311.3** | **281.7** | **382.7** | **292.5** | *337.5* | *273.4* | *383.8* | *288.9* | *341.1* | *270.8* | *383.9* | *291.6* | **1268.2** | *1283.5* | *1287.4* |
| Commercial | **255.1** | **273.0** | **313.4** | **266.7** | *265.1* | *267.8* | *307.9* | *264.8* | *267.1* | *272.4* | *314.4* | *272.8* | **1108.1** | *1105.5* | *1126.7* |
| Industrial | **236.3** | **249.0** | **262.3** | **246.2** | *237.2* | *247.4* | *259.6* | *245.9* | *240.3* | *249.4* | *259.9* | *248.7* | **993.8** | *990.0* | *998.2* |
| Other | **23.9** | **25.3** | **30.0** | **26.0** | *25.3* | *25.9* | *29.3* | *26.3* | *26.3* | *26.0* | *29.5* | *26.6* | **105.2** | *106.7* | *108.3* |
| Subtotal | **826.5** | **829.1** | **988.2** | **831.4** | *865.1* | *814.3* | *980.5* | *825.9* | *874.7* | *818.5* | *987.7* | *839.6* | **3475.2** | *3485.8* | *3520.6* |
| Other Use/Sales [g] | **44.7** | **44.0** | **48.7** | **42.7** | *44.4* | *41.2* | *46.4* | *43.9* | *44.4* | *44.1* | *47.6* | *45.2* | **180.1** | *176.0* | *181.3* |
| Total Demand | **871.3** | **873.0** | **1037.0** | **874.1** | *909.5* | *855.5* | *1027.0* | *869.8* | *919.1* | *862.6* | *1035.4* | *884.8* | **3655.3** | *3661.8* | *3701.8* |

[a]Electric Utilities and independent power producers.

[b]"Other" includes generation from other gaseous fuels, wind, wood, waste, and solar sources.

[c]Electricity generation from combined heat and power facilities and electricity-only plants in the industrial and commercial sectors.

[d]Data for 2002 are estimates.

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

[f]Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA'S Electric Power Monthly and Electric Power Annual. Power marketers' sales are reported annually in Appendix C of EIA's Electric Sales and Revenue. Quarterly data for power marketers ( and thus retail sales totals) are imputed. Data for 2002 are estimated.

[g]Defined as the sum of facility use of onsite net electricity generation plus direct sales of power by industrial- or commercial-sector generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2002 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 10b. U.S. Electricity Generation by Sector: Base Case
(Billion Kilowatt-hours)

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Electricity Generation by Sector** | | | | | | | | | | | | | | | |
| Electric Power [a] | | | | | | | | | | | | | | | |
| Coal | **454.2** | **452.0** | **519.5** | **479.0** | *485.6* | *446.7* | *520.0* | *463.8* | *480.0* | *435.4* | *519.3* | *475.2* | **1904.7** | *1916.0* | *1910.0* |
| Petroleum | **18.0** | **21.6** | **24.9** | **20.2** | *31.5* | *25.8* | *25.3* | *15.4* | *22.5* | *14.0* | *25.3* | *21.0* | **84.6** | *98.0* | *82.8* |
| Natural Gas | **121.9** | **143.8** | **211.3** | **123.5** | *116.9* | *124.6* | *207.7* | *130.0* | *117.1* | *141.9* | *204.3* | *120.7* | **600.5** | *579.2* | *584.0* |
| Other [b] | **268.8** | **278.7** | **279.3** | **258.7** | *263.1* | *276.9* | *276.5* | *266.9* | *287.5* | *290.1* | *288.7* | *274.9* | **1085.5** | *1083.4* | *1141.2* |
| Subtotal | **863.0** | **896.1** | **1035.0** | **881.3** | *897.1* | *874.0* | *1029.5* | *876.0* | *907.0* | *881.4* | *1037.7* | *891.8* | **3675.4** | *3676.6* | *3718.0* |
| Commercial | | | | | | | | | | | | | | | |
| Coal | **0.3** | **0.2** | **0.3** | **0.3** | *0.3* | *0.2* | *0.3* | *0.4* | *0.3* | *0.3* | *0.3* | *0.3* | **1.0** | *1.2* | *1.2* |
| Petroleum | **0.1** | **0.1** | **0.1** | **0.1** | *0.2* | *0.1* | *0.1* | *0.1* | *0.2* | *0.0* | *0.1* | *0.1* | **0.4** | *0.5* | *0.5* |
| Natural Gas | **1.1** | **1.0** | **2.4** | **1.0** | *1.0* | *1.2* | *2.6* | *1.5* | *1.5* | *1.5* | *2.3* | *1.3* | **5.4** | *6.3* | *6.6* |
| Other [b] | **0.4** | **0.5** | **0.5** | **0.5** | *0.4* | *0.5* | *0.5* | *0.7* | *0.6* | *0.7* | *0.5* | *0.6* | **1.9** | *2.2* | *2.4* |
| Subtotal | **1.8** | **1.8** | **3.3** | **1.8** | *1.9* | *2.1* | *3.5* | *2.7* | *2.6* | *2.5* | *3.2* | *2.4* | **8.7** | *10.2* | *10.7* |
| Industrial | | | | | | | | | | | | | | | |
| Coal | **4.9** | **5.0** | **5.4** | **5.3** | *5.5* | *5.0* | *5.2* | *5.2* | *5.3* | *5.2* | *5.3* | *5.4* | **20.7** | *20.9* | *21.2* |
| Petroleum | **1.2** | **1.1** | **1.2** | **1.3** | *1.5* | *1.2* | *1.2* | *1.0* | *1.1* | *0.7* | *1.2* | *1.4* | **4.9** | *4.9* | *4.3* |
| Natural Gas | **21.0** | **19.5** | **21.4** | **17.9** | *19.9* | *17.3* | *20.1* | *18.2* | *19.8* | *19.0* | *20.8* | *18.6* | **79.9** | *75.5* | *78.2* |
| Other [b] | **11.6** | **12.3** | **12.8** | **12.3** | *11.3* | *11.7* | *12.2* | *12.7* | *11.4* | *12.6* | *12.7* | *13.1* | **49.0** | *47.8* | *49.8* |
| Subtotal | **38.7** | **38.0** | **40.9** | **36.8** | *38.3* | *35.2* | *38.6* | *37.1* | *37.6* | *37.4* | *39.9* | *38.5* | **154.4** | *149.2* | *153.5* |
| Total | **903.5** | **935.9** | **1079.2** | **920.0** | *937.3* | *911.3* | *1071.5* | *915.8* | *947.3* | *921.4* | *1080.9* | *932.7* | **3838.6** | *3836.0* | *3882.2* |

[a]Electric Utilities and independent power producers.
[b]"Other" includes nuclear, hydroelectric, geothermal, wood, waste, wind and solar power sources.
Note: Commercial and industrial categories include electricity output from CHP facilities and some electric-only plants.

# Table 10c. U.S. Fuel Consumption for Electricity Generation by Sector: Base Case

| | 2002 | | | | 2003 | | | | 2004 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 2002 | 2003 | 2004 |
| **Fuel Consumption for Electricity Generation by Sector** | | | | | | (Quadrillion Btu) | | | | | | | | | |
| Electric Power [a] | | | | | | | | | | | | | | | |
| Coal | **4.752** | **4.747** | **5.485** | **5.042** | 5.103 | 4.748 | 5.496 | 4.904 | 5.085 | 4.620 | 5.507 | 5.045 | 20.0 | 20.3 | 20.3 |
| Petroleum | **0.194** | **0.226** | **0.267** | **0.218** | 0.340 | 0.277 | 0.272 | 0.166 | 0.243 | 0.150 | 0.271 | 0.226 | 0.9 | 1.1 | 0.9 |
| Natural Gas | **1.087** | **1.326** | **1.957** | **1.084** | 1.008 | 1.098 | 1.878 | 1.110 | 0.979 | 1.251 | 1.815 | 1.013 | 5.5 | 5.1 | 5.1 |
| Other [b] | **2.805** | **2.900** | **3.093** | **2.849** | 2.884 | 2.910 | 2.946 | 2.844 | 3.064 | 3.079 | 3.073 | 2.926 | 11.6 | 11.6 | 12.1 |
| Subtotal | **8.837** | **9.200** | **10.802** | **9.193** | 9.335 | 9.032 | 10.592 | 9.025 | 9.371 | 9.100 | 10.665 | 9.210 | 38.0 | 38.0 | 38.3 |
| Commercial | | | | | | | | | | | | | | | |
| Coal | **0.003** | **0.003** | **0.004** | **0.003** | 0.003 | 0.003 | 0.004 | 0.005 | 0.004 | 0.003 | 0.004 | 0.004 | 0.013 | 0.015 | 0.015 |
| Petroleum | **0.001** | **0.001** | **0.001** | **0.001** | 0.003 | 0.001 | 0.002 | 0.002 | 0.003 | 0.001 | 0.002 | 0.002 | 0.005 | 0.007 | 0.007 |
| Natural Gas | **0.009** | **0.009** | **0.019** | **0.009** | 0.009 | 0.010 | 0.021 | 0.012 | 0.012 | 0.012 | 0.020 | 0.011 | 0.047 | 0.052 | 0.055 |
| Other [b] | **0.006** | **0.007** | **0.009** | **0.007** | 0.007 | 0.008 | 0.008 | 0.012 | 0.010 | 0.011 | 0.008 | 0.010 | 0.029 | 0.035 | 0.039 |
| Subtotal | **0.019** | **0.020** | **0.034** | **0.020** | 0.021 | 0.022 | 0.035 | 0.030 | 0.029 | 0.027 | 0.032 | 0.027 | 0.093 | 0.109 | 0.115 |
| Industrial | | | | | | | | | | | | | | | |
| Coal | **0.062** | **0.064** | **0.067** | **0.068** | 0.070 | 0.065 | 0.066 | 0.066 | 0.068 | 0.066 | 0.068 | 0.070 | 0.261 | 0.268 | 0.272 |
| Petroleum | **0.015** | **0.014** | **0.015** | **0.016** | 0.018 | 0.017 | 0.015 | 0.013 | 0.013 | 0.009 | 0.016 | 0.018 | 0.059 | 0.063 | 0.056 |
| Natural Gas | **0.183** | **0.179** | **0.197** | **0.157** | 0.176 | 0.157 | 0.179 | 0.162 | 0.177 | 0.170 | 0.186 | 0.166 | 0.717 | 0.675 | 0.699 |
| Other [b] | **0.143** | **0.146** | **0.154** | **0.164** | 0.139 | 0.152 | 0.157 | 0.162 | 0.146 | 0.163 | 0.163 | 0.166 | 0.608 | 0.610 | 0.638 |
| Subtotal | **0.404** | **0.402** | **0.434** | **0.405** | 0.404 | 0.392 | 0.417 | 0.403 | 0.405 | 0.409 | 0.432 | 0.420 | 1.644 | 1.616 | 1.665 |
| Total | **9.260** | **9.621** | **11.269** | **9.618** | 9.761 | 9.446 | 11.044 | 9.458 | 9.805 | 9.536 | 11.130 | 9.657 | 39.769 | 39.709 | 40.127 |
| | | | | | | (Physical Units) | | | | | | | | | |
| Electric Power [a] | | | | | | | | | | | | | | | |
| Coal (Million Short Tons) | **231.0** | **230.8** | **266.7** | **245.1** | 248.1 | 230.8 | 267.2 | 238.5 | 247.3 | 224.6 | 267.8 | 245.3 | 973.7 | 984.7 | 985.0 |
| Petroleum (Million Barrels per Day) | **0.348** | **0.402** | **0.470** | **0.383** | 0.614 | 0.494 | 0.476 | 0.294 | 0.434 | 0.268 | 0.474 | 0.399 | 0.401 | 0.469 | 0.394 |
| Natural Gas (Trillion Cubic Feet) | **1.060** | **1.294** | **1.909** | **1.058** | 0.983 | 1.071 | 1.832 | 1.083 | 0.955 | 1.220 | 1.770 | 0.988 | 5.321 | 4.970 | 4.934 |
| Commercial | | | | | | | | | | | | | | | |
| Coal (Million Short Tons) | **0.1** | **0.1** | **0.1** | **0.1** | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.5 | 0.6 | 0.6 |
| Petroleum (Million Barrels per Day) | **0.002** | **0.002** | **0.003** | **0.002** | 0.006 | 0.002 | 0.003 | 0.003 | 0.005 | 0.001 | 0.003 | 0.003 | 0.002 | 0.003 | 0.003 |
| Natural Gas (Trillion Cubic Feet) | **0.009** | **0.009** | **0.019** | **0.008** | 0.008 | 0.010 | 0.021 | 0.012 | 0.012 | 0.012 | 0.019 | 0.010 | 0.045 | 0.051 | 0.053 |
| Industrial | | | | | | | | | | | | | | | |
| Coal (Million Short Tons) | **2.7** | **2.7** | **2.9** | **2.9** | 3.0 | 2.8 | 2.8 | 2.8 | 2.9 | 2.8 | 2.9 | 3.0 | 11.2 | 11.5 | 11.6 |
| Petroleum (Million Barrels per Day) | **0.027** | **0.025** | **0.026** | **0.028** | 0.034 | 0.032 | 0.027 | 0.023 | 0.025 | 0.016 | 0.028 | 0.032 | 0.026 | 0.029 | 0.025 |
| Natural Gas (Trillion Cubic Feet) | **0.179** | **0.174** | **0.192** | **0.153** | 0.172 | 0.153 | 0.175 | 0.158 | 0.173 | 0.166 | 0.181 | 0.162 | 0.699 | 0.657 | 0.681 |

[a]Electric Utilities and independent power producers.
[b]"Other" includes nuclear, hydroelectric, geothermal, wood, waste, wind and solar power sources.
Note: Commercial and industrial categories include electricity output from CHP facilities and some electric-only plants.

## Table 11. U.S. Renewable Energy Use by Sector: Base Case

(Quadrillion Btu)

| | Year | | | | Annual Percentage Change | | |
|---|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2003 | 2004 | 2001-2002 | 2002-2003 | 2003-2004 |
| **Electricity Sector** | | | | | | | |
| Hydroelectric Power [a] | **2.165** | **2.623** | *2.745* | *3.098* | **21.2** | *4.7* | *12.9* |
| Geothermal, Solar and Wind Energy [b] | **0.363** | **0.392** | *0.409* | *0.463* | **8.0** | *4.3* | *13.2* |
| Biofuels [c] | **0.450** | **0.466** | *0.486* | *0.503* | **3.6** | *4.3* | *3.5* |
| Total | **2.978** | **3.481** | *3.640* | *4.064* | **16.9** | *4.6* | *11.6* |
| **Other Sectors [d]** | | | | | | | |
| Residential and Commercial [e] | **0.567** | **0.513** | *0.542* | *0.565* | **-9.5** | *5.7* | *4.2* |
| Residential | **0.475** | **0.418** | *0.436* | *0.455* | **-12.0** | *4.3* | *4.4* |
| Commercial | **0.091** | **0.095** | *0.106* | *0.111* | **4.4** | *11.6* | *4.7* |
| Industrial [f] | **1.641** | **1.734** | *1.697* | *1.733* | **5.7** | *-2.1* | *2.1* |
| Transportation [g] | **0.147** | **0.175** | *0.235* | *0.264* | **19.0** | *34.3* | *12.3* |
| Total | **2.354** | **2.422** | *2.473* | *2.562* | **2.9** | *2.1* | *3.6* |
| Total Renewable Energy Demand | **5.331** | **5.903** | *6.114* | *6.627* | **10.7** | *3.6* | *8.4* |

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

[g]Ethanol blended into gasoline.

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: Base Case

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Real Gross Domestic Product (GDP)** | | | | | | | | | | | | | | | |
| (billion chained 1996 dollars) | **6708** | **6676** | **6880** | **7063** | **7348** | **7544** | **7813** | **8159** | **8509** | **8859** | **9191** | **9215** | **9440** | *9683* | *10077* |
| Imported Crude Oil Price [a] | | | | | | | | | | | | | | | |
| (nominal dollars per barrel) | **21.79** | **18.74** | **18.20** | **16.13** | **15.53** | **17.14** | **20.62** | **18.49** | **12.07** | **17.26** | **27.72** | **22.00** | **23.69** | *27.60* | *25.35* |
| **Petroleum Supply** | | | | | | | | | | | | | | | |
| Crude Oil Production [b] | | | | | | | | | | | | | | | |
| (million barrels per day) | **7.36** | **7.42** | **7.17** | **6.85** | **6.66** | **6.56** | **6.46** | **6.45** | **6.25** | **5.88** | **5.82** | **5.80** | **5.75** | *5.74* | *5.66* |
| Total Petroleum Net Imports (including SPR) | | | | | | | | | | | | | | | |
| (million barrels per day) | **7.16** | **6.63** | **6.94** | **7.62** | **8.05** | **7.89** | **8.50** | **9.16** | **9.76** | **9.91** | **10.42** | **10.90** | **10.54** | *11.19* | *11.49* |
| **Energy Demand** | | | | | | | | | | | | | | | |
| U.S. Petroleum | | | | | | | | | | | | | | | |
| (million barrels per day) | **17.04** | **16.77** | **17.10** | **17.24** | **17.72** | **17.72** | **18.31** | **18.62** | **18.92** | **19.52** | **19.70** | **19.65** | **19.76** | *19.94* | *20.35* |
| Natural Gas | | | | | | | | | | | | | | | |
| (trillion cubic feet) | **19.17** | **19.56** | **20.23** | **20.79** | **21.24** | **22.20** | **22.60** | **22.72** | **22.24** | **22.39** | **23.47** | **22.23** | **22.52** | *22.27* | *22.40* |
| Coal | | | | | | | | | | | | | | | |
| (million short tons) | **904** | **899** | **908** | **944** | **951** | **962** | **1006** | **1030** | **1037** | **1039** | **1084** | **1060** | **1066** | *1077* | *1077* |
| Electricity (billion kilowatthours) | | | | | | | | | | | | | | | |
| Retail Sales [c] | **2713** | **2762** | **2763** | **2861** | **2935** | **3013** | **3101** | **3146** | **3264** | **3312** | **3421** | **3370** | **3475** | *3486* | *3521* |
| Other Use/Sales [d] | **115** | **118** | **122** | **128** | **134** | **144** | **146** | **148** | **161** | **183** | **181** | **173** | **180** | *176* | *181* |
| Total | **2827** | **2880** | **2886** | **2989** | **3069** | **3157** | **3247** | **3294** | **3425** | **3495** | **3603** | **3543** | **3655** | *3662* | *3702* |
| Total Energy Demand [e] | | | | | | | | | | | | | | | |
| (quadrillion Btu) | **84.6** | **84.5** | **85.9** | **87.6** | **89.2** | **91.2** | **94.2** | **94.7** | **95.1** | **96.8** | **99.0** | **96.3** | **97.6** | *97.8* | *99.6* |
| Total Energy Demand per Dollar of GDP | | | | | | | | | | | | | | | |
| (thousand Btu per 1996 Dollar) | **12.62** | **12.66** | **12.48** | **12.40** | **12.15** | **12.09** | **12.06** | **11.63** | **11.18** | **10.92** | **10.78** | **10.45** | **10.34** | *10.10* | *9.89* |

[a]Refers to the imported cost of crude oil to U.S. refiners.
[b]Includes lease condensate.
[c]Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA's Electric Power Monthly and Electric Power Annual. Power marketers' sales for historical periods are reported in EIA's Electric Sales and Revenue, Appendix C.
[d]Defined as the sum of facility use of onsite net electricity generation plus direct sales of power by industrial- or commercial-sector generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 are estimates.
[e] "Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 2001, DOE/EIA-0384(01) (AER), Table 1.1. The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, Monthly Energy Review (MER). Consequently, the historical data may not precisely match those published in the MER or the AER.
Notes: SPR: Strategic Petroleum Reserve. Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Latest data available from Bureau of Economic Analysis; Energy Information Administration; latest data available from EIA databases supporting the following reports: Petroleum Supply Monthly, DOE/EIA-0109; Petroleum Supply Annual, DOE/EIA-0340/2; Natural Gas Monthly, DOE/EIA-0130; Electric Power Monthly, DOE/EIA-0226; Quarterly Coal Report, DOE/EIA-0121; International Petroleum Monthly DOE/EIA-520, and Weekly Petroleum Status Report DOE/EIA-0208. Macroeconomic projections are based on Global Insight Forecast CONTROL0903.

## Table A2. Annual U.S. Macroeconomic and Weather Indicators: Base Case

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Macroeconomic** | | | | | | | | | | | | | | | |
| Real Gross Domestic Product (billion chained 1996 dollars) | **6708** | **6676** | **6880** | **7063** | **7348** | **7544** | **7813** | **8159** | **8509** | **8859** | **9191** | **9215** | **9440** | *9683* | *10077* |
| GDP Implicit Price Deflator (Index, 1996=1.000) | **0.865** | **0.897** | **0.918** | **0.941** | **0.960** | **0.981** | **1.000** | **1.019** | **1.032** | **1.047** | **1.069** | **1.094** | **1.107** | *1.124* | *1.138* |
| Real Disposable Personal Income (billion chained 1996 Dollars) | **5014** | **5033** | **5189** | **5261** | **5397** | **5539** | **5678** | **5854** | **6169** | **6328** | **6630** | **6748** | **7032** | *7230* | *7562* |
| Manufacturing Production (Index, 1996=1.000) | **74.156** | **72.721** | **75.516** | **78.214** | **83.212** | **87.846** | **92.157** | **100.000** | **106.518** | **111.872** | **117.672** | **112.800** | **111.691** | *111.410* | *117.711* |
| Real Fixed Investment (billion chained 1996 dollars) | **895** | **833** | **886** | **958** | **1046** | **1109** | **1213** | **1329** | **1480** | **1595** | **1692** | **1627** | **1577** | *1621* | *1702* |
| Real Exchange Rate (Index, 1996=1.000) | **0.918** | **0.920** | **0.926** | **0.956** | **0.933** | **0.869** | **0.918** | **0.992** | **1.044** | **1.047** | **1.083** | **1.141** | **1.138** | *1.015* | *0.994* |
| Business Inventory Change (billion chained 1996 dollars) | **8.7** | **-6.6** | **-4.7** | **3.6** | **11.9** | **13.8** | **9.9** | **14.8** | **27.1** | **14.4** | **17.5** | **-36.2** | **-11.5** | *-6.2* | *9.6* |
| Producer Price Index (index, 1982=1.000) | **1.163** | **1.165** | **1.172** | **1.189** | **1.205** | **1.248** | **1.277** | **1.276** | **1.244** | **1.255** | **1.328** | **1.342** | **1.311** | *1.371* | *1.353* |
| Consumer Price Index (index, 1982-1984=1.000) | **1.307** | **1.362** | **1.403** | **1.445** | **1.482** | **1.524** | **1.569** | **1.605** | **1.630** | **1.666** | **1.722** | **1.771** | **1.799** | *1.841* | *1.864* |
| Petroleum Product Price Index (index, 1982=1.000) | **0.748** | **0.671** | **0.647** | **0.620** | **0.591** | **0.608** | **0.701** | **0.680** | **0.513** | **0.609** | **0.913** | **0.853** | **0.795** | *0.958* | *0.883* |
| Non-Farm Employment (millions) | **109.5** | **108.4** | **108.7** | **110.8** | **114.3** | **117.3** | **119.7** | **122.8** | **125.9** | **129.0** | **131.8** | **131.8** | **130.4** | *130.0* | *132.1* |
| Commercial Employment (millions) | **71.0** | **70.5** | **70.9** | **72.9** | **75.7** | **78.4** | **80.7** | **83.4** | **86.1** | **89.1** | **91.4** | **92.0** | **91.4** | *91.7* | *94.1* |
| Total Industrial Production (index, 1997=100.0) | **77.6** | **76.3** | **78.3** | **80.9** | **85.2** | **89.3** | **93.2** | **100.0** | **105.6** | **110.1** | **115.3** | **111.2** | **110.4** | *110.4* | *115.6* |
| Housing Stock (millions) | **101.1** | **101.8** | **102.6** | **103.8** | **105.1** | **106.7** | **108.0** | **109.4** | **111.1** | **112.7** | **113.3** | **114.7** | **115.7** | *117.2* | *118.3* |
| **Weather** [a] | | | | | | | | | | | | | | | |
| Heating Degree-Days | | | | | | | | | | | | | | | |
| U.S. | **4016** | **4200** | **4441** | **4700** | **4483** | **4531** | **4713** | **4542** | **3951** | **4169** | **4460** | **4207** | **4284** | *4589* | *4477* |
| New England | **5848** | **5960** | **6844** | **6728** | **6672** | **6559** | **6679** | **6662** | **5680** | **5952** | **6489** | **6055** | **6099** | *6984* | *6488* |
| Middle Atlantic | **4998** | **5177** | **5964** | **5948** | **5934** | **5831** | **5986** | **5809** | **4812** | **5351** | **5774** | **5323** | **5372** | *6147* | *5723* |
| U.S. Gas-Weighted | **4139** | **4337** | **4458** | **4754** | **4659** | **4707** | **4980** | **4802** | **4183** | **4399** | **4680** | **4451** | **4560** | *4850* | *4730* |
| Cooling Degree-Days (U.S.) | **1260** | **1331** | **1040** | **1218** | **1220** | **1293** | **1180** | **1156** | **1410** | **1297** | **1229** | **1256** | **1393** | *1260* | *1240* |

[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 2000 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 Global Insight Forecast CONTROL0903.

## Table A3. U.S. Energy Supply and Demand: Base Case

(Quadrillion Btu except where noted)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Production** | | | | | | | | | | | | | | | |
| Coal | 22.46 | 21.59 | 21.63 | 20.25 | 22.11 | 22.03 | 22.68 | 23.21 | 23.94 | 23.19 | 22.62 | 23.05 | 22.56 | *22.50* | *22.41* |
| Natural Gas | 18.33 | 18.23 | 18.38 | 18.58 | 19.35 | 19.08 | 19.27 | 19.32 | 19.61 | 19.34 | 19.66 | 20.23 | 19.58 | *19.99* | *19.72* |
| Crude Oil | 15.57 | 15.70 | 15.22 | 14.49 | 14.10 | 13.89 | 13.72 | 13.66 | 13.24 | 12.45 | 12.36 | 12.28 | 12.16 | *12.14* | *12.01* |
| Natural Gas Liquids | 2.17 | 2.31 | 2.36 | 2.41 | 2.39 | 2.44 | 2.53 | 2.50 | 2.42 | 2.53 | 2.61 | 2.55 | 2.56 | *2.35* | *2.59* |
| Nuclear | 6.10 | 6.42 | 6.48 | 6.41 | 6.69 | 7.08 | 7.09 | 6.60 | 7.07 | 7.61 | 7.86 | 8.03 | 8.15 | *7.99* | *8.19* |
| Hydroelectric | 3.04 | 2.99 | 2.60 | 2.87 | 2.67 | 3.20 | 3.58 | 3.62 | 3.27 | 3.23 | 2.78 | 2.12 | 2.59 | *2.72* | *3.07* |
| Other Renewables | 3.08 | 3.14 | 3.29 | 3.27 | 3.38 | 3.46 | 3.55 | 3.43 | 3.26 | 3.33 | 3.35 | 3.12 | 3.22 | *3.30* | *3.45* |
| Total | 70.75 | 70.38 | 69.96 | 68.29 | 70.70 | 71.17 | 72.42 | 72.34 | 72.80 | 71.67 | 71.24 | 71.38 | 70.83 | *70.99* | *71.45* |
| **Net Imports** | | | | | | | | | | | | | | | |
| Coal | -2.70 | -2.77 | -2.59 | -1.78 | -1.69 | -2.14 | -2.19 | -2.01 | -1.87 | -1.30 | -1.21 | -0.77 | -0.61 | *-0.56* | *-0.53* |
| Natural Gas | 1.46 | 1.67 | 1.94 | 2.25 | 2.52 | 2.74 | 2.85 | 2.90 | 3.06 | 3.50 | 3.62 | 3.69 | 3.58 | *3.57* | *3.81* |
| Crude Oil | 12.50 | 12.22 | 13.00 | 14.43 | 15.07 | 15.36 | 16.20 | 17.88 | 18.96 | 19.06 | 19.94 | 20.58 | 20.17 | *21.05* | *21.58* |
| Petroleum Products | 2.79 | 2.00 | 1.96 | 1.97 | 2.19 | 1.53 | 2.02 | 1.76 | 1.98 | 2.12 | 2.44 | 2.72 | 2.49 | *2.86* | *3.00* |
| Electricity | 0.01 | 0.07 | 0.09 | 0.09 | 0.15 | 0.13 | 0.14 | 0.12 | 0.09 | 0.10 | 0.12 | 0.08 | 0.08 | *0.07* | *0.04* |
| Coal Coke | 0.00 | 0.01 | 0.03 | 0.03 | 0.06 | 0.06 | 0.02 | 0.05 | 0.07 | 0.06 | 0.07 | 0.03 | 0.06 | *0.05* | *0.05* |
| Total | 14.06 | 13.19 | 14.44 | 16.99 | 18.30 | 17.69 | 19.04 | 20.70 | 22.28 | 23.54 | 24.97 | 26.32 | 25.77 | *27.04* | *27.95* |
| **Adjustments** [a] | -0.25 | 1.06 | 1.65 | 2.50 | 0.58 | 2.63 | 3.06 | 1.93 | 0.25 | 1.76 | 3.11 | -1.61 | 0.77 | *-0.47* | *0.04* |
| **Consumption** | | | | | | | | | | | | | | | |
| Coal | 19.19 | 18.99 | 19.12 | 19.84 | 19.91 | 20.09 | 21.00 | 21.45 | 21.66 | 21.62 | 22.58 | 21.66 | 21.99 | *22.22* | *22.21* |
| Natural Gas | 19.72 | 20.15 | 20.83 | 21.35 | 21.84 | 22.78 | 23.20 | 23.33 | 22.93 | 23.01 | 24.04 | 22.85 | 23.14 | *22.88* | *23.00* |
| Petroleum | 33.55 | 32.85 | 33.53 | 33.84 | 34.67 | 34.55 | 35.76 | 36.27 | 36.93 | 37.96 | 38.40 | 38.33 | 38.30 | *38.59* | *39.56* |
| Nuclear | 6.10 | 6.42 | 6.48 | 6.41 | 6.69 | 7.08 | 7.09 | 6.60 | 7.07 | 7.61 | 7.86 | 8.03 | 8.15 | *7.99* | *8.19* |
| Other | 6.00 | 6.23 | 6.09 | 6.34 | 6.46 | 7.00 | 7.48 | 7.33 | 6.75 | 6.77 | 6.43 | 5.22 | 5.80 | *5.88* | *6.48* |
| Total | 84.57 | 84.64 | 86.05 | 87.78 | 89.57 | 91.50 | 94.52 | 94.97 | 95.34 | 96.97 | 99.32 | 96.09 | 97.37 | *97.56* | *99.44* |

[a]Balancing item. Includes stock changes, losses, gains, miscellaneous blending components, and unaccounted-for supply.

## Table A4. Annual Average U.S. Energy Prices: Base Case
(Nominal Dollars)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Crude Oil Prices** (dollars per barrel) | | | | | | | | | | | | | | | |
| Imported Average [a] | 21.79 | 18.74 | 18.20 | 16.13 | 15.53 | 17.14 | 20.62 | 18.49 | 12.07 | 17.26 | 27.72 | 22.00 | 23.69 | *27.60* | *25.35* |
| WTI [b] Spot Average | 24.48 | 21.60 | 20.54 | 18.49 | 17.16 | 18.41 | 22.11 | 20.61 | 14.45 | 19.25 | 30.29 | 25.95 | 26.12 | *30.76* | *27.88* |
| **Natural Gas Wellhead** | | | | | | | | | | | | | | | |
| (dollars per thousand cubic feet) | 1.71 | 1.64 | 1.74 | 2.04 | 1.85 | 1.55 | 2.17 | 2.32 | 1.96 | 2.19 | 3.70 | 4.02 | 2.96 | *4.88* | *3.97* |
| **Petroleum Products** | | | | | | | | | | | | | | | |
| Gasoline Retail [c] (dollars per gallon) | | | | | | | | | | | | | | | |
| All Grades | 1.17 | 1.15 | 1.14 | 1.13 | 1.13 | 1.16 | 1.25 | 1.24 | 1.07 | 1.18 | 1.53 | 1.47 | 1.39 | *1.60* | *1.50* |
| Regular Unleaded | 1.13 | 1.10 | 1.09 | 1.07 | 1.08 | 1.11 | 1.20 | 1.20 | 1.03 | 1.14 | 1.49 | 1.43 | 1.34 | *1.56* | *1.46* |
| No. 2 Diesel Oil, Retail (dollars per gallon) | 1.17 | 1.13 | 1.11 | 1.11 | 1.11 | 1.11 | 1.24 | 1.19 | 1.04 | 1.12 | 1.49 | 1.40 | 1.32 | *1.50* | *1.42* |
| No. 2 Heating Oil, Wholesale (dollars per gallon) | 0.70 | 0.62 | 0.58 | 0.54 | 0.51 | 0.51 | 0.64 | 0.59 | 0.42 | 0.49 | 0.89 | 0.76 | 0.69 | *0.87* | *0.79* |
| No. 2 Heating Oil, Retail (dollars per gallon) | 1.04 | 0.98 | 0.93 | 0.90 | 0.87 | 0.86 | 0.98 | 0.97 | 0.84 | 0.87 | 1.29 | 1.23 | 1.11 | *1.37* | *1.28* |
| No. 6 Residual Fuel Oil, Retail [d] (dollars per barrel) | 18.66 | 14.32 | 14.21 | 14.00 | 14.79 | 16.49 | 19.01 | 17.82 | 12.83 | 16.02 | 25.34 | 22.24 | 23.81 | *29.48* | *25.07* |
| **Electric Utility Fuels** [e] | | | | | | | | | | | | | | | |
| Coal (dollars per million Btu) | 1.45 | 1.45 | 1.41 | 1.38 | 1.36 | 1.32 | 1.29 | 1.27 | 1.25 | 1.22 | 1.20 | 1.23 | 1.25 | *1.26* | *1.24* |
| Heavy Fuel Oil [f] (dollars per million Btu) | 3.22 | 2.48 | 2.46 | 2.36 | 2.40 | 2.60 | 3.01 | 2.79 | 2.07 | 2.38 | 4.27 | 3.73 | 3.68 | *4.58* | *4.04* |
| Natural Gas (dollars per million Btu) | 2.32 | 2.15 | 2.33 | 2.56 | 2.23 | 1.98 | 2.64 | 2.76 | 2.38 | 2.57 | 4.34 | 4.44 | 3.54 | *5.23* | *4.53* |
| **Other Residential** | | | | | | | | | | | | | | | |
| Natural Gas (dollars per thousand cubic feet) | 5.80 | 5.82 | 5.89 | 6.17 | 6.41 | 6.06 | 6.35 | 6.95 | 6.83 | 6.69 | 7.77 | 9.63 | 7.86 | *9.44* | *9.18* |
| Electricity (cents per kilowatthour) | 7.85 | 8.05 | 8.23 | 8.34 | 8.40 | 8.40 | 8.36 | 8.43 | 8.26 | 8.16 | 8.24 | 8.48 | 8.45 | *8.58* | *8.70* |

[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 independent power producers after January 2002.
[f]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: Base Case

(Million Barrels per Day, Except Closing Stocks)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Crude Oil Supply | | | | | | | | | | | | | | | |
| Domestic Production [a] | **7.36** | **7.42** | **7.17** | **6.85** | **6.66** | **6.56** | **6.46** | **6.45** | **6.25** | **5.88** | **5.82** | **5.80** | **5.75** | *5.74* | *5.66* |
| Alaska | **1.77** | **1.80** | **1.71** | **1.58** | **1.56** | **1.48** | **1.39** | **1.30** | **1.17** | **1.05** | **0.97** | **0.96** | **0.98** | *0.98* | *0.95* |
| Lower 48 | **5.58** | **5.62** | **5.46** | **5.26** | **5.10** | **5.08** | **5.07** | **5.16** | **5.08** | **4.83** | **4.85** | **4.84** | **4.76** | *4.76* | *4.71* |
| Net Commercial Imports [b] | **5.76** | **5.67** | **5.98** | **6.67** | **6.95** | **7.14** | **7.40** | **8.12** | **8.60** | **8.60** | **9.01** | **9.30** | **9.12** | *9.52* | *9.73* |
| Net SPR Withdrawals | **0.06** | **0.05** | **-0.01** | **-0.02** | **0.00** | **0.00** | **0.07** | **0.01** | **-0.02** | **0.02** | **0.08** | **-0.02** | **-0.12** | *-0.14* | *-0.05* |
| Net Commercial Withdrawals | **0.00** | **-0.01** | **0.02** | **-0.05** | **-0.01** | **0.09** | **0.05** | **-0.06** | **-0.05** | **0.11** | **0.00** | **-0.07** | **0.09** | *0.00* | *-0.03* |
| Product Supplied and Losses | **-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** | *0.00* | *0.00* |
| Unaccounted-for Crude Oil | **0.26** | **0.20** | **0.26** | **0.17** | **0.27** | **0.19** | **0.22** | **0.14** | **0.11** | **0.19** | **0.15** | **0.12** | **0.11** | *0.07* | *0.16* |
| Total Crude Oil Supply | **13.41** | **13.30** | **13.41** | **13.61** | **13.87** | **13.97** | **14.19** | **14.66** | **14.89** | **14.80** | **15.07** | **15.13** | **14.95** | *15.19* | *15.48* |
| Other Supply | | | | | | | | | | | | | | | |
| NGL Production | **1.56** | **1.66** | **1.70** | **1.74** | **1.73** | **1.76** | **1.83** | **1.82** | **1.76** | **1.85** | **1.91** | **1.87** | **1.88** | *1.72* | *1.90* |
| Other Hydrocarbon and Alcohol Inputs | **0.13** | **0.15** | **0.20** | **0.25** | **0.26** | **0.30** | **0.31** | **0.34** | **0.38** | **0.38** | **0.38** | **0.38** | **0.42** | *0.41* | *0.35* |
| Crude Oil Product Supplied | **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** | *0.00* | *0.00* |
| Processing Gain | **0.68** | **0.71** | **0.77** | **0.77** | **0.77** | **0.77** | **0.84** | **0.85** | **0.89** | **0.89** | **0.95** | **0.90** | **0.96** | *0.93* | *0.94* |
| Net Product Imports [c] | **1.38** | **0.96** | **0.94** | **0.93** | **1.09** | **0.75** | **1.10** | **1.04** | **1.17** | **1.30** | **1.40** | **1.59** | **1.42** | *1.66* | *1.76* |
| Product Stock Withdrawn | **-0.14** | **-0.04** | **0.06** | **-0.05** | **0.00** | **0.15** | **0.03** | **-0.09** | **-0.17** | **0.30** | **0.00** | **-0.23** | **0.15** | *0.02* | *-0.06* |
| Total Supply | **17.04** | **16.76** | **17.10** | **17.26** | **17.72** | **17.72** | **18.31** | **18.62** | **18.92** | **19.52** | **19.70** | **19.65** | **19.76** | *19.94* | *20.36* |
| **Demand** | | | | | | | | | | | | | | | |
| Motor Gasoline [d] | **7.31** | **7.23** | **7.38** | **7.48** | **7.60** | **7.79** | **7.89** | **8.02** | **8.25** | **8.43** | **8.47** | **8.61** | **8.85** | *8.94* | *9.17* |
| Jet Fuel | **1.52** | **1.47** | **1.45** | **1.47** | **1.53** | **1.51** | **1.58** | **1.60** | **1.62** | **1.67** | **1.73** | **1.66** | **1.61** | *1.56* | *1.60* |
| Distillate Fuel Oil | **3.02** | **2.92** | **2.98** | **3.04** | **3.16** | **3.21** | **3.37** | **3.44** | **3.46** | **3.57** | **3.72** | **3.85** | **3.78** | *3.92* | *3.99* |
| Residual Fuel Oil | **1.23** | **1.16** | **1.09** | **1.08** | **1.02** | **0.85** | **0.85** | **0.80** | **0.89** | **0.83** | **0.91** | **0.81** | **0.70** | *0.75* | *0.66* |
| Other Oils [e] | **3.95** | **3.99** | **4.20** | **4.17** | **4.41** | **4.36** | **4.63** | **4.77** | **4.69** | **5.01** | **4.87** | **4.73** | **4.82** | *4.77* | *4.93* |
| Total Demand | **17.04** | **16.77** | **17.10** | **17.24** | **17.72** | **17.72** | **18.31** | **18.62** | **18.92** | **19.52** | **19.70** | **19.65** | **19.76** | *19.94* | *20.35* |
| Total Petroleum Net Imports | **7.16** | **6.63** | **6.94** | **7.62** | **8.05** | **7.89** | **8.50** | **9.16** | **9.76** | **9.91** | **10.42** | **10.90** | **10.54** | *11.19* | *11.49* |
| Closing Stocks (million barrels) | | | | | | | | | | | | | | | |
| Crude Oil (excluding SPR) | **323** | **325** | **318** | **335** | **337** | **303** | **284** | **305** | **324** | **284** | **286** | **312** | **278** | *279* | *291* |
| Total Motor Gasoline | **220** | **219** | **216** | **226** | **215** | **202** | **195** | **210** | **216** | **193** | **196** | **210** | **209** | *203* | *207* |
| Jet Fuel | **52** | **49** | **43** | **40** | **47** | **40** | **40** | **44** | **45** | **41** | **45** | **42** | **39** | *41* | *42* |
| Distillate Fuel Oil | **132** | **144** | **141** | **141** | **145** | **130** | **127** | **138** | **156** | **125** | **118** | **145** | **134** | *135* | *137* |
| Residual Fuel Oil | **49** | **50** | **43** | **44** | **42** | **37** | **46** | **40** | **45** | **36** | **36** | **41** | **31** | *35* | *37* |
| Other Oils [f] | **261** | **267** | **263** | **273** | **275** | **258** | **250** | **259** | **291** | **246** | **247** | **287** | **258** | *249* | *261* |

[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: Base Case

(Trillion Cubic Feet)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Total Dry Gas Production | **17.81** | **17.70** | **17.84** | **18.10** | **18.82** | **18.60** | **18.78** | **18.83** | **19.02** | **18.83** | **19.18** | **19.68** | **19.05** | *19.45* | *19.19* |
| Gross Imports | **1.53** | **1.77** | **2.14** | **2.35** | **2.62** | **2.84** | **2.94** | **2.99** | **3.15** | **3.59** | **3.78** | **3.98** | **4.01** | *4.16* | *4.49* |
| Gross Exports | **0.09** | **0.13** | **0.22** | **0.14** | **0.16** | **0.15** | **0.15** | **0.16** | **0.16** | **0.16** | **0.24** | **0.37** | **0.52** | *0.67* | *0.78* |
| Net Imports | **1.45** | **1.64** | **1.92** | **2.21** | **2.46** | **2.69** | **2.78** | **2.84** | **2.99** | **3.42** | **3.54** | **3.60** | **3.49** | *3.48* | *3.71* |
| Supplemental Gaseous Fuels | **0.12** | **0.11** | **0.12** | **0.12** | **0.11** | **0.11** | **0.09** | **0.08** | **0.08** | **0.08** | **0.09** | **0.09** | **0.08** | *0.08* | *0.08* |
| Total New Supply | **19.38** | **19.45** | **19.88** | **20.42** | **21.39** | **21.40** | **21.66** | **21.74** | **22.10** | **22.34** | **22.81** | **23.37** | **22.62** | *23.01* | *22.98* |
| Working Gas in Storage | | | | | | | | | | | | | | | |
| Opening | **2.85** | **3.07** | **2.82** | **2.60** | **2.32** | **2.61** | **2.15** | **2.17** | **2.17** | **2.73** | **2.52** | **1.72** | **2.90** | *2.38* | *2.49* |
| Closing | **3.07** | **2.82** | **2.60** | **2.32** | **2.61** | **2.15** | **2.17** | **2.17** | **2.73** | **2.52** | **1.72** | **2.90** | **2.38** | *2.49* | *2.42* |
| Net Withdrawals | **-0.22** | **0.24** | **0.23** | **0.28** | **-0.28** | **0.45** | **-0.02** | **0.00** | **-0.56** | **0.21** | **0.80** | **-1.18** | **0.53** | *-0.11* | *0.07* |
| Total Supply | **19.16** | **19.70** | **20.11** | **20.70** | **21.11** | **21.85** | **21.64** | **21.74** | **21.54** | **22.54** | **23.61** | **22.18** | **23.15** | *22.90* | *23.05* |
| Balancing Item [a] | **0.01** | **-0.14** | **0.12** | **0.09** | **0.13** | **0.35** | **0.96** | **0.98** | **0.70** | **-0.15** | **-0.15** | **0.05** | **-0.63** | *-0.63* | *-0.65* |
| Total Primary Supply | **19.17** | **19.56** | **20.23** | **20.79** | **21.24** | **22.20** | **22.60** | **22.72** | **22.24** | **22.39** | **23.47** | **22.23** | **22.52** | *22.27* | *22.40* |
| **Demand** | | | | | | | | | | | | | | | |
| Residential | **4.39** | **4.56** | **4.69** | **4.96** | **4.85** | **4.85** | **5.24** | **4.98** | **4.52** | **4.73** | **4.99** | **4.78** | **4.92** | *5.07* | *4.99* |
| Commercial | **2.62** | **2.73** | **2.80** | **2.86** | **2.90** | **3.03** | **3.16** | **3.21** | **3.00** | **3.04** | **3.22** | **3.04** | **3.12** | *3.15* | *3.26* |
| Industrial | **8.25** | **8.36** | **8.70** | **8.87** | **8.91** | **9.38** | **9.68** | **9.71** | **9.49** | **9.16** | **9.40** | **8.45** | **8.29** | *8.06* | *8.29* |
| Lease and Plant Fuel | **1.24** | **1.13** | **1.17** | **1.17** | **1.12** | **1.22** | **1.25** | **1.20** | **1.17** | **1.08** | **1.15** | **1.09** | **1.05** | *1.02* | *0.96* |
| Other Industrial | **7.02** | **7.23** | **7.53** | **7.70** | **7.79** | **8.16** | **8.44** | **8.51** | **8.32** | **8.08** | **8.25** | **7.36** | **7.24** | *7.04* | *7.33* |
| CHP [b] | **1.06** | **1.06** | **1.11** | **1.12** | **1.18** | **1.26** | **1.29** | **1.28** | **1.35** | **1.40** | **1.39** | **1.31** | **1.28** | *1.16* | *1.20* |
| Non-CHP | **5.96** | **6.17** | **6.42** | **6.58** | **6.61** | **6.90** | **7.15** | **7.23** | **6.97** | **6.68** | **6.87** | **6.05** | **5.96** | *5.89* | *6.13* |
| Transportation [c] | **0.66** | **0.60** | **0.59** | **0.63** | **0.69** | **0.70** | **0.72** | **0.76** | **0.64** | **0.66** | **0.66** | **0.64** | **0.65** | *0.67* | *0.67* |
| Electric Power [d] | **3.24** | **3.32** | **3.45** | **3.47** | **3.90** | **4.24** | **3.81** | **4.06** | **4.59** | **4.82** | **5.21** | **5.34** | **5.55** | *5.24* | *5.19* |
| Total Demand | **19.17** | **19.56** | **20.23** | **20.79** | **21.24** | **22.20** | **22.60** | **22.72** | **22.24** | **22.39** | **23.47** | **22.23** | **22.52** | *22.27* | *22.40* |

[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.

[b]Natural gas used for electricity generation and production of useful thermal output by combined heat and power plants at industrial facilities. Includes a small amount of natural gas consumption at electricity-only plants in the industrial sector.

[c]Pipeline fuel use plus natural gas used as vehicle fuel.

[d]Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

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: Base Case
(Million Short Tons)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Supply** | | | | | | | | | | | | | | | |
| Production | **1029.1** | **996.0** | **997.5** | **945.4** | **1033.5** | **1033.0** | **1063.9** | **1089.9** | **1117.5** | **1100.4** | **1073.6** | **1127.7** | **1094.3** | *1091.0* | *1090.1* |
| Appalachia | **489.0** | **457.8** | **456.6** | **409.7** | **445.4** | **434.9** | **451.9** | **467.8** | **460.4** | **425.6** | **419.4** | **432.8** | **397.0** | *383.1* | *371.8* |
| Interior | **205.8** | **195.4** | **195.7** | **167.2** | **179.9** | **168.5** | **172.8** | **170.9** | **168.4** | **162.5** | **143.5** | **147.0** | **146.9** | *145.7* | *137.9* |
| Western | **334.3** | **342.8** | **345.3** | **368.5** | **408.3** | **429.6** | **439.1** | **451.3** | **488.8** | **512.3** | **510.7** | **547.9** | **550.4** | *561.3* | *580.4* |
| Primary Stock Levels [a] | | | | | | | | | | | | | | | |
| Opening | **29.0** | **33.4** | **33.0** | **34.0** | **25.3** | **33.2** | **34.4** | **28.6** | **34.0** | **36.5** | **39.5** | **31.9** | **35.9** | *43.3* | *36.8* |
| Closing | **33.4** | **33.0** | **34.0** | **25.3** | **33.2** | **34.4** | **28.6** | **34.0** | **36.5** | **39.5** | **31.9** | **35.9** | **43.3** | *36.8* | *34.7* |
| Net Withdrawals | **-4.4** | **0.4** | **-1.0** | **8.7** | **-7.9** | **-1.2** | **5.8** | **-5.3** | **-2.6** | **-2.9** | **7.6** | **-4.0** | **-7.4** | *6.5* | *2.1* |
| Imports | **2.7** | **3.4** | **3.8** | **7.3** | **7.6** | **7.2** | **7.1** | **7.5** | **8.7** | **9.1** | **12.5** | **19.8** | **16.9** | *21.1* | *21.8* |
| Exports | **105.8** | **109.0** | **102.5** | **74.5** | **71.4** | **88.5** | **90.5** | **83.5** | **78.0** | **58.5** | **58.5** | **48.7** | **39.6** | *41.9* | *41.4* |
| Total Net Domestic Supply | **921.6** | **890.9** | **897.8** | **886.9** | **961.8** | **950.4** | **986.3** | **1008.5** | **1045.7** | **1048.1** | **1035.2** | **1094.8** | **1064.2** | *1076.7* | *1072.6* |
| Secondary Stock Levels [b] | | | | | | | | | | | | | | | |
| Opening | **147.1** | **170.1** | **170.2** | **166.8** | **123.1** | **139.6** | **138.0** | **126.0** | **108.8** | **131.6** | **149.1** | **108.5** | **146.0** | *149.0* | *157.0* |
| Closing | **170.1** | **170.2** | **166.8** | **123.1** | **139.6** | **138.0** | **126.0** | **108.8** | **131.6** | **149.1** | **108.5** | **146.0** | **149.0** | *157.0* | *164.4* |
| Net Withdrawals | **-23.0** | **-0.1** | **3.3** | **43.8** | **-16.5** | **1.5** | **12.0** | **17.2** | **-22.8** | **-17.5** | **40.7** | **-37.6** | **-3.0** | *-8.1* | *-7.4* |
| Waste Coal Supplied to IPPs [c] | **0.0** | **0.0** | **6.0** | **6.4** | **7.9** | **8.5** | **8.8** | **8.1** | **9.0** | **9.6** | **10.1** | **10.6** | **11.1** | *11.6* | *11.6* |
| Total Supply | **898.5** | **890.8** | **907.2** | **937.1** | **953.2** | **960.4** | **1007.1** | **1033.9** | **1031.8** | **1040.2** | **1086.0** | **1067.9** | **1072.3** | *1080.2* | *1076.8* |
| **Demand** | | | | | | | | | | | | | | | |
| Coke Plants | **38.9** | **33.9** | **32.4** | **31.3** | **31.7** | **33.0** | **31.7** | **30.2** | **28.2** | **28.1** | **28.9** | **26.1** | **22.5** | *24.4* | *23.8* |
| Electric Power Sector [d] | **782.6** | **783.9** | **795.1** | **831.6** | **838.4** | **850.2** | **896.9** | **921.4** | **936.6** | **940.9** | **985.8** | **964.4** | **975.9** | *986.9* | *987.2* |
| Retail and General Industry | **83.1** | **81.5** | **80.2** | **81.1** | **81.2** | **78.9** | **77.7** | **78.0** | **72.3** | **69.6** | **69.3** | **69.6** | **67.4** | *65.9* | *65.9* |
| Residential and Commercial | **6.7** | **6.1** | **6.2** | **6.2** | **6.0** | **5.8** | **6.0** | **6.5** | **4.9** | **4.9** | **4.1** | **4.4** | **4.4** | *4.6* | *4.5* |
| Industrial | **76.3** | **75.4** | **74.0** | **74.9** | **75.2** | **73.1** | **71.7** | **71.5** | **67.4** | **64.7** | **65.2** | **65.3** | **63.1** | *61.3* | *61.4* |
| CHP [e] | **27.8** | **27.0** | **28.2** | **28.9** | **29.7** | **29.4** | **29.4** | **29.9** | **28.6** | **27.8** | **28.0** | **25.8** | **26.1** | *25.9* | *26.3* |
| Non-CHP | **48.5** | **48.4** | **45.8** | **46.0** | **45.5** | **43.7** | **42.3** | **41.7** | **38.9** | **37.0** | **37.2** | **39.5** | **37.0** | *35.4* | *35.1* |
| Total Demand [f] | **904.5** | **899.2** | **907.7** | **944.1** | **951.3** | **962.1** | **1006.3** | **1029.5** | **1037.1** | **1038.6** | **1084.1** | **1060.1** | **1065.8** | *1077.2* | *1076.8* |
| Discrepancy [g] | **-6.0** | **-8.5** | **-0.5** | **-7.0** | **1.9** | **-1.7** | **0.8** | **4.3** | **-5.3** | **1.6** | **1.9** | **7.7** | **6.5** | *3.0* | *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 2001 and projections for 2002 and 2003 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]Coal used for electricity generation and production of useful thermal output by combined heat and power plants at industrial facilities. Includes a small amount of coal consumption at electricity –only plants ie the industrial sector.
[f]Total Demand includes estimated IPP consumption.
[g]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: Base Case

(Billion Kilowatt-hours)

| | Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Net Electricity Generation** | | | | | | | | | | | | | | | |
| Electric Power Sector [a] | | | | | | | | | | | | | | | |
| Coal | **1572.1** | **1568.8** | **1597.7** | **1665.5** | **1666.3** | **1686.1** | **1772.0** | **1820.8** | **1850.2** | **1858.6** | **1943.1** | **1882.8** | **1904.7** | *1916.0* | *1910.0* |
| Petroleum | **118.9** | **112.8** | **92.2** | **105.4** | **98.7** | **68.1** | **74.8** | **86.5** | **122.2** | **111.5** | **105.2** | **119.1** | **84.6** | *98.0* | *82.8* |
| Natural Gas | **309.5** | **317.8** | **334.3** | **342.2** | **385.7** | **419.2** | **378.8** | **399.6** | **449.3** | **473.0** | **518.0** | **554.9** | **600.5** | *579.2* | *584.0* |
| Nuclear | **576.9** | **612.6** | **618.8** | **610.3** | **640.4** | **673.4** | **674.7** | **628.6** | **673.7** | **728.3** | **753.9** | **768.8** | **780.1** | *765.2* | *784.3* |
| Hydroelectric | **286.2** | **281.5** | **245.8** | **273.5** | **250.6** | **302.7** | **338.1** | **346.6** | **313.4** | **308.6** | **265.8** | **204.9** | **250.8** | *262.3* | *295.9* |
| Geothermal and Other [b] | **36.5** | **40.8** | **44.3** | **45.9** | **45.8** | **43.7** | **44.7** | **46.0** | **47.3** | **48.7** | **50.2** | **49.4** | **54.7** | *56.0* | *61.0* |
| Subtotal | **2900.1** | **2934.2** | **2933.1** | **3042.8** | **3087.5** | **3193.2** | **3283.0** | **3328.1** | **3456.1** | **3528.7** | **3636.2** | **3580.1** | **3675.4** | *3676.6* | *3718.0* |
| Other Sectors [c] | **136.7** | **138.2** | **149.5** | **153.3** | **158.8** | **159.3** | **160.0** | **162.8** | **162.9** | **164.8** | **164.6** | **156.6** | **163.1** | *159.4* | *164.2* |
| Total | **3036.7** | **3072.5** | **3082.6** | **3196.1** | **3246.3** | **3352.5** | **3443.0** | **3490.9** | **3619.0** | **3693.5** | **3800.8** | **3736.6** | **3838.6** | *3836.0* | *3882.2* |
| Net Imports [d] | **2.3** | **19.6** | **25.4** | **27.8** | **44.8** | **39.2** | **40.2** | **34.1** | **25.8** | **29.0** | **34.0** | **22.0** | **22.9** | *20.0* | *11.8* |
| Total Supply | **3039.0** | **3092.1** | **3108.0** | **3223.9** | **3291.1** | **3391.7** | **3483.2** | **3525.0** | **3644.8** | **3722.5** | **3834.8** | **3758.7** | **3861.4** | *3856.0* | *3894.0* |
| Losses and Unaccounted for [e] | **211.9** | **212.0** | **222.4** | **234.9** | **222.4** | **234.4** | **236.2** | **230.9** | **219.7** | **227.9** | **231.9** | **216.1** | **206.1** | *194.2* | *192.1* |
| **Demand** | | | | | | | | | | | | | | | |
| Retail Sales [f] | | | | | | | | | | | | | | | |
| Residential | **924.0** | **955.4** | **935.9** | **994.8** | **1008.5** | **1042.5** | **1082.5** | **1075.9** | **1130.1** | **1144.9** | **1192.4** | **1202.6** | **1268.2** | *1283.5* | *1287.4* |
| Commercial | **751.0** | **765.7** | **761.3** | **794.6** | **820.3** | **862.7** | **887.4** | **928.6** | **979.4** | **1002.0** | **1055.2** | **1089.2** | **1108.1** | *1105.5* | *1126.7* |
| Industrial | **945.5** | **946.6** | **972.7** | **977.2** | **1008.0** | **1012.7** | **1033.6** | **1038.2** | **1051.2** | **1058.2** | **1064.2** | **964.2** | **993.8** | *990.0* | *998.2* |
| Other | **92.0** | **94.3** | **93.4** | **94.9** | **97.8** | **95.4** | **97.5** | **102.9** | **103.5** | **107.0** | **109.5** | **113.8** | **105.2** | *106.7* | *108.3* |
| Subtotal | **2712.6** | **2762.0** | **2763.4** | **2861.5** | **2934.6** | **3013.3** | **3101.1** | **3145.6** | **3264.2** | **3312.1** | **3421.4** | **3369.8** | **3475.2** | *3485.8* | *3520.6* |
| Other Use/Sales [g] | **114.6** | **118.1** | **122.3** | **127.5** | **134.1** | **144.1** | **145.9** | **148.4** | **160.9** | **182.5** | **181.5** | **172.8** | **180.1** | *176.0* | *181.3* |
| Total Demand | **2827.1** | **2880.1** | **2885.6** | **2989.0** | **3068.7** | **3157.3** | **3247.0** | **3294.0** | **3425.1** | **3494.6** | **3602.9** | **3542.6** | **3655.3** | *3661.8* | *3701.8* |

[a]Electric Utilities and independent power producers.

[b]"Other" includes generation from other gaseous fuels, wind, wood, waste, and solar sources.

[c]Electricity generation from combined heat and power facilities and electricity-only plants in the industrial and commercial sectors.

[d]Data for 2002 are estimates.

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

[f]Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA'S Electric Power Monthly and Electric Power Annual. Power marketers' sales are reported annually in Appendix C of EIA's Electric Sales and Revenue. Quarterly data for power marketers (and thus retail sales totals) are imputed. Data for 2002 are estimated.

[g]Defined as the sum of facility use of onsite net electricity generation plus direct sales of power by industrial- or commercial-sector generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2002 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.