

Short-Term

ENERGY OUTLOOK



QUARTERLY PROJECTIONS



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Short-Term Energy Outlook

Quarterly Projections

First Quarter 1996

February 1996

Energy Information Administration
Office of Energy Markets and End Use
U.S. Department of Energy
Washington, DC 20585

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The cases are produced using the Short-Term Integrated Forecasting System (STIFS). The STIFS model is driven principally by three sets of assumptions or inputs: estimates of key macroeconomic variables, world oil price assumptions, and assumptions about the severity of weather. Macroeconomic estimates are produced by DRI/McGraw-Hill but are adjusted by EIA to reflect EIA assumptions about the world price of crude oil, energy product prices, and other assumptions which may affect the macroeconomic outlook.

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U.S. Petroleum Demand To Reach Record Highs in 1996 and 1997, While Prices Remain Steady at \$16

U.S. petroleum demand is expected to be over 18 million barrels per day in 1996 and 1997, comparable to the record highs of 1977 through 1979, due in large part to rising transportation demand. This period in the late 1970's of relatively low oil prices and high demand ended when the Iranian revolution and the war between Iran and Iraq caused the price of oil to rise from an average of about \$12 per barrel in 1977 to \$35 in 1981. The average oil price in 1996 and 1997 is expected to remain steady at the relatively low level of \$16 per barrel despite rising world demand, due to rising world production, both outside and inside OPEC.

Natural Gas Prices Expected To Increase in 1996, Ease Slightly in 1997

The recent runup in the price of natural gas in the November to January period appears to have reflected concern that inventory levels were strained to meet the demand caused by a cold winter. However, unless the winter is unusually harsh, prices are projected to retreat from the January peak, falling through the second quarter 1996 as demand slows. The average 1996 natural gas wellhead price is expected to be near \$1.80 per thousand cubic feet, about 20 cents above the 1995 average, with much of the increase coming in the first quarter of the year. In 1997, assuming normal weather, the average price is expected to fall as peak period demand growth slows sharply.

Distillate Demand Projections Reflect Continued Growth In Transportation Demand

Having increased by 70,000 barrels per day in 1995, distillate demand is projected to increase by about 90,000 barrels per day in 1996 and 60,000 barrels per day in 1997. Continued growth in transportation demand is expected to more than offset continuing declines in residential and commercial demand.

Gasoline Demand Growth To Continue to Rise During the Forecast Period

Motor gasoline demand is projected to increase by an average of 2.2 percent in 1996 and 1997, reflecting an average growth rate in highway travel of 2.6 percent, and continuing weakness in fuel efficiency growth.

Electricity Imports From Canada Expected To Drop From High 1994 Levels

Net imports of electricity from Canada in 1996 and 1997 are expected to be somewhat lower than in 1995, and considerably lower than in 1994. This is because of expected growth in Canadian electricity demand and strong U.S. exports to Canada, mainly in the Pacific Northwest, where competition for sales has sharpened.

Coal Demand Rises Along With Demand for Electricity

Total coal demand is expected to increase by 0.8 percent in 1996. Rising demand for coal in the electricity sector will help stimulate an additional 1.6 percent increase in coal demand in 1997. Coal exports should continue growing by 2 to 3 million tons per year in 1996 and 1997, as worldwide demand improves.

Table HL1. U.S. Energy Supply and Demand Summary

	Price Case ^a	Year				Annual Percentage Change		
		1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Real Gross Domestic Product (GDP)								
(billion 1987 dollars)	Mid	5344	5518	5654	5799	3.3	2.5	2.6
Imported Crude Oil Price (nominal dollars per barrel)	Low			13.24	13.00		-22.8	-1.8
	Mid	15.52	17.14	16.12	16.00	10.4	-6.0	-0.7
	High			18.08	19.00		5.5	5.1
Petroleum Supply								
Crude Oil Production ^b (million barrels per day)	Low			6.11	5.84		-6.3	-4.4
	Mid	6.66	6.52	6.31	6.14	-2.1	-3.2	-2.7
	High			6.43	6.34		-1.4	-1.4
Total Petroleum Net Imports (including SPR) (million barrels per day)	Low			9.12	10.13		15.2	11.1
	Mid	8.05	7.92	8.80	9.14	-1.6	11.1	3.9
	High			8.59	8.77		8.5	2.1
Energy Demand								
World Petroleum	Mid	68.6	69.7	71.4	72.9	1.6	2.4	2.1
Petroleum (million barrels per day)	Low			18.27	19.14		3.2	4.8
	Mid	17.72	17.70	18.15	18.46	-0.1	2.5	1.7
	High			18.05	18.27		2.0	1.2
Natural Gas (trillion cubic feet)	Low			22.01	21.30		1.8	-3.2
	Mid	20.75	21.63	22.10	22.54	4.2	2.2	2.0
	High			22.14	22.58		2.4	2.0
Coal (million short tons)	Mid	940	958	966	982	1.9	0.8	1.7
Electricity (billion kilowatthours)								
Utility Sales ^c	Mid	2921	2998	3054	3109	2.6	1.9	1.8
Nonutility Own Use ^d	Mid	150	156	160	163	4.0	2.6	1.9
Total	Mid	3071	3154	3213	3272	2.7	1.9	1.8
Adjusted Total Energy Demand ^e (quadrillion Btu)	Mid	88.8	90.7	92.3	93.6	2.1	1.8	1.4
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1987 Dollar)	Mid	16.62	16.44	16.33	16.15	-1.1	-0.7	-1.1
Renewable Energy as Percent of Total	Mid	7.1	7.3	7.2	7.1			

^aRefers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

^bIncludes lease condensate.

^cTotal annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

^dDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

^eThe total energy demand concept shown here is that presented as total consumption in Energy Information Administration, *Annual Energy Review 1994 (AER)*, DOE/EIA-0384(94), Table 1.1. The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review (MER)*. Consequently, the historical data may not precisely match those published in the *MER* or the *AER*.

SPR: Strategic Petroleum Reserve.

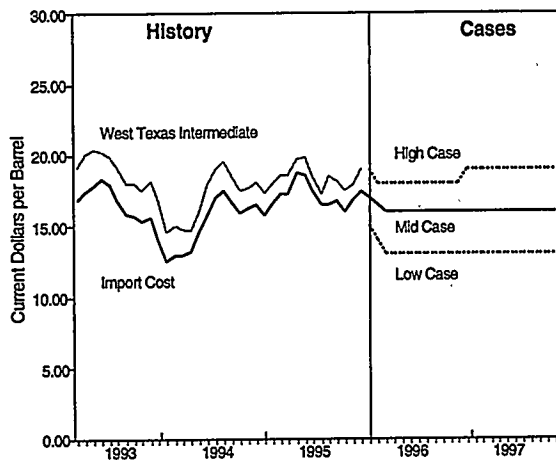
Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in *italic*. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Petroleum Supply Monthly*, DOE/EIA-0109(95/12); *Petroleum Supply Annual 1994*, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL1195.

The Outlook

Outlook Assumptions

Figure 1. U.S. Monthly Crude Oil Prices



Sources: First Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

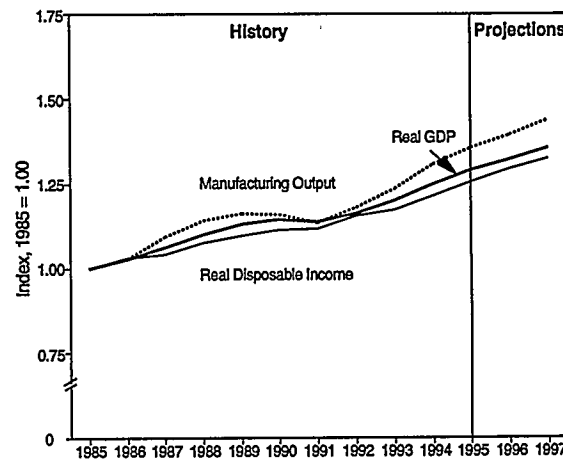
World Oil Prices

- In the mid-price case, the world oil price (the average cost of imported crude for U.S. refiners) is expected to remain flat near \$16.00 per barrel throughout 1997 (Figure 1 and Table 4).
- The major reason for such a flat outlook is the continuing over-supplied market from primarily the North Sea and OPEC. Not until the middle of 1997 is the market expected to be balanced, and even then there is significant excess production potential within OPEC to keep prices from rising.
- Even so, there still exists much price uncertainty. Even with the absence of Iraqi oil (as assumed), prices could drop to \$12 per barrel for short durations, or increase to as high as \$18.50 per barrel during speculative periods or tight market situations, such as during a winter cold spell.

Economic Outlook

- In 1995, U.S. Gross Domestic Product (GDP) grew by 3.3 percent. GDP is forecast to average 2.5 percent growth in 1996 and 2.6 percent in 1997. Growth in disposable income

Figure 2. U.S. Macroeconomic Indicators



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database, U.S. Commerce Department, and Federal Reserve Board. Details provided in Figure References section, p. 40.

mirrors the pattern of GDP (Figure 2 and Table 1).

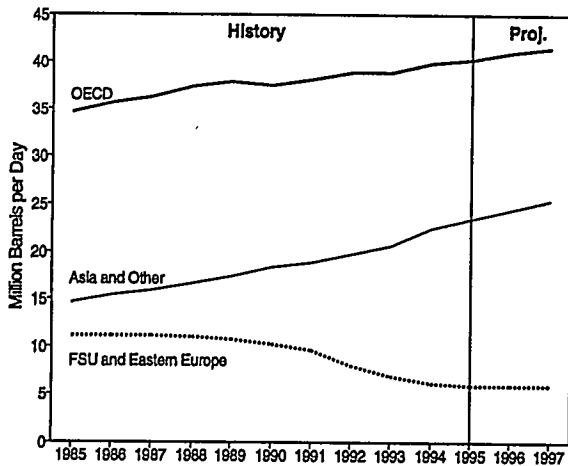
- The rise in interest rates in early 1995 has affected interest-sensitive parts of the economy-- investment, housing starts, new car sales-- causing a slowdown in 1996 growth. Consumer price inflation is expected to remain steady at 2.9 percent in 1996 and 2.8 percent in 1997.
- Manufacturing production growth slows in 1996 to 2.8 percent as domestic consumption and investment growth decelerate. Manufacturing production is expected to increase 3.2 percent in 1997. Total employment will increase over the forecast but more slowly in 1996 and 1997.

Weather Assumptions

- Heating and cooling degree-days are assumed to follow historical norms in the forecast period. This results in slightly higher heating degree days in 1996 and 1997 from those in 1995, and fewer cooling degree days (Table 1).

International Oil Demand

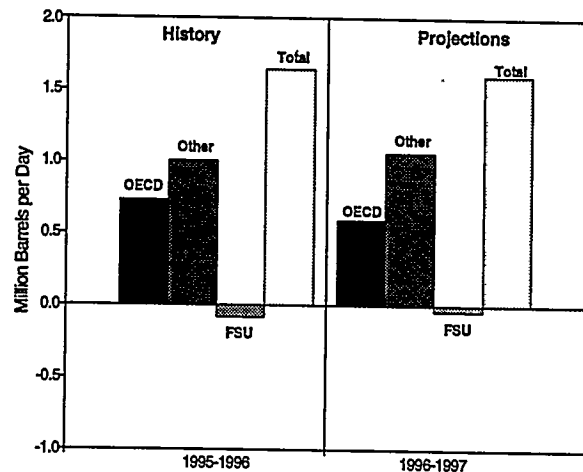
Figure 3. World Petroleum Demand



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

Figure 4. World Oil Demand Changes by Region



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

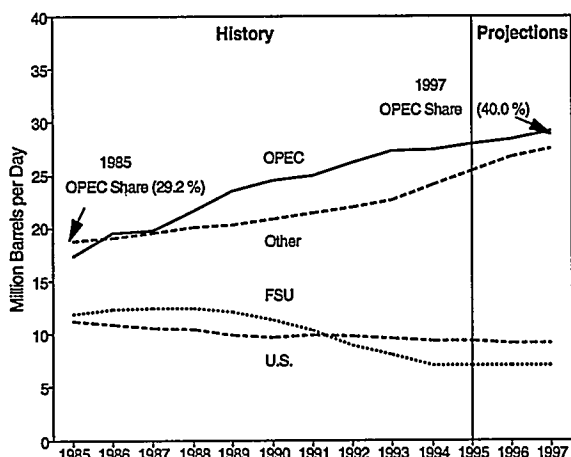
- World oil demand is expected to rise by 2.3 percent per year between 1995 and 1997 to almost 73 million barrels per day. This amounts to an average increase of over 1.5 million barrels per day per year over the period (Table 3 and Figure 3). Demand continues to grow rapidly in the Asian market and demand declines more slowly in the former Soviet Union (FSU).
- Oil demand in the FSU is expected to decline by only 100,000 barrels per day in 1996 and remain level in 1997, after declining by almost 1 million barrels per day in 1994 and 200,000 barrels per day in 1995. Oil demand in 1996 is expected to be 4.5 million barrels per day, compared to nearly 9 million barrels per day in 1987. In order to achieve higher oil export revenues, the FSU is not expected to return to pre-recession oil demand levels in the near future.
- Oil demand in China and Other Asia is expected to increase by about 6 percent in 1996 and 1997, as the economies of many of these countries continue to grow by 6 to 10 percent or more each year. In Africa and

Latin America¹, oil demand is expected to continue to grow by over 2.5 percent in 1996 and 1997. In Mexico, growth in oil demand is expected to average 1.6 percent over this period. In the Middle East, oil demand is expected to increase relatively slowly, by 2 percent per annum in both 1996 and 1997.²

- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to help boost world oil demand in both 1996 and 1997, accounting for over 40 percent of world growth (Figure 4). Japan may have finally turned around economically and begun to be a source of growth. The United States' oil demand growth represents over half of OECD growth.
- The share of non-OECD oil demand has remained about 42 percent since the early 1980's. Indeed, the decline in demand in the FSU and eastern Europe is roughly equal to the increase in Asian oil demand. If the FSU decline levels off as expected, total non-OECD share of demand should increase significantly.

International Oil Supply

Figure 5. World Oil Production

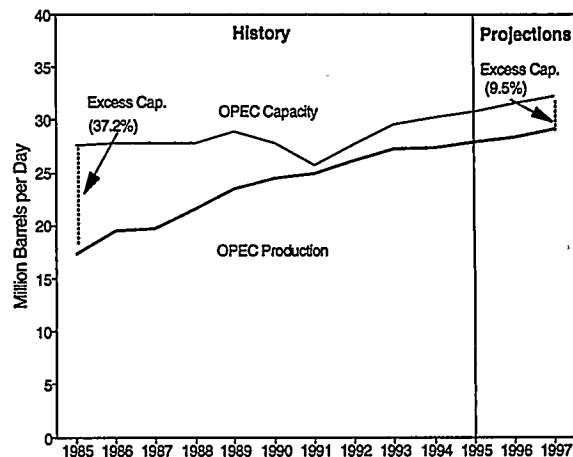


Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

- OPEC may have to wait until the end of 1997 before signs of a sellers market begin to develop. As it has for the past several years, OPEC will capture about 40 percent of the market during the forecast period. Non-OPEC suppliers will capture 70 percent of 1996 growth, but the major increase in non-OPEC production is over for the near term. Although production in the former Soviet Union has leveled off and potentially could increase to over 7 million barrels per day by mid-1997, it is unclear if all of the increase will be exported (Table 3 and Figure 5).
- Petroleum production in the North Sea is expected to increase by over 400,000 barrels per day in 1995, and by another 600,000 barrels per day in 1996. However, little increase is expected from the North Sea in 1997. Continued small production increases by non-OPEC developing countries³ are expected.
- U.S. crude production is expected to continue to decline, falling by over 150,000 barrels per day in 1996 and 1997, with the decrease somewhat greater in Alaska than in the lower

Figure 6. OPEC Oil Production and Capacity



Mid World Oil Price Case

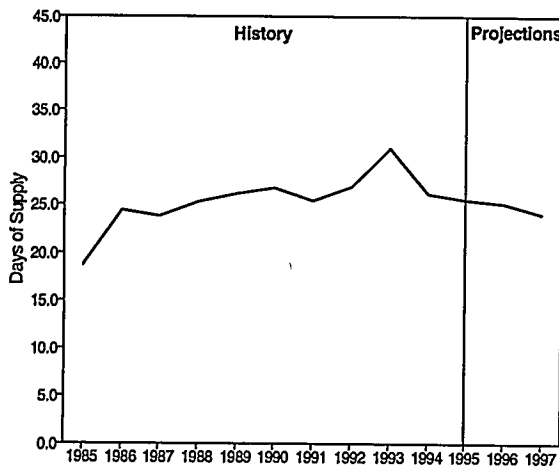
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

48 states.

- With these developments, non-OPEC supply is projected to increase by 1.2 million barrels per day in 1996, and increase by 700,000 barrels per day in 1997. As a result, OPEC's market share continues to decline in 1996, but turns around in 1997.
- OPEC capacity additions are expected to increase roughly in line with production increases over the next two years, resulting in continued price weakness (Figure 6). Capacity additions of over 500,000 barrels per day are expected in both 1996 and 1997.
- OPEC excess production capacity (excluding Iraq) is currently 2.8 million barrels per day and may rise to nearly 3.5 million barrels per day in 1997. Most of the excess capacity is in Saudi Arabia (1.9 million barrels per day), Kuwait (500,000 barrels per day), Iran (200,000 barrels per day), and the United Arab Emirates (200,000 barrels per day).⁴ Venezuela plans to utilize its capacity as it develops, which should be around 3.1 million barrels per day in 1996.

World Oil Stocks and Net Trade

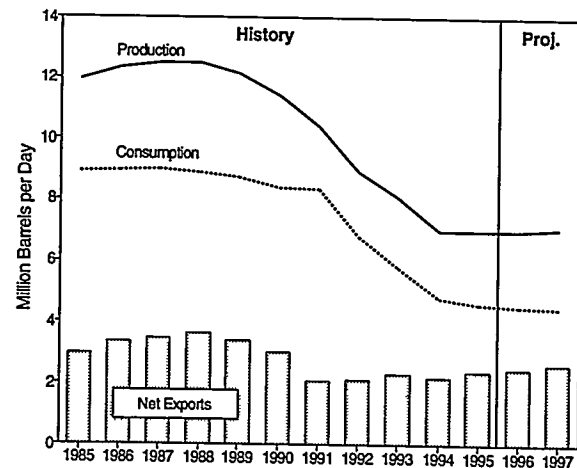
Figure 7. Market Economies' Commercial Oil Stocks



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

Figure 8. FSU Oil Output, Demand, and Net Exports



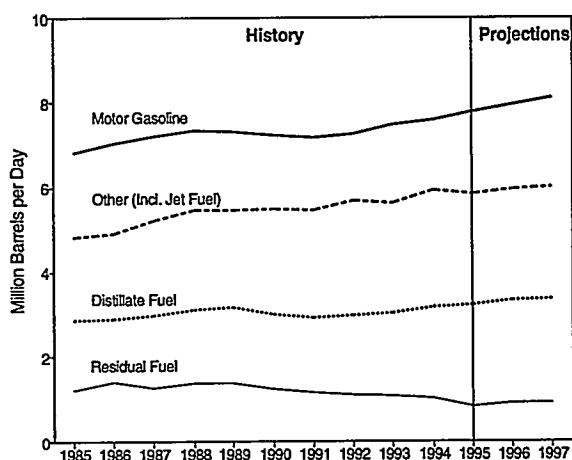
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 40.

- Commercial petroleum stock levels in the Market Economies (which exclude the former centrally planned economies) which have been flat since 1994, will be drawn down somewhat through 1997 as non-OPEC production levels off.
- "Days of Supply" is the number of days of consumption that can be supplied by non-government stocks above the minimum operating level. As demand is expected to increase significantly, the "Days of Supply" in the Market Economies is expected to fall steadily throughout 1997 (Figure 7).
- Although world days of supply are expected to fall, OECD commercial stocks and days of supply, which decreased in 1995, should recover as U.S. stock levels return to more normal levels.
- Net exports from the FSU are expected to increase as production declines diminish and consumption continues to fall. Exports are expected to increase from 2.2 million barrels per day in 1994 to 2.6 million barrels per day in 1997 (Figure 8 and Table 3).
- Exports from the Persian Gulf region are expected to increase only slightly over the next year as regional consumption increases largely offset production increases. However, as North Sea production levels off next year, incremental supplies should reappear from the Persian Gulf area. In 1995, 18.4 million barrels were produced by the Persian Gulf countries, of which the U.S. imported 1.6, Japan imported nearly 4.0, and western Europe imported almost 3 million barrels per day.⁵

U.S. Oil Demand

Figure 9. U.S. Petroleum Demand

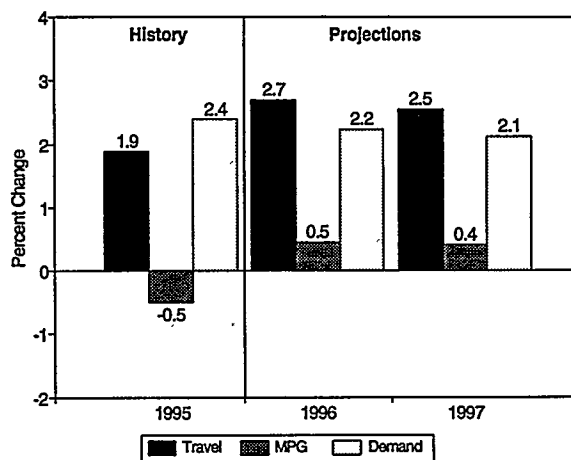


Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- U.S. petroleum demand is heading toward the historic high of 18.8 million barrels per day set in 1978. In 1995, however, demand remained virtually unchanged as steep declines in residual fuel oil demand offset the growth in other fuels. In 1996, petroleum demand is projected to increase 450,000 barrels per day, or 2.5 percent, followed by a 310,000 barrels-per-day, or 1.7 percent, increase in 1997 reaching 18.5 million barrels per day (Figure 9 and Table 6).
- Motor gasoline demand continues to set new records. Having grown by 2.4 percent in 1995, motor gasoline demand is projected to increase by an average of 2.2 percent during the forecast interval (Figure 10). This reflects an average growth rate in highway travel of 2.6 percent. The accompanying 0.4-0.5 percent average growth in fuel efficiency represents the continued weakness in efficiency growth brought about by ongoing shifts in consumer preference for minivans, light trucks, and sports utility vehicles; the depletion of older, less fuel-efficient vehicles available for retirement; and the recent relaxation of speed restrictions.

Figure 10. Gasoline Market Indicators

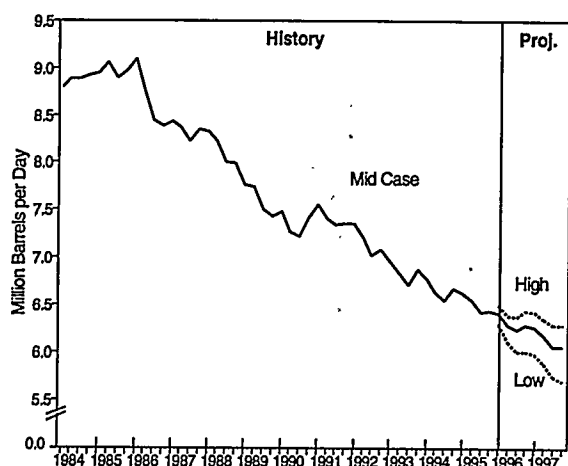


Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- Having increased by 70,000 barrels per day, or 2.1 percent, in 1995, distillate demand is projected to increase by 90,000 barrels per day in 1996 and another 60,000 barrels per day in 1997. Continued growth in transportation demand is expected to more than offset gradual declines in residential and commercial demand.
- Residual fuel oil demand declined an estimated 18.0 percent in 1995 as electric utilities and industrial customers continued to increase their consumption of natural gas. Nonetheless, demand is projected to stabilize and increase slightly during the forecast period, contributing to the positive growth in petroleum demand this year. The reduction in excess gas supplies, as well as increases in the relative price of natural gas to heavy fuel oil, should allow for a modest (if fleeting) recovery in residual fuel use.

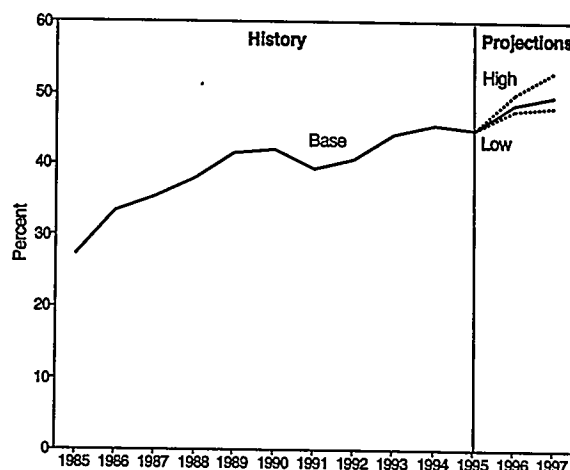
Figure 11. U.S. Crude Oil Production



Sources: First Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section, p. 40.

- At mid-case prices, total U.S. domestic crude oil production is expected to decline by 210,000 barrels per day, 3.2 percent, in 1996, and by an additional 170,000 barrels per day, 2.6 percent, in 1997 (Table 6 and Figure 11).
- Oil production in the lower 48 States is expected to drop by 80,000 barrels per day in 1996, and by 70,000 barrels per day in 1997. New oil production from the Federal Offshore is expected to account for about 8.0 percent of lower-48 oil production by the end of 1997 if scheduled production and development of new projects occurs. In federal waters of the Gulf of Mexico, Auger Field production is expected to increase to 70,000 barrels per day in mid-1996 due to installation of new production facilities. Mars Field production is expected to start in 1996 and peak at 100,000 barrels per day, while the Ram-Powell Field is expected to start in the last quarter of 1997 and peak at 60,000 barrels per day.⁶
- Oil production in Alaska is expected to decline by 8.5 percent in 1996, and by another 6.6 percent in 1997. Production from recent discoveries will partially offset the expected

Figure 12. U.S. Net Oil Imports' Share of Demand

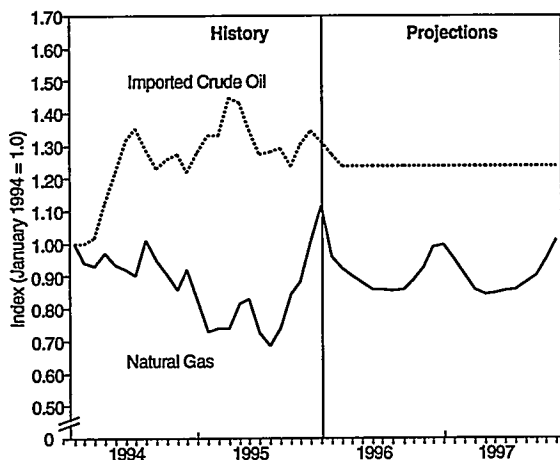


Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- production decline from the giant Prudhoe Bay and other North Slope fields. Point McIntyre Field is expected to continue to produce about 140,000 barrels per day, and Niakuk Field is expected to produce about 25,000 barrels per day during the forecast.⁷
- Crude oil production could be as high as 6.3 million barrels per day by the fourth quarter of 1996, given the high price case (Table 7), or as low as 5.7 million barrels per day under the low price scenario (Table 5).
- In 1996 and 1997, declining oil production and rising demand means an increase in combined net imports of crude oil and products to levels exceeding 1977's record high. Total net imports should equal 49.5 percent of total petroleum demand in 1997 in the base case (Figure 12). The net import share of demand could range between 51 and 48 percent in the low-to-high price ranges (Tables 5 and 7).
- According to Baker Hughes, Inc., the rig count for 1995 averaged 724. The rig count is expected to increase to an average of 764 in 1996, but decrease to 756 in 1997.⁸

U.S. Energy Prices

Figure 13. U.S. Oil and Gas Prices

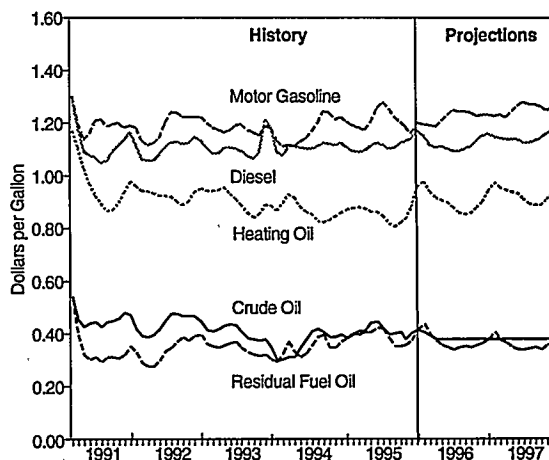


Mid World Oil Price Case

Sources: First Quarter 1995 STIFS database. Details provided in Figure References Section, p. 40.

- World oil prices gained strength near the end of 1995, averaging about \$17.40 per barrel in December. However, they are expected to decline by the spring to \$16.00 per barrel through the rest of the forecast period (Figure 13). This projected world oil price is based on the assumption that production gains from non-OPEC producers have created weaker price conditions (see Table 4 and "Outlook Assumptions," p.4).
- Natural gas wellhead prices have been rising quite rapidly since October 1995 after falling through most of 1995. These high gas prices have been the result of the drawdown of underground storage levels due to unusually cold November weather, and the anticipation that the cold weather will continue through the winter.
- Residual fuel oil prices were following the price path of crude oil in 1995, and are expected to continue to follow it throughout the forecast, even though in 1996 demand for this fuel is expected to rise slightly due primarily to weather-related factors in the first quarter (Table 4 and Figure 18).

Figure 14. Petroleum Product Prices

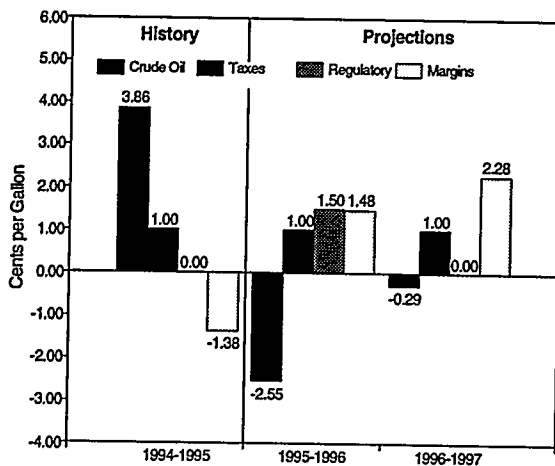


Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- Most of the retail petroleum product prices, with the exception of residual fuel oil, are expected to post minor gains during the forecast period, even as crude oil prices decrease somewhat from the 1995 average price. These small price increases at the retail level will be primarily the result of (mild) inflation and weather effects in the first quarter of 1996 (Figure 14).
- The additional costs associated with reformulated gasoline are currently estimated to average about 4 cents per gallon in the affected areas, and to average 1.5 cents per gallon nationally (Figure 15).⁹ On March 1, 1996 the state of California implements regulations that will reduce ground-level ozone pollution from gasoline. The additional costs to produce this cleaner gasoline is estimated at 5 to 15 cents per gallon.¹⁰
- Distillate product prices (heating oil and diesel fuel) will likely increase in 1996, assuming normal weather, since the warm winter in the first quarter of 1995 pushed annual average 1995 prices down.

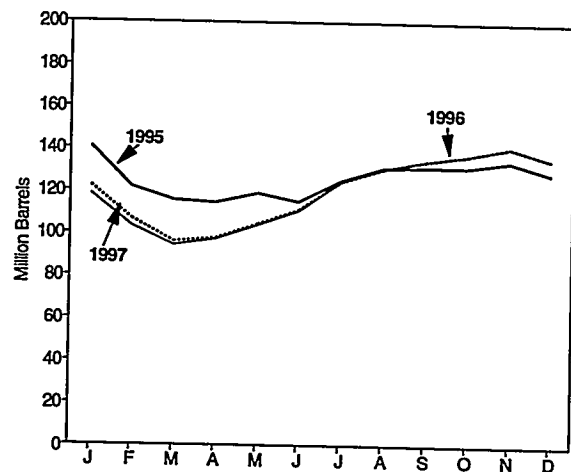
Figure 15. Motor Gasoline Price Components (Year-to-Year Change)



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 16. Distillate Inventories



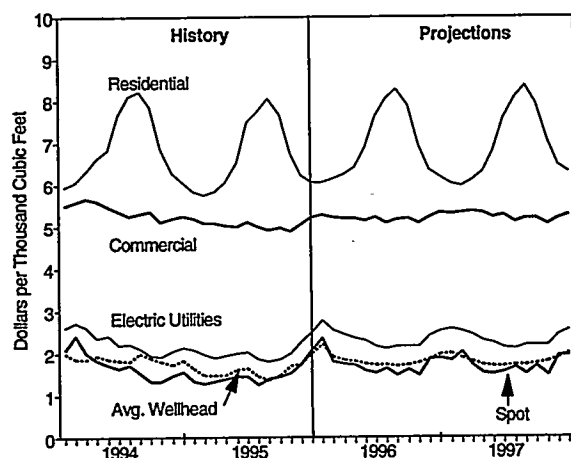
Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- Cold weather and low inventories in December 1995 and January 1996 have pushed the price of heating oil to 98 cents per gallon in January, an increase of 11 cents from the previous year (Table 4 and Figure 14). Distillate inventories going into the first quarter of 1996 were about 16 million barrels less than year earlier levels (Figure 16 and Table 6). Even though crude oil prices are flat, residential heating oil prices could gain another 4 cents per gallon in 1996 and 2 cents in 1997 due primarily to weather and inventories.
- On average, natural gas prices are expected to retain their advantage over heavy oil (residual fuel) prices at electric utilities through 1997 (Figure 18). However, in December 1995 some areas of the country, particularly the Northeast, had relatively more competitive residual fuel oil prices due to the weather-related end-of-the-year run up in natural gas prices.¹¹ The wide price difference in 1995 between natural gas and residual fuel should fall to a lower level in 1996 and 1997 as residual fuel prices fall below, and natural gas prices rise above, 1995 levels.
- Spot natural gas wellhead prices bottomed out at \$1.25 per million Btu last July, but grew to \$2.07 per million Btu in December, a weather induced increase of 66.5 percent.¹² The futures market has been especially sensitive to the weather. The January 1996 contract price on the New York Mercantile Exchange increased from \$1.85 per million Btu on October 9 to \$3.45 per million Btu on December 21, not only a \$1.60 gain in a period of only about 10 weeks, but also a record high since the exchange opened.¹³ This very rapid increase in the price of natural gas appears to have reflected concern that inventory levels were being strained to meet the demands caused by a cold winter.
- The low natural gas prices for the first 3 quarters of 1995 resulted from low peak demand due to a mild winter last year, which resulted in excess spring inventories and low injections. Sharp increases in summer utility demand and a cold autumn helped reverse that situation by November, leading to the observed spike in spot gas prices, especially for delivery to the East Coast. However,

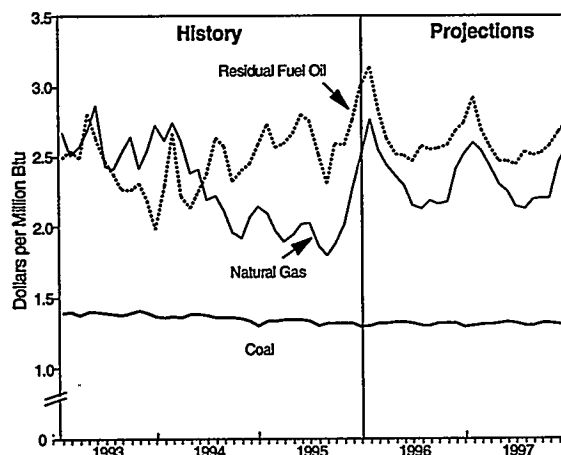
U.S. Energy Prices

Figure 17. Natural Gas Prices by Sector



Mid World Oil Price Case
Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 18. Fossil Fuel Prices to Electric Utilities



Mid World Oil Price Case
Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

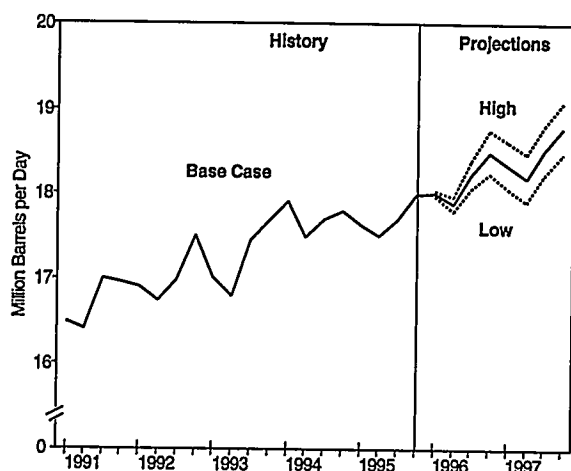
barring additional severe winter weather, January should be the price peak, and summer wellhead prices should return to about \$1.70.

- In recent years the forces of increased competition, deregulation, Canadian imports, and efficiency gains in inventory management have appeared to flatten the historical seasonal price curve. However, these events occurred during a period of warm winters and it may have been difficult to separate the effects of weather, particularly in the short-term, with the longer-term effects of other market forces. The recent sharp increase in the wellhead price serves to underscore the impact weather has on the price.
- The average wellhead gas price is expected to increase by almost 25 cents per thousand cubic feet in 1996, with much of the increase coming in the first quarter of the year. In 1997, assuming normal weather, the annual average price is expected to dip slightly as production gains and growth in imports offset expected increases in demand (Table 4).

- Residential customers of natural gas have seen a decrease in gas prices in 1995 as the wellhead costs have also fallen (Figure 17). However, residential prices should increase more or less in step with expected wellhead cost increases.
- Coal prices to electric utilities are expected to decrease slightly through 1997 (Figure 18), even after accounting for the additional costs associated with compliance with the Clean Air Act (CAA). Continued strides in mining productivity and a shift away from the more expensive underground mines to surface mining, should more than offset the CAA costs.
- Residential electricity prices, flat in 1995, should increase only slightly (under 1 percent) through 1997. This is because the cost of inputs to produce and distribute electricity, namely fossil fuel and labor, are not expected to grow much in the near future. Moreover, the cost of capital for new equipment and expansion is expected to remain moderate, further easing any end-use price pressures.

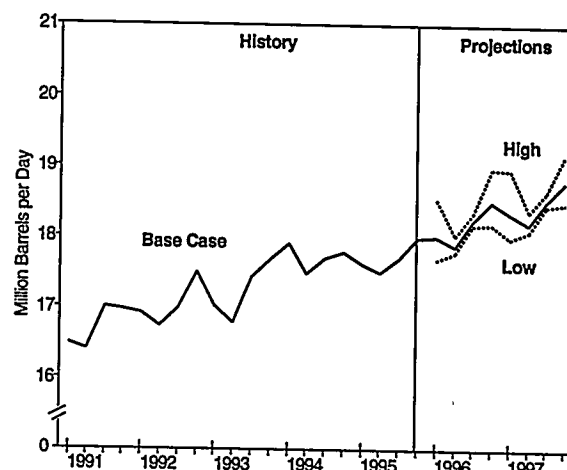
U.S. Oil Demand and Supply Sensitivities

Figure 19. Total Petroleum Demand: Macro Cases



Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 20. Total Petroleum Demand: Weather Cases

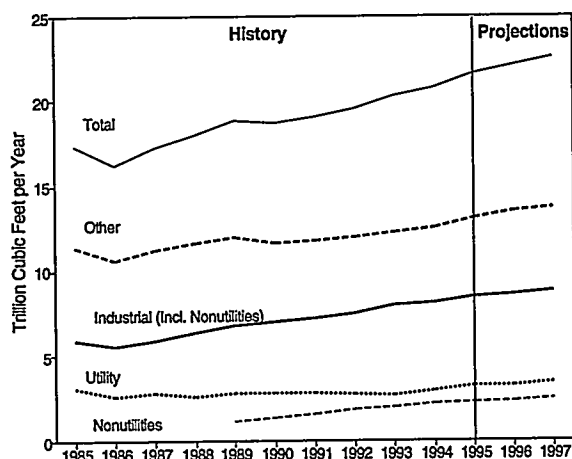


Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 2.5 and 2.6 percent per year in 1996 and 1997. To enhance the usefulness of the mid-case forecast, ranges of possible outcomes for petroleum demand and supply, using alternative macroeconomic, price, and weather assumptions, are also derived (Tables 5 and 7). Plausible macroeconomic and weather-related petroleum demand cases are illustrated in Figures 19 and 20.
- The petroleum price sensitivity assumes that nonpetroleum prices remain constant. The weather sensitivities assume deviations above and below normal that correspond to one-half of the largest quarterly deviations from normal in heating and cooling degree-days over the last 15 years.
- A 1-percent increase in real GDP raises petroleum demand by about 128,000 barrels per day. The impact of shifts in economic growth varies depending upon distribution of incremental growth across energy-intensive and non-energy-intensive sectors (Table 8).
- A \$1-per-barrel increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces demand by about 95,000 barrels per day (Tables 9 and 10).
- A \$1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 98,000 barrels per day.
- A 1-percent increase in heating degree-days increases demand by about 24,000 barrels per day. The impact of heating degree-day deviations from normal is not likely to be symmetrical. Extremely cold weather could result in indirect effects on fuel oil markets due to potential natural gas supply constraints that have no counterparts in the case of mild weather.
- A 1-percent increase in cooling degree-days increases petroleum demand by about 7,000 barrels per day. (See Appendix A for sensitivity calculation methodology.)

U.S. Natural Gas Demand

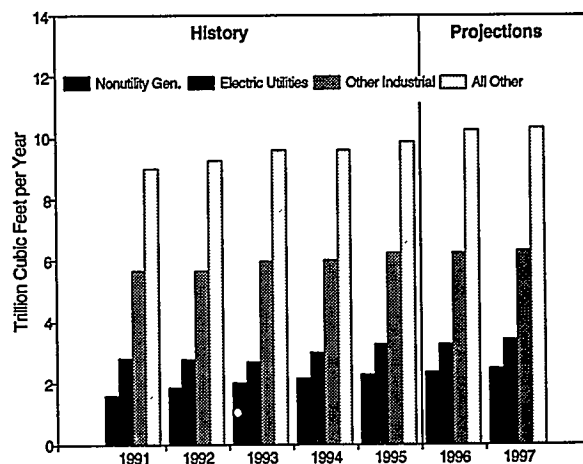
Figure 21. U.S. Natural Gas Demand Trends



Mid World Oil Price Case
Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- The assumptions of normal temperatures together with continued economic growth are expected to help raise total annual gas demand in 1996. A high of 22.1 trillion cubic feet in total natural gas demand is projected in 1996, as demand grows by 2.2 percent (Figure 21 and Table 10). This expected growth would bring U.S. gas demand to its highest level since 1973¹⁴. In 1997, natural gas demand is expected to continue to rise by 2.0 percent, to 22.5 trillion cubic feet, as economic growth continues at about 1996 levels.
- In 1996, due mainly to assumptions of normal weather, residential demand is expected to be up by 4.5 percent. This growth also reflects the continued addition of new natural gas customers.
- Higher than anticipated natural gas prices in fourth quarter 1995, which were prompted by lower-than-normal temperatures, are expected to continue into first quarter 1996. Higher gas prices relative to fuel oil can be expected to cause some fuel substitution in the industrial and electricity production sectors. Thus, gas

Figure 22. Natural Gas Demand for Power Generation and Other Uses

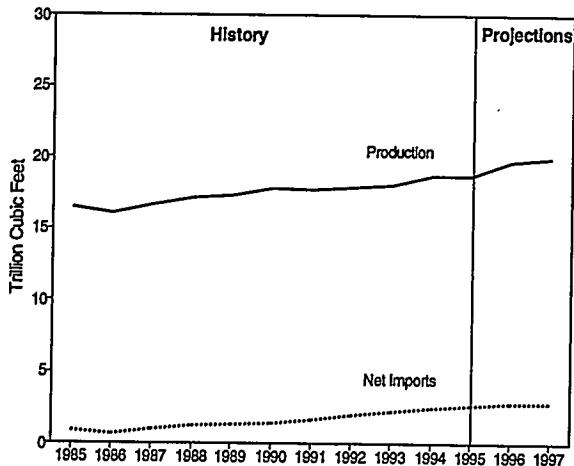


Mid World Oil Price Case
Note: "All Other" denotes residential and commercial demand.
Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

- use in manufacturing production in 1996 is likely to grow by only 1 percent. In 1997, industrial gas demand is expected to grow at 2.5 percent as gas prices decline somewhat and the economy continues to expand (Figure 22).
- Growth in gas-powered electricity generation by utilities is expected to show no growth in 1996 as relatively high peak period gas prices induces fuel substitution away from gas use levels seen last winter (Table 12), and as electricity demand rises more slowly than in 1995. In 1997, gas-powered electricity generation is expected to resume its climb at a rate of 4.0 percent as peak period gas prices are sharply lower than in 1996. On the other hand, nonutility gas generation is expected to continue to rise through the forecast period as gas-powered capacity is added (Table 10).
- Commercial sector demand, which posted a healthy increase of 6.0 percent in 1995 despite a weak start due to mild weather, is expected to continue to rise in 1996 and 1997. The pace of growth is expected to be slower, in line with commercial activity growth.

U.S. Natural Gas Supply

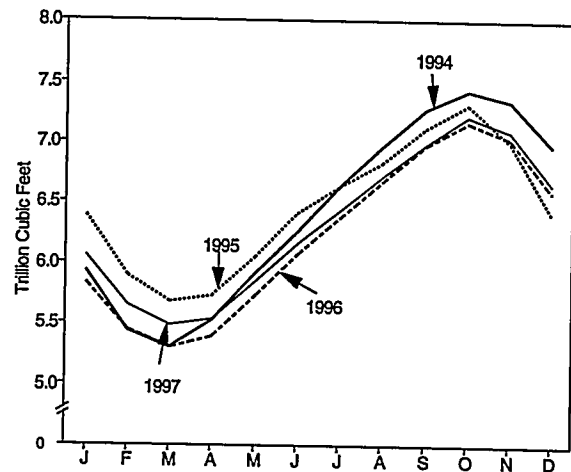
Figure 23. U.S. Dry Gas Production and Net Imports



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section, p. 40.

Figure 24. Total Gas in Underground Storage



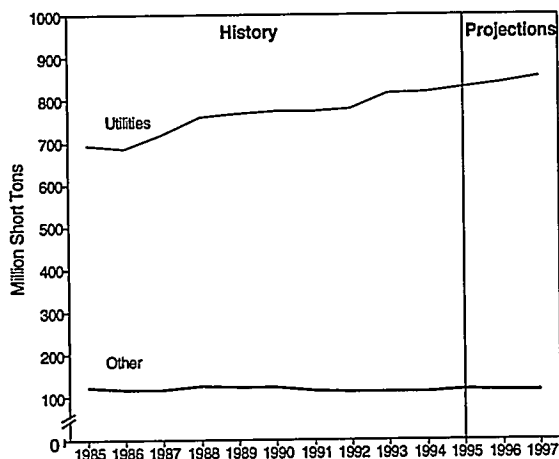
Mid World Oil Price Case

Sources: First Quarter 1995 STIFS database. Details provided in Figure References Section, p. 40.

- U.S. dry gas production is expected to continue to rise through the forecast period. Dry gas production in 1996 is projected at 19.7 trillion cubic feet, up 5.1 percent from 1995. In 1997, dry gas production is expected to increase by another 1.4 percent, to 19.9 trillion cubic feet (Figure 23 and Table 10).
- Natural gas storage levels are significantly below levels seen at this time year-ago, which were relatively high. An increase in the withdrawal rate during November and December 1995 was due to the below-normal temperatures, and resulted in a dramatic rise in spot prices. Working gas storage was estimated at about 1,783 billion cubic feet on January 12, which was 480 billion cubic feet less than at the same time last year (Figure 24).¹⁵ Weather and its impact on storage levels at year-end 1995 were a key factor in determining 1996 natural gas prices.
- Storage is expected to gradually return to more normal levels, but probably not without causing some continued upward pressure on spot and wellhead prices this spring.
- The Baker Hughes natural gas rig count for the month of December was 427 rigs. This number was equal to 55.9 percent of all rigs drilling.¹⁶
- Net natural gas imports are forecast to continue to expand through the forecast, by 8.1 percent in 1996, and by 1.4 percent in 1997. In 1997, net natural gas imports are expected to amount to 12.6 percent of total U.S. demand.

U.S. Coal Demand and Supply

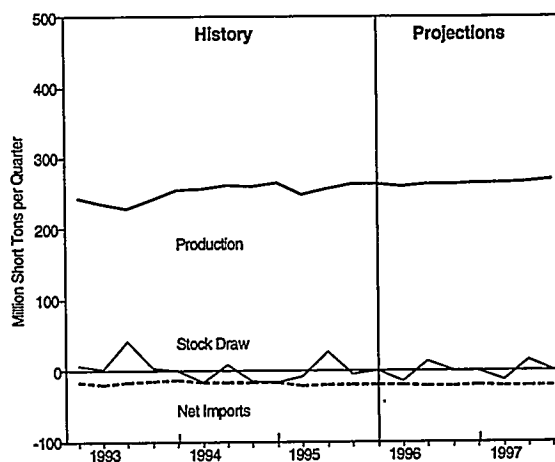
Figure 25. U.S. Coal Demand Trends



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 26. Components of U.S. Coal Supply



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternative Fuels. Details provided in Figure References Section, p. 40.

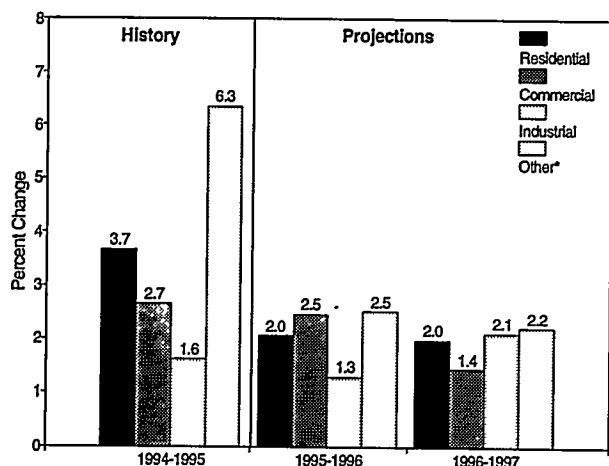
- Total coal demand is expected to increase by 0.8 percent in 1996 (Table 11). Rising demand for coal in the electricity sector will help stimulate an additional 1.6 percent increase in coal demand in 1997 (Figure 25).
- Coal consumed by utility and nonutility generators to produce electricity is expected to increase by 1.2 percent in 1996 (Table 11). In 1997, growth in demand for electricity coupled with declines in hydroelectric generation, and no growth in nuclear-fired generation, leads to a 1.9 percent increase in coal consumption by the electricity sector.
- Demand for coal at coke plants is expected to remain almost flat throughout the forecast, as a result of coking plant capacity constraints. The limitations on coke production have led to increased reliance on imports of coke and the supplemental use of non-coke methods of steel production (steel recycling and electric-arc furnaces) by the iron and steel industry. A 9.6 percent increase in steel output in 1995

was accompanied by a 3.5 percent increase in coking coal demand (Tables 2 and 11).

- Assumptions of normal weather and 2.5 percent growth in the economy will lead to demand of 83 million short tons of coal in 1996 from the retail and general industry sectors, a 1.9 percent decrease from 1995. Future demand growth will be hindered by coal being displaced to meet environmental regulations in the retail and general industry sectors.
- U.S. coal exports are expected to grow in 1996, increasing by 4.1 percent. Exports should continue growing in 1997, as worldwide demand improves (Table 11).
- Coal production is expected to grow by 1.6 percent in 1996, and 1.5 percent in 1997, with annual output reaching 1,065 million short tons in 1997 (Figure 26). Thus, U.S. coal production resumes its climb to record levels after being flat between 1994 and 1995.

U.S. Electricity Demand and Supply

Figure 27. U.S. Electricity Demand

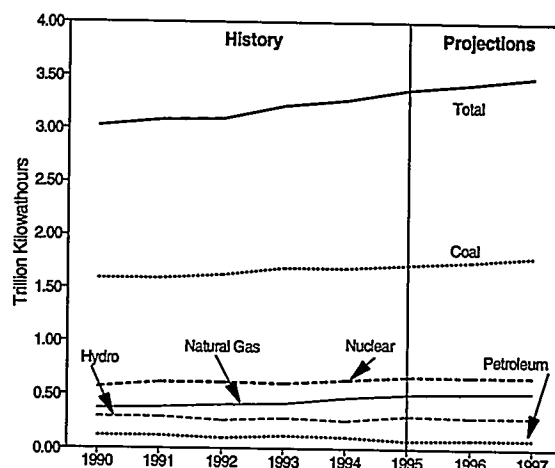


*Includes nonutility own use

Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 28. U.S. Electricity Production*



*Includes nonutilities

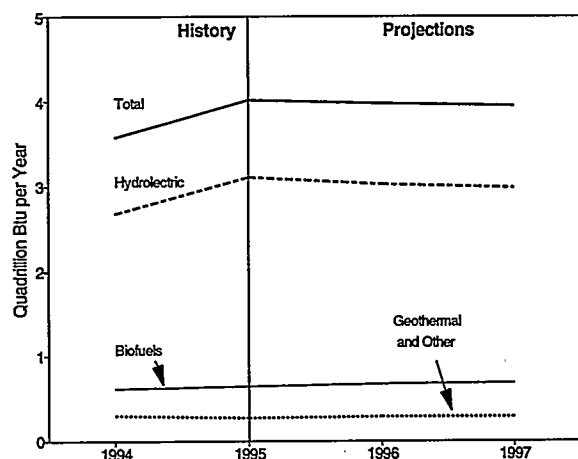
Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 40.

- In 1996 and 1997, total electricity demand is expected to continue to grow, but at slower rates than the 2.7 percent seen in 1995. This is due partly to the expectation of somewhat slower economic growth, as well as the assumption of normal weather, which means fewer cooling degree days than in 1995.
- Residential demand growth for electricity in 1996 is projected at 2.1 percent compared with 1995. Normal weather this year implies higher demand in the first quarter and sharply lower demand in the summer compared to the 1995 situation.
- Commercial sector demand is projected to rise by 2.5 percent in 1996 and by 1.5 percent in 1997, due primarily to expanding employment (Figure 27 and Table 12).
- Industrial demand is projected to grow by 1.3 percent in 1996 and by 2.1 percent in 1997, reflecting the continuing growth in industrial output (Table 12).
- U.S. utilities are expected to generate about 1.2 percent more electricity in 1996 and 1.6 percent more in 1997. Nonutility generation is expected to increase at even faster rates of 6.0 percent in 1996, and 4.2 percent in 1997, as a result of capacity additions (Table 12).¹⁷
- Hydropower generation by electric utilities is expected to decrease in 1996 and 1997 from the high 1995 levels. This is because the improvements in streamflow in the Pacific Northwest from prior drought conditions is not expected to be repeated (Figure 28).
- Nuclear power generation is expected to rise in 1996, as Watts Bar 1 goes on-line and Browns Ferry 3 returns to service.¹⁸ In 1997 nuclear power generation is expected to remain at about 1996 levels.
- Net imports of electricity from Canada are forecast to be somewhat lower than in 1995 because of expected growth in Canadian electricity demand and strong U.S. exports to Canada in the Pacific Northwest area.

U.S. Renewable Energy Demand

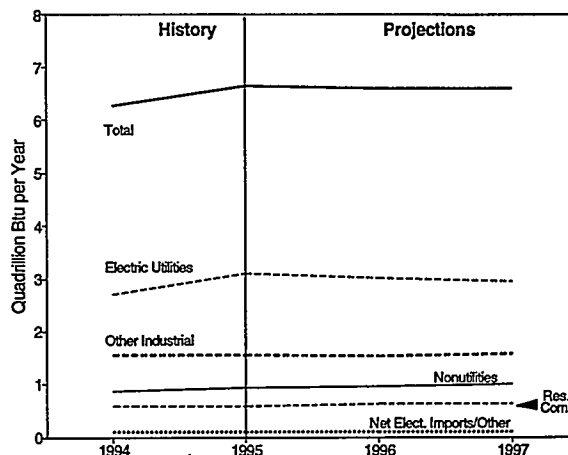
Figure 29. Renewable Energy Use for Electricity



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database. Details provided in Figure References Section, p. 40.

Figure 30. Renewable Energy Use by Sector



Mid World Oil Price Case

Sources: First Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 40.

- Renewable energy use in the United States amounted to about 6.6 quadrillion Btu (quads), or about 7.3 percent of total domestic gross energy demand in 1995 (Table 13). In 1995, renewables demand growth increased by 5.9 percent due to an overall increase in hydroelectric power availability. In 1996, renewables growth is expected to be flat, as hydroelectric power generation declines somewhat.
- More than half of all renewable energy use measured by EIA is associated with the production of electricity. While the biggest component of electricity producers' use of renewables is hydroelectric power generated by electric utilities (Figure 29), a significant and growing share of renewables use occurs at nonutility generating facilities.
- Hydropower generation by electric utilities is expected to decrease in 1996 and 1997 from the high 1995 levels because the above normal streamflow in the Pacific Northwest is not expected to be repeated.
- Most of the nonutility use of renewables involves biofuels, principally wood, wood by-products, and waste. However, all of the major forms of renewables used at nonutilities (including hydropower) are projected to grow.
- On balance, it is expected that of a 0.34 quad increase in total use of renewables in the power generation sector over the 3-year period from 1994 through 1997, about 37 percent will have come from expansion of nonutility power.
- Currently, aside from power generation, the most significant area of renewables use is in the industrial sector, accounting for 23 percent of the total in 1995 (Figure 30). This component is principally biofuels.
- Renewables use in the combined residential and commercial sector, at about 0.60 quad in 1995, accounts for about 9 percent of total domestic renewables demand. Most of this energy is wood used for home heating, with only a very small amount having to do with solar hot water heating.

Table 1. U.S. Macroeconomic and Weather Assumptions

	Macro Case	1995				1996				1997				Year		
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic ^a																
Real Gross Domestic Product (billion 1987 dollars - SAAR)	High Mid Low	5470	5488	5545	5571	5618 5605 5592	5682 5637 5592	5750 5671 5591	5817 5705 5593	5859 5738 5618	5901 5779 5658	5941 5819 5697	5982 5859 5736	5518	5717 5654 5592	5921 5799 5677
Percentage Change from Prior Year . . .	High Mid Low	4.0	3.3	3.3	2.5	2.7 2.5 2.2	3.5 2.7 1.9	3.7 2.3 0.8	4.4 2.4 0.4	4.3 2.4 0.5	3.8 2.5 1.2	3.3 2.6 1.9	2.8 2.7 2.6	3.3	3.6 2.5 1.3	3.6 2.6 1.5
Annualized Percent Change from Prior Quarter	High Mid Low	2.7	1.3	4.1	1.9	3.4 2.4 1.5	4.6 2.3 0.0	4.8 2.4 -0.1	4.7 2.4 0.1	2.9 2.3 1.8	2.9 2.9 2.9	2.8 2.8 2.8	2.8 2.8 2.8			
GDP Implicit Price Deflator (Index, 1987=1.000)	High Mid Low	1.276	1.281	1.283	1.291	1.298 1.299 1.300	1.303 1.306 1.309	1.307 1.313 1.319	1.311 1.319 1.327	1.316 1.325 1.334	1.321 1.330 1.339	1.327 1.336 1.345	1.333 1.342 1.351		1.304 1.283 1.314	1.324 1.333 1.342
Percentage Change from Prior Year . . .	High Mid Low	2.1	1.8	1.4	1.7	1.7 1.8 1.9	1.7 1.9 2.2	1.8 2.3 2.8	1.5 2.2 2.8	1.4 2.0 2.6	1.4 1.9 2.3	1.6 1.8 2.0	1.7 1.8 1.8	1.7	1.7 2.1 2.4	1.5 1.9 2.2
Real Disposable Personal Income (billion 1987 Dollars - SAAR)	High Mid Low	3951	3939	3981	4012	4070 4061 4051	4115 4081 4047	4166 4105 4045	4219 4134 4048	4256 4164 4072	4271 4179 4087	4285 4193 4100	4306 4213 4120	3971	4143 4095 4048	4280 4187 4095
Percentage Change from Prior Year . . .	High Mid Low	4.5	3.4	3.7	2.6	3.0 2.8 2.5	4.5 3.6 2.7	4.6 3.1 1.6	5.2 3.0 0.9	4.6 2.6 0.5	3.8 2.4 1.0	2.9 2.1 1.4	2.1 1.9 1.8	3.5	4.3 3.1 1.9	3.3 2.3 1.2
Manufacturing Production (Index, 1987=1.000)	High Mid Low	1.243	1.232	1.243	1.249	1.268 1.261 1.255	1.295 1.272 1.249	1.323 1.283 1.243	1.347 1.290 1.233	1.359 1.298 1.237	1.371 1.309 1.247	1.387 1.325 1.262	1.401 1.338 1.275	1.242	1.308 1.277 1.245	1.380 1.317 1.255
Percentage Change from Prior Year . . .	High Mid Low	6.4	3.6	3.1	1.8	2.0 1.5 0.9	5.1 3.2 1.4	6.5 3.2 0.0	7.8 3.2 -1.3	7.2 2.9 -1.4	5.9 2.9 -0.2	4.8 3.2 1.6	4.0 3.7 3.4	3.7	5.4 2.8 0.2	5.4 3.2 0.8
OECD Economic Growth (percent) ^b . . .														2.6	2.6	2.7
Weather ^c																
Heating Degree-Days																
U.S.		2153	580	108	1721	2354	524	89	1636	2327	524	89	1636	4562	4603	4576
New England		3024	989	221	2362	3306	915	171	2269	3267	915	171	2269	6596	6660	6621
Middle Atlantic		2772	778	124	2152	3028	716	105	2026	2993	716	105	2026	5826	5875	5839
U.S. Gas-Weighted		2164	631	127	1785	2480	539	81	1686	2426	539	81	1686	4707	4786	4732
Cooling Degree-Days (U.S.)		32	322	864	62	30	334	758	72	30	334	758	72	1280	1193	1193

^aMacroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world oil price cases (as shown in Table 5) and by various explicit economic assumptions, with the low world oil price case applied to the high macroeconomic case, and the high world oil price case applied to the low macroeconomic case.

^bOECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.

^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. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold, forecasts are in italic.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*, Federal Reserve System, *Statistical Release G.17(419)*, November 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL1195.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic *															
Real Fixed Investment (billion 1987 dollars - SAAR)	973	985	1006	1025	1038	1044	1049	1053	1058	1066	1080	1098	997	1046	1075
Real Exchange Rate (index)	0.997	0.937	0.965	0.973	0.970	0.971	0.968	0.964	0.923	0.926	0.930	0.934	0.968	0.968	0.928
Business Inventory Change (billion 1987 dollars - SAAR)	12.0	15.2	11.8	6.7	-1.6	-1.2	0.0	1.4	0.0	0.5	1.8	3.6	11.4	-0.4	1.5
Producer Price Index (index, 1980-1984=1.000)	1.236	1.248	1.251	1.263	1.270	1.271	1.273	1.276	1.283	1.287	1.293	1.299	1.250	1.272	1.291
Consumer Price Index (index, 1980-1984=1.000)	1.510	1.522	1.530	1.542	1.554	1.565	1.576	1.587	1.599	1.610	1.621	1.633	1.526	1.571	1.616
Petroleum Product Price Index (index, 1980-1984=1.000)	0.584	0.647	0.612	0.607	0.643	0.614	0.604	0.602	0.634	0.616	0.606	0.603	0.613	0.616	0.614
Non-Farm Employment (millions)	116.1	116.4	116.8	117.2	117.8	118.4	119.0	119.4	119.9	120.3	120.7	121.2	116.6	118.7	120.5
Commercial Employment (millions)	77.7	78.1	78.5	79.0	79.6	80.1	80.6	81.1	81.5	82.0	82.4	82.8	78.3	80.3	82.2
Total Industrial Production (index, 1987=1.000)	1.220	1.213	1.225	1.228	1.239	1.249	1.258	1.264	1.271	1.281	1.295	1.307	1.222	1.253	1.289
Housing Stock (millions)	109.2	109.6	109.9	110.3	110.6	111.0	111.3	111.6	111.9	112.2	112.6	112.9	109.8	111.1	112.4
Miscellaneous															
Gas Weighted Industrial Production (index, 1987=1.000)	1.203	1.186	1.185	1.190	1.197	1.203	1.208	1.213	1.217	1.225	1.234	1.243	1.191	1.205	1.230
Vehicle Miles Traveled (million miles/day)	6142	6793	6951	6456	6240	7016	7180	6622	6405	7195	7358	6783	6587	6765	6937
Vehicle Fuel Efficiency (miles per gallon)	19.55	20.38	20.86	19.76	19.65	20.58	20.98	19.71	19.73	20.65	21.07	19.79	20.15	20.24	20.33
Real Vehicle Fuel Cost (cents per mile)	4.00	4.01	3.84	3.85	3.90	3.82	3.76	3.93	3.89	3.80	3.72	3.88	3.93	3.85	3.82
Air Travel Capacity (mill. available ton-miles/day)	371.0	380.0	395.4	393.8	390.2	405.9	426.0	412.2	406.0	420.9	441.3	426.8	385.1	408.6	423.8
Aircraft Utilization (mill. revenue ton-miles/day)	202.4	218.4	230.2	218.1	209.5	229.4	246.0	225.6	216.8	237.4	254.3	233.0	217.4	227.7	235.5
Aircraft Yield (cents per ton-mile)	13.33	13.57	13.11	13.09	13.70	12.96	12.15	12.88	13.59	12.92	12.15	12.90	13.27	12.92	12.89
Raw Steel Production (millions)	26.55	25.31	25.43	26.14	25.52	24.35	23.39	24.50	25.64	24.78	24.05	25.53	103.15	97.77	100.00

*Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world price cases (as shown in Table 4) and by various explicit economic assumptions, with low world oil price case applied to the high macroeconomic case, and high world oil price case applied to the low macroeconomic case.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold, forecasts are in italic.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*, Federal Reserve System, *Statistical Release G.17(419)*, November 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL1195.

Table 3. International Petroleum Supply and Demand: Mid World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Demand ^a															
OECD															
U.S. (50 States)	17.6	17.5	17.7	18.0	18.0	17.9	18.2	18.5	18.3	18.2	18.5	18.8	17.7	18.1	18.5
U.S. Territories	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Canada	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Europe ^b	14.0	13.5	13.7	14.2	14.2	13.7	13.9	14.4	14.4	13.9	14.0	14.5	13.8	14.0	14.2
Japan	6.4	5.2	5.3	5.9	6.5	5.3	5.4	6.0	6.5	5.3	5.5	6.1	5.7	5.8	5.8
Australia and New Zealand	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total OECD	41.0	39.2	39.7	41.1	41.6	39.8	40.5	41.9	42.2	40.4	41.1	42.5	40.2	41.0	41.6
Non-OECD															
Former Soviet Union	5.1	4.2	4.4	4.7	5.0	4.1	4.3	4.6	4.9	4.1	4.3	4.6	4.6	4.5	4.5
Europe	1.5	1.3	1.3	1.4	1.6	1.4	1.4	1.5	1.6	1.4	1.4	1.5	1.4	1.4	1.5
China	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.7	3.3	3.5	3.7
Other Asia	8.0	7.8	7.6	8.5	8.5	8.3	8.1	9.1	9.1	8.8	8.6	9.6	8.0	8.5	9.0
Other Non-OECD	12.1	12.1	12.2	12.4	12.4	12.4	12.5	12.7	12.6	12.6	12.8	13.0	12.2	12.5	12.8
Total Non-OECD	30.0	28.7	28.8	30.4	30.9	29.6	29.7	31.4	31.9	30.6	30.7	32.4	29.5	30.4	31.4
Total World Demand	70.9	67.9	68.5	71.5	72.5	69.4	70.2	73.3	74.1	71.0	71.8	74.9	69.7	71.4	72.9
Supply ^c															
OECD															
U.S. (50 States)	9.4	9.4	9.3	9.3	9.3	9.2	9.2	9.3	9.2	9.1	9.1	9.1	9.3	9.2	9.1
Canada	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.4	2.5	2.6
North Sea ^d	5.8	5.4	5.7	6.4	6.5	6.3	6.3	6.7	6.7	6.5	6.4	6.7	5.8	6.4	6.5
Other OECD	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total OECD	19.2	18.7	18.9	19.6	19.7	19.4	19.4	20.0	20.0	19.6	19.5	19.9	19.1	19.6	19.7
Non-OECD															
OPEC	27.6	28.0	28.2	28.2	28.2	28.3	28.5	28.6	28.9	29.0	29.3	29.4	28.0	28.4	29.1
Former Soviet Union	6.9	7.0	7.0	7.0	6.9	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.0	7.0	7.1
China	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.3	3.0	3.1	3.2
Mexico	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.2	3.3	3.3
Other Non-OECD	9.3	9.3	9.6	9.7	9.8	9.9	10.1	10.2	10.2	10.3	10.4	10.5	9.5	10.0	10.4
Total Non-OECD	49.9	50.5	51.0	51.1	51.3	51.6	52.0	52.2	52.6	52.9	53.3	53.6	50.6	51.7	53.1
Total World Supply	69.1	69.2	69.9	70.7	71.0	71.0	71.4	72.1	72.6	72.5	72.8	73.5	69.7	71.4	72.8
Stock Changes and Statistical Discrepancy															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.6	-0.1	-0.1	0.6	0.1	-0.7	-0.4	0.4	0.5	-0.7	-0.5	0.4	0.2	-0.2	-0.1
Other	1.3	-1.3	-1.2	0.2	1.4	-0.9	-0.7	0.8	1.1	-0.8	-0.6	1.0	-0.3	-0.2	0.2
Total Stock Withdrawals	1.9	-1.4	-1.4	0.9	1.5	-1.6	-1.2	1.1	1.6	-1.5	-1.0	1.4	0.0	0.0	0.1
Statistical Discrepancy	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.3
Closing Stocks (billion barrels) ^e	5.5	5.6	5.7	5.6	5.5	5.6	5.7	5.6	5.5	5.6	5.7	5.6	5.6	5.6	5.6
Non-OPEC Supply	41.5	41.2	41.7	42.6	42.8	42.7	42.9	43.6	43.6	43.5	43.6	44.1	41.8	43.0	43.7
Net Exports from Former Soviet Union	1.8	2.8	2.6	2.3	1.9	2.9	2.7	2.4	2.1	3.0	2.8	2.5	2.4	2.5	2.6

^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.

^bOECD 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.

^eExcludes stocks held in the Former CPEs.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, 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 italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(96/01); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, December 1995.

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

	Price Case	1995				1996				1997				Year		
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Imported Crude Oil ^a (dollars per barrel)	Low					14.03	13.00	13.00	13.00	13.00	13.00	13.00	13.00		13.24	13.00
	Mid	17.01	18.20	16.58	16.75	16.51	16.00	16.00	16.00	16.00	16.00	16.00	16.00	17.14	16.12	16.00
	High					18.35	18.00	18.00	18.00	19.00	19.00	19.00	19.00		18.08	19.00
Natural Gas Wellhead (dollars per thousand cubic feet)	Low					1.96	1.63	1.55	1.61	1.65	1.44	1.45	1.62		1.69	1.54
	Mid	1.53	1.59	1.43	1.83	2.00	1.76	1.71	1.87	1.91	1.70	1.73	1.91	1.60	1.84	1.81
	High					2.22	2.12	2.04	2.15	2.13	2.01	2.06	2.24		2.13	2.11
Petroleum Products																
Gasoline Retail ^b (dollars per gallon)	Low					1.15	1.16	1.17	1.16	1.15	1.19	1.19	1.17		1.16	1.18
	Mid	1.18	1.24	1.23	1.18	1.19	1.23	1.24	1.23	1.23	1.26	1.27	1.25	1.21	1.22	1.25
	High					1.22	1.27	1.29	1.28	1.28	1.32	1.33	1.31		1.27	1.31
No. 2 Diesel Oil, Retail (dollars per gallon)	Low					1.07	1.03	1.04	1.08	1.08	1.07	1.07	1.11		1.05	1.08
	Mid	1.09	1.12	1.11	1.15	1.12	1.10	1.10	1.15	1.14	1.13	1.13	1.17	1.12	1.12	1.14
	High					1.17	1.15	1.15	1.19	1.21	1.20	1.20	1.24		1.16	1.21
No. 2 Heating Oil, Wholesale (dollars per gallon)	Low					0.46	0.43	0.43	0.46	0.48	0.47	0.47	0.50		0.45	0.48
	Mid	0.49	0.51	0.51	0.56	0.51	0.50	0.50	0.53	0.53	0.53	0.52	0.55	0.52	0.51	0.53
	High					0.56	0.54	0.54	0.57	0.59	0.59	0.59	0.62		0.56	0.60
No. 2 Heating Oil, Retail (dollars per gallon)	Low					0.90	0.83	0.79	0.85	0.92	0.88	0.84	0.90		0.87	0.90
	Mid	0.88	0.86	0.82	0.91	0.95	0.90	0.86	0.92	0.96	0.93	0.89	0.95	0.88	0.92	0.94
	High					0.98	0.94	0.90	0.96	1.02	1.00	0.95	1.01		0.96	1.01
No. 6 Residual Fuel Oil, Retail ^c (dollars per barrel)	Low					14.84	12.13	12.11	12.67	13.51	11.94	12.00	12.73		12.97	12.57
	Mid	16.83	17.45	15.17	16.15	16.97	14.59	14.65	15.39	16.05	14.37	14.39	15.35	16.41	15.45	15.09
	High					18.29	16.04	16.10	16.82	18.01	16.32	16.33	17.31		16.86	17.05
Electric Utility Fuels																
Coal (dollars per million Btu)	Low					1.28	1.29	1.27	1.27	1.26	1.27	1.26	1.25		1.28	1.26
	Mid	1.33	1.34	1.31	1.31	1.31	1.32	1.30	1.30	1.30	1.32	1.30	1.30	1.32	1.31	1.31
	High					1.35	1.38	1.38	1.39	1.39	1.41	1.40	1.40		1.37	1.40
Heavy Fuel Oil ^d (dollars per million Btu)	Low					2.54	2.10	2.15	2.23	2.32	2.08	2.13	2.24		2.24	2.19
	Mid	2.61	2.74	2.45	2.82	2.88	2.49	2.56	2.67	2.73	2.46	2.52	2.66	2.63	2.64	2.59
	High					3.09	2.72	2.79	2.90	3.04	2.76	2.83	2.97		2.86	2.90
Natural Gas (dollars per million Btu)	Low					2.51	2.11	1.99	2.11	2.25	1.96	1.91	2.11		2.15	2.03
	Mid	1.98	2.00	1.84	2.26	2.58	2.25	2.15	2.35	2.52	2.22	2.17	2.39	1.99	2.31	2.30
	High					2.79	2.58	2.44	2.61	2.74	2.51	2.47	2.70		2.58	2.59
Other Residential																
Natural Gas (dollars per thousand cubic feet)	Low					6.10	6.70	7.88	6.09	5.78	6.42	7.73	6.10		6.33	6.12
	Mid	5.80	6.47	7.82	6.21	6.13	6.77	8.06	6.38	6.03	6.69	8.12	6.47	6.20	6.45	6.42
	High					6.13	6.98	8.38	6.53	6.30	7.00	8.42	6.65		6.55	6.68
Electricity (cents per kilowatthour)	Low					7.7	8.3	8.53	7.96	7.65	8.24	8.52	8.03		8.11	8.11
	Mid	7.99	8.58	8.73	8.12	7.90	8.56	8.85	8.34	8.03	8.66	8.94	8.42	8.37	8.41	8.52
	High					8.3	9.1	9.39	8.85	8.53	9.20	9.53	8.98		8.90	9.06

^aCost of imported crude oil to U.S.

^bAverage for all grades and services.

^cAverage for all sulfur contents.

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

Notes: Data are estimated for the third quarter of 1995. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); and *Petroleum Marketing Monthly*, DOE/EIA-0380(95/12).

Table 5. U.S. Petroleum Supply and Demand: Low World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.44	6.31	6.12	6.01	6.01	5.98	5.90	5.76	5.71	6.52	6.11	5.84
Alaska	1.56	1.50	1.40	1.47	1.41	1.32	1.30	1.34	1.30	1.26	1.20	1.20	1.48	1.34	1.24
Lower 48	5.07	5.05	5.03	4.97	4.90	4.80	4.71	4.68	4.68	4.64	4.56	4.51	5.03	4.77	4.60
Net Imports (including SPR) ^b	6.74	7.35	7.49	7.14	7.57	8.23	8.50	7.87	8.19	8.91	9.14	8.76	7.18	8.04	8.75
Gross Imports (excluding SPR)	6.83	7.46	7.57	7.21	7.88	8.54	8.79	8.17	8.50	9.22	9.42	9.06	7.27	8.35	9.05
SPR Imports	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
Exports	0.09	0.11	0.08	0.08	0.31	0.31	0.28	0.30	0.31	0.31	0.28	0.30	0.09	0.30	0.30
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	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
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	-0.23	-0.04	-0.01	0.03	-0.02	-0.05	-0.04	0.01	0.10	-0.06	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.22	0.26	0.28	0.28	0.27	0.27	0.29	0.29	0.28	0.19	0.27	0.28
Total Crude Oil Supply	13.49	14.23	14.34	13.83	13.91	14.57	14.78	14.17	14.42	15.03	15.13	14.75	13.97	14.36	14.83
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	1.78	1.77	1.77	1.80	1.76	1.76	1.76	1.78	1.76	1.78	1.77
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.30	0.32	0.32	0.34	0.40	0.35	0.34	0.36	0.41	0.30	0.35	0.36
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.72	0.75	0.78	0.80	0.77	0.81	0.83	0.79	0.80	0.84	0.84	0.83	0.76	0.80	0.83
Net Product Imports ^c	0.71	0.65	0.86	0.72	0.98	1.15	1.07	1.09	1.30	1.44	1.47	1.29	0.74	1.07	1.38
Gross Product Imports ^c	1.61	1.47	1.62	1.69	1.90	2.02	1.92	2.05	2.22	2.32	2.33	2.26	1.60	1.97	2.28
Product Exports	0.90	0.82	0.76	0.97	0.92	0.87	0.85	0.96	0.92	0.88	0.86	0.97	0.86	0.90	0.91
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	0.29	-0.64	-0.41	0.38	0.53	-0.61	-0.43	0.37	0.15	-0.09	-0.04
Total Supply	17.61	17.49	17.70	17.98	18.06	17.99	18.39	18.65	19.17	18.80	19.15	19.44	17.70	18.27	19.14
Demand															
Motor Gasoline	7.48	7.94	7.93	7.78	7.59	8.17	8.20	8.05	7.78	8.35	8.37	8.22	7.78	8.00	8.18
Jet Fuel	1.52	1.44	1.52	1.56	1.50	1.49	1.57	1.55	1.52	1.50	1.58	1.56	1.51	1.53	1.54
Distillate Fuel Oil	3.45	3.09	3.01	3.37	3.58	3.21	3.17	3.42	3.82	3.37	3.31	3.57	3.23	3.34	3.52
Residual Fuel Oil	0.89	0.82	0.81	0.83	1.01	0.91	0.93	1.03	1.38	1.21	1.23	1.29	0.84	0.97	1.27
Other Oils ^e	4.28	4.21	4.43	4.44	4.37	4.21	4.52	4.60	4.68	4.37	4.66	4.80	4.34	4.43	4.63
Total Demand	17.62	17.49	17.70	17.98	18.06	17.99	18.39	18.65	19.17	18.80	19.15	19.44	17.70	18.27	19.14
Total Petroleum Net Imports	7.45	8.00	8.35	7.86	8.56	9.38	9.57	8.96	9.49	10.36	10.61	10.05	7.92	9.12	10.13
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	323	327	328	325	327	332	336	335	302	325	335
Total Motor Gasoline	211	205	199	204	206	200	199	208	212	206	206	217	204	208	217
Finished Motor Gasoline	168	164	159	161	164	162	160	169	172	169	167	178	161	169	178
Blending Components	43	41	40	43	42	38	39	39	40	38	39	39	43	39	39
Jet Fuel	39	40	41	40	43	45	45	46	45	45	47	48	40	46	48
Distillate Fuel Oil	115	115	132	129	94	110	134	135	95	109	133	133	129	135	133
Residual Fuel Oil	38	36	40	37	37	40	40	42	39	42	42	42	37	42	42
Other Oils ^g	266	294	310	258	261	305	319	271	263	307	322	276	258	271	276
Total Stocks (excluding SPR)	1007	1017	1026	970	965	1027	1065	1027	981	1041	1085	1051	970	1027	1051
Crude Oil in SPR	592	592	592	592	592	592	592	592	592	592	592	592	592	592	592
Total Stocks (Including SPR)	1599	1609	1618	1562	1556	1618	1657	1619	1573	1633	1677	1642	1562	1619	1642

^aIncludes lease condensate.

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

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

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes 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.

^fIncludes crude oil in transit to refineries.

^gIncludes 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. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-95/12); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 6. U.S. Petroleum Supply and Demand: Mid World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.44	6.42	6.29	6.24	6.29	6.26	6.18	6.07	6.07	6.52	6.31	6.14
Alaska	1.56	1.50	1.40	1.47	1.43	1.33	1.32	1.35	1.33	1.28	1.23	1.23	1.48	1.36	1.27
Lower 48	5.07	5.05	5.03	4.97	4.99	4.95	4.92	4.94	4.93	4.89	4.84	4.84	5.03	4.95	4.88
Net Imports (including SPR) ^b	6.74	7.35	7.49	7.14	7.45	8.01	8.20	7.50	7.58	8.38	8.70	8.05	7.18	7.79	8.18
Gross Imports (excluding SPR)	6.83	7.46	7.57	7.21	7.76	8.32	8.48	7.80	7.89	8.69	8.98	8.35	7.27	8.09	8.48
SPR Imports	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
Exports	0.09	0.11	0.08	0.08	0.31	0.31	0.28	0.30	0.31	0.31	0.28	0.30	0.09	0.30	0.30
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	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
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	-0.23	-0.04	-0.01	0.03	-0.02	-0.05	-0.04	0.01	0.10	-0.06	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.22	0.26	0.28	0.28	0.27	0.27	0.28	0.29	0.27	0.19	0.27	0.28
Total Crude Oil Supply	13.49	14.23	14.34	13.83	13.89	14.51	14.70	14.09	14.07	14.77	15.00	14.40	13.97	14.30	14.56
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	1.78	1.77	1.77	1.80	1.79	1.78	1.79	1.81	1.76	1.78	1.79
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.30	0.32	0.32	0.34	0.40	0.35	0.34	0.36	0.41	0.30	0.35	0.36
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.72	0.75	0.78	0.80	0.77	0.81	0.82	0.79	0.78	0.82	0.84	0.81	0.76	0.80	0.81
Net Product Imports ^c	0.71	0.65	0.86	0.72	0.94	1.08	0.99	1.03	0.81	1.08	0.96	0.99	0.74	1.01	0.96
Gross Product Imports ^c	1.61	1.47	1.62	1.69	1.86	1.96	1.85	1.99	1.73	1.95	1.82	1.96	1.60	1.91	1.87
Product Exports	0.90	0.82	0.76	0.97	0.92	0.87	0.85	0.96	0.92	0.88	0.86	0.97	0.86	0.90	0.91
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	0.29	-0.64	-0.41	0.38	0.52	-0.62	-0.44	0.36	0.15	-0.10	-0.05
Total Supply	17.61	17.49	17.70	17.98	18.00	17.87	18.23	18.49	18.34	18.19	18.52	18.78	17.70	18.15	18.46
Demand															
Motor Gasoline	7.48	7.94	7.93	7.78	7.56	8.12	8.15	8.00	7.73	8.29	8.32	8.16	7.78	7.96	8.13
Jet Fuel	1.52	1.44	1.52	1.56	1.50	1.49	1.57	1.55	1.52	1.50	1.57	1.55	1.51	1.53	1.54
Distillate Fuel Oil	3.45	3.09	3.01	3.37	3.58	3.19	3.14	3.39	3.63	3.26	3.21	3.45	3.23	3.32	3.38
Residual Fuel Oil	0.89	0.82	0.81	0.83	0.99	0.86	0.86	0.97	1.03	0.86	0.83	0.96	0.84	0.92	0.92
Other Oils ^e	4.28	4.21	4.43	4.44	4.38	4.21	4.51	4.58	4.42	4.27	4.59	4.66	4.34	4.42	4.49
Total Demand	17.62	17.49	17.70	17.98	18.00	17.87	18.23	18.49	18.34	18.19	18.52	18.78	17.70	18.15	18.46
Total Petroleum Net Imports	7.45	8.00	8.35	7.86	8.39	9.09	9.20	8.53	8.38	9.46	9.66	9.04	7.92	8.80	9.14
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	323	327	328	325	327	332	336	335	302	325	335
Total Motor Gasoline	211	205	199	204	206	200	199	208	212	206	206	217	204	208	217
Finished Motor Gasoline	168	164	159	161	164	162	160	169	172	169	167	178	161	169	178
Blending Components	43	41	40	43	42	38	39	39	40	38	39	39	43	39	39
Jet Fuel	39	40	41	40	43	45	45	46	45	45	47	48	40	46	48
Distillate Fuel Oil	115	115	132	129	94	110	135	135	96	111	135	135	129	135	135
Residual Fuel Oil	38	36	40	37	37	40	40	42	39	42	42	42	37	42	42
Other Oils ^g	266	294	310	258	261	305	320	272	265	309	324	278	258	272	278
Total Stocks (excluding SPR)	1007	1017	1026	970	965	1027	1066	1028	983	1044	1089	1055	970	1028	1055
Crude Oil in SPR	592	592	592	592	592	592	592	592	592	592	592	592	592	592	592
Total Stocks (including SPR)	1599	1609	1618	1562	1556	1619	1657	1620	1575	1636	1681	1647	1562	1620	1647

^aIncludes lease condensate.

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

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

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes 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.

^fIncludes crude oil in transit to refineries.

^gIncludes 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. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-95/12); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 7. U.S. Petroleum Supply and Demand: High World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.44	6.50	6.39	6.37	6.45	6.43	6.36	6.29	6.29	6.52	6.43	6.34
Alaska	1.56	1.50	1.40	1.47	1.46	1.36	1.35	1.38	1.36	1.31	1.25	1.25	1.48	1.39	1.29
Lower 48	5.07	5.05	5.03	4.97	5.04	5.03	5.03	5.06	5.07	5.05	5.04	5.04	5.03	5.04	5.05
Net Imports (including SPR) ^b	6.74	7.35	7.49	7.14	7.35	7.86	8.01	7.29	7.34	8.11	8.38	7.72	7.18	7.63	7.89
Gross Imports (excluding SPR)	6.83	7.46	7.57	7.21	7.66	8.17	8.29	7.59	7.65	8.42	8.66	8.02	7.27	7.93	8.19
SPR Imports	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
Exports	0.09	0.11	0.08	0.08	0.31	0.31	0.28	0.30	0.31	0.31	0.28	0.30	0.09	0.30	0.30
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	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
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	-0.23	-0.04	-0.01	0.03	-0.02	-0.05	-0.04	0.01	0.10	-0.06	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.22	0.26	0.28	0.28	0.27	0.27	0.28	0.28	0.27	0.19	0.27	0.27
Total Crude Oil Supply	13.49	14.23	14.34	13.83	13.87	14.48	14.64	14.02	14.00	14.69	14.90	14.28	13.97	14.25	14.47
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	1.78	1.77	1.77	1.80	1.79	1.78	1.79	1.81	1.76	1.78	1.79
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.30	0.32	0.32	0.34	0.40	0.35	0.34	0.36	0.41	0.30	0.35	0.36
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.72	0.75	0.78	0.80	0.77	0.81	0.82	0.79	0.78	0.82	0.83	0.80	0.76	0.79	0.81
Net Product Imports ^c	0.71	0.65	0.86	0.72	0.91	1.04	0.94	0.98	0.74	1.00	0.86	0.91	0.74	0.97	0.88
Gross Product Imports ^c	1.61	1.47	1.62	1.69	1.83	1.91	1.79	1.94	1.66	1.88	1.72	1.88	1.60	1.87	1.79
Product Exports	0.90	0.82	0.76	0.97	0.92	0.87	0.85	0.96	0.92	0.88	0.86	0.97	0.86	0.90	0.91
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	0.29	-0.64	-0.41	0.37	0.52	-0.62	-0.44	0.35	0.15	-0.10	-0.05
Total Supply	17.61	17.49	17.70	17.98	17.95	17.78	18.11	18.37	18.19	18.01	18.31	18.58	17.70	18.05	18.27
Demand															
Motor Gasoline	7.48	7.94	7.93	7.78	7.54	8.08	8.11	7.96	7.68	8.24	8.26	8.10	7.78	7.93	8.07
Jet Fuel	1.52	1.44	1.52	1.56	1.50	1.49	1.57	1.55	1.52	1.50	1.57	1.55	1.51	1.53	1.53
Distillate Fuel Oil	3.45	3.09	3.01	3.37	3.57	3.18	3.12	3.37	3.60	3.22	3.17	3.40	3.23	3.31	3.35
Residual Fuel Oil	0.89	0.82	0.81	0.83	0.97	0.83	0.80	0.93	0.98	0.80	0.74	0.89	0.84	0.88	0.85
Other Oils ^e	4.28	4.21	4.43	4.44	4.38	4.21	4.50	4.57	4.41	4.26	4.57	4.63	4.34	4.41	4.47
Total Demand	17.62	17.49	17.70	17.98	17.95	17.78	18.11	18.37	18.19	18.01	18.31	18.58	17.70	18.05	18.27
Total Petroleum Net Imports	7.45	8.00	8.35	7.86	8.26	8.90	8.95	8.27	8.08	9.11	9.24	8.63	7.92	8.59	8.77
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	323	327	328	325	327	332	336	335	302	325	335
Total Motor Gasoline	211	205	199	204	206	200	199	208	212	206	206	217	204	208	217
Finished Motor Gasoline	168	164	159	161	164	162	160	169	172	169	167	178	161	169	178
Blending Components	43	41	40	43	42	38	39	39	40	38	39	39	43	39	39
Jet Fuel	39	40	41	40	43	45	45	46	45	45	47	48	40	46	48
Distillate Fuel Oil	115	115	132	129	95	111	135	136	96	111	135	136	129	136	136
Residual Fuel Oil	38	36	40	37	37	40	40	42	39	42	42	42	37	42	42
Other Oils ^g	266	294	310	258	261	305	320	272	265	310	325	279	258	272	279
Total Stocks (excluding SPR)	1007	1017	1026	970	965	1027	1066	1029	984	1046	1090	1057	970	1029	1057
Crude Oil In SPR	592	592	592	592	592	592	592	592	592	592	592	592	592	592	592
Total Stocks (including SPR)	1599	1609	1618	1562	1557	1619	1658	1621	1576	1637	1682	1649	1562	1621	1649

^aIncludes lease condensate.

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

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

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes 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.

^fIncludes crude oil in transit to refineries.

^gIncludes 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. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-95/12); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 8. U.S. Petroleum Demand Sensitivities

	1996	1997
	Four Quarters ^a	Four Quarters ^a
Economic Activity		
Gross Domestic Product (billion 1987 dollars)	5,592 - 5,717	5,677 - 5,921
Resulting Change in Petroleum Demand (million barrels per day) ^b	0.26	0.59
Energy Prices		
Imported Crude Oil (nominal dollars per barrel) ^c	\$13.23 - \$18.08	\$13.00 - \$19.00
Resulting Change in Petroleum Demand (million barrels per day) ^b		
Due to Changes in the Crude Oil Price	-0.22	-0.84
Weather		
Heating Degree-Days (average per day) ^d	20.31 - 24.03	20.28 - 24.00
Resulting Change in Petroleum Demand (million barrels per day)	0.40	0.42
Cooling Degree-Days (average per day) ^d	5.57 - 6.58	5.57 - 6.58
Resulting Change in Petroleum Demand (million barrels per day) ^b	0.10	0.12

^aIn the weather case, calculations apply to certain quarters only, as follows: for heating degree-days in 1996 the average of first and fourth quarters are used; for 1997 the average of first and fourth quarters are used; for cooling degree-days in 1996 the average of the second and third quarters is used; for 1997 the average of the second and third quarters is used.

^bRanges of petroleum product supplied associated with varying each determinant (or determinants), holding other things equal.

^cCost of imported crude oil to U.S. refiners.

^dHeating and cooling degree-days are U.S. 1990 population-weighted.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division, Short-Term Integrated Forecasting System.

**Table 9. Forecast Components for U.S. Crude Oil Production
(Million Barrels per Day)**

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.29	5.71	0.59	0.16	0.42
Lower 48 States	5.04	4.51	0.54	0.14	0.40
Alaska	1.25	1.20	0.05	0.03	0.03

Note: Components provided are for the fourth quarter 1997; totals are from Tables 5 and 7. Totals may not add to sum of components due to independent rounding.

Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

Table 10. U.S. Natural Gas Supply and Demand: Mid World Oil Price Case
(Trillion Cubic Feet)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Total Dry Gas Production ^a	4.69	4.73	4.62	4.69	5.04	4.87	4.80	4.98	5.01	4.93	4.99	5.03	18.73	19.68	19.96
Net Imports	0.69	0.59	0.63	0.68	0.72	0.66	0.67	0.74	0.72	0.67	0.69	0.76	2.59	2.80	2.84
Supplemental Gaseous Fuels	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.13	0.12	0.12
Total New Supply	5.42	5.34	5.28	5.41	5.79	5.55	5.50	5.76	5.77	5.63	5.70	5.82	21.44	22.60	22.91
Underground Working Gas Storage															
Opening	6.97	5.68	6.40	7.11	6.40	5.30	6.06	6.97	6.59	5.48	6.15	6.98	6.97	6.40	6.59
Closing	5.68	6.40	7.11	6.40	5.30	6.06	6.97	6.59	5.48	6.15	6.98	6.65	6.40	6.59	6.65
Net Withdrawals	1.29	-0.72	-0.71	0.71	1.10	-0.76	-0.91	0.37	1.12	-0.68	-0.83	0.33	0.57	-0.20	-0.05
Total Supply ^a	6.71	4.62	4.56	6.12	6.89	4.79	4.59	6.13	6.89	4.95	4.87	6.15	22.01	22.41	22.86
Balancing Item ^b	0.03	0.16	-0.12	-0.44	0.34	0.00	-0.23	-0.43	0.39	-0.04	-0.37	-0.30	-0.38	-0.31	-0.32
Total Primary Supply ^a	6.73	4.78	4.44	5.68	7.24	4.79	4.37	5.70	7.28	4.91	4.51	5.85	21.63	22.10	22.54
Demand															
Lease and Plant Fuel	0.31	0.31	0.30	0.31	0.32	0.31	0.31	0.32	0.32	0.31	0.32	0.32	1.23	1.26	1.27
Pipeline Use	0.22	0.16	0.15	0.20	0.22	0.16	0.15	0.20	0.22	0.16	0.16	0.20	0.73	0.73	0.74
Residential	2.17	0.84	0.38	1.46	2.44	0.85	0.38	1.40	2.43	0.86	0.38	1.41	4.85	5.07	5.09
Commercial	1.19	0.58	0.42	0.88	1.33	0.59	0.40	0.86	1.34	0.60	0.41	0.88	3.07	3.18	3.23
Industrial (Incl. Cogenerators)	2.19	2.06	1.96	2.10	2.22	2.04	1.97	2.15	2.26	2.10	2.03	2.22	8.30	8.39	8.60
Cogenerators ^c	0.49	0.54	0.52	0.50	0.52	0.57	0.55	0.53	0.54	0.60	0.58	0.55	2.06	2.16	2.26
Electricity Production															
Electric Utilities	0.61	0.78	1.19	0.69	0.65	0.79	1.10	0.73	0.66	0.82	1.16	0.77	3.28	3.27	3.41
Nonutilities (Excl. Cogen.)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.19	0.20	0.21
Total Demand	6.73	4.78	4.44	5.68	7.24	4.79	4.37	5.70	7.28	4.91	4.51	5.85	21.63	22.10	22.54

^aExcludes nonhydrocarbon gases removed.

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

^cQuarterly estimates and projections for gas consumption by nonutility generators are based on estimates for quarterly gas-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Annual projections for nonutility gas consumption, as well as the detail on independent power producers' share of gas consumption, are provided by CNEAF.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Natural Gas Monthly*, DOE/EIA-0130(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

Table 11. U.S. Coal Supply and Demand: Mid World Oil Price Case
(Million Short Tons)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Production	265.3	248.5	256.4	263.4	262.9	260.4	263.2	263.2	264.7	264.0	267.2	269.4	1033.5	1049.8	1065.3
Primary Stock Levels ^a															
Opening	33.2	42.3	42.1	36.2	34.0	35.0	36.0	34.0	33.0	34.0	35.0	33.0	33.2	34.0	33.0
Closing	42.3	42.1	36.2	34.0	35.0	36.0	34.0	33.0	34.0	35.0	33.0	32.0	34.0	33.0	32.0
Net Withdrawals	-9.1	0.2	5.9	2.2	-1.0	-1.0	2.0	1.0	-1.0	-1.0	2.0	1.0	-0.8	1.0	1.0
Imports	1.8	1.6	1.7	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	7.0	7.3	7.5
Exports	19.0	23.2	22.2	20.7	21.4	22.2	22.5	22.4	22.0	22.7	23.0	22.9	85.1	88.6	90.7
Total Net Domestic Supply	238.9	227.2	241.8	246.8	242.3	239.0	244.6	243.7	243.5	242.2	248.1	249.4	954.7	969.6	983.2
Secondary Stock Levels ^b															
Opening	136.1	143.5	151.8	131.6	138.1	137.3	151.5	140.4	141.5	140.8	153.6	140.6	136.1	138.1	141.5
Closing	143.5	151.8	131.6	138.1	137.3	151.5	140.4	141.5	140.8	153.6	140.6	142.5	138.1	141.5	142.5
Net Withdrawals	-7.3	-8.4	20.2	-6.4	0.8	-14.2	11.1	-1.1	0.7	-12.8	13.0	-1.9	-1.9	-3.4	-1.0
Total Supply	231.6	218.8	262.0	240.3	243.1	224.8	255.7	242.6	244.2	229.4	261.0	247.5	952.8	966.2	982.1
Demand															
Coke Plants	8.1	8.3	8.3	8.1	8.1	8.2	8.1	8.2	8.1	8.2	8.1	8.5	32.8	32.7	33.0
Electricity Production															
Electric Utilities	199.0	191.1	232.0	207.3	210.1	194.1	224.8	208.9	211.0	198.6	229.8	213.4	829.4	837.8	852.8
Nonutilities (Excl. Cogen.) ^c	2.9	2.9	2.9	2.9	3.3	3.3	3.3	3.3	3.6	3.6	3.6	3.6	11.7	13.1	14.5
Retail and General Industry ^d	20.6	17.9	23.7	22.0	21.7	19.2	19.5	22.2	21.5	18.9	19.5	22.1	84.2	82.6	81.9
Total Demand	230.7	220.3	266.9	240.3	243.1	224.8	255.7	242.6	244.2	229.4	261.0	247.5	958.2	966.2	982.1
Discrepancy ^e	0.9	-1.5	-4.9	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	-5.4	(S)	(S)

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

^bSecondary stocks are held by users.

^cConsumption of coal by Independent Power Producers (IPPs). In 1993, IPP consumption was estimated to be 1.8 million tons per quarter. Quarterly estimates and projections for coal consumption by nonutility generators are based on estimates for quarterly coal-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Data for 1994 and 1995 are estimates.

^dSynfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.

^eHistorical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference. Forecast discrepancy identically zero by assumption.

(S) Indicates amounts of less than 50,000 tons in absolute value.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 12. U.S. Electricity Supply and Demand: Mid World Oil Price Case
(Billion Kilowatthours)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Net Utility Generation															
Coal	398.3	382.9	460.2	413.7	425.0	391.5	451.3	420.5	429.0	402.3	463.4	431.7	1655.2	1688.3	1726.4
Petroleum	14.3	12.1	20.4	13.6	15.0	16.4	21.7	16.5	16.8	17.3	21.1	15.7	60.4	69.7	71.0
Natural Gas	59.6	75.1	113.3	66.2	62.1	74.9	105.2	69.2	63.1	77.9	110.6	73.1	314.1	311.5	324.7
Nuclear	167.1	160.1	179.4	163.7	172.7	156.4	182.4	164.8	173.6	156.4	182.4	164.8	670.2	676.2	677.2
Hydroelectric	74.7	78.4	67.7	64.7	74.2	75.8	64.2	61.8	71.4	75.0	62.7	61.8	285.6	276.0	270.9
Geothermal and Other ^a	1.4	1.2	1.7	2.2	2.0	1.9	1.9	1.9	1.8	1.7	1.8	1.7	6.5	7.6	7.0
Subtotal	715.4	709.8	842.8	724.1	751.1	716.9	826.7	734.6	755.8	730.6	842.0	748.8	2992.0	3029.3	3077.2
Nonutility Generation ^b															
Coal	14.7	16.2	15.7	15.0	15.6	17.3	16.6	15.9	16.3	18.0	17.3	16.6	61.5	65.4	68.2
Petroleum	3.7	4.1	3.9	3.7	4.0	4.5	4.3	4.1	4.4	4.9	4.7	4.5	15.4	16.9	18.4
Natural Gas	45.2	50.0	48.2	46.0	48.2	53.3	51.4	49.1	50.3	55.7	53.7	51.3	189.4	201.9	211.1
Other Gaseous Fuels ^c	3.0	3.3	3.2	3.0	3.0	3.3	3.2	3.0	3.0	3.3	3.2	3.1	12.5	12.5	12.6
Hydroelectric	3.2	3.6	3.5	3.3	3.5	3.9	3.7	3.6	3.7	4.1	4.0	3.8	13.6	14.7	15.5
Geothermal and Other ^d	19.1	21.1	20.4	19.5	19.9	22.0	21.3	20.3	20.4	22.6	21.8	20.8	80.1	83.5	85.7
Subtotal	88.8	98.3	94.8	90.5	94.2	104.2	100.5	96.0	98.1	108.6	104.7	100.0	372.5	394.9	411.4
Total Generation	804.2	808.2	937.6	814.6	845.3	821.1	927.2	830.6	853.9	839.2	946.7	848.8	3364.5	3424.2	3488.7
Net Imports ^e	8.3	9.8	11.4	9.4	8.1	9.6	11.1	9.2	7.9	9.4	10.9	8.9	39.0	38.0	37.1
Total Supply	812.5	818.0	949.0	824.0	853.4	830.7	938.4	839.7	861.8	848.6	957.6	857.7	3403.5	3462.2	3525.7
Losses and Unaccounted for ^f	47.2	73.3	63.9	64.7	49.2	70.6	65.2	64.0	50.0	72.1	66.5	65.4	249.1	249.0	254.0
Demand															
Electric Utility Sales															
Residential	262.7	222.9	313.2	243.9	287.2	231.3	297.9	247.8	289.3	237.1	304.6	254.0	1042.7	1064.1	1085.1
Commercial	198.2	203.7	242.9	204.5	209.6	208.9	242.2	209.4	211.3	212.7	246.2	212.5	849.2	870.1	882.7
Industrial	243.3	253.7	262.9	248.5	244.8	254.2	266.7	255.7	248.1	260.1	272.8	262.1	1008.5	1021.4	1043.0
Other	23.8	23.2	26.1	24.3	24.5	23.6	25.8	24.0	24.3	23.7	26.0	24.2	97.4	97.9	98.2
Subtotal	728.0	703.4	845.2	721.2	766.1	718.0	832.5	736.9	773.0	733.6	849.7	752.8	2997.9	3053.6	3109.0
Nonutility Gener. for Own Use ^b	37.3	41.3	39.8	38.0	38.1	42.1	40.6	38.8	38.8	42.9	41.4	39.5	156.5	159.6	162.7
Total Demand	765.4	744.7	885.0	759.3	804.2	760.1	873.2	775.7	811.8	776.5	891.1	792.3	3154.4	3213.2	3271.7
Memo:															
Nonutility Sales to Electric Utilities ^b															
	51.5	57.0	55.0	52.5	56.1	62.1	59.9	57.2	59.3	65.7	63.3	60.4	216.0	235.3	248.7

^aOther includes generation from wind, wood, waste, and solar sources.

^bElectricity from nonutility sources, including cogenerators and small power producers. Quarterly estimates and projections for nonutility net sales, own use, and generation by fuel source supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1994 and 1995 are estimates.

^cIncludes refinery still gas and other process or waste gases, and liquefied petroleum gases.

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

^eData for 1994 and 1995 are estimates.

^fBalancing item, mainly transmission and distribution losses.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 13. U.S. Renewable Energy Use by Sector: Mid World Oil Price Case
(Quadrillion Btu)

	Year				Annual Percentage Change		
	1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Electric Utilities							
Hydroelectric Power ^a	2.536	2.973	2.873	2.820	17.2	-3.4	-1.8
Geothermal, Solar and Wind Energy ^b	0.145	0.100	0.120	0.107	-31.0	20.0	-10.8
Biofuels ^c	0.020	0.017	0.019	0.019	-15.0	11.8	0.0
Total	2.702	3.090	3.012	2.946	14.4	-2.5	-2.2
Nonutility Power Generators							
Hydroelectric Power ^a	0.136	0.140	0.151	0.160	2.9	7.9	6.0
Geothermal, Solar and Wind Energy ^b	0.148	0.159	0.167	0.174	7.4	5.0	4.2
Biofuels ^c	0.590	0.625	0.650	0.665	5.9	4.0	2.3
Total	0.874	0.923	0.968	0.998	5.6	4.9	3.1
Total Power Generation	3.576	4.014	3.981	3.944	12.2	-0.8	-0.9
Other Sectors							
Residential and Commercial ^d	0.597	0.596	0.613	0.623	-0.2	2.9	1.6
Industrial ^e	1.556	1.546	1.529	1.571	-0.6	-1.1	2.7
Transportation ^f	0.088	0.089	0.095	0.095	1.1	6.7	0.0
Total	2.241	2.231	2.236	2.289	-0.4	0.2	2.4
Net Imported Electricity ^g	0.459	0.401	0.391	0.381	-12.6	-2.5	-2.6
Total Renewable Energy Demand	6.276	6.646	6.608	6.614	5.9	-0.6	0.1

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

^bAlso includes photovoltaic and solar thermal energy.

^cBiofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

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

^eConsists primarily of biofuels for use other than electricity cogeneration.

^fEthanol blended into gasoline.

^gNet imports of electricity are included in renewables because they stem principally from hydroelectric power generators in Canada. However, it should be noted that in actuality, only about 77 percent of gross imports of electricity from Canada were attributable to renewable energy sources in 1993, based on statistics from Natural Resources Canada, *Electric Power in Canada 1993* (Ottawa: 1994), p. 89.

(S) Less than 500 billion Btu. (S) indicates amounts of less than 500 billion Btu.

NM indicates percent change calculations are not meaningful or undefined at the precision level of this table.

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

Sources: Historical data: 1994: Estimates derived from Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration; Projections: Renewables growth in sectors other than electric utilities taken from Energy Information Administration, *Annual Energy Outlook 1995* database and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Table A1. Annual U.S. Energy Supply and Demand

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Real Gross Domestic Product (GDP) (billion 1987 dollars)	3907	4149	4280	4404	4540	4719	4838	4897	4868	4979	5135	5344	5518	5654	5799
Imported Crude Oil Price ^a (nominal dollars per barrel)	33.55	29.30	28.88	26.99	14.00	14.57	18.08	21.75	18.70	18.20	16.15	15.52	17.14	16.12	16.00
Petroleum Supply															
Crude Oil Production ^b (million barrels per day)	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.52	6.31	6.14
Total Petroleum Net Imports (including SPR) (million barrels per day)	4.31	4.71	4.29	5.44	5.92	6.59	7.20	7.15	6.58	6.94	7.62	8.05	7.92	8.80	9.14
Energy Demand															
World Petroleum (million barrels per day)	59.0	59.9	60.6	62.2	63.4	65.2	66.0	66.2	66.8	66.6	66.6	68.6	69.7	71.4	72.9
U.S. Petroleum (million barrels per day)	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.70	18.15	18.46
Natural Gas (trillion cubic feet)	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.63	22.10	22.54
Coal (million short tons)	737	791	818	804	837	884	894	900	893	899	933	940	958	966	982
Electricity (billion kilowatthours) Utility Sales	2151	2286	2324	2369	2457	2578	2647	2713	2762	2763	2861	2921	2998	3054	3109
Nonutility Own Use ^d	NA	NA	NA	NA	NA	NA	NA	113	122	132	138	150	156	160	163
Total	NA	NA	NA	NA	NA	NA	NA	2826	2884	2895	2999	3071	3154	3213	3272
Total Energy Demand ^e (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	84.1	84.0	85.2	86.9	88.8	90.7	92.3	93.6
Total Energy Demand per Dollar of GDP (thousand Btu per 1987 Dollar)	NA	NA	NA	NA	NA	NA	NA	17.17	17.26	17.11	16.93	16.62	16.44	16.33	16.15
Adjusted Total Energy Demand ^f (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	86.6	86.8	88.2	89.8	92.0	93.8	95.5	96.9
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1987 Dollar)	NA	NA	NA	NA	NA	NA	NA	17.69	17.83	17.70	17.49	17.21	17.00	16.89	16.70

^aRefers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

^bIncludes lease condensate.

^cTotal annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

^dDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

^eTotal Energy Demand^f refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1995, DOE/EIA-0384(95) Tables 1.1, 1.3 and 2.1. "Adjusted Total Energy Demand" refers to the aggregate energy demand concept reported in the same tables for 1990 and beyond. The former concept is extended here in order to provide a more consistent long-term energy demand series. The latter concept is more comprehensive and is intended as the primary energy demand aggregate for assessing energy intensity trends since 1990. The adjusted measure incorporates information on renewable energy consumption among households, commercial establishments, and electricity generating facilities other than electric utilities (including industrial cogenerators). The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review* (MEER). Consequently, the historical data may not precisely match that published in the MEER or the AER.

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 italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Petroleum Supply Monthly*, DOE/EIA-0109(95/12); *Petroleum Supply Annual* 1994, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL1195.

Table A2. Annual U.S. Macroeconomic and Weather Indicators

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Macroeconomic															
Real Gross Domestic Product (billion 1987 dollars)	3907	4149	4280	4404	4540	4719	4838	4897	4868	4979	5135	5344	5518	5654	5799
GDP Implicit Price Deflator (Index, 1987=1,000)	0.871	0.910	0.944	0.969	1.000	1.038	1.086	1.133	1.176	1.209	1.235	1.261	1.283	1.309	1.333
Real Disposable Personal Income (billion 1987 Dollars)	2894	3080	3162	3262	3290	3404	3465	3524	3538	3648	3704	3836	3971	4095	4187
Manufacturing Production (Index, 1987=1,000)	0.809	0.893	0.916	0.943	1.000	1.047	1.064	1.061	1.040	1.081	1.130	1.198	1.242	1.277	1.317
Real Fixed Investment (billion 1987 dollars)	595	690	724	727	723	753	754	741	685	723	805	904	997	1046	1075
Real Exchange Rate (Index)	NA	NA	NA	NA	NA	NA	NA	1.000	1.012	1.015	1.063	1.040	0.968	0.968	0.928
Business Inventory Change (billion 1987 dollars)	0.6	27.5	-3.7	-2.1	6.6	15.1	18.6	3.0	-6.2	-10.2	-0.8	4.8	11.4	-0.4	1.5
Producer Price Index (Index, 1980-1984=1,000)	1.013	1.037	1.032	1.002	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.250	1.272	1.291
Consumer Price Index (Index, 1980-1984=1,000)	0.996	1.039	1.076	1.097	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.526	1.571	1.616
Petroleum Product Price Index (Index, 1980-1984=1,000)	0.899	0.874	0.832	0.532	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.613	0.616	0.614
Non-Farm Employment (millions)	90.1	94.4	97.4	99.3	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.0	116.6	118.7	120.5
Commercial Employment (millions)	54.9	58.0	60.8	62.9	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.0	78.3	80.3	82.2
Total Industrial Production (Index, 1987=1,000)	0.849	0.928	0.944	0.953	1.000	1.045	1.061	1.061	1.043	1.077	1.121	1.181	1.222	1.253	1.289
Housing Stock (millions)	92.4	94.5	96.3	98.0	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.8	111.1	112.4
Weather *															
Heating Degree-Days U.S.	4627	4514	4642	4295	4334	4653	4726	4016	4200	4441	4700	4483	4562	4603	4576
New England	6305	6442	6571	6517	6546	6715	6887	5848	5960	6844	6728	6672	6596	6660	6621
Middle Atlantic	5733	5777	5660	5665	5699	6088	6134	4998	5177	5964	5948	5934	5826	5875	5839
U.S. Gas-Weighted	4810	4704	4856	4442	4391	4779	4856	4139	4337	4458	4754	4659	4707	4786	4732
Cooling Degree-Days (U.S.)	1260	1214	1194	1249	1269	1283	1156	1260	1331	1040	1218	1220	1280	1193	1193

*Population-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

Note: Historical data are printed in bold, forecasts are in *italics*.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(4/19)*, November 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL1995.

Table A3. Annual International Petroleum Supply and Demand Balance
(Millions Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Demand *															
OECD															
U.S. (50 States)	15.5	15.8	15.8	16.3	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	18.1	18.5
Europe ^b	12.1	12.1	12.0	12.5	12.6	12.7	12.8	12.6	13.4	13.6	13.5	13.6	13.8	14.0	14.2
Japan	4.4	4.6	4.4	4.4	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.8	5.8
Other OECD	2.4	2.5	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1
Total OECD	34.4	34.9	34.7	35.7	36.3	37.5	37.9	37.5	38.1	38.8	38.9	39.9	40.2	41.0	41.6
Non-OECD															
Former Soviet Union	9.0	8.9	9.0	9.0	9.0	8.9	8.7	8.4	8.4	6.8	5.8	4.8	4.6	4.5	4.5
Europe	1.8	1.8	2.2	2.2	2.2	2.2	2.1	2.0	1.3	1.3	1.2	1.4	1.4	1.4	1.5
China	1.7	1.7	1.9	2.0	2.1	2.3	2.4	2.3	2.5	2.7	3.1	3.1	3.3	3.5	3.7
Other Asia	3.5	3.7	3.7	3.9	4.1	4.4	4.9	5.3	5.7	6.1	6.4	7.4	8.0	8.5	9.0
Other Non-OECD	8.7	8.9	9.1	9.5	9.7	10.0	10.4	10.7	10.8	10.9	11.2	12.0	12.2	12.5	12.8
Total Non-OECD	24.7	25.1	25.9	26.5	27.1	27.7	28.5	28.7	28.6	27.8	27.7	28.7	29.5	30.4	31.4
Total World Demand	59.0	59.9	60.6	62.2	63.4	65.2	66.4	66.2	66.8	66.6	66.6	68.6	69.7	71.4	72.9
Supply *															
OECD															
U.S. (50 States)	10.8	11.1	11.2	10.9	10.6	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.3	9.2	9.1
Canada	1.7	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.6
North Sea ^d	3.1	3.4	3.6	3.8	3.8	3.8	3.7	3.9	4.0	4.3	4.6	5.4	5.8	6.4	6.5
Other OECD	1.2	1.3	1.4	1.3	1.4	1.4	1.3	1.5	1.5	1.5	1.3	1.5	1.5	1.5	1.5
Total OECD	16.8	17.6	18.0	17.9	17.8	17.7	17.0	17.0	17.5	17.8	17.8	18.6	19.1	19.6	19.7
Non-OECD															
OPEC	18.5	18.5	17.3	19.5	19.7	21.6	23.5	24.5	25.0	26.2	27.3	27.4	28.0	28.4	29.1
Former Soviet Union	12.3	12.2	11.9	12.3	12.5	12.5	12.1	11.4	10.4	8.9	8.1	7.0	7.0	7.0	7.1
China	2.1	2.3	2.5	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	3.1	3.2
Mexico	3.0	3.1	3.0	2.8	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.2	3.3	3.3
Other Non-OECD	5.4	10.3	6.4	6.7	6.8	7.2	7.5	7.7	7.8	8.1	8.4	8.8	9.5	10.0	10.4
Total Non-OECD	41.3	42.0	41.2	43.9	44.6	47.0	48.9	49.4	49.2	49.2	49.8	49.4	50.6	51.7	53.1
Total World Supply	58.1	59.6	59.3	61.8	62.4	64.7	65.9	66.4	66.7	66.9	67.6	68.0	69.7	71.4	72.8
Total Stock Withdrawals	0.4	-0.2	0.3	-0.9	-0.1	-0.4	-0.2	-0.2	0.1	-0.3	-1.0	0.6	0.0	0.0	0.1
Statistical Discrepancy	0.3	0.4	0.5	0.9	0.7	0.6	0.4	0.3	0.2	0.3	0.1	0.3	0.2	0.1	0.3
Closing Stocks (billion barrels) *	4.8	4.8	4.7	5.1	5.1	5.2	5.3	5.4	5.4	5.5	5.8	5.6	5.6	5.6	5.6
Net Exports from Former Soviet Union	3.4	3.3	3.0	3.4	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.2	2.4	2.5	2.6

*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.

^bOECD 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.

*Excludes stocks held in the Former CPEs.

OECD: Organization for Economic Cooperation and Development; Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but OECD data does not yet include Mexico.

OPEC: Organization of Petroleum Exporting Countries; Algeria, Gabon, 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 italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(95/12); and *International Energy Annual 1994*, DOE/EIA-0219(94); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, September 1995.

Table A4. Annual Average U.S. Energy Prices
(Nominal Dollars)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Imported Crude Oil ^a (dollars per barrel)	33.55	29.30	28.88	26.99	14.00	14.57	18.08	21.75	18.70	18.20	16.15	15.52	17.14	16.12	16.00
Natural Gas Wellhead (dollars per thousand cubic feet)	2.59	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.87	1.60	1.84	1.81
Petroleum Product															
Gasoline Retail ^b (dollars per gallon)	1.22	1.20	1.20	0.93	0.96	0.96	1.06	1.22	1.20	1.19	1.17	1.17	1.21	1.22	1.25
No. 2 Diesel Oil, Retail (dollars per gallon)	1.15	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.12	1.12	1.14
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.81	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.52	0.51	0.53
No. 2 Heating Oil, Retail (dollars per gallon)	NA	1.09	1.05	0.84	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.88	0.92	0.94
No. 6 Residual Fuel Oil, Retail ^c (dollars per barrel)	27.33	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.41	15.45	15.09
Electric Utility Fuel															
Coal (dollars per million Btu)	1.65	1.66	1.65	1.58	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.31	1.31
Heavy Fuel Oil ^d (dollars per million Btu)	4.57	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.63	2.64	2.59
Natural Gas (dollars per million Btu)	3.47	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.99	2.31	2.30
Other Residential															
Natural Gas (dollars per thousand cubic feet)	6.04	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.20	6.45	6.42
Electricity (cents per kilowatthour)	7.2	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.5

^aCost of imported crude oil to U.S.

^bAverage for all grades and services.

^cAverage for all sulfur contents.

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

Notes: Data are estimated for the fourth quarter of 1995. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); and *Petroleum Marketing Monthly*, DOE/EIA-0380(95/12).

Table A5. Annual U.S. Petroleum Supply and Demand
(Million Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.52	6.31	6.14
Alaska	1.71	1.72	1.83	1.87	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.48	1.36	1.27
Lower 48	6.97	7.16	7.15	6.81	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.03	4.95	4.88
Net Imports (including SPR) ^b	3.17	3.24	3.00	4.03	4.53	4.95	5.70	5.77	5.62	5.99	6.69	6.96	7.18	7.79	8.18
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Stock Draw (Including SPR)	-0.22	-0.20	-0.05	-0.08	-0.13	0.00	-0.09	0.03	0.04	0.00	-0.08	-0.02	0.10	-0.06	-0.03
Product Supplied and Losses	-0.07	-0.07	-0.06	-0.05	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.11	0.18	0.15	0.14	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.27	0.28
Total Crude Oil Supply	11.69	12.04	12.00	12.72	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.30	14.56
Other Supply															
NGL Production	1.56	1.63	1.61	1.55	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.78	1.79
Other Hydrocarbon and Alcohol Inputs	0.08	0.08	0.11	0.11	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.35	0.36
Crude Oil Product Supplied	0.07	0.06	0.06	0.05	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.49	0.55	0.56	0.62	0.64	0.66	0.66	0.70	0.71	0.77	0.76	0.77	0.76	0.80	0.81
Net Product Imports ^c	1.15	1.47	1.29	1.41	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.74	1.01	0.96
Product Stock Withdrawn or Added (-) ^d	0.15	-0.08	0.15	-0.12	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	-0.10	-0.05
Total Supply	15.18	15.76	15.78	16.33	16.72	17.33	17.37	17.05	16.76	17.10	17.25	17.72	17.70	18.15	18.46
Demand															
Motor Gasoline ^e	6.58	6.69	6.78	6.94	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.78	7.96	8.13
Jet Fuel	1.05	1.18	1.22	1.31	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.53	1.54
Distillate Fuel Oil	2.69	2.84	2.87	2.91	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.23	3.32	3.38
Residual Fuel Oil	1.42	1.37	1.20	1.42	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.84	0.92	0.92
Other Oils ^f	3.53	3.68	3.71	3.75	3.90	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.34	4.42	4.49
Total Demand ^g	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.70	18.15	18.46
Total Petroleum Net Imports	4.31	4.71	4.29	5.44	5.92	6.59	7.20	7.15	6.58	6.94	7.62	8.05	7.92	8.80	9.14
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^h	344	345	321	331	349	330	341	323	325	318	335	337	302	325	335
Total Motor Gasoline	222	243	223	233	226	228	213	220	219	216	226	215	204	208	217
Jet Fuel	39	42	40	50	50	44	41	52	49	43	40	47	40	46	48
Distillate Fuel Oil	140	161	144	155	134	124	106	132	144	141	141	145	129	135	135
Residual Fuel Oil	49	53	50	47	47	45	44	49	50	43	44	42	37	42	42
Other Oils ^h	281	261	247	265	260	267	257	261	267	263	273	275	258	272	278

^aIncludes lease condensate.

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

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

^dIncludes an estimate of minor product stock change based on monthly data.

^eFor 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.

^fIncludes 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.

^gIncludes 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. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-95/12); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table A6. Annual U.S. Natural Gas Supply and Demand

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Total Dry Gas Production ^a	16.09	17.47	16.45	16.06	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.75	18.73	19.68	19.96
Net Imports	0.86	0.79	0.89	0.69	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.59	2.80	2.84
Supplemental Gaseous Fuels	0.13	0.11	0.13	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.13	0.12	0.12
Total New Supply	17.09	18.36	17.47	16.86	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.32	21.44	22.60	22.91
Underground Working Gas Storage															
Opening	6.88	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.40	6.59
Closing	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.40	6.59	6.65
Net Withdrawals	0.44	-0.26	0.26	-0.12	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.57	-0.20	-0.05
Total Supply ^a	17.53	18.10	17.73	16.74	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.00	22.01	22.41	22.86
Balancing Item ^b	-0.69	-0.15	-0.45	-0.52	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.25	-0.38	-0.31	-0.32
Total Primary Supply ^a	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.63	22.10	22.54
Demand															
Lease and Plant Fuel	0.98	1.08	0.97	0.92	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.16	1.23	1.26	1.27
Pipeline Use	0.49	0.53	0.50	0.49	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.73	0.73	0.74
Residential	4.38	4.56	4.43	4.31	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.07	5.09
Commercial	2.43	2.52	2.43	2.32	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.07	3.18	3.23
Industrial (Incl. Nonutilities)	5.64	6.15	5.90	5.58	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.18	8.50	8.59	8.81
Cogenerators ^c	NA	NA	NA	NA	NA	NA	1.12	1.30	1.41	1.67	1.80	1.98	2.06	2.16	2.26
Other Nonutil. Gen. ^c	NA	NA	NA	NA	NA	NA	0.06	0.09	0.16	0.18	0.22	0.17	0.19	0.20	0.21
Electric Utilities	2.91	3.11	3.04	2.60	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.28	3.27	3.41
Total Demand	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.63	22.10	22.54

^aExcludes nonhydrocarbon gases removed.

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

^cNonutility gas consumption data and projections provided by the office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Natural Gas Monthly*, DOE/EIA-0130(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); Form EIA-867, ^aAnnual Nonutility Power Producer Report.

Table A7. Annual U.S. Coal Supply and Demand
(Million Short Tons)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Production	782.1	895.9	883.6	890.3	918.8	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1033.5	1049.8	1065.3
Primary Stock Levels ^a															
Opening	36.8	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.0	33.0
Closing	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.0	33.0	32.0
Net Withdrawals	2.9	-0.2	1.0	1.0	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-0.8	1.0	1.0
Imports	1.3	1.3	2.0	2.2	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.0	7.3	7.5
Exports	77.8	81.5	92.7	85.5	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	85.1	88.6	90.7
Total Net Domestic Supply	708.4	815.6	793.9	808.0	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	954.7	969.6	983.2
Secondary Stock Levels ^b															
Opening	195.3	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	138.1	141.5
Closing	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	138.1	141.5	142.5
Net Withdrawals	26.6	-28.6	27.0	-5.0	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	-1.9	-3.4	-1.0
Total Supply	735.0	787.0	820.8	803.1	834.4	882.3	896.5	899.4	891.4	901.8	930.2	946.1	952.8	966.2	982.1
Demand															
Coke Plants	37.0	44.0	41.1	35.9	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	32.8	32.7	33.0
Electricity Production															
Electric Utilities	625.2	664.4	693.8	695.1	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.4	837.8	852.8
Nonutilities (Excl. Cogen.)	NA	NA	NA	NA	NA	NA	3.9	4.1	4.9	6.1	7.3	9.4	11.7	13.1	14.5
Retail and General Industry ^c	74.4	82.9	83.2	83.3	82.1	83.4	82.3	83.1	81.5	80.2	81.1	81.2	84.2	82.6	81.9
Total Demand ^d	736.7	791.3	818.0	804.2	836.9	883.6	893.6	899.6	892.5	898.5	933.2	939.6	958.2	966.2	982.1
Discrepancy ^e	-1.6	-4.3	2.8	-1.2	-2.5	-1.3	3.0	-0.2	-1.2	3.3	-3.1	6.5	-5.4	S	S

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

^bSecondary stocks are held by users.

^cSynfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.

^dTotal excludes any shipments to independent power producers not calculated in Retail and General Industry for years prior to 1993.

^eHistorical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference, plus any shipment to independent power producers not captured in Retail and General Industry.

(S) Indicates amounts of less than 50,000 tons.
Notes: Flows 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, *Monthly Energy Review*, DOE/EIA-0035(95/12); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q), and Form EIA-867, "Annual Nonutility Power Producer Report."

Table A8. Annual U.S. Electricity Supply and Demand

(Billion Kilowatthours)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Net Utility Generation															
Coal	1259.4	1341.7	1402.1	1385.8	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1655.2	1688.3	1726.4
Petroleum	144.5	119.8	100.2	136.6	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.4	69.7	71.0
Natural Gas	274.1	297.4	291.9	248.5	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	314.1	311.5	324.7
Nuclear	293.7	327.6	383.7	414.0	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	670.2	676.2	677.2
Hydroelectric	332.1	321.2	281.1	290.8	249.7	222.9	285.1	279.9	275.5	239.6	265.1	243.7	285.6	276.0	270.9
Geothermal and Other ^a	6.5	8.6	10.7	11.5	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.5	7.6	7.0
Subtotal	2310.3	2416.3	2469.8	2487.3	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2992.0	3029.3	3077.2
Nonutility Generation ^b	NA	NA	NA	NA	NA	NA	NA	221.8	253.7	266.0	325.2	354.9	372.5	394.9	411.4
Total Generation	NA	NA	NA	NA	NA	NA	NA	3030.0	3078.7	3093.2	3207.8	3265.6	3364.5	3424.2	3488.7
Net Imports	35.3	39.7	40.9	35.9	46.3	31.8	11.0	2.0	22.3	28.3	28.4	44.6	39.0	38.0	37.1
Total Supply	NA	NA	NA	NA	NA	NA	2986.6	3032.0	3101.0	3121.6	3236.2	3310.3	3403.5	3462.2	3525.7
Losses and Unaccounted for ^c	NA	NA	NA	NA	NA	NA	231.4	206.1	217.1	226.6	236.9	239.2	249.1	249.0	254.0
Demand															
Electric Utility Sales															
Residential	750.9	780.1	793.9	819.1	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1005.8	1042.7	1064.1	1085.1
Commercial	543.8	582.6	606.0	630.5	660.4	699.1	725.9	751.0	765.7	761.3	794.6	827.3	849.2	870.1	882.7
Industrial	776.0	837.8	836.8	830.5	858.2	896.5	925.7	945.5	946.6	972.7	977.2	992.4	1008.5	1021.4	1043.0
Other	80.2	85.2	87.3	88.6	88.2	89.6	89.8	92.0	94.3	93.4	94.9	95.3	97.4	97.9	98.2
Subtotal	2151.0	2285.8	2324.0	2368.8	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2920.9	2997.9	3053.6	3109.0
Nonutility Own Use ^b	NA	NA	NA	NA	NA	NA	NA	113.4	121.9	131.6	137.8	150.2	156.5	159.6	162.7
Total Demand	NA	NA	NA	NA	NA	NA	NA	2825.9	2883.9	2895.0	2999.3	3071.1	3154.4	3213.2	3271.7
Memo:															
Nonutility Sales															
to Electric Utilities ^d	13.0	18.0	26.0	39.9	50.0	68.0	83.0	108.5	131.9	164.4	187.4	204.7	216.0	235.3	248.7

^aOther includes generation from wind, wood, waste, and solar sources.^bFor 1989 to 1991, estimates for nonutility generation are estimates made by the Energy Markets and Contingency Information Division, based on Form EIA-867 data. History and Projections for the same items are from the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration, based on Form EIA-867 data.^cBalancing item, mainly transmission and distribution losses.^dHistorical data for nonutility sales to electric utilities is from the Energy Information Administration, *Annual Energy Review*, DOE/EIA-0389, Table 8.1, for 1982 to 1988; from Form EIA-867 for 1989 to 1993.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(95/12); *Electric Power Monthly*, DOE/EIA-0226(95/11); Form EIA-867 ("Annual Nonutility Power Producer Report").

Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Text References and Notes

International Oil Demand

¹Latin America is defined as including all of the countries of Central and South America, plus Mexico, but excluding Puerto Rico and the U.S. Virgin Islands.

²Energy Information Administration, Energy Markets and Contingency Information Division.

International Oil Supply

³Non-OPEC developing countries are those which do not belong to either OPEC, FSU or OECD.

⁴Excess capacity data by country provided by Energy Information Administration, Energy Markets and Contingency Information Division.

World Oil Stocks and Net Trade

⁵Energy Information Administration, Office of Energy Markets and Contingency Information Division.

U.S. Oil Supply

⁶Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

⁷Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

⁸Drilling rig projections provided by the Energy Information Administration, Reserves and Natural Gas Division.

U.S. Energy Prices

⁹*Reuters's News Service*, December 19, 1995. In the second week of December 1995, the price differential for RFG and conventional gasoline were 3.1 cents for N.Y.H, 4.5 cents for Gulf Coast, and 3.0 cents for L.A.

¹⁰California Air Resources Board, January 19, 1996.

¹¹*Natural Gas Week*, December 25, 1995, "Comparative Fuel Prices", p. 5.

¹²*Natural Gas Week*, January 1, 1996, "Composite Average Spot Wellhead Price", p. 6.

¹³Wall Street Journal, "Futures Prices", October 9, 1995 and December 21, 1995.

U.S. Natural Gas Demand

¹⁴Energy Information Administration, *Historical Monthly Energy Review 1973-1992*, DOE/EIA-0035(73-92), Table 4.2.

U.S. Natural Gas Supply

¹⁵*Natural Gas Week*, January 1, 1996, p. 12.

¹⁶*Natural Gas Week*, January 22, 1996, p. 17.

U.S. Electricity Demand and Supply

¹⁷Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

¹⁸Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Figure References

The following is a list of references for the figures appearing in this issue of the *Short-Term Energy Outlook*. Except where noted, all data for figures are taken from datasets containing monthly values of each variable depicted, aggregated to quarterly or annual values as required using appropriate weights. The datasets are created by particular runs of the Short-Term Integrated Forecasting System (STIFS) Model, depending on the scenario or set of scenarios depicted. Also, except when noted, all figures refer to the base or "BBB" case. Other cases referred to are: the high world oil price "BHB"; low world oil price "BLB"; severe weather "BBL"; mild weather "BBS"; strong economic growth "HBB"; weak economic growth "LBB"; weak economic growth with high world oil prices "WHB"; and strong economic growth with low world oil prices "PLB."

1. **History:** Import cost: Compiled from monthly data for the refiner acquisition cost of imported crude oil used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; West Texas Intermediate spot price, *Oil and Gas Journal* Database, December 6, 1995. **Projections:** First quarter 1996 STIFS database, BBB, BLB, and BHB cases; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
2. **History:** Manufacturing Production: Federal Reserve System, Statistical Release G 17; GDP: U.S. Department of Commerce Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.* **Projections:** DRI/McGraw-Hill Forecast CONTROL1195, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.
3. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8 for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
4. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8 for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
5. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1 for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
6. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2 for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

Figure References

7. **History:** Compiled from annual data used in publication of Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035, Table 10.3 for historical series and recent data. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
8. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 1; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
9. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Tables S4 through S10; *Petroleum Supply Monthly*, DOE/EIA-0109, Tables S4 through S10, adjusted in years prior to 1993 for new (1993) reporting basis for fuel ethanol blended into motor gasoline (See *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B). **Projections:** First quarter 1996 STIFS database, case "BBB."
10. **History:** Travel: Compiled from monthly data used in the Federal Highway Administration publication, *Traffic Volume Trends*; Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4 for historical series, adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4; MPG is calculated as Travel (in miles)/Demand (in gallons). **Projections:** First quarter 1996 STIFS database, case "BBB."
11. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** First quarter 1996 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.
12. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** First quarter 1996 STIFS database, case "BBB." The imports share variable is calculated as the ratio of total net petroleum imports divided by total petroleum demand.
13. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, and *Natural Gas Monthly*, DOE/EIA-0130, Table 4 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1. **Projections:** First quarter 1996 STIFS database.
14. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Tables 2, 4, and 15 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Tables 2, 4 and 15. **Projections:** First quarter 1996 STIFS database.
15. **History:** Crude oil cost component: compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; Motor fuel taxes component: Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table

Figure References

- EN1; regulatory component (oxygenated and reformulated gasoline programs) calculations provided by Tancred C. Lidderdale, Energy Markets and Contingency Information Division, Energy Information Administration. **Projections:** First quarter 1996 STIFS database.
16. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S5. **Projections:** First quarter 1996 STIFS database, case "BBB."
 17. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, December 26, 1995, p. 6. **Projections:** First quarter 1996 STIFS database, case "BBB."
 18. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** First quarter 1996 STIFS database, case "BBB."
 19. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** First quarter 1996 STIFS database, cases "BBB," "BBS," and "BBL."
 20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** First quarter 1996 STIFS database, cases "BBB," "HBB," and "LBB."
 21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** First quarter 1996 database, case "BBB."
 22. **History:** Nonutility Generators, 1989-1993: Energy Information Administration, Form EIA-867 (1993); other volumes compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Nonutility Generators: Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: First quarter 1996 STIFS database, case "BBB."
 23. **History:** Production and net imports of natural gas compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131/2, Table 2 for historical series; for recent production data, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** First quarter 1996 STIFS database, case "BBB."
 24. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** First quarter 1996 STIFS database, case "BBB."

Figure References

25. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 45. **Projections:** First quarter 1996 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."
26. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 1. **Projections:** First quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.
27. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 51. **Projections:** First quarter 1996 STIFS database, case "BBB."
28. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 3, and Form EIA-759. **Projections:** First quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.
29. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; First quarter 1996 STIFS database, and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** First quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.
30. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; and First quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** First quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Computation of Petroleum Demand Sensitivities

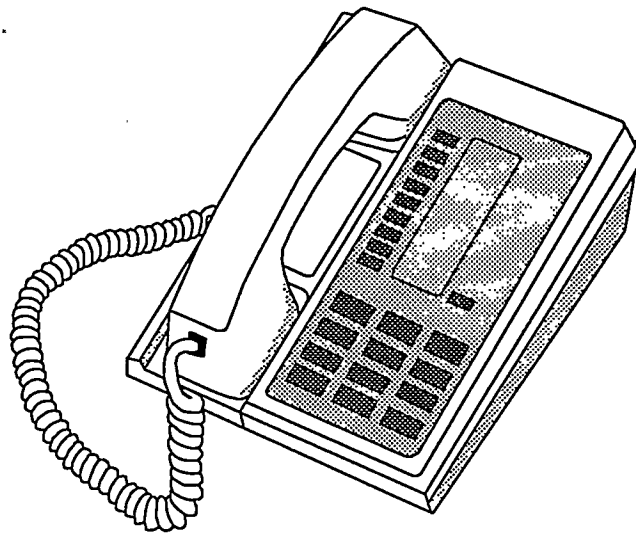
Table 8 summarizes the response of forecasts of U.S. total petroleum demand to changes in assumptions for economic growth, world crude oil prices, and weather. The values in this table are computed using the Short-Term Integrated Forecasting Model (STIFS). The STIFS model is documented in EIA's *Short-Term Integrated Forecasting System: 1993 Model Documentation Report* (DOE/EIA-M041, May 1993). The purpose of the model is to generate forecasts of U.S. energy supply, demand, and prices. Key inputs include assumptions for the imported price of crude oil, the rate of U.S. economic growth, and weather (cooling and heating degree-days). Forecasts are generated for production, imports, exports, demand, and prices for refined petroleum products, natural gas, coal, and electricity.

A key relationship between petroleum demand and economic activity is shown in Table 8. Gross domestic product (GDP) is varied from low to high for each of the 2 projection years, and the resulting change in petroleum demand is calculated. For each of the 2 years, the percentage difference in GDP is computed as the difference between the low and high case levels shown in Table 8, divided by the midpoint of this range. Thus, the percentage difference in GDP for 1996 is as follows: $(5717 - 5592) / ((5717 + 5592) / 2)$, or 2.2 percent. For each period, the petroleum demand difference (in million barrels per day) is divided by the percentage difference in GDP. For 1996, the average petroleum demand difference is 262,000 barrels per day; thus, a 1-percent change in GDP corresponds to a change in demand

of $(262,000 / 2.21)$, or 118,000 barrels per day. For 1997, a 4.2-percent change in GDP corresponds to a change in demand of 580,000 barrels per day; thus, a 1-percent change in GDP corresponds to a demand change of 138,000 barrels per day. The average of the 1996 and 1997 results (weighting the 1996 results by 366 days and the 1997 results by 365 days) is 128,000 barrels per day per 1 percent difference in GDP. Table 8 also shows the differences in petroleum demand due to changes in energy prices caused by varying the world crude oil price. The change in petroleum demand (in million barrels per day) is divided by the change in the crude oil price (in dollars per barrel), and the result is averaged over the two projection years to get an estimate of the change in petroleum demand per dollar of change in the crude oil price.

The influence of weather on petroleum demand is also calculated, using the mid-case values for economic activity and imported crude oil prices. The percentage changes in heating or cooling degree-days are computed and divided by the changes in petroleum demand, and the result is averaged over the two projection periods to get an estimate of the change in petroleum demand per 1-percent change in heating and cooling degree-days. The changes in demand due to changes in heating degree-days apply only to the heating season, roughly the first and fourth quarters of the year, while the changes in demand due to changes in cooling degree-days apply only to the cooling season, roughly the second and third quarters of the year.

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