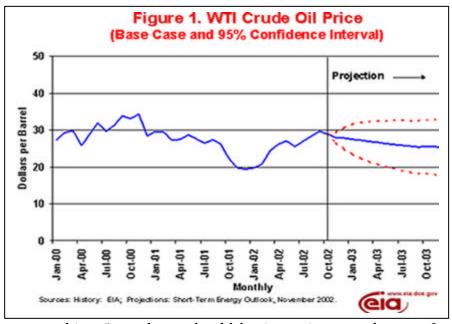


■ Short-Term Energy Outlook

November 2002



approaching 5 year lows, should begin to rise over the next few months as additional supplies reach markets, and return to the middle of their observed range by spring.

Overview

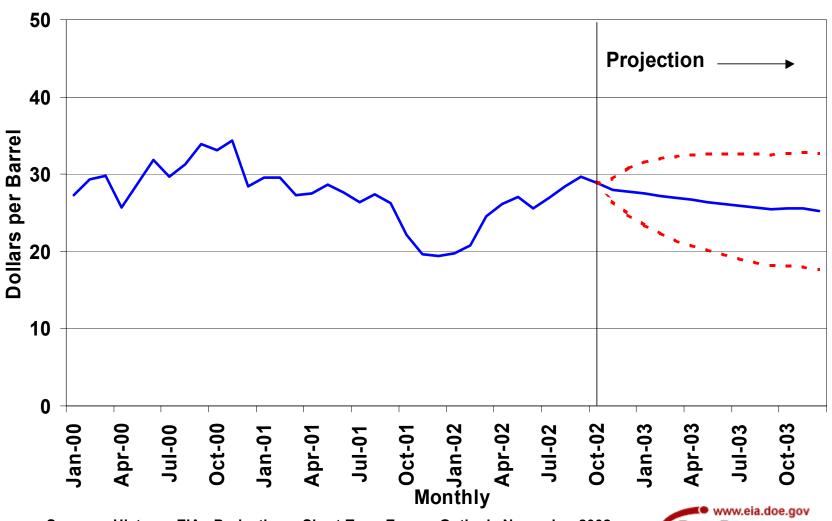
World Oil Markets: During the past 3-4 months, OPEC 10 production has risen more quickly than projected, thus reducing upward pressure on prices. More specifically, while the West Texas Intermediate (WTI) crude oil spot price averaged \$28.84 in October, about \$6.70 per barrel above the year-ago level (Figure 1), the WTI average price for fourth quarter 2002 is now projected to soften to \$28.20, which is about \$2 per barrel below our fourth-quarter projection from last month. Meanwhile. OECD inventory levels, which are now

Home Heating Costs Update: Lower crude oil prices than previously projected have prompted lower-than-expected increases in heating oil prices this winter. Because of this, we have lowered our expected average winter heating bill increase for oil-heated (and propane-heated) homes by about 5 percent. Still, a much colder-than-normal October in the Northeast jump-started heating oil demand and contributed to lower distillate inventories than were expected last month. Thus, normal weather throughout the remainder of the winter will still result in increased heating costs for oil-heated homes relative to last year's home heating costs. Early heating demand was also partly responsible for natural gas in storage falling slightly below the 3.2 trillion cubic feet mark at the end of October. We now estimate that natural gasheated homes should see a slightly larger increase in heating bills than was projected in last month's report. In the base case projections, we foresee likely expenditure increases for households of: 25 percent for natural gas; 40 percent for heating oil; 19 percent for propane, and about 13 percent for homes heated with electricity.

U.S. Natural Gas Markets: Early cold weather in October, particularly in the Midwest and Northeast, raised natural gas prices even as storage levels remained at relatively high levels. With natural gas storage levels well above 3 billion cubic feet at the end of October, further large price increases are not expected in the near term. The current level of storage is only slightly higher than last year but about 6 percent higher than the previous 5-year average. Assuming normal weather for the remainder of the heating season, winter natural gas wellhead prices are expected to average \$3.54 per thousand cubic feet, or \$1.12 per thousand cubic feet above last winter's price. For all of 2002, the average natural gas wellhead price is projected to be \$2.92 per thousand cubic feet compared to over \$4.00 last year. In 2003, wellhead prices are projected to average \$3.37 per thousand cubic feet.

Figure 1. WTI Crude Oil Price

(Base Case and 95% Confidence Interval)





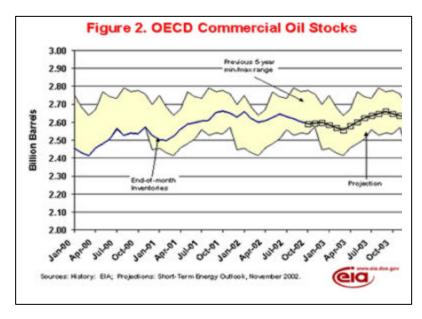
Data Notes: EIA's *Annual Energy Review*, 2001 (AER2001) was released on EIA's website on October 29, 2002. The report included some important revisions and improvements to the historical data for electricity generation and related fuel consumption between 1989 and 2001. Details concerning the nature of these changes are provided in <u>Appendix H</u> of the AER2001. One particularly important result of these data changes is that total natural gas demand estimates have been revised upward significantly in most of the years since 1989. So far, only annual estimates for the revised data are available. Higher frequency databases, including those that support this *Outlook* and the *Monthly Energy Review*, will not be available until Spring 2003. Until then, the aggregate natural gas balance shown in the *Outlook* will remain on the old basis.

International Oil Markets

Crude Oil Prices. Average prices of key crude oils were down slightly last month, as the Brent, OPEC Basket, and West Texas Intermediate (WTI) crude oil spot prices averaged \$0.10-\$0.90 per barrel less in October than in September. By the end of October oil prices had fallen by \$3-\$4 per barrel from end-September levels. Concerns over low OECD commercial oil inventories were offset by the prospect of increasing supplies in the near future, as the OPEC 10 continued to increase production above quota levels, Iraqi exports began rising, and hope for a diplomatic solution in the U.N.'s confrontation with Iraq eased tensions.

The OPEC basket price has been above \$22 per barrel since March 8, and the October average of \$27.30 per barrel marked the eighth consecutive month that the average monthly OPEC basket price remained within OPEC's original target range of \$22 - \$28 per barrel. The monthly average OPEC basket price is projected to remain within this target range throughout the forecast period.

International Oil Supply and Demand. In October, OPEC 10 production is estimated to have risen to about 2.7 million barrels per day above quota levels, led by increases from Saudi Arabia, Iran and Venezuela. Iraqi production also continued to rise in October as U.N.-sanctioned oil exports averaged almost 600,000 barrels per day above September levels. The *Outlook* assumes that Iraqi production will continue to fluctuate around the October average level of 2.4 million barrels per day, with a brief downturn expected following the next rollover of the U.N.'s oil-for-food program at the end of November.

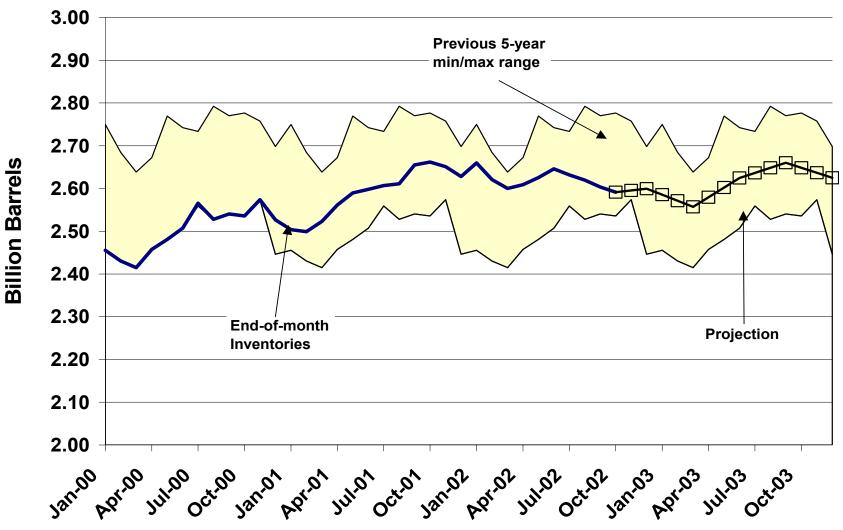


OPEC 10 production above quota levels has risen faster than projected over the past 3-4 months. Although it had been expected that OPEC output would ise during the latter half of 2002 in order to prevent prices from rising above OPEC's target range, most of this increase had been expected to come later in the fourth quarter.

At these higher production levels, market fundamentals will reduce upward pressures on prices. OECD inventory levels, which are now approaching 5-year lows, should begin rising over the next few months as these additional supplies reach markets, returning to the middle of their observed range by spring (Figure 2). As a

result, world crude oil prices are believed to have peaked on the basis of market fundamentals (this excludes price effects from the situation with Iraq, which is unpredictable). With the easing of world oil

Figure 2. OECD Commercial Oil Stocks





prices from recent highs and the rise of Iraqi exports, OPEC 10 production is not expected to rise much further during the fourth quarter.

The limiting factors for OPEC 10 production growth in 2003 will continue to be the situation in Iraq, and whether world oil demand will recover as expected. The U.S. economy is projected to grow by about 3 percent annually in 2003 and contribute to the recovery of U.S. oil demand. About half of the 1.3 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 another 0.5 million barrels per day of demand growth next year (Figure 3).

Rising non-OPEC production is expected to meet much of this new demand. Additional oil exports from Russia and the Caspian Sea region are expected to provide about half of the anticipated 1 million barrels per day increase in non-OPEC supply in 2003. Increases are also expected from offshore Africa and Mexico, and from increased Canadian tar sands production.

U. S. Energy Prices

Motor Gasoline: Retail motor gasoline prices rose by about 4 cents per gallon in October in response to higher crude oil costs after a summer of rather remarkable price tranquility. That price stability was the result of ample gasoline supplies, which included large volumes of imports from Europe. This summer's experience contrasts with the two previous summer driving seasons, during which motorists experienced greater gasoline price volatility (Figure 4). If we assume that crude oil prices have indeed peaked and are heading down through 2003, then motor gasoline prices should be headed downward as well, at least until the driving season begins next spring.

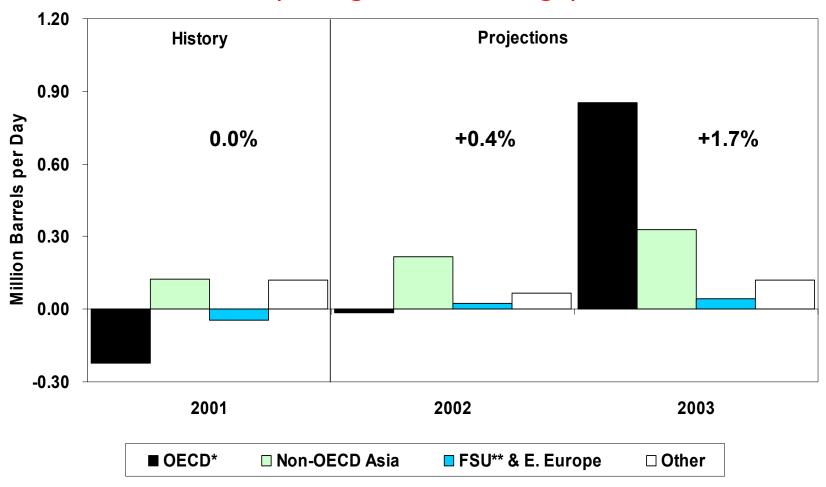
Refiner margins (the difference between the refiner price of gasoline and the refiner acquisition cost of crude oil), which were weak this past summer, are expected to soften further through the heating season, but rebound during the next driving season (Figure 5).

Given our revised crude oil price path, retail gasoline prices are expected to grow by 5 cents per gallon on an annual basis in 2003, assuming that refiner margins rebound, as economic growth increases gasoline demand. By the end of October, stocks of motor gasoline were within the min/max range at 192 million barrels (Figure 6).

Distillate Fuel Oil (Heating oil and Diesel Fuel): If our base case crude oil price path holds - that is, easing a bit through the winter, rather than rising, as previously expected - then residential heating oil prices are expected to increase by about 18 cents per gallon over last winter's prices, compared to an anticipated 27 cents per gallon increase reported in the previous *Outlook*. Prices are expected to peak at about \$1.31 per gallon on average in December or January, or up about 15 cents per gallon from current prices. At the end of October, distillate fuel oil inventories were about 122 million barrels, which is in the lower portion of the 5-year min/max range (Figure 7). On an annual level, crude oil prices are not expected to increase in 2003. However, the assumption of increased economic growth next year combined with a somewhat lower projected level of distillate stocks could increase distillate fuel oil margins (the difference between the enduse price and the crude oil price) thus raising the average annual price of both heating oil and diesel fuel by about 7-8 cents in 2003 relative to 2002 (Figure 8). Weather, of course, is the other main factor to consider. The previous heating season in the Northeast (the Mid-Atlantic and New England, where 75 percent of the nation's heating oil is consumed) was 18 percent warmer than average, which calmed demand pressure on heating fuel prices. So far this heating season, temperatures have been much colder than normal in key heating regions. If this pattern were to continue throughout the winter, heating oil prices could be expected to rise sharply despite weakening crude oil prices. All else the same, average heating degree-days of 10

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

Figure 4. Gasoline Prices and Crude Oil Costs

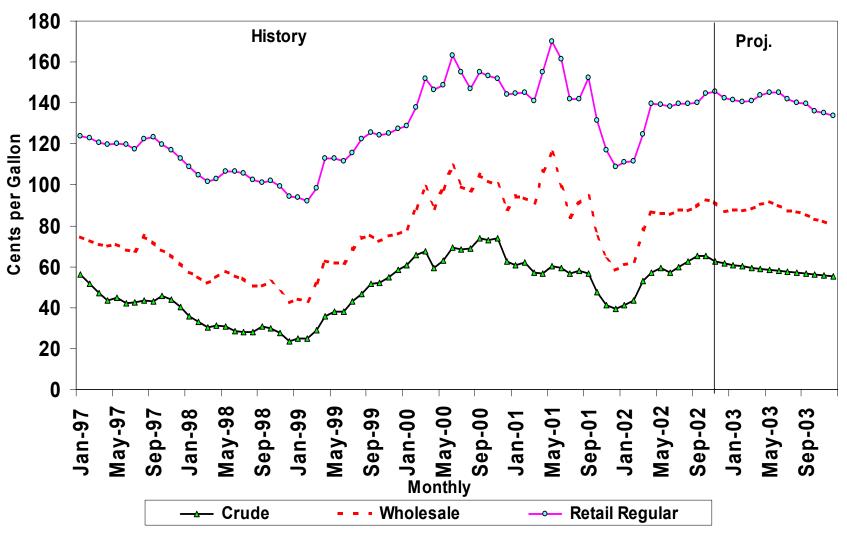




Figure 5. Motor Gasoline Spreads

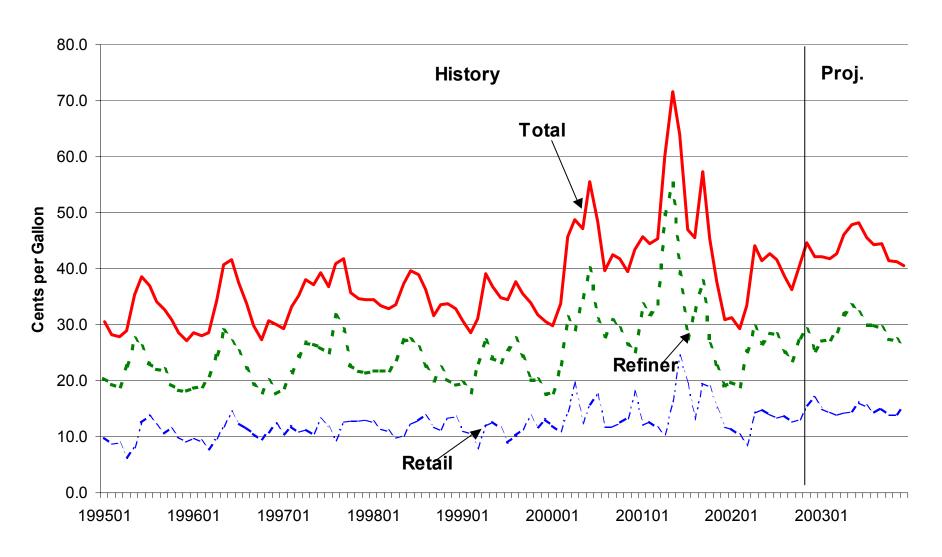




Figure 6. U.S. Gasoline Inventories

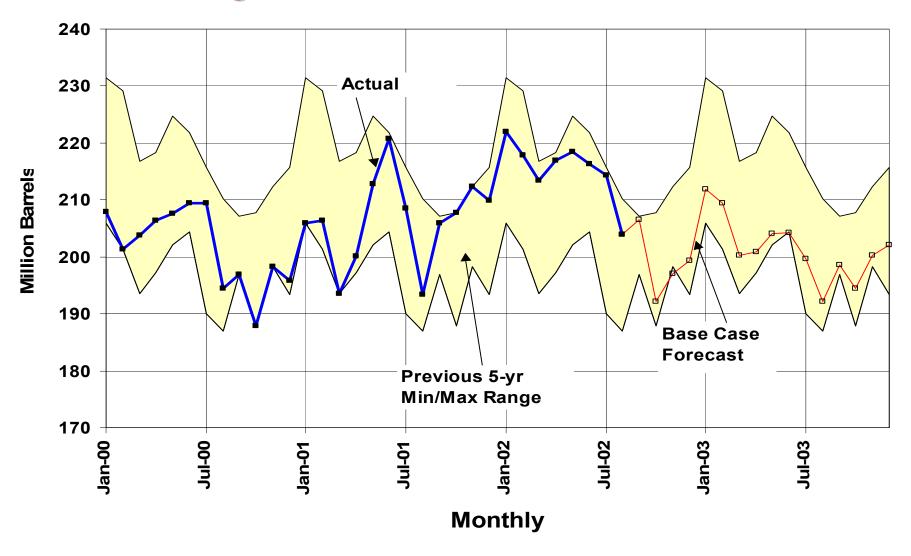




Figure 7. Distillate Fuel Inventories

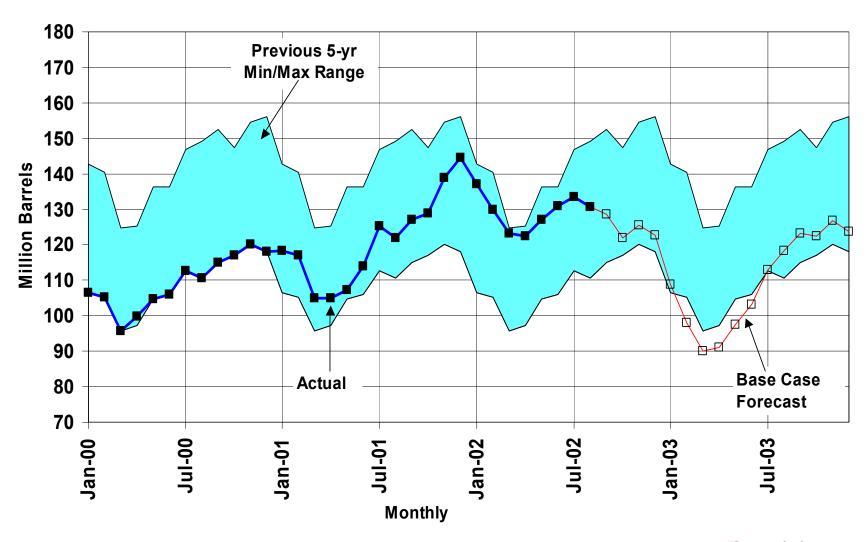
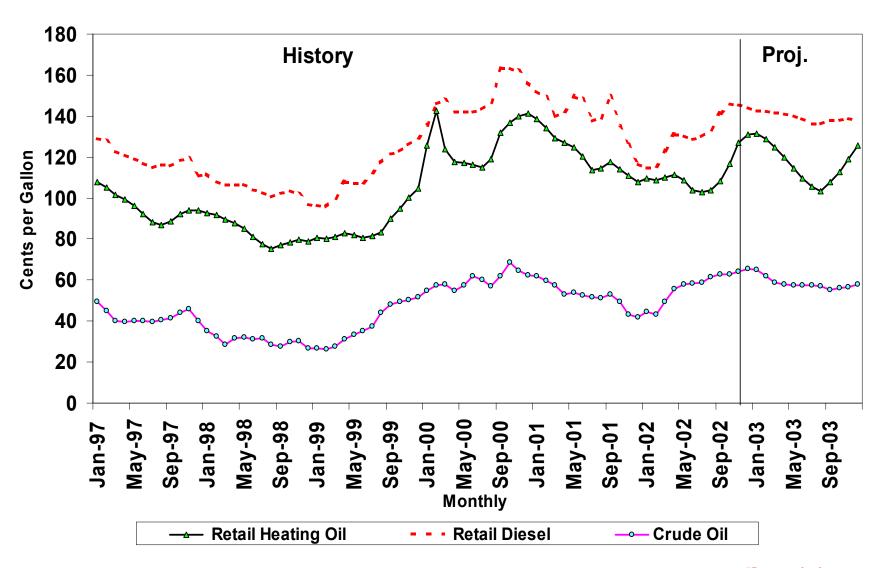




Figure 8. Distillate Fuel Prices





percent above base-case (normal) levels are estimated to increase heating oil prices by about 8 cents per gallon (see *Winter Fuels Outlook: 2002-2003*).

Natural Gas: September hurricanes in the Gulf of Mexico temporarily shut in some gas production, causing spot prices at the Henry Hub and elsewhere to rise above the \$4.00 per million btu mark for most of October. Early cold weather in October, particularly in the Midwest, also helped raise prices even as storage levels remained relatively high (Figure 9).

With storage levels well above 3 trillion cubic feet (tcf) at the end of October, further large price increases are not expected in the near term, unless the weather turns abnormally cold for a prolonged period. A level of 3-3.2 tcf of working gas in storage by November 1 is considered sufficient to ensure adequate natural gas supplies for the winter. The current (end of October) storage level for working gas is 3.15 tcf, about the same level as year ago, when the wellhead price was \$2.45 per thousand cubic feet, and about 5 percent higher than the previous 5-year average. Moreover, with crude oil prices expected to decline over the next several months there should be less upward pressure on natural gas wellhead prices. The combination of ample storage and lower crude oil prices should ensure fairly stable natural gas prices through the winter. Unusually cold weather for November in the gas consuming regions could cause natural gas inventories to be withdrawn more rapidly than planned, and consequently prices would respond by moving upward. A situation like this occurred in 1996, when November weather was nearly 20 percent colder than normal. In that case, although the temperatures in December and January were slightly warmer than average, enough gas in storage was withdrawn in November to keep wellhead prices elevated through the end of January.

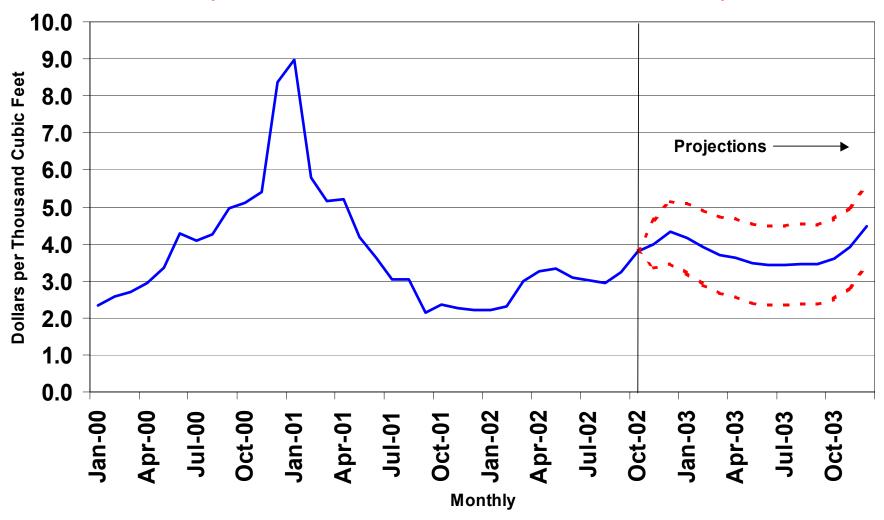
Assuming normal weather (13 percent colder than last winter) for the remainder of the heating season (November through March), we expect to see winter natural gas wellhead prices averaging around \$3.54 per thousand cubic feet, or about \$1.12 per thousand cubic feet above last winter's price. For the year, the annual average natural gas wellhead price is projected to be about \$2.92 per thousand cubic feet compared to over \$4.00 last year. Wellhead prices in 2003 are projected to gain about \$0.45 per thousand cubic feet over the annual average price for 2002, due to lower projected volumes of underground natural gas in storage for most of next year compared with 2002, increasing economic growth (which increases natural gas demand), and little or no change in the annual average crude oil price for 2003.

U. S. Oil Demand

Year-to-date data indicate overall weakness in total petroleum demand, which, through October, has declined by an estimated 0.4 percent compared to the same period last year. This weakness has been brought about by three main factors: weakness in industrial activity, record warm weather in the first quarter of the year, and unfavorable relative price shifts in the price-sensitive sectors. The first two factors have dampened total distillate consumption in all the major consuming sectors. (Despite a colder-thanaverage October, preliminary estimates for that month indicate continued decline in total distillate demand, reflecting continued weakness in the industrial sector). In a relative sense, residual fuel oil demand has been the biggest casualty as a result of all three factors, exhibiting weakness in both the industrial and power-generation sectors. In addition, commercial aviation has undergone a structural downward shift that has lasted for more than a year. Offsetting weakness in these areas, there has been robust growth in motor gasoline demand, reflecting (in part) continuing consumer preference for large vehicles. One result of this trend has been an ongoing reduction in overall fuel efficiency. In addition, recent weather patterns and forecasts for continuing cold weather appeared to have bolstered heating oil demand. Data show that heating degree-days in the Northeast for October, the first month in the winter season, were 21 percent higher than normal, and that November's weather in that region is forecast to be colder than normal as well. Despite record warm weather during the first quarter, total liquefied petroleum gas demand has been exhibiting strength as a petrochemical feedstock. But that demand growth resulted from a shift in

Figure 9. Natural Gas Spot Prices

(Base Case and 95% Confidence Interval)





economics, following greatly dampened liquefied petroleum gas demand in 2001, when natural gas prices reached record highs.

Despite the negative trends seen in the current year, total domestic petroleum demand is projected to increase for the year as a whole by 90,000 barrels per day, or 0.5 percent, from the 2001 average (Figure 10). Robust increases in motor gasoline demand (3.0 percent) and liquefied petroleum gases demand (6.1 percent) are largely offset by declines in jet fuel demand (2.6 percent), distillate demand (2 percent), residual fuel oil demand (18 percent) and other oils (about 1 percent). Residual fuel oil demand, in particular, is projected to reach an all-time low of 660,000 barrels per day, due to the combined effects of lower natural gas prices (on an annual basis) and continued weakness in industrial activity. The combined effects of the events of September 2001 on jet fuel markets in the last quarter of that year and the prospect of normal or colder-than-normal weather for the current quarter (in contrast to the warm weather of a year ago) are projected to result in a year-to-year increase of 600,000 barrels per day in petroleum demand for the October-to-December period. This would ensure a small increase in total petroleum products demand for the year as a whole. That growth in the current quarter could, of course, be even larger if the relatively cold weather currently evident in the Northeast persists through the end of the year.

In 2003, growth in petroleum products demand is projected to average 630,000 barrels per day, or 3.4 percent. In contrast to 2002, growth in 2003 is expected to be distributed among all the major product groups and across the year as a whole. Motor gasoline demand, buoyed by accelerating growth in personal disposable income and continued deterioration in average fuel efficiency, is projected to increase by about another 3 percent above 2002 levels. Jet-fuel demand is projected to grow 5 percent, but that increase results largely from the depressed levels of 2002. Continued weakness in air travel activity has, in fact, prompted some air carriers to implement selective curtailments over the next 12 months. As a result, jet-fuel demand levels for the year are expected to be below the average of 2000, the year prior to the terrorist attacks. Distillate fuel demand is projected to rise about 3.6 percent due to the weather effects and the long-awaited recovery in industrial activity. Residual fuel oil demand is expected to stabilize at an average level of about 730,000 barrels per day. The 100,000 barrels-per-day increase is more reflective of year-to-year changes in weather and industrial activity patterns. The smallness of relative price shifts and projected increases in hydroelectric generation preclude the recovery of the substantial market share lost to other fuels over the last several years.

U.S. Oil Supply

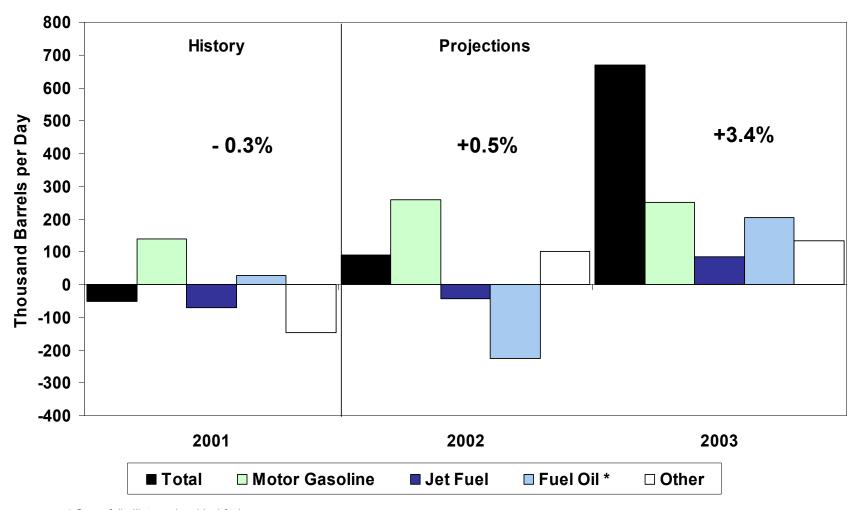
Average domestic oil production in 2002 is expected to increase by about 70,000 barrels per day, or 1 percent, to a level of 5.87 million barrels of oil per day. For 2003, a 2.0 percent decrease is expected resulting in a production rate of 5.75 million barrels of oil per day average for the year (Figure 11).

Lower 48 States oil production is expected to increase slightly to a rate of 4.87 million barrels per day in 2002, followed by a decrease of 130,000 thousand barrels per day in 2003. Shell's Brutus platform is expected to peak its oil production at 100 thousand barrels per day this year. 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 4th quarter of 2003.

Alaska is expected to account for about 18 percent of total U.S. oil production in 2003. Alaska oil production is expected to increase by 4 percent in 2002 and increase by 1 percent in 2003. The increase in 2003 will be the result of field facilities expansion in the new satellite Colville River (Alpine) field, which will eventually add 60 to 70 thousand 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, West Sak, Tabasco, Tarn and Meltwater fields are expected to total an average of 215 thousand barrels per day and to remain steady during the 2002 and 2003 forecast periods.

Figure 10. Petroleum Products Demand Growth

(Change from Year Ago)

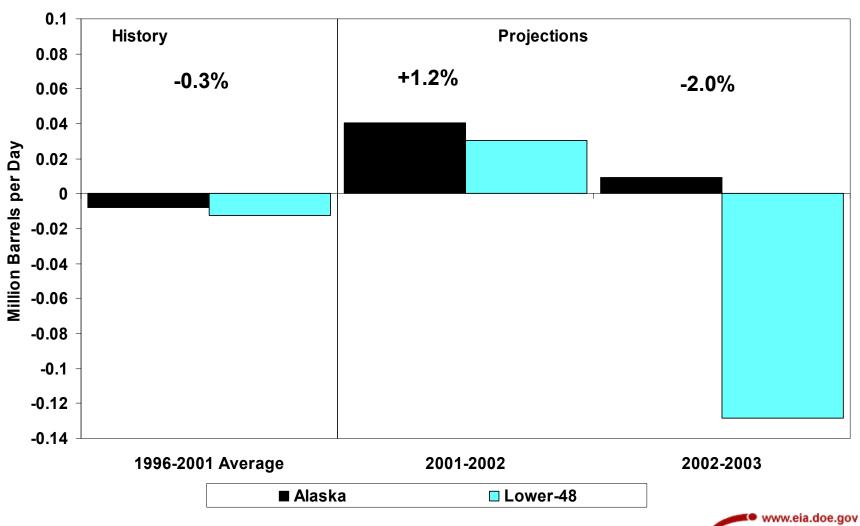


^{*} Sum of distillate and residual fuel.



Figure 11. U.S. Crude Oil Production Growth

(Change from Year Ago)





Natural Gas Demand and Supply

Total natural gas demand for the first half of 2002 fell by 610 bcf. That translates into a decline of 5.2 percent from 2001 levels, although nearly 50 percent of the first-half decline in total demand was due to weather effects in the residential and commercial sectors. Second-half strength in the residential and commercial sectors, fed by weather-related increases in the fourth quarter, remains highly probable. Currently, we expect an average natural gas demand increase for the last six months of 2002 of 13.2 percent in the combined residential and commercial sectors relative to 2001 levels. Below-normal temperatures in both the Northeast and the Midwest so far this winter have bolstered prospects for a strong close to 2002 for natural gas demand. Although natural gas in storage at the end of the injection season was high by historical standards, earlier predictions of peak storage above 3,200 billion cubic feet proved wrong partly because of the cold October and early November weather.

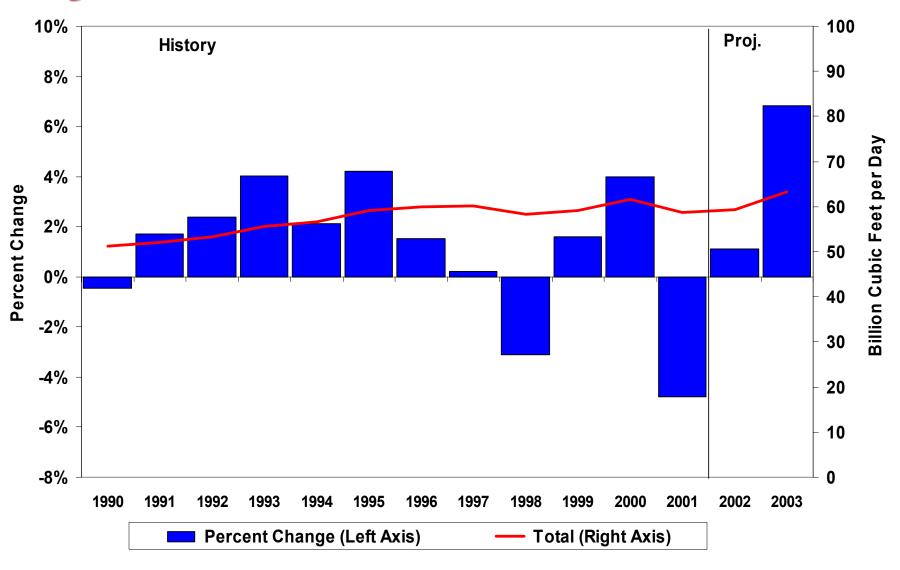
Electric power-related demand for natural gas (defined as demand from electric utilities plus nonutility generators, including industrial and commercial cogenerators) is expected to post an increase of about 6 percent in 2002, driven in large measure by the strong growth in electricity demand and output in the third quarter related to above-normal temperatures and cooling demand across much of the country. Additional growth in this sector of about 3 percent is expected for 2003. The lower growth rate expected next year is mainly the result of relatively weak third-quarter 2003 growth (on a year-over-year basis) under normal (i.e., cooler) weather assumptions.

Total natural gas demand growth for 2002 is expected to be 1.1 percent (Figure 12). Weakness in the industrial sector prevents the growth rate from being more substantial. Excluding the portion of industrial demand not related to power and steam production by nonutilities, total natural gas demand is expected to show an increase of about 3.0 percent in 2002, largely due to increases in the electric power sector driven by increased cooling and heating demand in the third and fourth quarters. In 2003, this subset of total demand is expected to grow by an additional 3 percent in the current base case. Thus, moderate strength in natural gas demand seems very likely in 2003, especially if the industrial sector as a whole expands significantly as expected. How much any increased industrial use is likely to contribute to growth next year is hard to say at this point, but a resurgence toward more normal growth patterns could increase the growth rate significantly.

Concerning the industrial sector demand for natural gas, it should be said that the levels implied in the current monthly data published by EIA and used in the database that supports this *Outlook* are understated. EIA has recently released new annual data that give an indication of how significant this understatement is for the years 1989-2000 and for 2001 on a preliminary basis (see EIA's *Annual Energy Review 2001 (AER2001)*, particularly *Appendix H*.) While monthly and quarterly counterparts to the new annual data will not be available until Spring 2003, these data should help to address some of the large gas imbalances evident in the data, including, for example, those reported for the first half of 2002. We are in the process of developing interim revisions of the monthly data for use in our forecasts that will provide consistency with the new AER2001 concepts. We expect to include those interim revisions in the December 2002 Short-Term Energy Outlook.

Working natural gas in storage is estimated to have reached 3,149 billion cubic feet (bcf) at the end of October, approximately 5 percent above the 5-year average. Storage levels are now about equal to year-ago levels, although end-October levels in 2002 were still quite high. Under normal weather conditions through the forecast, storage is expected to remain above average levels at least through the beginning of the next heating season (Figure 13). The forecast for the average natural gas wellhead price for 2003 is \$3.37 per mcf, an increase of about \$0.45 per mcf from the 2002 yearly average of \$2.93 per mcf.

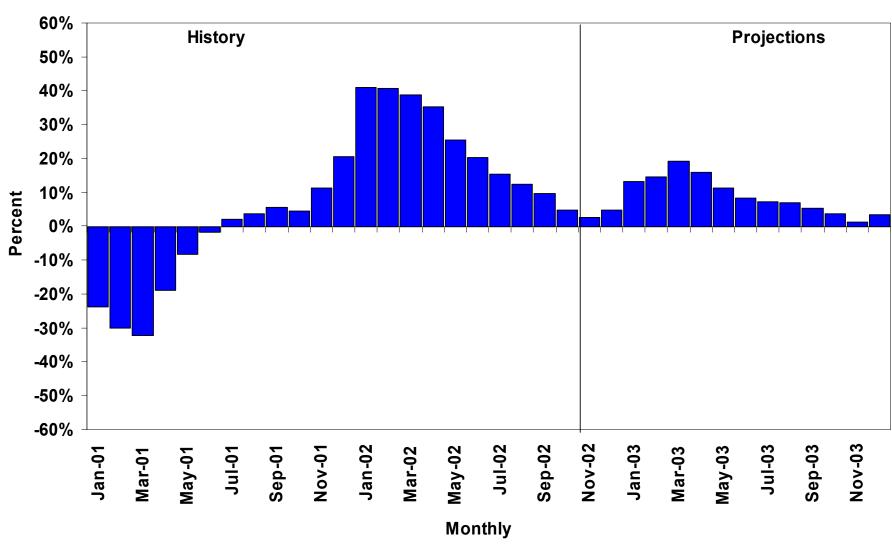
Figure 12. Total Natural Gas Demand Growth Patterns



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



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





Domestic dry natural gas production is projected to fall by about 1.3 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. However, in view of the fact that, as reported here, gas demand levels are underreported, current supplies appear to be in good shape. This is, in part, evidenced by the still-high natural gas storage levels, which have been maintained despite strong electricity-related demand increases during the third quarter. In 2003, production is expected to rebound by well over 2 percent as demand rises and inventories fall back closer to normal.

Natural gas-directed drilling, while still down relative to the spectacular peak seen in mid-2001, remains strong in the longer historical perspective. However, the gas-directed rig rate slipped a bit last week and was generally down for the month of October. <u>Baker Hughes</u> reported average active rigs drilling for natural gas as of November 1 at 692, down from 710 the previous week. The average October rate was 709 compared to 736 in September. The October rate is still 16 percent above the recent low point seen in April. Aggregate lease revenues from domestic oil and natural gas production are expected to average \$319 million per day in 2003, which would be a 12-percent increase over the average rate seen in 2002 (Figure 14). The leverage from these revenues should drive continued strong drilling levels in 2003 (Figure 15).

Electricity Demand and Supply

Total annual electricity demand growth (retail sales plus industrial generation for own use and other direct sales) is expected to show growth of 2.2 percent for all of 2002. Abnormally high summer temperatures and high cooling demand increased electricity demand sharply in the third quarter of 2002. Based on Edison Electric Institute data on weekly electricity output, U.S. electricity production rose 6.5 percent for the third quarter 2002 compared to the year-earlier level. Our estimate for third-quarter 2002 growth in total demand has been revised to 5.0 percent. In 2003, while the economy is expected to continue to recover, electricity demand is expected to grow by a relatively subdued rate of about 1 percent (Figure 16) since little or no net summer demand growth would be expected under normal levels of cooling degree-days.

Total U.S. electricity demand is expected to be 3.5 percent higher this winter than it was last winter, due to the slowly rising economy and assumptions of normal temperatures for the remainder of the winter, which would imply 13-percent colder conditions this winter than last, contributing to higher heating-related electricity demand.

In 2001, total hydropower generation reached lows not seen since 1966. In 2002, total hydro generation is expected to rise by 29 percent as normal precipitation returns to the Pacific Census Division (Washington, Oregon and California), the main region affected. Total oil-fired generation is projected to drop by as much as 31 percent compared to last year, principally because of higher prices relative to other fuels. On the other hand, total natural gas-fired generation is projected to rise by 10.2 percent above last year. Total nuclear generation is expected to rise by 0.4 percent from the 2001 level in 2002 and by an additional 0.9 percent in 2003.

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

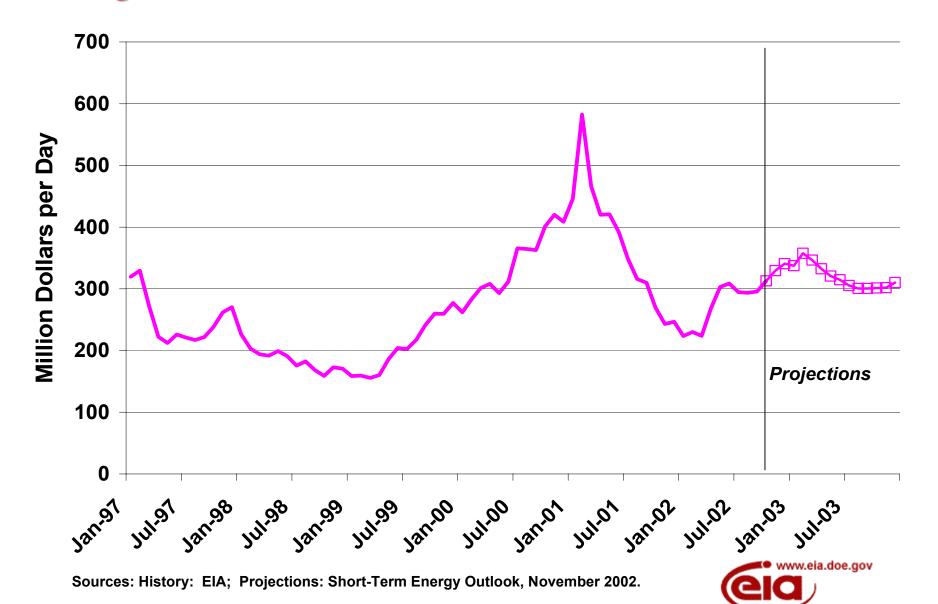


Figure 15. U.S. Natural Gas-Directed Drilling Activity

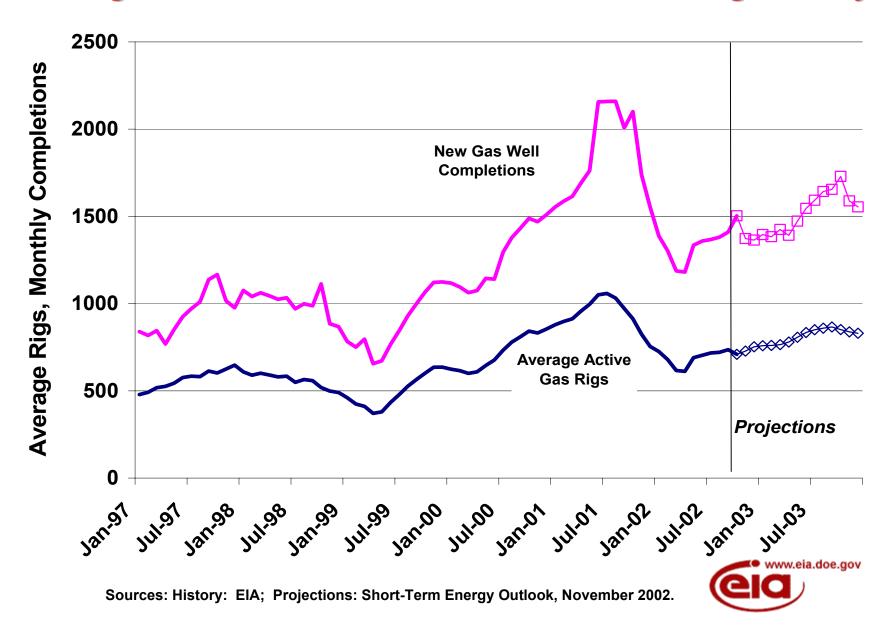


Figure 16 Total Electricity Demand Growth Patterns

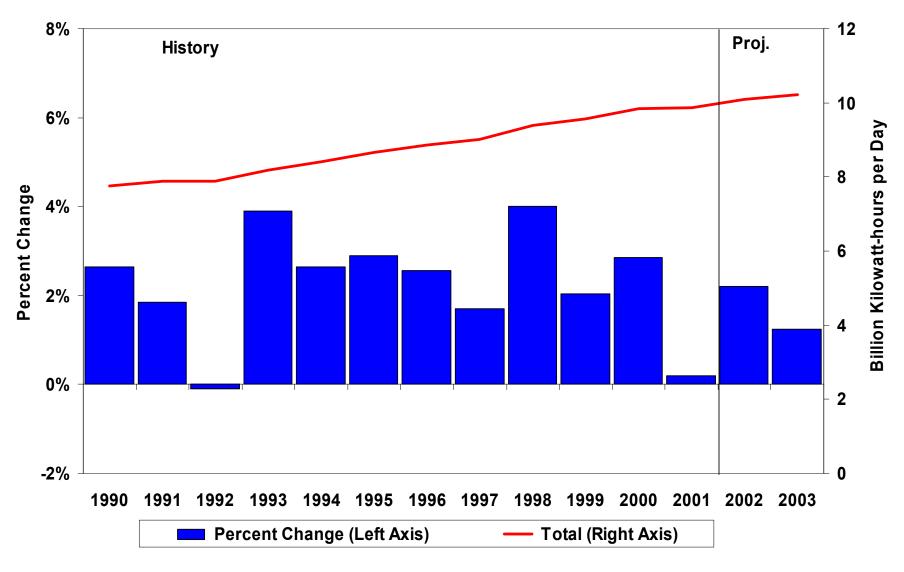




Table HL1. U.S. Energy Supply and Demand: Base Case

Table HLT. 0.5. Ellergy Su	<u> </u>		ear		Annua	Percentage C	hange
	2000	2001	2002	2003	2000-2001	2001-2002	2002-2003
Real Gross Domestic Product (GDP) (billion chained 1996 dollars)	9191	9215	9425	9708	0.3	2.3	3.0
Imported Crude Oil Price ^a (nominal dollars per barrel)	27.72	22.01	23.85	23.99	-20.6	8.4	0.6
Petroleum Supply (million barrels per day) Crude Oil Production ^b	5.82	5.80	5.87	5.75	-0.3	1.2	-2.0
Total Petroleum Net Imports (including SPR)	10.43	10.91	10.47	11.39	4.6	-4.0	8.8
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	19.74	20.41	-0.3	0.5	3.4
Natural Gas (trillion cubic feet)	22.54	21.40	21.64	23.11	-5.1	1.1	6.8
Coal ^c (million short tons)	1081	1050	1063	1061	-2.9	1.2	-0.2
Electricity (billion kilowatthours) Retail Sales ^d Nonutility Use/Sales ^e Total	3421 183 3604	3397 205 3602	3455 226 3681	3487 240 3727	-0.7 12.0 -0.1	1.7 10.2 2.2	0.9 6.2 1.2
Total Energy Demand ^f (quadrillion Btu)	99.6	97.1	97.8	100.7	-2.5	0.8	3.0
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	10.83	10.53	10.37	10.38	-2.8	-1.5	0.1
Renewable Energy as Percent of Total ⁹	7.2	6.7	7.5	7.8			

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

^bIncludes lease condensate.

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

^dTotal 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.

^eDefined 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.

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).

^gRenewable 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

Table 1. U.S. Macroeconor	nic a		<u>vea</u> t	<u>her</u> /	<u>\ssu</u>		ons:	<u>Bas</u>	se Ca	ase					
		2001				2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Macroeconomic ^a															
Real Gross Domestic Product															
(billion chained 1996 dollars - SAAR)	0230	0103	0186	02/0	0262	0300	0//8	0/00	0570	0665	0755	0811	0215	9425	9708
(billion chained 1990 dollars - SAAR)	3230	3133	3100	3243	9303	3330	3770	3433	3370	3000	3100	3044	3213	3420	3700
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	1.13
,															
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	719
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	1.24
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) b													0.9	1.8	2.6
Weather °															
Heating Degree-Days															
U.S	2329	446	85	1363	2067	521	44	1663	2231	518	86	1622	4223	4295	445
New England			122	1867		919	119	2331	_	882	167	-	6059	6169	645
Middle Atlantic			102	1618		704	36	2083	-	699	105	2001	5297	5299	569
U.S. Gas-Weighted		-	93	1438	2181	558	43		2348	554	90	1713	4451	4549	470
Cooling Degree-Days (U.S.)	26	371	779	80	30	404	882	88	33	347	783	76	1256	1404	123

^aMacroeconomic projections from DRI/McGraw -Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the base world oil price case.

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.

^bOECD: Organization for Economic Cooperation and Development: Australia, Australia, 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.

^cPopulation-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population.

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

Table 2. U.S. Energy Ind	icato		ase (Jase	1	0000		-	1	0000		-			
		2001				2002		4.1		2003		4.1		Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Macroeconomic ^a															
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	1.192	1.150	1.103	1.111	1.104	1.095	1.082	1.073	1.141	1.139	1.088
Business Inventory Change	40.0	44.7	44.4	40.0		40.0	0.0	7.0	0.0	4.0	0.0	0.0	20.0	440	0.0
(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	4 20E	1 262	4 220	4 202	4 000	1 211	1 222	1 246	1 257	1 251	1 265	1 271	1 2 1 2	1 22 1	1.362
(index, 1982=1.000) Consumer Price Index	1.303	1.303	1.329	1.292	1.296	1.311	1.332	1.340	1.337	1.354	1.305	1.371	1.342	1.321	1.302
(index, 1982-1984=1.000)	1 750	1 772	1 776	1 775	1 701	1 706	1 207	1 921	1 926	1 9/16	1 961	1 977	1 771	1.801	1.855
Petroleum Product Price Index	1.733	1.773	1.770	1.773	1.761	1.790	1.007	1.02 1	1.030	1.040	1.001	1.077	1.771	1.001	1.000
(index, 1982=1.000)	0 892	0.968	0.875	0.677	0.656	0.808	0 702	0.880	0 017	0.837	0.776	0.837	0.853	0.786	0.842
Non-Farm Employment	0.032	0.500	0.073	0.077	0.030	0.000	0.732	0.000	0.511	0.007	0.770	0.007	0.000	0.700	0.042
(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					700.0						.02.0			.00.0	.02
(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 ^b															
(million miles/day)	7106	7883	7877	7573	7245	8018	8162	7725	7488	8226	8381	7901	7612	7790	8001
Vehicle Fuel Efficiency															
(index, 1999=1.000)	0.990	1.052	1.029	1.013	0.986	1.029	1.041	1.001	0.991	1.031	1.036	0.996	1.021	1.015	1.014
Real Vehicle Fuel Cost		4.00				0.70	0.07	0.00	0.00	0.00	0.07	0.04		0.00	0.75
(cents per mile)	4.11	4.33	3.96	3.33	3.32	3.76	3.67	3.88	3.90	3.82	3.67	3.64	3.93	3.66	3.75
Air Travel Capacity	400.0	405.0	470.0	400.0		100.1	445.5	450.0	450.5	450.5	475.0	400.0	470.7	440.0	100.1
(mill. available ton-miles/day)	488.9	495.6	4/6.6	430.2	432.0	439.1	445.5	452.0	450.5	458.5	4/5.3	480.8	4/2./	442.2	466.4
Aircraft Utilization (mill. revenue ton-miles/day)	262.7	202.0	265.0	225.2	225.7	260 0	262.1	257.7	247.2	270.0	204.9	267.0	250.4	256.4	272.6
Airline Ticket Price Index	203./	202.0	200.9	223.3	235./	∠∪0.0	203. I	201.1	241.3	219.0	254.0	207.9	209.4	200.4	212.0
(index, 1982-1984=1.000)	2 390	2 408	2 452	2 318	2 217	2 377	2 334	2 364	2 467	2 510	2 533	2 545	2 394	2 348	2 514
Raw Steel Production	2.000	2.700	2.732	2.510	2.317	2.011	2.004	2.004	2.707	2.010	2.000	2.070	2.554	2.570	2.014
(million tons)	25.53	26.07	25.25	22.05	23 92	25.03	25.71	22.74	23.34	24.92	24.97	24.07	98.89	97.40	97.30
					20.02	_0.00					,	,		00	000

^aMacroeconomic projections from DRI-WEFA model forecasts are seasonally adjusted at annual rates and modified as appropriate to the base world oil price case.

^bIncludes 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)

(IMIIIIOTI Barreis per Day,	2001			Joan	2002	·)			2003				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Demand ^a	1	<u> </u>											<u> </u>		<u> </u>
OECD															
U.S. (50 States)	. 19.9	19.6	19.7	19.4	19.4	19.6	19.9	20.0	20.3	20.1	20.5	20.8	19.6	19.7	20.4
U.S. Territories	. 0.4	0.4	0.3	0.3	0.4	0.3	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	2.0	1.9	2.0	2.0	2.0	1.9	2.1	2.1	1.9	2.0	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	4.6	5.0	5.5	5.8	4.7	4.9	5.4	5.4	5.2	5.2
Other OECD	. 5.3	4.9	4.9	5.2	5.3	4.9	5.0	5.3	5.1	5.0	5.3	5.3	5.1	5.2	5.2
Total OECD	. 48.9	46.5	47.4	48.0	47.9	46.2	47.8	48.8	49.1	46.8	48.4	49.8	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	76.6	74.8	76.2	77.5	78.2	76.0	77.3	79.1	76.0	76.3	77.6
Supply ^b															
OECD															
U.S. (50 States)	. 8.7	9.0	9.0	9.1	9.1	9.2	9.1	9.1	9.0	9.0	9.0	9.0	9.0	9.1	9.0
Canada	. 2.8	2.8	2.7	2.9	2.9	2.9	2.9	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 ^c	. 6.4	6.1	6.2	6.5	6.3	6.4	5.9	6.5	6.5	6.1	6.2	6.5	6.3	6.3	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	23.1	24.0	24.0	23.6	23.9	24.2	23.2	23.6	23.9
Non-OECD															
OPEC	. 31.1	29.9	30.1	29.2	27.9	27.4	28.2	29.3	29.2	29.1	29.1	29.1	30.1	28.2	29.1
Former Soviet Union	. 8.6	8.7	8.9	9.1	9.0	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	11.4	11.8	11.6	11.7	11.9	12.0	11.2	11.6	11.8
Total Non-OECD	. 54.2	53.0	53.6	52.9	51.7	51.4	52.5	54.0	53.7	53.8	54.3	54.5	53.4	52.4	54.1
Total World Supply	. 77.5	76.0	76.7	76.6	75.3	75.0	75.6	77.9	77.6	77.4	78.2	78.7	76.7	76.0	78.0
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.2	-0.9	-0.2	-0.1	0.2	-0.4	0.4	0.3	0.1	-0.8	-0.4	0.3	-0.3	0.1	-0.2
Other	. 0.0	-0.2	-1.0	-0.2	1.1	0.3	0.2	-0.7	0.4	-0.6	-0.5	0.1	-0.4	0.2	-0.1
Total Stock Withdrawals	0.2	-1.0	-1.2	-0.3	1.2	-0.2	0.6	-0.4	0.6	-1.4	-0.8	0.4	-0.7	0.3	-0.3
OECD Comm. Stocks, End (bill. bbls.)	. 2.5	2.6	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.7	2.6	2.6
• • • • • • • • • • • • • • • • • • • •															
Non-OPEC Supply		46.0	46.6	47.4	47.4	47.7	47.5	48.6	48.4	48.3	49.0	49.6	46.6	47.8	48.8

[&]quot;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.

blincludes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

^cIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, 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)

(Norminal 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 a															
Natural Gas Wellhead (dollars per thousand cubic feet)	6.37	4.56	3.06	2.50	2.34	3.00	2.88	3. 4 8	3.70	3.29	3.16	3.33	4.12	2.92	3.37
Petroleum Products															
Gasoline Retail ^c (dollars per gallon) All Grades Regular Unleaded			1.49 1.45	1.23 1.19	1.20 1.16	1.43 1.39	1.44 1.40	1.49 1.44	1.46 1.41	1.50 1.45	1.46 1.40	1.40 1.35	1.47 1.43	1.39 1.35	1.45 1.40
No. 2 Diesel Oil, Retail (dollars per gallon)	1.47	1.47	1.42	1.26	1.18	1.30	1.35	1.45	1.42	1.40	1.37	1.39	1.40	1.32	1.39
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.84	0.80	0.76	0.61	0.60	0.68	0.73	0.88	0.85	0.77	0.73	0.78	0.76	0.72	0.79
No. 2 Heating Oil, Retail (dollars per gallon)	1.35	1.24	1.15	1.11	1.09	1.09	1.05	1.27	1.29	1.16	1.06	1.21	1.23	1.14	1.22
No. 6 Residual Fuel Oil, Retail ^d (dollars per barrel)	25.13	22.29	21.76	18.97	19.35	24.09	25.65	26.98	26.09	24.12	23.81	23.96	22.30	24.01	24.53
Electric Utility Fuels															
Coal (dollars per million Btu)	1.23	1.24	1.23	1.22	1.22	1.21	1.20	1.20	1.21	1.22	1.19	1.18	1.23	1.21	1.20
Heavy Fuel Oil ^e (dollars per million Btu)	4.21	3.82	3.50	2.89	2.73	3.65	4.03	4.39	4.22	3.84	3.84	3.91	3.71	3.72	3.95
Natural Gas (dollars per million Btu)	7.26	4.96	3.47	2.97	3.22	3.74	3.32	3.83	4.31	3.82	3.68	3.94	4.43	3.50	3.88
Other Residential															
Natural Gas (dollars per thousand cubic feet)	10.10	10.70	10.64	7.69	7.14	8.18	9.64	8.06	8.06	8.89	10.02	8.11	9.63	7.80	8.37
Electricity (cents per kilowatthour)				8.47	8.08	8.49	8.62	8.25	7.96	8.55	8.78	8.34	8.48	8.38	8.41

^aRefiner acquisition cost (RAC) of imported crude oil.

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.

^bWest Texas Intermediate.

^cAverage self-service cash prices.

^dAverage for all sulfur contents.

elncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Table 5. U.S. Petroleum Supply and Demand: Base Case

(Million Barrels per Day, Except Closing Stocks)

(William Barrolo p		2001		<u>-</u>	,	2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply	I	1	l												
Crude Oil Supply															
Domestic Production a	5.82	5.82	5.73	5.84	5.93	5.89	5.80	5.86	5.88	5.74	5.68	5.71	5.80	5.87	5.75
Alaska		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		4.86	4.81	4.85	4.89	4.88	4.86	4.84	4.82	4.76	4.71	4.67	4.84	4.87	4.74
Net Commercial Imports b		9.66	9.41	9.10	8.73	9.26	9.03	9.09	9.24	10.11	10.18	9.73	9.30	9.03	9.82
Not Commordial Importo	0.02	0.00	0.41	3.10	0.73	3.20	0.00	0.00	0.2 1	10.11	10.10	0.70	3.00	0.00	0.02
Net SPR Withdrawals	0.00	0.00	-0.01	-0.05	-0.13	-0.16	-0.10	-0.14	-0.15	-0.11	-0.11	-0.11	-0.02	-0.13	-0.12
Net Commercial Withdrawals	-0.26	0.00	-0.01	-0.03	-0.24	0.18	0.48	-0.11	-0.23	-0.03	0.09	-0.01	-0.07	0.08	-0.04
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	0.11	0.13	0.03	0.05	0.18	0.20	0.17	0.12	0.12	0.08	0.17
Total Crude Oil Supply	14.75	15.65	15.21	14.90	14.41	15.30	15.24	14.76	14.93	15.92	16.01	15.45	15.13	14.93	15.58
						10.00									
Other Supply															
NGL Production	1.65	1.88	1.96	1.97	1.86	1.91	1.90	1.84	1.82	1.88	1.90	1.94	1.87	1.88	1.89
Other Hydrocarbon and Alcohol	0.37	0.39	0.40	0.38	0.37	0.44	0.42	0.41	0.41	0.41	0.43	0.42	0.38	0.41	0.42
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	0.88	0.94	0.96	0.96	0.95	0.96	0.92	0.95	0.97	0.98	0.90	0.96	0.96
Net Product Imports c	2.13	1.64	1.40	1.21	1.33	1.48	1.35	1.49	1.65	1.57	1.54	1.55	1.59	1.41	1.57
Product Stock Withdrawn or	0.09	-0.86	-0.15	0.01	0.52	-0.46	0.00	0.56	0.53	-0.60	-0.35	0.42	-0.23	0.15	0.00
Added (-)															
Total Supply	19.89	19.60	19.70	19.41	19.44	19.64	19.85	20.01	20.25	20.12	20.49	20.77	19.65	19.74	20.41
Demand															
Motor Gasoline	8.29	8.66	8.85	8.64	8.49	9.00	9.06	8.92	8.73	9.22	9.35	9.17	8.61	8.87	9.12
Jet Fuel		1.72	1.67	1.51	1.57	1.61	1.63	1.65	1.68	1.65	1.70	1.75	1.66	1.61	1.70
Distillate Fuel Oil	4.23	3.75	3.67	3.75	3.79	3.72	3.67	3.89	4.12	3.76	3.73	4.00	3.85	3.77	3.90
Residual Fuel Oil		0.88	0.77	0.66	0.69	0.66	0.60	0.71	0.79	0.69	0.70	0.73	0.81	0.66	0.73
Other Oils d	4.70	4.60	4.74	4.86	4.90	4.66	4.90	4.85	4.92	4.80	5.01	5.11	4.73	4.83	4.96
Total Demand	19.89	19.60	19.70	19.41	19.44	19.64	19.85	20.01	20.25	20.12	20.49	20.76	19.65	19.74	20.41
Total Petroleum Net Imports	11.17	11.33	10.82	10.33	10.11	10.76	10.38	10.58	10.89	11.68	11.72	11.28	10.91	10.47	11.39
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	309	308	309	312	222	247	273	283	303	306	298	299	312	283	299
		221	206	210	333	317	207	203 199		204	290 199	202	210	203 199	299 202
Total Motor Gasoline		169	206 158	161	213	216	207 159	199 154	200 149	20 4 156			161	199 154	
Finished Motor Gasoline					160	168		-			153 46	156		-	156
Blending Components		51	48	48	53	48	47	46 42	51	48	46 42	46 42	48	46	46
Jet Fuel		43	43	42	42	40	41	43	41	43	43	43	42	43	43 42.4
Distillate Fuel Oil		114	127	145	123	131	129	123	90	103	123	124	145	123	124
Residual Fuel Oil		42	37	41	34	33	33	35	32	34	36	37	41	35	37
Other Oils ^e	255	292	312	287	265	300	311	269	258	292	308	264	287	269	264
Total Stocks (excluding SPR)		1020	1034	1036	1011	1037	992	951	925	983	1007	969	1036	951	969
Crude Oil in SPR		543	545	550	561	<i>576</i>	586	598	612	622	632	642	550	598	642
Heating Oil Reserve		2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Stocks (including SPR and	1486	1565	1581	1588	1575	1615	1580	1552	1538	1606	1641	1613	1588	1552	1613
HOR)															

^aIncludes lease condensate.

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.

^bNet imports equals gross imports plus SPR imports minus exports.

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

^dIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^eIncludes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

Table 6. Approximate Energy Demand Sensitivities^a for the STIFS^b

(Percent Deviation Base Case)

		+ 10	0% Prices	+ 109	% Weather ^e
Demand Sector	+1% GDP	Crude Oil ^c	N.Gas Wellhead ^a	Fall/Winter [↑]	Spring/Summer [†]
Petroleum					
Total	0.6%	-0.3%	0.1%	1.1%	0.1%
Motor Gasoline	0.1%	-0.3%	0.0%	0.0%	0.0%
Distillate Fuel	0.8%	-0.2%	0.0%	2.7%	0.1%
Residual Fuel	1.6%	-3.4%	2.6%	2.0%	2.7%
Natural Gas					
Total	1.1%	0.3%	-0.4%	4.4%	1.0%
Residential	0.1%	0.0%	0.0%	8.2%	0.0%
Commercial	0.9%	0.0%	0.0%	7.3%	0.0%
Industrial	1.7%	0.2%	-0.5%	1.3%	0.0%
Electric Utility	1.8%	1.6%	-1.5%	1.0%	4.0%
Coal					
Total	0.7%	0.0%	0.0%	1.7%	1.7%
Electric Utility	0.6%	0.0%	0.0%	1.9%	1.9%
Electricity					
Total	0.6%	0.0%	0.0%	1.5%	1.7%
Residential	0.1%	0.0%	0.0%	3.2%	3.6%
Commercial	0.9%	0.0%	0.0%	1.0%	1.4%
Industrial	0.8%	0.0%	0.0%	0.3%	0.2%

^aPercent change in demand quantity resulting from specified percent changes in model inputs.

Table 7. Forecast Components for U.S. Crude Oil Production

(Million Barrels per Day)

	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.

^bShort-Term Integrated Forecasting System.

^cRefiner acquisitions cost of imported crude oil.

^dAverage unit value of marketed natural gas production reported by States.

eRefers to percent changes in degree-days.

^fResponse during fall/winter period(first and fourth calendar quarters) refers to change in heating degree-days. Response during the spring/summer period (second and third calendar quarters) refers to change in cooling degree-days.

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

(Trillion Cubic Feet)

(Timeri edele i eet)		2001				2002				2003				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2001	2002	2003
Supply		l .	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>				!		<u> </u>	
Total Dry Gas Production	4.86	4.86	4.84	4.89	4.86	4.82	4.73	4.79	4.85	4.88	4.93	5.04	19.45	19.20	19.71
Net Imports	0.98	0.90	0.95	0.83	0.89	0.84	0.86	0.86	0.86	0.83	0.87	0.91	3.65	3.46	3.48
Supplemental Gaseous Fuels	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	80.0	0.08	0.09
Total New Supply	5.86	5.77	5.81	5.74	5.77	5.68	5.61	5.67	5.74	5.74	5.82	5.97	23.17	22.74	23.28
Working Gas in Storage															
Opening	1.72	0.74	1.88	2.94	2.90	1.52	2.31	3.06	2.52	1.30	2.08	2.94	1.72	2.90	2.52
Closing	0.74	1.88	2.94	2.90	1.52	2.31	3.06	2.52	1.30	2.08	2.94	2.49	2.90	2.52	2.49
Net Withdrawals	0.98	-1.14	-1.06	0.04	1.39	-0.79	-0.75	0.54	1.22	-0.77	-0.86	0.45	-1.18	0.38	0.03
Total Supply	6.84	4.63	4.74	5.78	7.16	4.89	4.86	6.21	6.96	4.97	4.96	6.42	21.99	23.12	23.31
Balancing Item ^a	0.25	-0.03	-0.27	-0.53	-0.56	-0.37	-0.14	-0.42	0.29	0.06	-0.06	-0.49	-0.59	-1.48	-0.19
Total Primary Supply	7.09	4.60	4.48	5.24	6.60	4.52	4.72	5.79	7.25	5.03	4.90	5.93	21.40	21.64	23.11
Demand															
Lease and Plant Fuel	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.30	0.31	1.16	1.17	1.22
Pipeline Use	0.20	0.13	0.13	0.15	0.19	0.13	0.13	0.16	0.21	0.14	0.13	0.17	0.61	0.60	0.64
Residential	2.45	0.76	0.37	1.22	2.19	0.84	0.41	1.44	2.42	0.85	0.40	1.40	4.81	4.88	5.07
Commercial	1.34	0.59	0.43	0.77	1.20	0.63	0.46	0.85	1.26	0.62	0.46	0.86	3.12	3.14	3.21
Industrial (Incl. Nonutility Use)	2.33	2.11	2.29	2.28	2.29	2.06	2.48	2.54	2.68	2.55	2.77	2.80	9.01	9.38	10.79
Electric Utilities	0.47	0.71	0.97	0.53	0.45	0.58	0.96	0.48	0.38	0.57	0.84	0.40	2.69	2.47	2.19
Total Demand	7.09	4.60	4.48	5.24	6.60	4.52	4.72	5.79	7.25	5.03	4.90	5.93	21.40	21.64	23.11

^aThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

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

Table 9. U.S. Coal Supply and Demand: 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					l l			l l							
Production	283.6	278.3	278.1	281.3	281.1	266.8	267.7	273.2	268.6	254.1	281.4	272.5	1121.3	1088.8	1076.5
Appalachia	110.8	109.0	104.1	105.1	107.1	98.4	97.8	98.3	101.2	95.6	100.4	97.3	428.9	401.6	394.5
Interior		37.0	37.9	35.2	36.6	37.2	34.4	31.9	32.2	30.8	34.8	30.5	147.7	140.1	128.3
Western	135.3	132.3	136.1	141.0	137.5	131.2	135.5	139.0	135.2	127.7	146.2	144.6	544.7	543.1	553.8
Primary Stock Levels ^a															
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		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	4.4	4.3	3.6	3.5	3.5	3.6	19.8	16.5	14.2
Exports		13.5	11.7	11.7	9.3	11.0	9.8	10.4	9.7	9.9	10.0	10.0	48.7	40.5	39.6
Total Net Domestic Supply	268.4	269.9	273.7	278.5	265.3	264.5	268.8	267.6	262.3	248.9	273.5	266.3	1090.4	1066.2	1051.0
Secondary Stock Levels b															
Opening	108.1	112.5	127.1	117.0	136.5	142.8	147.0	121.4	126.5	130.7	135.7	122.8	108.1	136.5	126.5
Closing					142.8	147.0		126.5			122.8	127.7	136.5	126.5	127.7
Net Withdraw als		-14.5	10.1	-19.5	-6.3	-4.2	25.6	-5.1	-4.3	-4.9	12.9	-4.9	-28.4	10.0	-1.2
Waste Coal Supplied to IPPs °		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	263.1	297.1	265.3	260.9	246.9	289.3	264.3	1072.7	1087.3	1061.4
Demand															
Coke Plants	6.8	6.9	6.6	5.8	5.5	5.6	6.9	6.3	6.3	6.2	6.4	5.9	26.1	24.3	24.8
Electricity Production															
Electric Útilities	200.8	193.2	220.5	191.8	184.5	183.1	223.0	192.7	189.0	179.5	214.7	191.3	806.3	783.3	774.5
Nonutilities (Excl. Cogen.) d	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		16.1	16.3	17.0	17.1	12.4	15.2	17.8	17.4	15.1	15.0	17.6	67.5	62.5	65.0
Total Demand ^e	262.3	251.0	284.2	253.0		246.2	297.1	265.3	260.9	246.9	289.3	264.3	1050.5	1062.8	1061.4
Discrepancy ^f	4.3	7.0	2.2	8.6	7.6	16.9	0.0	0.0	0.0	0.0	0.0	0.0	22.2	24.5	0.0

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

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.

^bSecondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

^cEstimated independent power producers' (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

^{'d}Estimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 2001 and projections for 2002 and 2003 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1999 and 2000, and (2) annual coal-fired generation at nonutilities from Form EIA -867 (Annual Nonutility Power Producer Report).

^eTotal Demand includes estimated IPP consumption.

^fThe discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

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	•	•													
Net Utility Generation															
Coal	391.8	376.1	423.9	368.4	363.0	361.4	428.8	366.3	362.8	342.9	409.1	363.7	1560.1	1519.5	1478.4
Petroleum		21.6	21.4	11.9	12.1	15.6	19.7	8.9	12.3	9.5	18.2	10.2	78.9	56.3	50.1
Natural Gas	46.2	69.6	95.7	53.0	46.3	58.3	94.3	47.7	37.6	56.0	82.9	39.0	264.4	246.5	215.5
Nuclear	135.9	130.2	140.6	127.5	129.5	122.5	136.7	119.3	131.4	120.7	139.1	121.3	534.2	508.1	512.5
Hydroelectric	50.2	49.8	45.6	44.5	55.7	70.0	59.7	61.1	70.5	76.2	63.2	61.8	190.1	246.6	271.8
Geothermal and Other a	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	2.4
Subtotal	648.6	647.8	727.7	605.8	607.2	628.2	739.8	603.7	615.1	605.9	713.1	596.6	2630.0	2578.9	2530.7
Nonutility Generation ^b															
Coal	92.9	81.3	95.6	82.8	90.2	95.8	103.9	93.6	97.5	93.0	119.3	111.1	352.5	383.5	420.9
Petroleum		12.2	11.9	7.3	7.9	8.0	10.7	6.1	8.3	6.7	11.8	8.3	49.1	32.7	35.0
Natural Gas		86.6	111.8	88.5	95.1	102.6	135.3	116.1	113.6	117.5	140.7	122.9	366.6	449.1	494.7
Other Gaseous Fuels c	4.1	4.5	5.8	4.6	4.9	5.3	7.1	5.8	5.5	5.7	7.4	6.3	18.9	23.0	25.0
Nuclear		55.3	60.4	62.7	65.5	65.3	71.1	62.1	69.4	61.8	72.4	63.1	234.6	264.0	266.7
Hydroelectric		6.3	3.3	3.2	5.0	8.0	4.4	4.4	6.3	8.7	4.6	4.4	18.0	21.6	24.1
Geothermal and Other d		21.9	23.0	22.5	24.2	22.5	26.1	27.9	26.5	26.3	26.7	26.2	88.2	100.6	105.6
Subtotal		268.2	311.6	271.5	292.7	307.4	358.5	315.9	327.2	319.7	382.9	342.3	1127.9	1274.6	1372.0
Total Generation			1039.4	877.3	899.9	935.6	1098.3		942.3	925.6	1096.0	938.8	3757.8	3853.5	3902.7
Net Imports ^e	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	944.1	1104.6	925.2	948.3	933.4	1107.1	945.4	3778.1	3878.8	3934.2
Losses and Unaccounted for f	24.3	64.8	44.8	42.4	28.5	58.4	54.5	56.2	41.7	60.7	55.0	49.8	176.3	197.6	207.2
Demand															
Retail Sales ^g															
Residential	322.6	262.8	353.2	262.4	312.0	280.4	390.7	293.2	333.1	268.1	381.0	290.5	1201.0	1276.3	1272.7
Commercial			305.2	258.2	255.8	279.5	321.5	265.3	256.4	270.8	314.7	268.5	1085.0	1122.1	1110.4
Industrial			252.7	241.0	227.5	243.2	245.6	229.8	231.7	248.0	260.5	250.3	994.1	946.1	990.5
Other	27.2	28.3	33.1	28.0	25.6	26.5	31.5	27.4	26.8	27.7	31.6	27.5	116.7	111.0	113.7
Subtotal		808.6	944.3	789.6	820.9	829.6	989.4	815.6	848.0		987.8	836.8	3396.8	3455.5	3487.2
Nonutility Use/Sales h		49.9	55.4	49.7	55.5	56.1	60.7	53.4	58.6	58.1	64.3	58.8	205.1	225.7	239.8
Total Demand		858.4	999.7	839.3	876.4	885.7	1050.1	869.0	906.7	872.7	1052.1	895.5	3601.8	3681.2	3727.0
Memo:															
Nonutility Sales to															
Electric Utilities b	226.4	218.3	256.2	221.8	237.2	251.3	297.8	262.5	268.6	261.6	318.6	283.5	922.8	1048.9	1132.3

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

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.

^bElectricity(net Generation) from nonutility sources, including cogenerators and small power producers.

clincludes refinery still gas and other process or waste gases and liquefied petroleum gases.

^dIncludes geothermal, solar, wind, w ood, waste, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

^eData for 2001 are estimates.

^fBalancing item, mainly transmission and distribution losses.

⁹Total of retail electricity sales by electric utilities and power marketers. Utility sales for historical periods are reported in EIA'S Electric Power Monthly and Electric Power Annual. Power marketers' sales are reported annually in Appendix C of EIA's Electric Sales and Revenue. Quarterly data for power marketers (and thus retail sales totals) are imputed. Data for 2001 are estimated.

^hDefined 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.

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

(Quadrillion Btu)

(Quadrillion Diu)							
		`	r ear		Annua	I Percentage C	hange
	2000	2001	2002	2003	2000-2001	2001-2002	2002-2003
Electric Utilities		•	•		•	•	
Hydroelectric Power ^a	2.600	1.991	2.583	2.847	-23.4	29.7	10.2
Geothermal, Solar and Wind	0.004	0.005	0.005	0.007	25.0	0.0	40.0
Energy ^b							
Biofuels ^c	0.021	0.019	0.017	0.019	-9.5	-10.5	11.8
Total	2.625	2.015	2.605	2.873	-23.2	29.3	10.3
Nonutility Power Generators							
Hydroelectric Power a	0.257	0.187	0.224	0.249	-27.2	19.8	11.2
Geothermal, Solar and Wind	0.355	0.356	0.432	0.446	0.3	21.3	3.2
Energy b							
Biofuels ^c	0.642	0.703	0.756	0.793	9.5	7.5	4.9
Total	1.254	1.245	1.411	1. 4 88	-0.7	13.3	5.5
Total Power Generation	3.879	3.260	4.017	4.361	-16.0	23.2	8.6
Other Sectors d							
Residential and Commercial e	0.570	0.560	0.560	0.590	-1.8	0.0	5. <i>4</i>
Industrial f	2.410	2.410	2.470	2.540	0.0	2.5	2.8
Transportation ⁹	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	7.358	7.856	-10.0	13.3	6.8

^aConventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

^bAlso 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.

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

^dRenewable 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.

^eIncludes biofuels and solar energy consumed in the residential and commercial sectors.

^fconsists primarily of biofuels for use other than in electricity cogeneration.

^gEthanol blended into gasoline.

^hRepresents 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 Supply and Demand: Base Case

	<u> </u>														
								Year							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real Gross Domestic Product (GDP)		l.					Į.								
(billion chained 1996 dollars)	6592	6708	6676	6880	7063	7348	7544	7813	8159	8509	8859	9191	9215	9425	9708
Imported Crude Oil Price ^a															
(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	23.85	23.99
Petroleum Supply															
Crude Oil Production ^b															
(million barrels per day) Total Petroleum Net Imports (including SPR)	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	5.75
(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	10.47	11.39
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
(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	19.74	20.41
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	21.40	21.64	23.11
(million short tons)	895	903	899	907	943	950	962	1006	1030	1038	1045	1081	1050	1063	1061
Electricity (billion kilowatthours)															
Retail Sales ^c	2647	2713	2762	2763	2861	2935	3013	3101	3146	3264	3312	3421	3397	3455	3487
Nonutility Own Use d		115	118	122	128	134	144	146	148	161	183	183	205	226	240
Total	NA	2828	2880	2885	2989	3069	3157	3247	3294	3425	3495	3604	3602	3681	3727
Total Energy Demand ^e (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	97.0	98.2	101.3
Total Energy Demand per Dollar of GDP	U-1.E	U-1.2	0-1.0	00.0	01. ¬	00. <u>-</u>	00.0	00.0	U-1.2	0-1.0	01.0	00.0	00	00.2	101.0
(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	10.41	10.43
^a Refers to the imported cost of crude oil to U.S. refiners															

^aRefers to the imported cost of crude oil to U.S. refiners.

^bIncludes lease condensate.

[&]quot;Total of retail electric ty 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.

dDefined 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. "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 compensive measure of total energy demand can be found in EIA's AER. The conversion from physical units to Bu 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

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

Sources: Historical data: Latest data available from Bureau of Economic Analysis; Energy Information Administration; latest data available from EIA databases supporting the following reports: Petroleum Supply Monthly, DOE/EIA-0109; Petroleum Supply Annual, DOE/EIA-0340/2; Natural Gas Monthly, DOE/EIA-0130; Electric Power Monthly, DOE/EIA-0226; Quarterly Coal Report, DOE/EIA-0121; International Petroleum Monthly DOE/EIA-520, and Weekly Petroleum Status Report DOE/EIA-0208. Macroeconomic projections are based on 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)	4906	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															
(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	17.4	-36.2	-14.2	3.3
Producer Price Index															
(index, 1982=1.000)	1.122	1.163	1.165	1.172	1.189	1.205	1.247	1.277	1.276	1.244	1.255	1.328	1.342	1.321	1.362
Consumer Price Index															
(index, 1982-1984=1.000)	1.239	1.307	1.362	1.403	1.445	1.482	1.524	1.569	1.605	1.630	1.666	1.722	1.771	1.801	1.855
Petroleum Product Price Index															
(index, 1982=1.000)	0.612	0.748	0.671	0.647	0.620	0.591	0.608	0.701	0.680	0.513	0.609	0.913	0.853	0.786	0.842
Non-Farm Employment															
(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	131.9	130.8	132.1
Commercial Employment															
(millions)	70.0	71.3	70.8	71.2	73.2	76.1	78.8	81.1	83.9	86.6	89.6	92.0	92.7	92.2	93.4
Total Industrial Production															
(index, 1996=1.000)	8.0	0.8	8.0	8.0	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.218
Housing Stock															
(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 ^a															
Heating Degree-Days															
U.S		4016	4200	4441	4700	4483	4531	4713	4542	3951	4169	4460	4223	4295	4456
New England		5848	5960	6844	6728	6672	6559	6679	6662	5680	5952	6489	6059	6169	6457
Middle Atlantic	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5351	5774	5297	5299	5693
U.S. Gas-Weighted	4856	4139	4337	4458	4754	4659	4707	4980	4802	4183	4399	4680	4451	4549	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	1404.3	1238

^aPopulation-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.

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.

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

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 ^a OECD						l l									
U.S. (50 States)	17.3 13.2	17.0 13.3	16.7 13.3	17.0 14.0	17.2 14.2	17.7 14.1	17.7 14.2	18.3 14.8	18.6 15.0	18.9 15.3	19.5 15.2	19.7 15.1	19.6 15.3	19.7 15.3	20.4 15.3
Japan Other OECD	5.0 5.2	5.1 5.4	5.3 5.6	5.4 5.9	5.4 6.2	5.7 6.6	5.7 6.8	5.9 6.9	5.7 7.3	5.5 7.1	5.6 7.4	5.5 7.5	5.4 7.3	5.2 7.4	5.2 7.6
Total OECDNon-OECD	40.8	40.8	41.6	42.6	43.0	44.2	45.0	46.1	46.6	46.9	47.7	47.9	47.7	47.7	48.5
Former Soviet Union	8.7 1.3	8.4 1.0	8.4 0.8	6.8 0.7	5.6 0.7	4.8 0.6	4.6 0.7	4.0 0.7	3.9 0.7	3.8 0.7	3.7 0.7	3.7 0.6	3.6 0.6	3.7 0.6	3.7 0.6
China Other Asia	2.4 4.0	2.3 4.3	2.5 4.5	2.7 4.7	3.0 5.1	3.2 5.5	3.4 5.9	3.6 6.3	3.9 6.6	4.1 6.7	4.3 6.9	4.8 7.3	4.9 7.3	5.0 7.4	5.2 7.5
Other Non-OECD	8.6 25.1	8.9 24.9	8.9 25.0	9.3 24.2	9.7 24.0	10.0 24.1	10.4 24.9	10.7 25.3	11.1 26.2	11.4 26.7	11.6 27.3	11.7 28.1	11.8 28.3	11.9 28.6	12.0 29.1
Total World Demand	65.9	65.7	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
Supply ^c OECD															
U.S. (50 States)	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.4	9.5	9.3	9.0	9.1	9.0	9.1	9.0
Canada Mexico	2.0 2.9	2.0 3.0	2.0 3.2	2.1 3.2	2.2 3.2	2.3 3.2	2.4 3.1	2.5 3.3	2.6 3.4	2.7 3.5	2.6 3.4	2.7 3.5	2.8 3.6	3.0 3.6	3.2 3.8
North Sea "	3.7	3.9	4.1	4.5	4.8	5.5	5.9	6.3	5.9	5.8	6.0	6.0	6.3	6.3	6.3
Other OECD	1.4 20.0	1.5 20.2	1.5 20.8	1.5 21.1	1.4 21.2	1.5 21.9	1.5 22.4	1.5 22.7	1.8 23.1	2.1 23.6	1.9 22.9	2.1 23.4	1.6 23.2	1.6 23.6	1.6 23.9
Non-OECD	20.0	20.2	20.0	21.1	21.2	21.9	22.4	22.1	23.1	23.0	22.5	23.4	23.2	23.0	23.9
OPEC	23.3	24.5	24.6	25.8	26.6	27.0	27.6	28.3	29.9	30.4	29.3	30.9	30.1	28.2	29.1
Former Soviet Union China	12.1 2.8	11.4 2.8	10.4 2.8	8.9 2.8	8.0 2.9	7.3 2.9	7.1 3.0	7.1 3.1	7.1 3.2	7.2 3.2	7.6 3.2	8.1 3.2	8.8 3.3	9.3 3.4	9.8 3.3
Other Non-OECD	7.7	7.9	8.1	8.3	8.7	9.1	9.8	10.2	10.4	10.7	11.2	11.2	3.3 11.2	11.6	3.3 11.8
Total Non-OECD	45.9	46.6	45.9	45.9	46.2	46.3	47.5	48.7	50.6	51.6	51.3	53.4	53.4	52.4	54.1
Total World Supply	65.9	66.8	66.7	67.0	67.4	68.2	69.9	71.4	73.7	75.2	74.2	76.8	76.7	76.0	78.0
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	0.3	-0.3
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	2.6
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

^aDemand for petroleum by the OECD countries is synonymous with "petroleum product supplied," which is defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

DECD Europe includes the former East Germany.

^CIncludes 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.

^dIncludes 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.

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. Irag. Kuwait. Libva. 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)

(Normal Bollars)								Year							
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Crude Oil Prices (dollars per barrel)															
Imported Average a	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	23.85	23.99
WTI ^b 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	26.11	26.20
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	2.92	3.37
Petroleum Products															
Gasoline Retail ^b (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	1.45
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	1.40
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	1.32	1.39
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	0.79
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	1.14	1.22
No. 6 Residual Fuel Oil, Retail ^c															
(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	24.01	24.53
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	1.21	1.20
Heavy Fuel Oil ^d															
(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	3.72	3.95
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	3.50	3.88
Other Residential															
Natural Gas															
(dollars per thousand cubic feet) Electricity	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	7.80	8.37
(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	8.38	8.41

^aRefiner acquisition cost (RAC) of imported crude oil.

^bWest Texas Intermediate.

^cAverage self -service cash prices.

^dAverage for all sulfur contents.

elncludes 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 a	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	5.75
Alaska		1.77	1.80	1.71	1.58	1.56	1.48	1.39	1.30	1.17	1.05	0.97	0.96	1.00	1.01
Lower 48		5.58	5.62	5.46	5.26	5.10	5.08	5.07	5.16	5.08	4.83	4.85	4.84	4.87	4.74
Net Commercial Imports b	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	9.03	9.82
Net SPR Withdrawals		0.01	0.05	-0.01	-0.02	0.00	0.00	0.07	0.01	-0.02	0.02	0.08	-0.02	-0.13	-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	0.08	-0.04
Product Supplied and Losses		-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.08	0.17
Onaccounted of Crude Oil	0.20	0.20	0.20	0.20	0.17	0.21	0.13	0.22	0.14	0.11	0.13	0.13	0.12	0.00	0.17
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	14.93	15.58
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	1.89
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	0.41	0.42
Crude Oil Product Supplied		0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processing Gain		0.68	0.71	0.77	0.77	0.77	0.77	0.84	0.85	0.89	0.89	0.95	0.90	0.96	0.96
Net Product Imports ^c	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	1.41	1.57
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	0.15	0.00
1 Todact Glock Withdrawn	0.15	-0.14	-0.04	0.00	-0.03	0.00	0.15	0.03	-0.03	-0.17	0.50	0.00	-0.23	0.10	0.00
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	19.74	20.41
Demand															
Motor Gasoline d	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	8.87	9.12
Jet Fuel		1.52	1.47	1.45	1.47	1.53	1.51	1.58	1.60	1.62	1.67	1.73	1.66	1.61	1.70
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	3.77	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	0.66	0.73
Other Oils ^e		3.95	3.99	4.20	4.17	4.41	4.36	4.63	4.77	4.69	5.01	4.87	4.73	4.83	4.96
Saloi Silo	0.00	0.00	0.00	0							0.0.		0	7.00	7.00
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	19.74	20.41
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	10.47	11.39
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	341	323	325	318	335	337	303	284	305	324	284	286	312	283	299
Total Motor Gasoline		220	219	216	226	215	202	195	210	216	193	196	210	199	202
Jet Fuel		52	49	43	40	47	40	40	44	45	41	45	42	43	43
Distillate Fuel Oil		132	144	141	141	145	130	127	138	156	125	118	145	123	124
Residual Fuel Oil	44	49	50	43	44	42	37	46	40	45	36	36	41	35	37
Other Oils f		227	251	292	237	274	348	280	204	212	396	246	178	354	247
alpoludos logos condensato	233	<u> </u>	201	LJL	231	417	J 1 0	200	207	414	330	470	170	307	

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

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

^dFor 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.

elncludes 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.

^{&#}x27;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	19.20	19.71
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	3.46	3.48
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	0.08	0.09
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	22.74	23.28
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	2.52
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	2.52	2.49
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	0.38	0.03
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	23.12	23.31
Balancing Item ^a	-0.23	-0.11	-0.66	-0.56	-0.42	-0.40	-0.27	0.24	0.11	-0.29	-0.95	-0.88	-0.59	-1.48	-0.19
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	21.40	21.64	23.11
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	1.17	1.22
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	0.60	0.64
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	4.88	5.07
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	3.12	3.14	3.21
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	9.01	9.38	10.79
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	2.47	2.19
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	21.40	21.64	23.11

^aThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

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

Table 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	1088.8	1076.5
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	401.6	394.5
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	140.1	128.3
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	543.1	553.8
Primary Stock Levels ^a															
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	16.5	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	40.5	39.6
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	1066.2	1051.0
Secondary Stock Levels ^b															
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	126.5
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	126.5	127.7
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	10.0	-1.2
Waste Coal Supplied to IPPs ^c	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	1087.3	1061.4
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	24.3	24.8
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	783.3	774.5
Nonutilities (Excl. Cogen.) d	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	62.5	65.0
Total Demand ^e	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	1062.8	1061.4
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	24.5	0.0

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

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.

^bSecondary 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.

^dEstimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 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).

^eTotal Demand includes estimated IPP consumption.

¹The 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.

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 Generation															
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	1903.0	1899.3
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	88.9	85.1
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	695.6	710.2
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	772.1	779.2
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	268.2	295.9
Geothermal and Other a	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	125.6	133.0
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	3853.5	3902.7
Net Imports ^c	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	3878.8	3934.2
Losses and Unaccounted for d	228.0	199.6	210.9	223.4	235.3	230.0	239.7	237.8	237.1	220.2	240.0	229.6	176.3	197.6	207.2
Demand															
Retail Sales ^e															
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	1276.3	1272.7
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	1122.1	1110.4
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	946.1	990.5
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	111.0	113.7
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	3455.5	3487.2
Nonutility Use/Sales f	108.0	115.0	118.0	122.0	128.0	134.0	144.1	146.0	148.1	161.1	183.1	183.0	205.1	225.7	239.8
Total Demand	2754.8	2827.6	2880.1	2885.4	2989.5	3068.6	3157.3	3247.2	3293.7	3425.3	3495.2	3604.4	3601.8	3681.2	3727.0
Memos:															
Nonutility Sales															
to Electric Utilities	79.6	101.7	128.3	164.1	186.4	209.1	219.3	223.5	223.6	244.6	347.8	601.5	922.8	1048.9	1132.3
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	2578.9	2530.7
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	1274.6	1372.0

Other includes generation from wind, wood, waste, and solar sources.

Data for 2001 are estimates.

^cBalancing item, mainly transmission and distribution losses.

^dTotal 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.

^eDefined 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.