

### **E** Short-Term Energy Outlook



### October 2002

### Overview

World Oil Markets: Continued high oil prices are the result of declining OECD commercial oil inventories, worries over a potential clash with Iraq, and OPEC's decision to leave production quotas unchanged at its September meeting. Solid growth in world oil demand this winter (and for 2003 as a whole) is likely to tighten world oil markets and reduce commercial oil inventories. The West Texas Intermediate (WTI) crude oil spot price averaged \$29.75 in September, about \$3.50 per barrel above the year-ago level and about \$10 per barrel above a low point seen last January.

**Home Heating Costs Outlook:** While fuel supplies should remain sufficient under normal weather conditions, high oil prices and an expected increase in demand will likely generate higher winter fuel bills for most residential customers, relative to their heating bills in the winter of 2001-2002. Households that heat with oil are expected to see the largest relative increase in expenditures, mainly because of the extent to which crude oil prices are expected to be above year-ago levels throughout the winter. In the base-case projections, the expenditure increases for households are: 19 percent for natural gas, 45 percent for heating oil and 22 percent for propane (See EIA's *Winter Fuels Outlook: 2002-2003*).

**U.S. Natural Gas Markets:** Stored natural gas remains in ample supply. However, sharp increases in natural gas demand are likely this winter, largely because of the high probability of comparatively cold weather. A recovery in the U.S. industrial economy by the fourth quarter of this year and into 2003 would also increase industrial natural gas demand which, for the coming winter at least, is expected to rise 18 percent above the year-ago level. Much of the accumulated cushion in natural gas storage probably will be expended toward feeding consumption growth. Moreover, while severe price spikes are not likely, the prospect of continued strong demand in the industrial and power sectors of the economy should lend support to spot natural gas prices. We expect this winter's natural gas wellhead prices to average around \$3.34 per thousand cubic feet, or about \$0.90 per thousand cubic feet above last winter's price. For all of 2003, the average natural gas wellhead price is projected to be about \$3.25 per thousand cubic feet, compared to \$2.83 projected for 2002.

### International Oil Markets

**Crude Oil Prices.** Declining OECD commercial oil inventories, worries over a potential clash with Iraq, and OPEC's decision to leave production quotas unchanged at its September meeting led to continued oil price support. Solid growth in world oil demand this winter (and for 2003 as a whole) is likely to tighten world oil markets and reduce commercial oil inventories.

The OPEC basket price has been above \$22 per barrel since March 8, and the September average of \$27.50 per barrel marked the seventh consecutive month that the average monthly OPEC basket price remained within OPEC's original target range of \$22 - \$28 per barrel. Although the daily OPEC basket price exceeded this range during the end of September, the base case monthly average is projected to be within this target range throughout the forecast period (Figure 1).

**International Oil Supply and Demand.** OPEC 10 production in September is estimated to have risen to 2.2 million barrels per day above quota levels, led by increases from Algeria, Nigeria, and Saudi Arabia. Iraqi production also rose sharply in September, as UN-sanctioned oil exports averaged 400,000 barrels per day above August levels. The *Outlook* assumes that Iraqi production will continue to fluctuate around the September average level of 1.9 million barrels per day, with another downturn expected following the next rollover of the UN's oil-for-food program at the end of November.

Despite OPEC's decision to leave quotas unchanged during its September meeting, EIA's current *Outlook* assumes that OPEC 10 production will rise further over the rest of 2002 in order to prevent prices from rising above OPEC's target range. EIA projects that the demand for oil will rise by 1.4 million barrels per day during the fourth quarter above third quarter levels, and that additional oil will be needed to keep OECD commercial oil inventories within their observed 5-year range (Figure 2). Increases in OPEC 10 production during the fourth quarter will, of course, be affected by the extent to which Iraqi exports return to levels seen earlier this year.



The situation in Iraq will continue to influence OPEC 10 production growth in addition, 2003. In incremental production from the OPEC 10 will be affected by the extent to which world oil demand growth gains strength. The U.S. economy is projected to grow by 3 percent annually in 2003, contributing to a modest recovery in U.S. and world oil demand (Figure 3). About half of the 1.2 million barrels per day growth in world oil demand in 2003 is projected to come from the U.S., with China and other non-OECD countries projected to provide a total of 0.5 million barrels per day of additional demand growth next year.

Because the OPEC 10 is assumed to exercise sufficient production restraint, non-OPEC sources are expected to supply most of the incremental demand projected for 2003. About half of the anticipated 1 million barrels per day increase in non-OPEC supply in 2003 is expected to come from additional oil exports from Russia and the Caspian Sea region. Offshore Africa, Mexico, and Canadian synthetic oil productions also are expected to increase. OPEC 10 production increases in 2003 likely will be limited to a few hundred thousand barrels per day, which, while helping to meet increased global demand and to rebuild OECD commercial oil inventories from the low levels (relative to the previous 5-year range) expected at the end of 2002, suggests continued tightness and relatively high prices through 2003.

### **U. S. Energy Prices**

Motor Gasoline: Retail motor gasoline prices have remained remarkably stable since early spring. This

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





# **Figure 2. OECD Commercial Oil Stocks**



Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2002.

**Billion Barrels** 



## Figure 3. 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



stability is all the more remarkable when compared to volatile prices during the two previous driving seasons (Figure 4). Abundant gasoline supplies are the main reason for this year's price stability. Ironically, now that the driving season is over and demand for gasoline is easing, pump prices are poised to rise. The reason is simple: crude oil prices have increased by about \$3.00 per barrel (7 cents per gallon) since the beginning of August and much of this gain will be passed on to the pump price. Moreover, crude oil prices are still rising.

Refiner margins (the difference between the refiner price of gasoline and the refiner acquisition cost of crude oil) were fairly weak this past summer, especially when measured against the margins from the last two summers (Figure 5). As we move into the heating season, when production of the distillate fuels is emphasized, motor gasoline margins are likely to remain soft until next spring.

Retail gasoline prices next year are expected to grow by 10-15 cents per gallon on an annual basis, assuming that our base case crude oil path holds and that refiner margins rebound somewhat, as economic growth increases gasoline demand. By the end of the driving season (September), stocks of motor gasoline stood at 208 million barrels, a level at the upper end of the previous 5-year range <u>(Figure 6)</u>.

Distillate Fuel Oil (Heating oil and Diesel Fuel): Average monthly diesel prices have jumped 8 cents per gallon from August to September, while over the same time period, motor gasoline prices had barely inched up by a penny. Assuming rising crude costs through the end of the year and a normal winter, price increases for this fuel are likely to continue throughout the heating season (October though March), peaking at about \$1.50 per gallon. At the beginning of the heating season, distillate fuel oil inventories were about 130 million barrels, somewhat below average but well above recent minimums for that time of year. As with other oil products, however, distillate inventories appear to be slipping toward relatively low seasonal levels (Figure 7). Continued slippage in the distillate inventory position, which we view as likely, poses a strong upward price risk near mid-winter if weather turns colder than normal. Economic growth, combined with higher annual average crude oil prices in 2003, could push annual retail prices up by an average of 14 to 16 cents per gallon for diesel fuel and retail heating oil (Figure 8). Residential heating oil customers are very likely to pay more to heat their homes this winter than they did last winter, as heating oil prices are projected to rise about 25 cents per gallon between the two periods. Projections of higher crude oil prices for this heating season, averaging over \$10.00 per barrel (or 25 cents per gallon) more than last year, will account for most of the projected retail price increase. We should also note that the past heating season in the Northeast (i.e., the Mid-Atlantic and New England Census Divisions, where 75 percent of the nation's heating oil is consumed) was 18 percent warmer than average, which relieved demand pressure on all heating fuel prices considerably.

**Natural Gas:** The spot price of natural gas climbed sharply in September, closing at \$4.00 per million btu at the Henry Hub on September 24. That price spike was largely the result of a hurricane (Isidore) in the Gulf Coast region during the last week of September. A large amount of natural gas (and oil) production shut down during the course of the storm. By the end of September, the severity of the storm diminished, then withered. Since production facilities suffered no major damage, spot prices eased. Another Caribbean storm (Lili), which had the potential to curb production in the Gulf region, pushed spot prices back up and they remain well above \$3.00 (Figure 9).

The overall fundamentals in the market, however, do not yet point toward consistently higher gas prices over the course of the heating season, simply because stored natural gas appears to be in ample supply. By the end of September, an estimated 3.06 trillion cubic feet was in storage. The storage level for working gas was about 5 percent higher than a year ago, and about 12 percent above the previous 5-year average for that month.

# Figure 4. Gasoline Prices and Crude Oil Costs





# **Figure 5. Motor Gasoline Spreads**





## Figure 6. U.S. Gasoline Inventories



Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2002.



# Figure 7. Distillate Fuel Inventories





## **Figure 8. Distillate Fuel Prices**





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



Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, October 2002.



Unless the weather in October is unusually cold and heating-related demand for natural gas increases beyond the base case level, or if additional storm activity in the Gulf curbs production, it is expected that there will be close to 3.2 trillion cubic feet in storage by November 1.

World oil prices and the state of the global economy are two other factors that could affect the price of natural gas in the months ahead. Rising world oil prices would tend to pull natural gas prices upward, since both fuels can be substitutes for each other in such areas of the economy as electrical and industrial production. The strength of the economy would tug at natural gas prices as well, since the industrial sector is a major consumer of gas.

If the weather is normal this winter, (12-19 percent colder than last winter, depending on the region) we expect to see natural gas wellhead prices averaging around \$3.34 per thousand cubic feet, or about \$0.90 per thousand cubic feet above last winter's price. The key variable to watch is weather. Warmer-than-normal weather through November and beyond could sink spot gas prices. For the year, the annual average natural gas wellhead price is projected to be about \$2.83 per thousand cubic feet compared to over \$4.00 last year. In 2003, wellhead prices are projected to gain about \$0.40 per thousand cubic feet on an annual basis, over the annual average price for this year. Projected lower volumes of underground gas in storage for most of next year, together with the assumptions of economic growth (which increases natural gas demand), and a higher annual average of crude oil prices, are all factors that are expected to boost natural gas wellhead prices to a level of around \$3.25 per thousand cubic feet for the year 2003.

### U. S. Oil Demand

Recent weekly and monthly demand data point to a small turnaround in domestic petroleum demand, which suggests that the economy may be undergoing a solid (if unspectacular) recovery. Nonetheless, year-to-date estimates for petroleum deliveries are still almost 1 percent less than during the same period last year. But the weakness in oil consumption has been a dominant feature of domestic petroleum markets for almost two years. Revised GDP figures revealed that the economy was in recession for much of last year and more recent statistics show that industrial production - having slipped even more than the economy as a whole - has only begun to post significant year-over-year gains. Understandably, the events of September 2001 reduced jet fuel demand. Also, a record warm winter during the first quarter of this year dampened demand during the last heating season. Moreover, the unusually warm summer apparently failed to lift residual fuel oil markets during the third quarter of 2002, due to the price advantage of natural gas. In that period, continued growth in motor gasoline demand and strength in liquefied petroleum gas deliveries for petrochemical feedstock offset continuing declines in jet fuel, distillate and residual fuel oil demand, bringing about the first year-to-year quarterly growth in oil markets since the events of last September.

Total domestic petroleum demand in 2002 is projected to show slight growth for the year as a whole, building on the recovery that commenced last quarter. Demand for the year is expected to average 19.73 million barrels per day, up 60,000 barrels per day, or 0.3 percent from the 2001 average (Figure 10). The expectation of positive growth for the year arises from the very strong growth seen for the fourth quarter, during which year-to-year growth is projected to be 520,000 barrels per day. Weather, having been mild during the fourth quarter of last year, is assumed to exhibit "normal" patterns, boosting fourth-quarter space-heating demand for distillate, residual fuel oil, and propane. Jet-fuel demand is also projected to register a year-to-year increase since the events of last year, but that reflects in part the substantial reduction in deliveries resulting from the curtailment of flights during last year's fourth quarter.

For 2003, the combined effects of "normal" weather patterns (compared to that of the mild first quarter), continued growth in real disposable income, accelerating growth in the economy - especially in the more cyclical components of industrial activity - are expected to contribute to the 590,000 barrels-per-day, or 3.0-

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



\* Sum of distillate and residual fuel.



percent, boost in domestic petroleum demand, the first substantial increase in three years. In contrast to the previous two years, all of the major petroleum categories are projected to experience growth in demand. Jet-fuel demand is expected to increase 80,000 barrels per day, or 5 percent, exceeding levels last seen in 2000. Residual fuel oil demand is projected to increase only 30,000 barrels per day, or 5 percent. As a result, demand for that fuel is expected to remain below 700,000 barrels per day for the year as a whole.

### U.S. Oil Supply

Average domestic oil production is expected to increase by about 70,000 barrels per day in 2002, or 1.2 percent, to a level of 5.87 million barrels per day. For 2003, a 1.7 percent decrease is expected, resulting in an average production rate of 5.77 million barrels of oil per day average for the year (Figure 11).

Lower-48 States oil production is expected to increase by 30,000 barrels per day to a rate of 4.87 million barrels per day in 2002, followed by a decrease of 110,000 barrels per day in 2003. Shell's Brutus platform is expected to peak its oil production at 100,000 barrels per day in 2002. Oil production from the Mars, Troika, Ursa, Dianna-Hoover and Brutus Federal Offshore fields is expected to account for about 9.5 percent of the lower-48 oil production by the fourth quarter of 2003.

Alaska is expected to account for 17.5 percent of the total U.S. oil production in 2003. Alaskan oil production is expected to increase by 4.2 percent in 2002 and increase by 0.9 percent in 2003. The 2003 increase will be the result of field facilities expansion in the new satellite Colville River (Alpine), eventually adding 60,000 to 70,000 barrels per day. Another satellite field, North Star, came on in November 2001 and is currently producing at a rate of over 60 thousand barrels per day. Production from the Kuparuk River field plus like production from West Sak, Tabasco, Tarn and Meltwater fields is expected to stay at an average of 220,000 barrels per day over the 2002 and 2003 forecast periods.

The Baker Hughes rig count for 2001 averaged 1155. The rig count is expected to decrease to an average of 900 in 2002, and increase to 1089 in 2003. The oil rig count in 2002 is expected to average 156, and the gas rig count 709. In 2003 it is projected that an average of 830 rigs will be drilling for gas and 194 for oil.

If oil prices track along the lower/upper boundary of the oil price uncertainty range (Figure 1) domestic oil production would be expected to be marginally lower/higher than indicated in the base case for 2002. The difference between the low and high oil price cases by the end of 2003 is estimated to be 340,000 barrels per day (Table 7).

### Natural Gas Demand and Supply

In 2002, natural gas demand is projected to increase by 3.6 percent over 2001 levels. Higher estimated demand in the industrial and power sectors more than offsets the declines in space heating-related demand in the first quarter. Also, increased heating-related demand in the fourth quarter, compared to the same period in 2001, is expected. In 2003, natural gas demand growth is expected to increase by 3.5 percent, as the economy continues to recover (Figure 12). In 2003, natural gas demand growth is expected across all sectors.

This winter, natural gas demand is expected to average 12 percent higher than last winter due to the assumption of normal weather. Wellhead natural gas prices are expected to rise in response to demand increases, and residential natural gas prices are expected to average 40 cents (6 percent) higher than they were last winter.

Working natural gas in storage is estimated to have reached 3,058 billion cubic feet (bcf) at the beginning of October, 12 percent above the 5-year average. Storage levels are now 114 bcf higher than a year ago, and

# Figure 11. U.S. Crude Oil Production Growth (Change from Year Ago)





# Figure 12. Total Natural Gas Demand Growth Patterns



Note: This chart replaces a previous Figure 12 because of revised data for January 2002. Sources: History: EIA; Projections: Short-Term Energy Outlook, October 2002.



over half of that surplus is in the producing region. Storage is expected to remain above average levels at least through the beginning of the next heating season <u>(Figure 13)</u>. The forecast for the average natural gas wellhead price for 2003 is \$3.25 per mcf, an increase of about \$0.40 per mcf from the 2002 yearly average of \$2.83 per mcf.

Domestic dry natural gas production is projected to fall by about 1.2 percent in 2002 compared to the 2001 growth rate of 2.4 percent. Lower natural gas prices have reduced production and resource development incentives from their highs of last year. Still, current supplies, including natural gas in storage, appear to be at very comfortable levels. In 2003, production is expected to rebound by 2.8 percent as demand rises and inventories fall back closer to normal.

Natural gas-directed drilling remains quite strong when viewed from a longer historical perspective. Nevertheless, natural gas drilling activity has fallen significantly from its recent (and quite extraordinary) peak in July 2001, which was spurred by extremely high prices for natural gas. <u>Baker Hughes</u> reported average active rigs drilling for natural gas in September at 736, 32 percent below the year-ago level. This rate of activity, however, is 20 percent above the recent low point seen in April. Aggregate lease revenues from domestic oil and natural gas production are expected to move up this year and settle at about \$330 million per day in 2003, which would be approximately a 30-percent increase over the rates seen at the end of 2001 (Figure 14). Inasmuch as these revenues are a strong determinant of industry cash flow, which in turn is a powerful driver of drilling activity levels, an upward trend in drilling levels generally (and natural gas-directed drilling in particular) is anticipated for this year and into 2003 (Figure 15). Thus, natural gas drilling appears to be well into a renewed upswing in activity.

### **Electricity Demand and Supply**

Total annual electricity demand growth (retail sales plus industrial generation for own use and other direct sales) is expected to grow by only 0.4 percent in 2002, principally due to a weak first quarter. But electricity demand was up sharply in the third quarter of 2002 because of abnormally high summer temperatures and high cooling demand. Based on Edison Electric Institute data on weekly electricity output, production of electricity in the United States was up 6.5 percent for the third quarter 2002 compared to the year-earlier level. For 2003, electricity demand is expected to grow by 2.2 percent (Figure 16) as the economy continues to recover.

Total U.S. electricity demand is expected to be 2.3 percent higher this winter than it was last winter, due to the slowly rising economy and assumptions of normal weather, which would be colder than last winter, contributing to higher heating-related electricity demand.

In 2001, total hydropower generation was down to lows not seen since 1966. In 2002, total hydro generation is expected to rise by 28 percent with normal precipitation in the Pacific Census Division (Washington, Oregon and California), the main region affected. Total oil-fired generation is projected to be down considerably, by 43 percent from last year due to considerably higher relative prices, while total natural gas-fired generation is projected to be up by 8.3 percent from what it was last year. Total nuclear generation is expected to rise by about one-half percent from the 2001 level in 2002 and by approximately 1 percent in 2003.

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





# Figure 14. U.S. Oil and Gas Production Revenues



# Figure 15. U.S. Natural Gas-Directed Drilling Activity



# **Figure 16. Total Electricity Demand Growth Patterns**





		Y	ear	Annual	Percentage C	hange	
	2000	2001	2002	2003	2000-2001	2001-2002	2002-2003
Real Gross Domestic Product (GDP)							<u>.</u>
(billion chained 1996 dollars	9191	9215	9425	9708	0.3	2.3	3.0
Imported Crude Oil Price <sup>a</sup> (nominal dollars per barrel)	27.72	22.01	24.43	27.47	-20.6	11.0	12.4
<b>Petroleum Supply</b> (million barrels per day) Crude Oil Production <sup>b</sup>	5.82	5.80	5.87	5.77	-0.3	1.2	-1.7
Total Petroleum Net Imports (including SPR)	10.43	10.91	10.36	11.19	4.6	-5.0	8.0
Energy Demand							
World Petroleum (million barrels per day)	76.0	76.0	76.3	77.6	0.0	0.4	1.7
Petroleum (million barrels per day)	19.70	19.65	19.71	20.30	-0.3	0.3	3.0
Natural Gas (trillion cubic feet)	22.54	21.42	22.19	22.96	-5.0	3.6	3.5
Coal <sup>c</sup> (million short tons)	1081	1050	1049	1065	-2.9	-0.1	1.5
Electricity (billion kilowatthours) Retail Sales <sup>d</sup> Nonutility Use/Sales <sup>e</sup> Total	3421 199 3620	3397 215 3611	3406 221 3627	3485 221 3706	-0.7 8.0 -0.2	0.3 2.8 0.4	2.3 0.0 2.2
Total Energy Demand <sup>f</sup> (quadrillion Btu)	99.6	97.1	98.1	100.7	-2.5	1.1	2.7
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	10.83	10.53	10.41	10.38	-2.8	-1.1	-0.3
Renewable Energy as Percent of Total <sup>9</sup>	7.2	6.7	7.3	7.7	-		

<sup>a</sup>Refers to the refiner acquisition cost (RAC) of imported crude oil.

<sup>b</sup>Includes lease condensate.

<sup>c</sup>Total Demand includes estimated Independent Power Producer (IPP) coal consumption.

<sup>d</sup>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.

<sup>e</sup>Defined as the sum of nonutility facility use of onsite net electricity generation plus direct sales of power by nonutility generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 are estimates.

<sup>1</sup>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).

<sup>g</sup>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 DRI-WEFA Forecast CONTROL0902.

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

	2001			I	2002		1		2003				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Macroeconomic <sup>a</sup>															
Real Gross Domestic Product															
(billion chained 1996 dollars - SAAR)	9230	9193	9186	9249	9363	9390	9448	9499	9570	9665	9755	9844	9215	9425	9708
Percentage Change from Prior Year	1.5	-0.1	-0.4	0.1	1.4	2.1	2.8	2.7	2.2	2.9	3.2	3.6	0.3	2.3	3.0
Annualized Percent Change															
from Prior Quarter	-0.6	-1.6	-0.3	2.7	5.0	1.1	2.5	2.1	3.0	4.0	3.7	3.6			
GDP Implicit Price Deflator															
(Index, 1996=1.000)	1.087	1.093	1.099	1.098	1.101	1.104	1.109	1.117	1.126	1.131	1.139	1.148	1.094	1.108	1.136
Percentage Change from Prior Year	2.4	2.5	2.6	2.0	1.4	1.0	0.9	1.8	2.2	2.4	2.7	2.7	2.4	1.3	2.5
Real Disposable Personal Income															
(billion chained 1996 Dollars - SAAR)	6704	6695	6864	6729	6962	7027	7073	7112	7148	7195	7214	7224	6748	7043	7195
Percentage Change from Prior Year	2.7	1.3	2.8	0.3	3.9	5.0	3.0	5.7	2.7	2.4	2.0	1.6	1.8	4.4	2.2
Manufacturing Production															
(Index, 1996=1.000)	1.221	1.202	1.187	1.167	1.176	1.187	1.196	1.204	1.216	1.231	1.250	1.266	1.194	1.191	1.241
Percentage Change from Prior Year	-1.0	-4.3	-5.6	-6.1	-3.7	-1.2	0.8	3.1	3.4	3.7	4.5	5.2	-4.3	-0.3	4.2
OECD Economic Growth (percent) <sup>b</sup>													0.9	1.8	2.6
Weather <sup>c</sup>															
Heating Degree-Days															

U.S	2329	446	85	1363	2067	521	44	1622	2231	518	86	1622	4223	4254	4456
New England	3268	802	122	1867	2800	919	119	2237	3171	882	167	2237	6059	6075	6457
Middle Atlantic	2950	627	102	1618	2476	704	36	2002	2888	699	105	2001	5297	5218	5693
U.S. Gas-Weighted	2450	470	93	1438	2181	558	43	1714	2348	555	90	1713	4451	4496	4706
Cooling Degree-Days (U.S.)	26	371	779	80	30	404	882	76	33	347	783	76	1256	1392	1238

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

<sup>b</sup>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.

<sup>c</sup>Population-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population.

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, Statistical Release G.17(419). Projections of OECD growth are based on DRI-WEFA, "World Economic Outlook," Volume 1. Macroeconomic projections are based on DRI-WEFA Forecast CONTROL0902.

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

	2001				2002				2003				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Macroeconomic <sup>a</sup>															
Real Fixed Investment															
(billion chained 1996 dollars-SAAR)	1682	1634	1616	1578	1576	1572	1569	1561	1564	1594	1628	1668	1627	1569	1614
Real Exchange Rate															
(index)	1.113	1.150	1.142	1.158	1.1 <b>92</b>	1.150	1.103	1.111	1.104	1.095	1.082	1.073	1.141	1.139	1.088
Business Inventory Change															
(billion chained 1996 dollars-SAAR)	-18.6	-41.7	-44.1	-40.2	-31.9	-12.0	-6.0	-7.0	-3.9	4.0	6.3	6.9	-36.2	-14.2	3.3
Producer Price Index															
(index, 1982=1.000)	1.385	1.363	1.329	1.292	1.296	1.311	1.332	1.346	1.357	1.354	1.365	1.371	1.342	1.321	1.362
Consumer Price Index															
(index, 1982-1984=1.000)	1.759	1.773	1.776	1.775	1.781	1.796	1.807	1.821	1.836	1.846	1.861	1.877	1.771	1.801	1.855
Petroleum Product Price Index															
(index, 1982=1.000)	0.892	0.968	0.875	0.677	0.656	0.808	0.826	0.959	0.992	0.906	0.855	0.904	0.853	0.812	0.914
Non-Farm Employment															
(millions)	132.4	132.2	131.9	131.1	130.8	130.7	130.8	131.0	131.2	131.6	132.3	133.2	131.9	130.8	132.1
Commercial Employment															
(millions)	92.9	92.9	92.8	92.3	92.1	92.2	92.3	92.3	92.5	93.0	93.7	94.5	92.7	92.2	93.4
Total Industrial Production															
(index, 1996=1.000)	1.199	1.181	1.167	1.147	1.154	1.167	1.178	1.185	1.195	1.209	1.226	1.241	1.173	1.171	1.218
Housing Stock															
(millions)	117.5	117.7	118.0	118.6	119.3	119.5	119.7	120.0	120.3	120.6	120.9	121.2	118.0	119.6	120.7
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1996=1.000)	1.081	1.073	1.069	1.060	1.069	1.075	1.079	1.083	1.092	1.104	1.117	1.130	1.071	1.077	1.111
Vehicle Miles Traveled <sup>b</sup>															
(million miles/day)	7106	7883	7877	7573	7245	8018	8161	7757	7500	8224	8371	7880	7612	7798	7996
Vehicle Fuel Efficiency															
(index, 1999=1.000)	0.990	1.052	1.029	1.013	0.986	1.030	1.049	1.009	0.993	1.032	1.037	0.995	1.021	1.019	1.015
Real Vehicle Fuel Cost															
(cents per mile)	4.11	4.33	3.96	3.33	3.32	3.76	3.70	3.91	4.05	3.98	3.82	3.77	3.93	3.68	3.90
Air Travel Capacity															
(mill. available ton-miles/day)	488.9	495.6	476.6	430.2	432.0	439.1	445.5	450.9	448.9	457.5	475.6	482.2	472.7	441.9	466.2
Aircraft Utilization															
(mill. revenue ton-miles/day)	263.7	282.8	265.9	225.3	235.7	268.8	263.1	254.6	247.1	280.8	296.6	269.3	259.4	255.6	273.6
Airline Ticket Price Index															
(index, 1982-1984=1.000)	2.399	2.408	2.452	2.318	2.317	2.377	2.356	2.419	2.492	2.521	2.537	2.547	2.394	2.367	2.524
Raw Steel Production															- <i>i</i>
(million tons)	25.53	26.07	25.25	22.05	23.92	25.03	22.66	21.56	22.45	24.35	24.03	23.73	98.89	93.17	94.55

<sup>a</sup>Macroeconomic projections from DRI-WEFA model forecasts are seasonally adjusted at annual rates and modified as appropriate to the base world oil price case. <sup>b</sup>Includes all highway travel. SAAR: Seasonally -adjusted annualized rate.

Note: Historical data are printed in bold; forecas ts are in italics.

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

(Million Barrels per Day, Except OECD Commercial Stocks)

	2001			2002				2003				Year			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Demand <sup>a</sup>		1											l l		
OECD															
U.S. (50 States)	19.9	19.6	19.7	19.4	19.4	19.6	19.8	19.9	20.1	20.0	20.4	20.6	19.6	19.7	20.3
U.S. Territories	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4
Canada	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	2.1	2.0	1.9	1.9	2.0
Europe	15.2	14.8	15.5	15.6	15.2	14.7	15.6	15.7	15.5	14.6	15.2	15.9	15.3	15.3	15.3
Japan	6.1	5.0	5.1	5.5	5.7	4.7	5.1	5.5	5.8	4.8	5.0	5.4	5.4	5.2	5.2
Other OECD	5.3	4.9	4.9	5.2	5.3	5.0	5.0	5.3	5.1	5.1	5.3	5.4	5.1	5.2	5.2
Total OECD	48.9	46.5	47.4	48.0	47.9	46.4	47.8	48.7	48.9	46.7	48.4	49.7	47.7	47.7	48.5
Non-OECD															
Former Soviet Union	3.7	3.6	3.6	3.6	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.6	3.7	3.7
Europe	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	4.9	4.9	4.8	4.8	5.1	5.0	5.0	5.0	5.3	5.2	5.2	5.2	4.9	5.0	5.2
Other Asia	7.4	7.4	7.1	7.4	7.4	7.4	7.2	7.5	7.6	7.6	7.3	7.7	7.3	7.4	7.5
Other Non-OECD	11.7	11.9	12.0	11.8	11.7	12.0	12.0	11.9	11.8	12.1	12.2	12.1	11.8	11.9	12.0
Total Non-OECD	28.4	28.4	28.1	28.3	28.6	28.7	28.4	28.7	29.1	29.1	28.9	29.3	28.3	28.6	29.1
Total World Demand	77.3	74.9	75.6	76.3	76.5	75.1	76.2	77.5	78.0	75.9	77.3	79.0	76.0	76.3	77.6
Supply <sup>b</sup>															
OECD															
U.S. (50 States)	8.7	9.0	9.0	9.1	9.1	9.2	9.0	9.1	9.1	9.0	9.0	9.1	9.0	9.1	9.1
Canada	2.8	2.8	2.7	2.9	2.9	2.9	3.0	3.1	3.1	3.1	3.2	3.3	2.8	3.0	3.2
Mexico	3.6	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.8	3.8	3.9	3.8	3.6	3.6	3.8
North Sea $^{\circ}$	6.4	6.1	6.2	6.5	6.3	6.4	6.2	6.5	6.5	6.1	6.2	6.5	6.3	6.4	6.3
Other OECD	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Total OECD	23.2	23.0	23.1	23.7	23.6	23.6	23.5	24.0	24.0	23.6	23.9	24.3	23.2	23.7	24.0
Non-OECD															
OPEC	31.1	29.9	30.1	29.2	27.9	27.4	28.2	28.5	28.9	28.9	29.8	29.3	30.1	28.0	29.2
Former Soviet Union	8.6	8.7	8.9	9.1	<b>9</b> .0	9.2	9.5	9.5	9.6	9.7	9.9	10.0	8.8	9.3	9.8
China	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.3	3.3	3.4	3.4	3.3	3.4	3.3
Other Non-OECD	11.2	11.1	11.3	11.3	11.5	11.5	11.5	11.8	11.6	11.7	11.9	12.0	11.2	11.6	11.8
Total Non-OECD	54.3	53.0	53.6	52.9	51.7	51.4	52.5	53.2	53.3	53.6	55.0	54.7	53.5	52.2	54.2
Total World Supply	77.5	76.0	76.7	76.6	75.3	75.1	76.0	77.2	77.3	77.2	78.9	79.0	76.7	75.9	78.1
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	-0.2	-0.9	-0.2	-0.1	0.2	-0.5	0.1	0.4	0.2	-0.7	-0.4	0.3	-0.3	0.1	-0.1
Other	-0.1	-0.2	-1.0	-0.3	1.1	0.4	0.1	-0.1	0.5	-0.6	-1.2	-0.3	-0.4	0.4	-0.4
Total Stock Withdrawals	-0.2	-1.1	-1.2	-0.3	1.2	0.0	0.2	0.3	0.7	-1.4	-1.6	0.0	-0.7	0.4	-0.6
OECD Comm. Stocks, End (bill. bbls.)	2.5	2.6	2.7	2.7	2.6	2.6	2.6	2.6	2.5	2.6	2.7	2.7	2.7	2.6	2.7
Non-OPEC Supply	46.4	46.1	46.6	47.4	47.4	47.7	47.8	48.7	48.5	48.4	49.1	49.6	46.6	47.9	48.9
Net Exports from Former Soviet Union	4.9	5.1	5.3	5.5	5.2	5.5	5.8	5.9	5.7	6.0	6.2	6.3	5.2	5.6	6.1

<sup>a</sup>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. <sup>b</sup>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.

<sup>c</sup>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)

(**************************************	2001					2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
/															
Crude Oil Prices (dollars per barrel)															
Imported Average <sup>a</sup>	24.09	23.86	23.04	16.94	19.33	23.84	26.00	28.27	28.99	28.06	27.01	25.93	22.01	24.43	27.47
WTI <sup>b</sup> Spot Average	28.82	27.92	26.66	20.40	21.66	26.25	28.34	30.31	31.17	30.33	29.31	28.24	25.95	26.64	29.76
Natural Gas Wellbead															
(dollars por thousand cubic foot)	6 27	4 56	3.06	2 50	2.24	200	2 81	217	2 52	221	202	222	1 1 2	2 82	2.25
	0.57	4.30	3.00	2.30	2.34	3.00	2.01	5.17	3.JZ	5.21	5.05	5.25	4.12	2.05	5.20
Petroleum Products															
Gasoline Retail <sup>c</sup> (dollars per gallon)															
All Grades	1 47	1 66	1 49	1 23	1 20	1 43	1 11	1 48	1 52	1 56	1 52	1 45	1 47	1 30	1 51
Regular I Inleaded	1 / 3	1 62	1 15	1 10	1.20	1 30	1 10	1 13	1 18	1.50	1 18	1 11	1 / 3	1 35	1 17
Regular Onleaded	1.45	1.02	1.45	1.13	1.10	1.55	1.40	1.45	1.40	1.02	1.40	1.41	1.45	1.50	1.77
No. 2 Diesel Oil, Retail															
(dollars per gallon)	1.47	1.47	1.42	1.26	1.18	1.30	1.35	1.48	1.50	1.47	1.44	1.45	1.40	1.33	1.46
No. 2 Heating Oil Wholesale															
(dellare per gellen)	0.04	0 00	0.76	0.64	0.00	0.60	0 72	0 00	0.00	0.96	0.00	0.04	0.76	0 70	0.06
(donars per ganon)	0.04	0.00	0.70	0.01	0.60	0.00	0.73	0.00	0.92	0.00	0.02	0.04	0.76	0.72	0.00
No. 2 Heating Oil, Retail															
(dollars per gallon)	1.35	1.24	1.15	1.11	1.09	1.09	1.07	1.31	1.39	1.29	1.18	1.28	1.23	1.16	1.32
No. 6 Residual Fuel Oil, Retail <sup>d</sup>															
(dollars per barrel)	25.13	22.29	21.76	18.97	19.35	24.09	25.39	27.82	28.33	26.34	25.68	25.56	22.30	24.07	26.53
Electric Utility Fuels															
-															
Coal															
(dollars per million Btu)	1.23	1.24	1.23	1.22	1.22	1.21	1.19	1.19	1.21	1.22	1.19	1.19	1.23	1.20	1.20
Heavy Fuel Oil															
(dollars per million Btu)	4.21	3.82	3.50	2.89	2.73	3.66	4.20	4.59	4.49	4.16	4.30	4.14	3.71	3.66	4.30
Natural Gas															
(dollars per million Btu)	7 26	4 96	3 47	2 97	2 22	3 58	3.07	3 48	4.00	3 60	3 4 1	3 68	4 43	3 30	361
	7.20	4.30	5.47	2.51	3.22	5.00	5.07	5.40	4.00	5.00	5.41	5.00	4.45	0.00	5.01
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	10 10	10 70	10.64	7 69	711	820	9.51	7 71	7 77	8 68	0 88	7 98	9 63	7 60	8 16
	10.10	10.70	10.04	1.09	7.14	0.20	9.01	1.11	1.11	0.00	9.00	1.90	9.03	1.09	0.10
Electricity															
(cents per kilowatthour)	7.96	8.62	8.85	8.47	8.08	8.49	8.58	8.16	7.85	8.46	8.66	8.21	8.48	8.34	8.30
<sup>a</sup> Refiner acquisition cost (RAC) of imp	orted c	rude oil													

<sup>b</sup>West Texas Intermediate.

<sup>c</sup>Average self-service cash prices. <sup>d</sup>Average for all sulfur contents. <sup>e</sup>Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the fourth quarter of 2001. 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)

· · · ·	2001		,	2002				2003				Year			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply															
Crude Oil Supply															
Domestic Production <sup>a</sup>	5.82	5.82	5.73	5.84	5.93	5.89	5.81	5.86	5.89	5.76	5.70	5.75	5.80	5.87	5.77
Alaska	0.99	0.96	0.92	0.99	1.03	1.01	0.95	1.02	1.06	0.99	0.97	1.04	0.96	1.00	1.01
Lower 48	4.83	4.86	4.81	4.85	4.89	4.88	4.86	4.84	4.83	4.77	4.74	4.71	4.84	4.87	4.76
Net Commercial Imports <sup>b</sup>	9.02	9.66	9.41	9.10	8.71	9.17	8.94	9.12	9.11	10.01	10.08	9.60	9.30	8.99	9.70
Net SPR Withdrawals	0.00	0.00	-0.01	-0.05	-0.13	-0.17	-0.10	-0.14	-0.15	-0.11	-0.11	-0.11	-0.02	-0.14	-0.12
Net Commercial Withdrawals	-0.26	0.00	-0.01	-0.03	-0.24	0.18	0.46	0.04	-0.19	-0.02	0.10	0.00	-0.07	0.11	-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	0.16	0.16	0.10	0.04	0.13	0.25	0.19	0.14	0.18	0.20	0.17	0.13	0.12	0.18	0.17
Total Crude Oil Supply	14.75	15.65	15.21	14.90	14.41	15.32	15.30	15.01	14.84	15.84	15.94	15.36	15.13	15.01	15.50
Other Supply															
NGL Production	1.65	1.88	1.96	1.97	1.86	1.91	1.89	1.88	1.89	1.94	1.96	1.97	1.87	1.88	1.94
Other Hydrocarbon and Alcohol	0.37	0.39	0.40	0.38	0.37	0.44	0.41	0.41	0.40	0.40	0.43	0.42	0.38	0.40	0.41
Inputs															
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	0.90	0.90	0.88	0.94	0.96	0.95	0.94	0.95	0.91	0.94	0.96	0.97	0.90	0.95	0.95
Net Product Imports <sup>6</sup>	2.13	1.64	1.40	1.21	1.33	1.48	1.35	1.21	1.54	1.50	1.48	1.46	1.59	1.34	1.49
Product Stock Withdrawn or	0.09	-0.86	-0.15	0.01	0.51	-0.46	-0.07	0.48	0.54	-0.60	-0.34	0.44	-0.23	0.11	0.01
Added (-)	40.00	40.00	40 70	40.44			10.01	10.01	00.40		00.40		40.05	10 71	
Total Supply	19.89	19.60	19.70	19.41	19.44	19.64	19.81	19.94	20.12	20.02	20.42	20.63	19.65	19.71	20.30
Demand	0.00	0.00	0.05	0.04			0.00	0.00	0.70	0.04	0.00	0.45	0.04	0.04	0.44
Motor Gasoline	8.29	8.66	8.85	8.64	8.49	9.00	8.99	8.88	8.72	9.21	9.33	9.15	8.61	8.84	9.11
	1.73	1.72	1.67	1.51	1.57	1.61	1.03	1.07	1.08	1.05	1.70	1.75	1.00	1.62	1.70
Distiliate Fuel Oil	4.23	3.75	3.67	3.75	3.79	3.71	3.64	3.90	4.11	3.76	3.72	3.99	3.85	3.76	3.90
	0.95	0.88	0.77	0.66	0.69	0.66	0.63	0.62	0.76	0.64	0.65	0.69	0.81	0.65	0.68
Other Oils	4.70	4.60	4.74	4.80	4.90	4.66	4.92	4.80	4.84	4.77	5.01	5.03	4.73	4.84	4.91
Total Demand	19.89	19.00	19.70	19.41	19.44	19.64	19.81	19.93	20.12	20.02	20.42	20.02	19.05	19.71	20.30
Total Petroleum Net Imports	11.17	11.33	10.82	10.33	10.08	10.67	10.29	10.33	10.65	11.50	11.55	11.00	10.91	10.30	11.19
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	309	308	309	312	333	317	275	272	289	291	282	282	312	272	282
Total Motor Gasoline	194	221	206	210	213	216	209	215	217	219	211	215	210	215	215
Finished Motor Gasoline	145	169	158	161	160	168	161	167	164	169	162	166	161	167	166
Blending Components	49	51	48	48	53	48	48	48	54	51	49	49	48	48	49
Jet Fuel	41	43	43	42	42	40	41	39	37	39	40	39	42	39	39
Distillate Fuel Oil	105	114	127	145	123	131	130	129	95	107	128	129	145	129	129
Residual Fuel Oil	39	42	37	41	34	33	33	33	31	33	35	36	41	33	36
Other Oils <sup>e</sup>	255	292	312	287	265	300	314	267	253	289	306	260	287	267	260
Total Stocks (ex cluding SPR)	942	1020	1034	1036	1011	1037	1001	954	922	979	1002	961	1036	954	961
Crude Oil in SPR	542	543	545	550	561	576	586	599	612	622	632	643	550	599	643
Heating Oil Reserve	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Stocks (including SPR and HOR)	1486	1565	1581	1588	1575	1615	1589	1555	1537	1604	1636	1606	1588	1555	1606

<sup>a</sup>Includes lease condensate.

<sup>b</sup>Net imports equals gross imports plus SPR imports minus exports.

<sup>c</sup>Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

<sup>d</sup>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.

<sup>e</sup>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<sup>a</sup> for the STIFS<sup>b</sup>

(Percent Deviation Base Case)

· · · · · · · · · · · · · · · · · · ·		+ 10	0% Prices	+ 10	% Weather <sup>®</sup>
Demand Sector	+1% GDP	Crude Oil <sup>c</sup>	N.Gas Wellhead <sup>a</sup>	Fall/Winter <sup>1</sup>	Spring/Summer <sup>*</sup>
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%

<sup>a</sup>Percent change in demand quantity resulting from specified percent changes in model inputs. <sup>b</sup>Short-Term Integrated Forecasting System.

°Refiner acquisitions cost of imported crude oil.

<sup>d</sup>Average unit value of marketed natural gas production reported by States.

<sup>a</sup>Nerage unit value of marketed natural gas production reported by states. <sup>e</sup>Refers to percent changes in degree-days. <sup>f</sup>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

	High	Low		Difference	
	Price Case	Price Case	Total	Uncertainty	Price Impact
United States	5.85	5.51	0.34	0.07	0.27
Lower 48 States	4.81	4.49	0.32	0.05	0.26
Alaska	1.05	1.02	0.03	0.02	0.01

Note: Components provided are for the fourth quarter 2003. 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)

	2001					2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply															
Total Dry Gas Production	4.86	4.86	4.84	4.89	4.86	4.84	4.73	4.79	4.86	4.90	4.94	5.06	19.45	19.22	19.76
Net Imports	0.98	0.90	0.95	0.83	0.89	0.77	0.83	0.86	0.87	0.84	0.88	0.91	3.65	3.35	3.51
Supplemental Gaseous Fuels	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.01	0.02	0.02	0.02	0.02	0.08	0.05	0.07
Total New Supply	5.86	5.77	5.81	5.74	5.77	5.62	5.57	5.66	5.75	5.76	5.84	5.99	23.17	22.63	23.34
Working Gas in Storage															
Opening	1.72	0.74	1.88	2.94	2.90	1.52	2.31	3.06	2.59	1.36	2.13	2.99	1.72	2.90	2.59
Closing	0.74	1.88	2.94	2.90	1.52	2.31	3.06	2.59	1.36	2.13	2.99	2.54	2.90	2.59	2.54
Net Withdrawals	0.98	-1.14	-1.06	0.04	1.39	-0.79	-0.75	0.47	1.23	-0.77	-0.86	0.45	-1.18	0.31	0.05
Total Supply	6.84	4.63	4.74	5.78	7.16	4.83	4.82	6.13	6.98	4.99	4.98	6.44	21.99	22.94	23.39
Balancing Item <sup>a</sup>	0.25	0.00	-0.26	-0.56	-0.56	-0.17	0.12	-0.14	0.32	-0.01	-0.14	-0.60	-0.56	-0.75	-0.43
Total Primary Supply	7.09	4.63	4.49	5.22	6.60	4.66	4.94	5.98	7.30	4.98	4.84	5.84	21.42	22.19	22.96
Demand															
Lease and Plant Fuel	0.29	0.29	0.29	0.29	0.29	0.29	0.32	0.33	0.33	0.32	0.32	0.33	1.16	1.23	1.29
Pipeline Use	0.20	0.13	0.13	0.15	0.19	0.13	0.12	0.15	0.20	0.13	0.12	0.16	0.61	0.59	0.62
Residential	2.45	0.76	0.37	1.22	2.19	0.85	0.42	1.42	2.43	0.87	0.41	1.41	4.81	4.87	5.13
Commercial	1.34	0.62	0.45	0.76	1.20	0.62	0.45	0.88	1.30	0.64	0.46	0.90	3.16	3.15	3.30
Industrial (Incl. Nonutility Use)	2.33	2.11	2.28	2.27	2.29	2.12	2.65	2.74	2.65	2.46	2.68	2.65	8.99	9.80	10.44
Electric Utilities	0.47	0.71	<i>0.</i> 97	0.53	0.45	0.63	0.96	0.46	0.39	0.56	0.84	0.40	2.69	2.49	2.18
Total Demand	7.09	4.63	4.49	5.22	6.60	4.66	4.94	5.98	7.30	4.98	4.84	5.84	21.42	22.19	22.96
Balancing Item <sup>a</sup> Total Primary Supply Demand Lease and Plant Fuel Pipeline Use Residential Commercial Industrial (Incl. Nonutility Use) Electric Utilities Total Demand	0.25 7.09 0.29 0.20 2.45 1.34 2.33 0.47 7.09	0.00 4.63 0.29 0.13 0.76 0.62 2.11 0.71 4.63	-0.26 4.49 0.29 0.13 0.37 0.45 2.28 0.97 4.49	-0.56 5.22 0.29 0.15 1.22 0.76 2.27 0.53 5.22	-0.56 6.60 0.29 0.19 2.19 1.20 2.29 0.45 6.60	-0.17 4.66 0.29 0.13 0.85 0.62 2.12 0.63 4.66	0.12 4.94 0.32 0.42 0.42 0.45 2.65 0.96 4.94	-0.14 5.98 0.33 0.15 1.42 0.88 2.74 0.46 5.98	0.32 7.30 0.33 0.20 2.43 1.30 2.65 0.39 7.30	-0.01 4.98 0.32 0.13 0.87 0.64 2.46 0.56 4.98	-0.14 4.84 0.32 0.12 0.41 0.46 2.68 0.84 4.84	-0.60 5.84 0.33 0.16 1.41 0.90 2.65 0.40 5.84	-0.56 21.42 1.16 0.61 4.81 3.16 8.99 2.69 21.42	-0.75 22.19 1.23 0.59 4.87 3.15 9.80 2.49 22.19	-0.43 22.96 1.29 0.62 5.13 3.30 10.44 2.18 22.96

<sup>a</sup>The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

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

#### Table 9. U.S. Coal Supply and Demand: Base Case

(Million Short Tons)

	2001					2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply															
Production	283.6	278.3	278.1	281.3	281.1	266.8	268.6	255.4	276.5	253.6	280.5	273.8	1121.3	1071.9	1084.4
Appalachia	110.8	109.0	104.1	105.1	107.1	98.4	98.9	93.3	104.2	95.4	100.1	97.8	428.9	397.6	397.4
Interior	37.5	37.0	37.9	35.2	36.6	37.2	34.3	30.3	33.1	30.7	34.7	30.7	147.7	138.4	129.3
Western	135.3	132.3	136.1	141.0	137.5	131.2	135.4	131.9	139.2	127.5	145.7	145.3	544.7	535.9	557.7
Primary Stock Levels <sup>a</sup>															
Opening	31.9	39.2	38.3	37.0	33.9	44.5	39.5	33.1	32.5	32.8	31.6	33.0	31.9	33.9	32.5
Closing	39.2	38.3	37.0	33.9	44.5	39.5	33.1	32.5	32.8	31.6	33.0	32.7	33.9	32.5	32.7
Net Withdrawals	-7.3	0.9	1.2	3.1	-10.6	4.9	6.4	0.6	-0.2	1.1	-1.4	0.3	-2.0	1.4	-0.2
Imports	3.9	4.1	6.0	5.7	4.0	3.9	4.1	3.9	3.6	3.5	3.5	3.6	19.8	15.8	14.2
Exports	11.8	13.5	11.7	11.7	9.3	11.0	9.9	10.4	9.8	10.0	10.3	10.2	48.7	40.6	40.3
Total Net Domestic Supply	268.4	269.9	273.7	278.5	265.3	264.5	269.3	249.4	270.1	248.2	272.4	267.5	1090.4	1048.5	1058.2
Secondary Stock Levels <sup>b</sup>															
Opening	108.1	112.5	127.1	117.0	136.5	142.8	145.7	136.8	130.0	137.6	143.3	128.0	108.1	136.5	130.0
Closing	112.5	127.1	117.0	136.5	142.8	145.7	136.8	130.0	137.6	143.3	128.0	134.4	136.5	130.0	134.4
Net Withdrawals	-4.4	-14.5	10.1	-19.5	-6.3	-2.9	8.9	6.8	-7.6	-5.7	15.3	-6.4	-28.4	6.5	-4.4
Waste Coal Supplied to IPPs $^{\circ}$	2.6	2.6	2.6	2.6	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	10.6	11.1	11.6
Total Supply	266.6	258.0	286.4	261.6	261.8	264.4	281.0	258.9	265.4	245.5	290.6	264.0	1072.7	1066.1	1065.4
Demand															
Coke Plants	6.8	6.9	6.6	5.8	5.5	5.6	6.1	5.6	5.8	6.0	6.1	5.9	26.1	22.8	23.9
Electricity Production															
Electric Utilities	200.8	193.2	220.5	191.8	184.5	183.3	217.6	185.4	193.9	178.3	216.3	190.9	806.3	770.8	779.4
Nonutilities (Excl. Cogen.) <sup>a</sup>	36.7	34.7	40.8	38.5	47.2	45.1	52.0	48.4	48.2	46.1	53.2	49.6	150.6	192.7	197.1
Retail and General Industry	18.1	16.1	16.3	17.0	17.1	12.4	15.1	17.8	17.4	15.0	14.9	17.6	67.5	62.4	65.0
Total Demand <sup>e</sup>	262.3	251.0	284.2	253.0	254.1	246.4	290.8	257.3	265.4	245.5	290.6	264.0	1050.5	1048.6	1065.4
Discrepancy <sup>f</sup>	4.3	7.0	2.2	8.6	7.6	18.0	-9.8	1.6	0.0	0.0	0.0	0.0	22.2	17.4	0.0

<sup>a</sup>Primary stocks are held at the mines, preparation plants, and distribution points. <sup>b</sup>Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

<sup>c</sup>Estimated independent power producers' (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

<sup>4</sup>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 2000, and (2) annual coal-fired generation at nonutilities from Form EIA -867 (Annual Nonutility Power Producer Report).

<sup>e</sup>Total Demand includes estimated IPP consumption.

<sup>1</sup>The discrepancy reflects an unaccounted for shipper and receiver reporting difference, assumed to be zero in the forecast period.

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

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

#### Table 10. U.S. Electricity Supply and Demand: Base Case

(Billion Kilowatt-hours)

•	2001			2002				2003				Year			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply														t	
Net Utility Generation															
Coal	391.8	376.1	423.9	368.4	363.0	348.7	415.9	351.0	369.1	337.3	410.9	360.4	1560.1	1478.6	1477.7
Petroleum	24.1	21.6	21.4	11.9	12.1	13.3	15.7	3.4	10.6	6.5	15.2	8.0	78.9	44.6	40.3
Natural Gas	46.2	69.6	95.7	53.0	46.3	62.6	94.0	45.1	37.9	54.9	82.8	38.9	264.4	248.1	214.4
Nuclear	135.9	130.2	140.6	127.5	129.5	125.1	132.5	123.1	127.9	125.3	134.8	125.1	534.2	510.2	513.2
Hydroelectric	50.2	49.8	45.6	44.5	55.7	65.5	59.7	61.1	70.5	76.2	63.2	61.8	190.1	242.0	271.8
Geothermal and Other <sup>a</sup>	0.5	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.6	0.6	2.2	2.0	2.3
Subtotal	648.6	647.8	727.7	605.8	607.2	615.7	718.5	584.2	616.5	600.8	707.5	594.9	2630.0	2525.5	2519.7
Nonutility Generation <sup>b</sup>															
Coal	92.9	81.3	95.6	82.8	90.2	83.8	100.8	89.6	99.2	91.4	119.9	110.0	352.5	364.5	420.6
Petroleum	17.7	12.2	11.9	7.3	7.9	7.1	8.4	2.4	7.2	4.6	9.8	6.5	49.1	25.7	28.1
Natural Gas	79.7	86.6	111.8	88.5	95.1	102.6	129.4	108.0	114.0	115.3	140.6	122.2	366.6	435.0	492.1
Other Gaseous Fuels <sup>c</sup>	4.1	4.5	5.8	4.6	4.9	5.3	6.6	5.3	5.5	5.6	7.4	6.3	18.9	22.1	24.9
Nuclear	56.2	55.3	60.4	62.7	65.5	64.1	69.0	64.0	66.6	65.2	70.1	65.1	234.6	262.6	267.1
Hydroelectric	5.2	6.3	3.3	3.2	5.0	7.9	4.4	4.4	6.3	8.8	4.6	4.4	18.0	21.6	24.2
Geothermal and Other <sup>d</sup>	20.7	21.9	23.0	22.5	24.2	21.7	22.9	23.6	23.3	23.9	24.8	24.5	88.2	92.3	96.6
Subtotal	276.6	268.2	311.6	271.5	292.7	292.4	341.3	297.4	322.3	314.9	377.3	339.1	1127.9	1223.8	1353.6
Total Generation	925.2	916.0	1039.4	877.3	899.9	915.6	1059.7	881.5	938.8	915.7	1084.8	934.0	3757.8	3756.8	3873.3
Net Imports <sup>e</sup>	3.6	7.2	5.1	4.4	4.9	8.5	6.3	5.6	6.1	7.7	11.1	6.6	20.3	25.3	31.4
·															
Total Supply	928.8	923.2	1044.4	881.7	904.8	924.1	1066.1	887.1	944.9	923.4	1095.9	940.5	3778.1	3782.1	3904.7
Losses and Unaccounted for f	22.0	62.5	42.2	40.1	28.0	56.6	36.5	33.9	40.8	58.3	52.4	47.3	166.7	155.0	198.8
Demand															
Retail Sales <sup>g</sup>															
Residential	322.6	262.8	353.2	262.4	312.0	269.1	383.8	287.9	332.3	266.0	379.2	290.2	1201.0	1252.8	1267.7
Commercial	257.0	264.6	305.2	258.2	255.8	272.4	311.5	258.7	253.9	266.6	309.9	267.6	1085.0	1098.4	1098.0
Industrial	247.6	252.8	252.7	241.0	227.5	234.6	239.6	232.1	234.3	249.6	262.0	251.5	994.1	933.7	997.4
Other	27.2	28.3	33.1	28.0	25.6	28.8	35.0	31.6	29.8	29.3	32.6	29.6	116.7	121.0	121.4
Subtotal	854.4	808.6	944.3	789.6	820.9	804.9	969.9	810.3	850.3	811.6	983.8	838.9	3396.8	3405.9	3484.5
Nonutility Use/Sales <sup>h</sup>	52.5	52.2	58.0	52.0	55.9	62.6	59.7	42.9	53.8	53.6	59.8	54.3	214.6	221.2	221.5
Total Demand	906.8	860.7	1002.2	841.6	876.8	867.5	1029.6	853.2	904.1	865.1	1043.5	893.2	3611.4	3627.1	3706.0
Memo:															
Nonutility Sales to															
Electric Utilities <sup>b</sup>	224.1	216.0	253.7	219.5	236.8	229.8	281.6	254.4	268.5	261.3	317.5	284.8	913.2	1002.6	1132.1

<sup>a</sup>"Other" includes generation from wind, wood, waste, and s olar sources.

<sup>b</sup>Electricity(net Generation) from nonutility sources, including cogenerators and small power producers.

<sup>c</sup>Includes refinery still gas and other process or waste gases and liquefied petroleum gases.

<sup>d</sup>Includes geothermal, solar, wind, wood, waste, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

<sup>e</sup>Data for 2001 are estimates.

<sup>f</sup>Balancing item, mainly transmission and distribution losses.

<sup>g</sup>Total of retail electricity sales by electric utilities and power marketers. Utility s ales 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 2001 are estimated.

<sup>h</sup>Defined as the sum of nonutility facility use of onsite net electricity generation plus direct sales of power by nonutility generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 are estimates.

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

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

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

(Quadrillion Btu)

	/		Year		Annua	l Percentage C	hange
F	2000	2001	2002	2003	2000-2001	2001-2002	2002-2003
Electric Utilities							
Hydroelectric Power <sup>a</sup>	2.600	1.991	2.562	2.847	-23.4	28.7	11.1
Geothermal, Solar and	0.004	0.005	0.004	0.006	25.0	-20.0	50.0
Wind Energy <sup>b</sup>							
Biofuels	0.021	0.019	0.018	0.019	-9.5	-5.3	5.6
Total	2.625	2.015	2.583	2.873	-23.2	28.2	11.2
Nonutility Power							
Generators							
Hydroelectric Power <sup>a</sup>	0.257	0.187	0.223	0.251	-27.2	19.3	12.6
Geothermal, Solar and	0.355	0.356	0.273	0.343	0.3	-23.3	25.6
Wind Energy <sup>b</sup>							
Biofuels <sup>c</sup>	0.642	0.703	0.764	0.793	9.5	8.7	3.8
Total	1.254	1.245	1.260	1.386	-0.7	1.2	10.0
Total Power Generation	3.879	3.260	3.844	4.259	-16.0	17.9	10.8
Other Sectors <sup>d</sup>							
Residential and	0.570	0.560	0.560	0.590	-1.8	0.0	5.4
Commercial <sup>e</sup>							
Industrial <sup>f</sup>	2.410	2.410	2.470	2.540	0.0	2.5	2.8
Transportation <sup>g</sup>	0.114	0.120	0.130	0.140	5.3	8.3	7.7
Total	3.094	3.090	3.160	3.270	-0.1	2.3	3.5
Net Imported Electricity h	0.244	0.146	0.181	0.225	-40.2	24.0	24.3
Total Renewable Energy Demand	7.217	6.496	7.185	7.754	-10.0	10.6	7.9

<sup>a</sup>Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

<sup>b</sup>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.

<sup>°</sup>Biofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

<sup>d</sup>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.

<sup>e</sup>Includes biofuels and solar energy consumed in the residential and commercial sectors.

<sup>f</sup>consists primarily of biofuels for use other than in electricity cogeneration.

<sup>g</sup>Ethanol blended into gasoline.

<sup>h</sup>Represents 69.3 percent of total electricity net imports, which is the proportion of total 1999 net imported electricity (0.300 quadrillion Btu) attributable to renewable sources (0.208 quadrillion Btu). See EIA's Monthly Energy Review, Table 1.5

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 Sup	oply and D	Demand: Base	Case
-----------	-------------	------------	------------	--------------	------

								rear							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real Gross Domestic Product (GDP)															
(billion chained 1996 dollars)	6592	6708	6676	6880	7063	7348	7544	7813	8159	8509	8859	9191	9215	9425	9708
Imported Crude Oil Price <sup>a</sup>															
(nominal dollars per barrel)	18.07	21.79	18.74	18.20	16.13	15.53	17.14	20.62	18.49	12.07	17.26	27.72	22.01	24.43	27.47
Petroleum Supply															
Crude Oil Production <sup>b</sup>															
(million barrels per day)	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.88	5.82	5.80	5.87	5.77
Total Petroleum Net Imports (including SPR)															
(million barrels per day)	7.20	7.18	6.80	6.96	7.66	8.09	7.89	8.50	9.16	9.76	9.92	10.43	10.91	10.36	11.19
Energy Demand															
World Petroleum															
(million barrels per day)	65.9	66.0	66.6	66.8	67.0	68.3	69.9	71.4	72.9	73.6	75.0	76.0	76.0	76.3	77.6
U.S. Petroleum															
(million barrels per day)	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.52	19.70	19.65	19.71	20.30
Natural Gas															
(trillion cubic feet)	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.27	21.61	22.54	21.42	22.19	22.96
Coal															
(million short tons)	895	903	899	907	943	950	962	1006	1030	1038	1045	1081	1050	1049	1065
Electricity (billion kilowatthours)															
Retail Sales "	2647	2713	2762	2763	2861	2935	3013	3101	3146	3264	3312	3421	3397	3406	3485
Nonutility Own Use "	NA	104	111	122	127	141	149	149	149	160	189	199	215	221	221
Total	NA	2817	2873	2885	2988	3075	3162	3250	3295	3424	3501	3620	3611	3627	3706
Total Energy Demand															
(quadrillion Btu)	84.2	84.2	84.5	85.6	87.4	89.2	90.9	93.9	94.2	94.8	97.0	99.6	97.1	97.8	100.7
I otal Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	NA	12.55	12.66	12.44	12.37	12.14	12.05	12.04	11.54	11.14	10.95	10.83	10.53	10.37	10.38

<sup>a</sup>Refers to the imported cost of crude oil to U.S. refiners.

<sup>b</sup>Includes lease condensate.

<sup>c</sup>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.

<sup>d</sup>Defined as the sum of nonutility facility use of onsite net electricity generation plus direct sales of power by nonutility generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 are estimates. <sup>e</sup>"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1999, DOE/EIA-0384(97) (AER), Table 1.1. Prior to 1990, some components of renewable energy consumption, particularly relating to consumption at nonutility electric generating facilities, were not available. For those years, a less compenensive measure of total energy demand can be found in EIA's AER. The conversion from physical units to

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

Notes: SPR: Strategic Petroleum Reserve. Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forec asting 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 DRI-WEFA Forecast CONTROL0902.

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

								Year							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Macroeconomic															
Real Gross Domestic Product															
(billion chained 1996 dollars)	6592	6708	6676	6880	7063	7348	7544	7813	8159	8509	8859	9191	9215	9425	9708
GDP Implicit Price Deflator															
(Index, 1996=1.000)	0.833	0.865	0.897	0.918	0.941	0.960	0.981	1.000	1.019	1.032	1.047	1.069	1.094	1.108	1.136
Real Disposable Personal Income															
(billion chained 1996 Dollars)	4907	5014	5033	5189	5261	5397	5539	5678	5854	6169	6328	6630	6748	7043	7195
Manufacturing Production															
(Index, 1996=1.000)	0.815	0.811	0.791	0.823	0.853	0.905	0.953	1.000	1.079	1.142	1.191	1.247	1.194	1.191	1.241
Real Fixed Investment															
(billion chained 1996 dollars)	911	895	833	886	958	1046	1109	1213	1329	1480	1595	1692	1627	1569	1614
Real Exchange Rate															
(Index, 1996=1.000)	NA	0.918	0.920	0.926	0.956	0.933	0.869	0.918	0.992	1.044	1.047	1.083	1.141	1.139	1.088
Business Inventory Change				4 -	• •	40.4		40.4		07.4		4		44.0	
(billion chained 1996 dollars)	14.2	8.9	-6.8	-4.7	3.6	12.1	14.1	10.1	14.8	27.1	14.4	17.5	-36.2	-14.2	3.3
Vindex 1082 1 000	4 4 9 9	4 4 6 2	4 405	4 4 7 0	4 4 0 0	4 205	4 0 4 7	4 077	4 970	4 0 4 4	4 955	4 220	4 3 4 3	4 004	4 000
(Index, 1982=1.000)	1.122	1.103	1.105	1.172	1.189	1.205	1.247	1.277	1.270	1.244	1.200	1.328	1.342	1.321	1.302
Consumer Price Index	4 000	4 207	4 202	4 400	4 445	4 400	4 504	4 500	4 005	4 000	4 000	4 700	4 774	4 004	4 055
(INDEX, 1982-1984=1.000)	1.239	1.307	1.302	1.403	1.445	1.482	1.524	1.569	1.605	1.630	1.000	1.722	1.771	1.801	1.855
(index 1022-1 000)	0 612	0 749	0 671	0 6 4 7	0 6 2 0	0 501	0 600	0 701	0 690	0 512	0 600	0.012	0 952	0.010	0.014
(IIIdex, 1982=1.000)	0.012	0.740	0.071	0.047	0.020	0.591	0.000	0.701	0.000	0.515	0.009	0.915	0.055	0.012	0.914
(millions)	107 9	109.4	108 3	108.6	110 7	114 1	117 2	119.6	122 7	125 9	128 9	131 7	131 0	130.8	132 1
Commercial Employment	107.5	103.4	100.5	100.0	110.7	114.1		115.0	122.1	120.0	120.5	101.7	101.5	100.0	102.1
(millions)	70.0	71 3	70.8	71 2	73 2	76 1	78.8	81 1	83.0	86.6	89.6	92.0	927	92.2	034
Total Industrial Production	70.0	71.5	70.0	11.2	10.2	70.1	70.0	01.1	00.0	00.0	05.0	52.0	52.7	52.2	55.4
(index 1996=1 000)	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2	12	1218
Housing Stock	•.•	0.0				•.•									
(millions)	102.8	103.4	104.4	105.4	106.7	108.0	109.6	110.9	112.3	114.1	115.7	116.2	118.0	119.6	120.7
Weather <sup>a</sup>															
Heating Degree-Days															
U.S	4726	4016	4200	4441	4700	4483	4531	4713	4542	3951	4169	4460	4223	4254	4456
New England	6887	5848	5960	6844	6728	6672	6559	6679	6662	5680	5952	6489	6059	6075	6457
Middle Atlantic	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5351	5774	5297	5218	5693
U.S. Gas-Weighted	4856	4139	4337	4458	4754	4659	4707	4980	4802	4183	4399	4680	4451	4496	4706
Cooling Degree-Days (U.S.)	1156.0	1260.0	1331.0	1040.0	1218.0	1220.0	1293.0	1180.0	1156.0	1410.0	1297.0	1229.0	1256.0	1391.6	1238

<sup>a</sup>Population-weighted degree-days. A degree-day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, Statistical Release G.17(419); U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI-WEFA Forecast CONTROL0902.

#### Table A3. Annual International Petroleum Supply and Demand Balance: Base Case

(Millions Barrels per Day, Except OECD Commercial Stocks)

								Year							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Demand <sup>a</sup> OECD						1								I	
U.S. (50 States) Europe <sup>b</sup> Japan Other OECD	17.3 13.2 5.0 5.2	17.0 13.3 5.1 5.4	16.7 13.3 5.3 5.6	17.0 14.0 5.4 5.9	17.2 14.2 5.4 6.2	17.7 14.1 5.7 6.6	17.7 14.2 5.7 6.8	18.3 14.8 5.9 6.9	18.6 15.0 5.7 7.3	18.9 15.3 5.5 7.1	19.5 15.2 5.6 7.4	19.7 15.1 5.5 7.5	19.6 15.3 5.4 7.3	19.7 15.3 5.2 7.5	20.3 15.3 5.2 7.6
Non-OECD Former Soviet Union	40.8 8.7	40.8 8.4	41.6 8.4	42.6 6.8	43.0 5.6	44.2 4.8	45.0 4.6	46.1 4.0	46.6 3.9	46.9 3.8	47.7 3.7	47.9 3.7	47.7 3.6	47.7 3.7	48.5 3.7
Europe China Other Asia Other Non-OECD Total Non-OECD Total World Demand	1.3 2.4 4.0 8.6 25.1 65 9	1.0 2.3 4.3 8.9 24.9 65 7	0.8 2.5 4.5 8.9 25.0 66.6	0.7 2.7 4.7 9.3 24.2 66.8	0.7 3.0 5.1 9.7 24.0 67.0	0.6 3.2 5.5 10.0 24.1 68 3	0.7 3.4 5.9 10.4 24.9 69 9	0.7 3.6 6.3 10.7 25.3 71 4	0.7 3.9 6.6 11.1 26.2 72 9	0.7 4.1 6.7 11.4 26.7 73.6	0.7 4.3 6.9 11.6 27.3 75.0	0.6 4.8 7.3 11.7 28.1 76 0	0.6 4.9 7.3 11.8 28.3 76.0	0.6 5.0 7.4 11.9 28.6 76 3	0.6 5.2 7.5 12.0 29.1 77.6
Supply °	05.5	05.7	00.0	00.0	07.0	00.5	03.5	/1.4	12.5	75.0	75.0	70.0	70.0	70.5	77.0
U.S. (50 States) Canada Mexico North Sea <sup>a</sup> Other OECD Total OECD	9.9 2.0 2.9 3.7 1.4 20.0	9.7 2.0 3.0 3.9 1.5 20.2	9.9 2.0 3.2 4.1 1.5 20.8	9.8 2.1 3.2 4.5 1.5 21.1	9.6 2.2 3.2 4.8 1.4 21.2	9.4 2.3 3.2 5.5 1.5 21.9	9.4 2.4 3.1 5.9 1.5 22.4	9.4 2.5 3.3 6.3 1.5 22.7	9.5 2.6 3.4 5.9 1.8 23.1	9.3 2.7 3.5 5.8 2.1 23.6	9.0 2.6 3.4 6.0 1.9 22.9	9.1 2.7 3.5 6.0 2.1 23.4	9.0 2.8 3.6 6.3 1.6 23.2	9.1 3.0 3.6 6.4 1.6 23.7	9.1 3.2 3.8 6.3 1.6 24.0
OPEC Former Soviet Union China Other Non-OECD Total Non-OECD Total World Supply.	23.3 12.1 2.8 7.7 45.9 65.9	24.5 11.4 2.8 7.9 46.6 66.8	24.6 10.4 2.8 8.1 45.9 66.7	25.8 8.9 2.8 8.3 45.9 67.0	26.6 8.0 2.9 8.7 46.2 67.4	27.0 7.3 2.9 9.1 46.3 68.2	27.6 7.1 3.0 9.8 47.5 69.9	28.3 7.1 3.1 10.2 48.7 71.4	29.9 7.1 3.2 10.4 50.6 73.7	30.4 7.2 3.2 10.7 51.6 75.2	29.3 7.6 3.2 11.2 51.3 74.2	30.9 8.1 3.2 11.2 53.4 76.8	30.1 8.8 3.3 11.2 53.5 76.7	28.0 9.3 3.4 11.6 52.2 75.9	29.2 9.8 3.3 11.8 54.2 78.1
Total Stock Withdrawals	0.0	-0.8	-0.1	-0.3	-0.4	0.0	0.0	-0.4	-1.2	-1.3	0.8	-0.8	-0.7	0.4	-0.6
OECD Comm. Stocks, End (bill. bbls.)	2.6	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.7	2.8	2.4	2.5	2.7	2.6	2.7
Net Exports from Former Soviet Union	3.4	3.0	2.1	2.1	2.3	2.4	2.6	3.0	3.3	3.5	3.9	4.5	5.2	5.6	6.1

<sup>a</sup>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.

<sup>b</sup>OECD Europe includes the former East Germany.

<sup>C</sup>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. <sup>d</sup>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, 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, and Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

#### Table A4. Annual Average U.S. Energy Prices: Base Case

(Nominal Dollars)

								Year							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Crude Oil Prices (dollars per barrel)															
Imported Average "	18.07	21.79	18.74	18.20	16.13	15.53	17.14	20.62	18.49	12.07	17.26	27.72	22.01	24.43	27.47
WII <sup>®</sup> Spot Average	19.78	24.48	21.60	20.54	18.49	17.16	18.41	22.11	20.61	14.45	19.25	30.29	25.95	26.64	29.76
Natural Gas Wellhead															
(dollars per thousand cubic feet)	1.69	1.71	1.64	1.74	2.04	1.85	1.55	2.17	2.32	1.96	2.19	3.69	4.12	2.83	3.25
Petroleum Products															
Gasoline Retail $^{\circ}$ (dollars per gallon)															
All Grades	1.02	1.17	1.15	1.14	1.13	1.13	1.16	1.25	1.24	1.07	1.18	1.53	1.47	1.39	1.51
Regular Unleaded	0.99	1.13	1.10	1.09	1.07	1.08	1.11	1.20	1.20	1.03	1.14	1.49	1.43	1.35	1.47
No. 2 Diesel Oil, Retail															
(dollars per gallon)	0.99	1.17	1.13	1.11	1.11	1.11	1.11	1.24	1.19	1.04	1.12	1.49	1.40	1.33	1.46
No. 2 Heating Oil, Wholesale															
(dollars per gallon)	0.57	0.70	0.62	0.58	0.54	0.51	0.51	0.64	0.59	0.42	0.49	0.89	0.76	0.72	0.86
No. 2 Heating Oil, Retail															
(dollars per gallon)	0.88	1.04	0.98	0.93	0.90	0.87	0.86	0.98	0.97	0.84	0.87	1.29	1.23	1.16	1.32
No. 6 Residual Fuel Oil, Retail															
(dollars per barrel)	16.20	18.66	14.32	14.21	14.00	14.79	16.49	19.01	17.82	12.83	16.02	25.34	22.30	24.07	26.53
Electric Utility Fuels															
Coal															
(dollars per million Btu)	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.27	1.25	1.22	1.20	1.23	1.20	1.20
Heavy Fuel Oil <sup>e</sup>															
(dollars per million Btu)	2.86	3.22	2.48	2.46	2.36	2.40	2.60	3.01	2.79	2.07	2.38	4.27	3.71	3.66	4.30
Natural Gas															
(dollars per million Btu)	2.36	2.32	2.15	2.33	2.56	2.23	1.98	2.64	2.76	2.38	2.57	4.33	4.43	3.30	3.61
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	5.64	5.80	5.82	5.89	6.17	6.41	6.06	6.35	6.95	6.83	6.69	7.77	9.63	7.69	8.16
Electricity															00
(cents per kilowatthour)	7.64	7.85	8.05	8.23	8.34	8.40	8.40	8.36	8.43	8.26	8.16	8.24	8.48	8.34	8.30
<sup>a</sup> D - finger a servicition a set (DAO) of important of a	-											-			

<sup>a</sup>Refiner acquisition cost (RAC) of imported crude oil. <sup>b</sup>West Texas Intermediate.

<sup>c</sup>Average self -service cash prices.

<sup>d</sup>Average for all sulfur contents.

<sup>e</sup>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							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Supply															
Crude Oil Supply															
Domestic Production <sup>a</sup>	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.88	5.82	5.80	5.87	5.77
Alaska	1.87	1.77	1.80	1.71	1.58	1.56	1.48	1.39	1.30	1.17	1.05	0.97	0.96	1.00	1.01
l ower 48	5.74	5.58	5.62	5.46	5.26	5.10	5.08	5.07	5.16	5.08	4.83	4.85	4.84	4.87	4.76
Net Commercial Imports <sup>b</sup>	5.65	5.76	5.67	5.98	6.67	6.95	7.14	7.40	8.12	8.60	8.60	9.01	9.30	8.99	9.70
Net SPR Withdrawals	-0.03	0.01	0.05	-0.01	-0.02	0.00	0.00	0.07	0.01	-0.02	0.02	0.08	-0.02	-0.14	-0.12
Net Commercial Withdrawals	0.00	0.05	-0.01	0.02	-0.05	-0.01	0.09	0.05	-0.06	-0.05	0.11	0.00	-0.07	0.11	-0.03
Product Supplied and Losses.	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unaccounted-for Crude Oil	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.22	0.14	0.11	0.19	0.15	0.12	0.18	0.17
	0.20	0.20	0.20	•-=•	••••	•	•••••	•	••••	••••	•••••	••	•••-	0110	0
Total Crude Oil Supply	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.19	14.66	14.89	14.80	15.07	15.13	15.01	15.50
Other Supply															
NGL Production	1.55	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	1.94
Other Hydrocarbon and Alcohol Inputs	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.31	0.34	0.38	0.38	0.38	0.38	0.40	0.41
Crude Oil Product Supplied	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processing Gain	0.66	0.68	0.71	0.77	0.77	0.77	0.77	0.84	0.85	0.89	0.89	0.95	0.90	0.95	0.95
Net Product Imports <sup>c</sup>	1.50	1.38	1.13	0.94	0.93	1.09	0.75	1.10	1.04	1.17	1.30	1.40	1.59	1.34	1.49
Product Stock Withdrawn	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	0.03	-0.09	-0.17	0.30	0.00	-0.23	0.11	0.01
Total Supply	17.37	17.04	16.93	17.10	17.26	17.72	17.72	18.31	18.62	18.92	19.52	19.70	19.65	19.71	20.30
Demand															
Motor Gasoline <sup>d</sup>	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.89	8.02	8.25	8.43	8.47	8.61	8.84	9.11
Jet Fuel	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.58	1.60	1.62	1.67	1.73	1.66	1.62	1.70
Distillate Fuel Oil	3.16	3.02	2.92	2.98	3.04	3.16	3.21	3.37	3.44	3.46	3.57	3.72	3.85	3.76	3.90
Residual Fuel Oil	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.85	0.80	0.89	0.83	0.91	0.81	0.65	0.68
Other Oils <sup>e</sup>	3.95	3.95	3.99	4.20	4.17	4.41	4.36	4.63	4.77	4.69	5.01	4.87	4.73	4.84	4.91
Total Demand	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.52	19.70	19.65	19.71	20.30
Total Petroleum Net Imports	7.20	7.18	6.80	6.96	7.66	8.09	7.89	8.50	9.16	9.76	9.92	10.43	10.91	10.36	11.19
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	341	323	325	318	335	337	303	284	305	324	284	286	312	272	282
Total Motor Gasoline	213	220	219	216	226	215	202	195	210	216	193	196	210	215	215
Jet Fuel	41	52	49	43	40	47	40	40	44	45	41	45	42	39	39
Distillate Fuel Oil	106	132	144	141	141	145	130	127	138	156	125	118	145	129	129
Residual Fuel Oil	44	49	50	43	44	42	37	46	40	45	36	36	41	33	36
Other Oils <sup>f</sup>	293	227	251	292	237	274	348	280	204	212	396	246	178	349	253

<sup>a</sup>Includes lease condensate.

<sup>b</sup>Net imports equals gross imports plus SPR imports minus exports.

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

<sup>d</sup>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.

\*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.

<sup>1</sup>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														
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Supply															
Total Dry Gas Production	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.85	18.90	19.02	18.83	18.99	19.45	19.22	19.76
Net Imports	1.27	1.45	1.64	1.92	2.21	2.46	2.69	2.78	2.84	2.99	3.42	3.54	3.65	3.35	3.51
Supplemental Gaseous Fuels	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.08	0.05	0.07
Total New Supply	18.69	19.38	19.45	19.88	20.42	21.39	21.40	21.75	21.84	22.12	22.35	22.61	23.17	22.63	23.34
Working Gas in Storage															
Opening	2.85	2.51	3.07	2.82	2.60	2.32	2.61	2.15	2.17	2.17	2.73	2.52	1.72	2.90	2.59
Closing	2.51	3.07	2.82	2.60	2.32	2.61	2.15	2.17	2.17	2.73	2.52	1.72	2.90	2.59	2.54
Net Withdrawals	0.34	-0.56	0.24	0.23	0.28	-0.28	0.45	-0.02	0.00	-0.56	0.21	0.80	-1.18	0.31	0.05
Total Supply	19.03	18.82	19.70	20.11	20.70	21.11	21.85	21.73	21.84	21.56	22.56	23.41	21.99	22.94	23.39
Balancing Item <sup>a</sup>	-0.23	-0.11	-0.66	-0.56	-0.42	-0.40	-0.27	0.24	0.11	-0.29	-0.95	-0.88	-0.56	-0.75	-0.43
Total Primary Supply	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.27	21.61	22.54	21.42	22.19	22.96
Demand															
Lease and Plant Fuel	1.07	1.24	1.13	1.17	1.17	1.12	1.22	1.25	1.20	1.17	1.08	1.13	1.16	1.23	1.29
Pipeline Use	0.63	0.66	0.60	0.59	0.62	0.69	0.70	0.71	0.75	0.64	0.65	0.64	0.61	0.59	0.62
Residential	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.24	4.98	4.52	4.73	4.99	4.81	4.87	5.13
Commercial	2.72	2.62	2.73	2.80	2.86	2.90	3.03	3.16	3.21	3.00	3.04	3.22	3.16	3.15	3.30
Industrial (Incl. Nonutilities)	6.82	7.02	7.23	7.53	7.98	8.17	8.58	8.87	8.83	8.69	9.01	9.51	8.99	9.80	10.44
Electric Utilities	2.79	2.79	2.79	2.77	2.68	2.99	3.20	2.73	2.97	3.26	3.11	3.04	2.69	2.49	2.18
Total Demand	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.27	21.61	22.54	21.42	22.19	22.96

<sup>a</sup>The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

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

#### Table A7. Annual U.S. Coal Supply and Demand: Base Case

(Million Short Tons)

							Year								
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Supply		•	•												
Production	980.7	1029.1	996.0	997.5	945.4	1033.5	1033.0	1063.9	1089.9	1117.5	1100.4	1073.6	1121.3	1071.9	1084.4
Appalachia	464.8	489.0	457.8	456.6	409.7	445.4	434.9	451.9	467.8	460.4	425.6	419.4	428.9	397.6	397.4
Interior	198.1	205.8	195.4	195.7	167.2	179.9	168.5	172.8	170.9	168.4	162.5	143.5	147.7	138.4	129.3
Western	317.9	334.3	342.8	345.3	368.5	408.3	429.6	439.1	451.3	488.8	512.3	510.7	544.7	535.9	557.7
Primary Stock Levels <sup>a</sup>															
Opening	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	39.5	31.9	33.9	32.5
Closing	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	39.5	31.9	33.9	32.5	32.7
Net Withdrawals	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	5.8	-5.3	-2.6	-2.9	7.6	-2.0	1.4	-0.2
Imports	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.1	7.5	8.7	9.1	12.5	19.8	15.8	14.2
Exports	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.5	83.5	78.0	58.5	58.5	48.7	40.6	40.3
Total Net Domestic Supply	884.2	921.6	890.9	897.8	886.9	961.8	950.4	986.3	1008.5	1045.7	1048.1	1035.2	1090.4	1048.5	1058.2
Secondary Stock Levels <sup>b</sup>															
Opening	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	144.0	108.1	136.5	130.0
Closing	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	144.0	108.1	136.5	130.0	134.4
Net Withdrawals	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	11.7	16.6	-23.0	-14.6	35.9	-28.4	6.5	-4.4
Waste Coal Supplied to IPPs $^{\circ}$	0.0	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
Total Supply	896.5	899.4	891.4	907.8	936.5	954.0	960.4	1006.7	1033.2	1031.6	1043.1	1081.2	1072.7	1066.1	1065.4
Demand															
Coke Plants	40.5	38.9	33.9	32.4	31.3	31.7	33.0	31.7	30.2	28.2	28.1	28.9	26.1	22.8	23.9
Electricity Production															
Electric Utilities	766.9	773.5	772.3	779.9	813.5	817.3	829.0	874.7	900.4	910.9	894.1	859.3	806.3	770.8	779.4
Nonutilities (Excl. Cogen.) <sup>d</sup>	5.7	7.4	11.4	15.0	17.5	19.9	21.2	22.2	21.6	26.9	52.7	123.3	150.6	192.7	197.1
Retail and General Industry	82.3	83.1	81.5	80.2	81.1	81.2	78.9	77.7	78.0	72.3	69.6	69.3	67.5	62.4	65.0
Total Demand <sup>e</sup>	895.4	902.9	899.1	907.4	943.5	950.1	962.0	1006.3	1030.1	1038.3	1044.5	1080.9	1050.5	1048.6	1065.4
Discrepancy f	1.1	-3.5	-7.7	0.5	-7.0	3.9	-1.6	0.4	3.1	-6.7	-1.5	0.4	22.2	17.4	0.0

<sup>a</sup>Primary stocks are held at the mines, preparation plants, and distribution points.

<sup>b</sup>Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

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

<sup>d</sup>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).

Total Demand includes estimated IPP consumption.

<sup>1</sup>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							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Supply															
Total Utility and Nonutility Net Generatio	n														
Coal	1583.8	1590.3	1589.9	1621.1	1690.0	1691.7	1710.2	1795.7	1844.1	1873.9	1884.3	1967.7	1912.6	1843.0	1898.3
Petroleum	164.0	124.0	119.0	99.4	112.3	105.5	75.3	81.7	93.0	126.9	123.6	108.8	128.0	70.3	68.4
Natural Gas	357.1	378.3	392.6	418.3	428.4	465.9	498.5	455.8	485.4	540.6	556.6	596.6	631.0	683.1	706.6
Nuclear	529.4	577.0	612.6	618.8	610.4	640.5	673.4	674.7	628.6	673.7	731.2	753.9	768.8	772.9	780.3
Hydroelectric	270.6	289.5	285.0	248.9	276.4	256.8	308.3	344.4	354.9	318.9	313.4	273.1	208.1	266.1	296.0
Geothermal and Other <sup>a</sup>	57.6	65.7	72.2	76.8	79.4	93.4	92.2	94.7	88.1	83.8	95.5	99.8	109.2	116.3	123.8
Total Generation	2971.9	3024.9	3071.3	3083.4	3196.9	3253.8	3357.8	3447.0	3494.2	3617.9	3704.5	3799.9	3757.8	3749.3	3873.3
Net Imports <sup>b</sup>	11.0	2.3	19.6	25.4	27.8	44.8	39.2	38.0	36.6	27.6	30.6	34.0	20.3	25.3	31.4
Total Supply	2982.8	3027.2	3091.0	3108.8	3224.7	3298.6	3397.1	3485.0	3530.8	3645.5	3735.1	3834.0	3778.1	3774.6	3904.7
Losses and Unaccounted for <sup>c</sup>	235.6	210.4	217.9	223.6	236.4	223.1	234.6	234.9	236.2	221.4	234.2	214.0	166.7	147.5	198.8
Demand															
Retail Sales <sup>d</sup>															
Residential	905.5	924.0	955.4	935.9	994.8	1008.5	1042.5	1082.5	1075.9	1130.1	1144.9	1192.4	1201.0	1252.8	1267.7
Commercial	725.9	751.0	765.7	761.3	794.6	820.3	862.7	887.4	928.6	979.4	1002.0	1055.2	1085.0	1098.4	1098.0
Industrial	925.7	945.5	946.6	972.7	977.2	1008.0	1012.7	1033.6	1038.2	1051.2	1058.2	1064.2	994.1	933.7	997.4
Other	89.8	92.0	94.3	93.4	94.9	97.8	95.4	97.5	102.9	103.5	107.0	109.5	116.7	121.0	121.4
Subtotal	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3013.3	3101.1	3145.6	3264.2	3312.1	3421.4	3396.8	3405.9	3484.5
Nonutility Use/Sales <sup>e</sup>	100.4	104.2	111.0	121.8	126.9	140.9	149.2	148.9	149.0	159.8	188.8	198.6	214.6	221.2	221.5
Total Demand	2747.2	2816.7	2873.0	2885.1	2988.4	3075.5	3162.4	3250.1	3294.6	3424.0	3500.9	3620.0	3611.4	3627.1	3706.0
Memos:															
Nonutility Sales															
to Electric Utilities	87.1	112.5	135.3	164.4	187.5	202.2	214.2	220.6	222.7	245.9	342.0	586.0	913.2	1002.6	1132.1
Electric Utility Generation	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3077.4	3122.5	3212.2	3173.7	3015.4	2630.0	2525.5	2519.7
Nonutility Generation	187.6	216.7	246.3	286.1	314.4	343.1	363.3	369.6	371.7	405.7	530.9	784.6	1127.9	1223.8	1353.6

<sup>a</sup>Other includes generation from wind, wood, waste, and solar sources.

<sup>b</sup>Data for 2001 are estimates.

<sup>c</sup>Balancing item, mainly transmission and distribution losses.

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

<sup>e</sup>Defined as the sum of nonutility facility use of onsite net electricity generation plus direct sales of power by nonutility generators to third parties, reported annually in Table 7.5 of the Monthly Energy Review (MER). Data for 2001 are estimates.

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

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following report: Electric Power Monthly, DOE/EIA-0226 and Electric Power Annual, DOE/EIA-0348. Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.