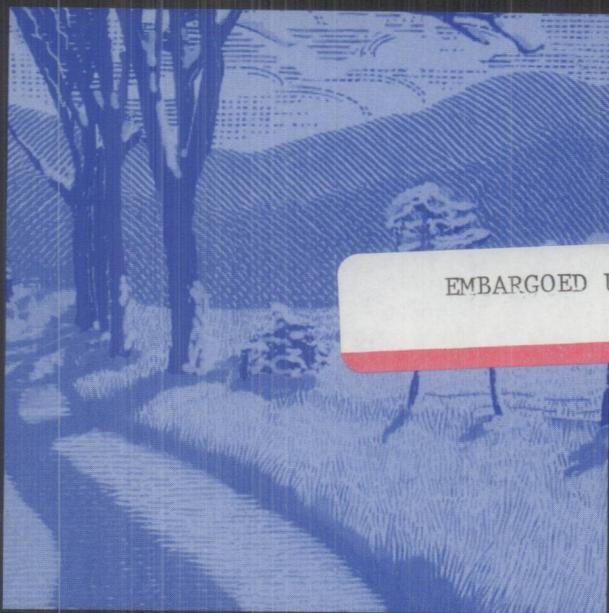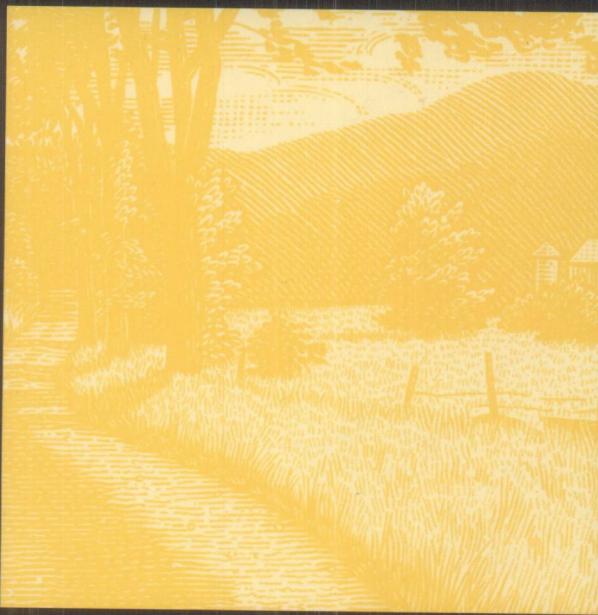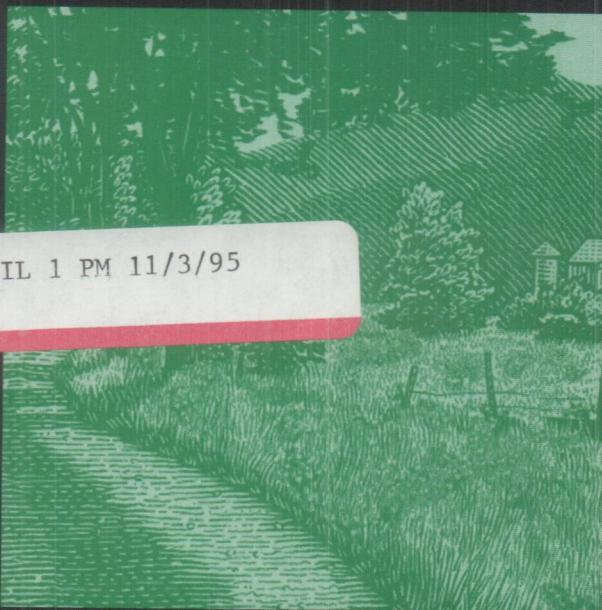November 1995

Short-Term
ENERGY OUTLOOK

EMBARGOED UNTIL 1 PM 11/3/95

QUARTERLY PROJECTIONS

1995 4th Quarter

EIA
Energy Information Administration

Ordering Information

This publication and other Energy Information Administration (EIA) publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office

By Phone:

U.S. Government Printing Office
Main Bookstore
710 N. Capitol Street, NW
Washington, DC 20401
(202) 512-1800
Fax: (202) 512-1355
8 a.m. to 4 p.m., eastern time, M-F

By Mail:

U.S Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250-7954

Complimentary subscriptions and single issues are available to certain groups of subscribers, such as public and academic libraries, Federal, State, local and foreign governments, EIA survey respondents, and the media. For further information, and for answers to energy statistics, please contact:

National Energy Information Center
Energy Information Administration
Forrestal Building, Room 1F-048
Washington, DC 20585
Telephone: (202) 586-8800
Internet E-mail: INFOCTR@EIA.DOE.GOV
TTY: (202) 586-1181
9 a.m. to 5 p.m., eastern time, M-F

Electronic Access

The Energy Information Administration's (EIA) Short-Term Energy Model used to forecast supply and prices of major fuels 18 months into the future can now be downloaded to most personal computers with modems, via Internet or an electronic bulletin board. The electronic energy model allows the user to access all the forecast information used by the EIA to produce its short-term projections, change data and forecasts to percentages and graphs, and revise forecast assumptions (such as economic growth, oil prices or weather) and recalculate the model.

Internet access can be obtained through the EIA Home Page on the Mosaic/World Wide Web system. The Internet address: <http://www.eia.doe.gov>. On the Home Page opening screen, users click on the models distinctive four-season logo and follow the downloading instructions. Users need Microsoft Windows 3.1 or higher, a Mosaic client, and 6 megabytes of free disk space on their hard drive.

Bulletin board access is available through EIA's Electronic Publishing System (EPUB), a menu-driven bulletin board available free of charge, 24 hours a day, via a PC with a asynchronous modem. The EPUB dial-in number is (202) 586-2557; EPUB is also available through FedWorld.

A diskette version of the Short-Term Energy Model is available from the Office of Scientific and Technical Information, by telephone at (615) 576-8401 or by mail at P.O. Box 62, Oak Ridge, TN 37831.

Any questions about the EIA Home Page, the Short-Term Energy Model, or EPUB, can be handled by the National Energy Information Center, by telephone at (202) 586-8800 or by Internet e-mail at <Infoctr@eia.doe.gov>.

Released for Printing: October 20, 1995

Short-Term Energy Outlook

Quarterly Projections

Fourth Quarter 1995

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

Contacts _____

The *Short-Term Energy Outlook* is prepared by the Energy Information Administration (EIA), Office of Energy Markets and End Use (EMEU). General questions concerning the content of the report may be referred to W. Calvin Kilgore (202-586-1617), Director of EMEU; Mark Rodekohr (202-586-1441), Director of Energy Markets and Contingency Information Division; or Derriel Cato (202-586-6574), Chief of the Short-Term Forecasting and Contingency Branch.

Detailed questions may be addressed to David Costello (202-586-1468) or the following analysts:

World Oil Prices/International Petroleum	Derriel Cato (202-586-6574)
Macroeconomic	Kay A. Smith (202-586-1455)
Energy Product Prices	Neil Gamson (202-586-2418)
Petroleum Demand	Michael Morris (202-586-1199)
Petroleum Supply	Tancred Lidderdale (202-586-7321)
Natural Gas	Evelyn Amerchih (202-586-8760)
Coal	Elias Johnson (202-586-7277)
Electricity	Evelyn Amerchih (202-586-8760)
Renewables	David Costello (202-586-1468)

Domestic crude oil production figures are provided by the EIA Dallas Field Office, under the supervision of John H. Wood (214-767-2200). Nuclear electricity generation forecasts are provided by Kenneth Wade (202-254-5514); projections for hydroelectric generation, electricity imports, and nonutility generation are provided by Robin Reichenbach (202-254-5353); and coal production, imports, and exports are provided by Byung Doo Hong (202-254-5365)—all of the EIA Office of Coal, Nuclear, Electric and Alternate Fuels.

The Energy Information Administration (EIA) prepares quarterly, short-term energy supply, demand, and price projections for publication in February, May, August, and November in the *Outlook*. An annual supplement analyzes the performance of previous forecasts, compares recent projections with those of other forecasting services, and discusses current topics related to the short-term energy markets. (See *Short-Term Energy Outlook Annual Supplement*, DOE/EIA-0202.)

The forecast period for this issue of the *Outlook* extends from the fourth quarter of 1995 through the fourth quarter of 1996. Values for the third quarter of 1995, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in the *Weekly Petroleum Status Report*) or are calculated from model simulations using the latest exogenous information available (for example, electricity sales and generation are simulated using actual weather data). The historical energy data, compiled into the fourth quarter 1995 version of the Short-Term Integrated Forecasting System (STIFS) database, are mostly EIA data regularly published in the *Monthly Energy Review, Petroleum Supply Monthly*, and other EIA publications. Minor discrepancies between the data in these publications and the historical data in this *Outlook* are due to independent rounding. The STIFS database is archived quarterly and is available from the National Technical Information Service.

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.

Contents

Contents

Tables

Contents _____

Figures
Page

Crude Oil Prices To Remain At $16 Per Barrel In 1996

The world oil price (the average cost of imported crude for U.S. refiners) is not expected, on average, to move significantly from its current level of about $16.00 per barrel in 1996. Despite the continued rise in world oil demand over the forecast period, expected to exceed 1 million barrels per day per year, world oil production capacity increases should accommodate the demand growth in a balanced manner, keeping average prices relatively flat.

Winter Supplies of Heating Oil And Natural Gas Are Expected To Be Ample

Demand for distillate fuel oil and natural gas is projected to be significantly greater during the upcoming winter season than during the previous heating season. Normal winter weather, which underlies the base case assumption, is expected to be much colder than the unusually mild heating season last year. Nonetheless, supplies of heating oil and natural gas are expected to be adequate or more than adequate, under most conceivable weather scenarios.

Natural Gas Prices Expected To Rise Modestly In 1996

Assuming a normal 1995-1996 winter, natural gas wellhead prices are projected to show an increase of about 14 cents per thousand cubic feet on average in 1996. Much of the change is related to the depressed gas prices in the first three quarters of 1995, which was largely the result of extremely mild winter weather and the resulting excess supplies.

Natural Gas Storage Levels Are Ample By Start Of Heating Season

Despite net withdrawals from storage in August due to a gas demand surge at electric generating facilities during the heat wave, at the beginning of the heating season natural gas storage apparently settled at levels comparable to last year's, which were about normal.

Gasoline Demand Growth Is Up This Year; Efficiency Improvements Are Down

Motor gasoline demand is projected to increase by an average of 1.9 percent in 1995 and 1996, reflecting an average growth rate in highway travel of 2.3 percent. An evident slowdown in fuel efficiency growth reflects consumer preference for minivans, light trucks, and sports utility vehicles, as well as the efficiency-eroding effects of reformulated gasoline.

Nuclear And Hydropower Generation Of Electricity Meet Most Of Incremental Demand In 1995

Demand for air conditioning during the July-August heat wave contributed to an estimated 6.3 percent growth in electricity demand in the third quarter 1995, bringing total expected 1995 electricity demand growth to 2.7 percent over 1994. Incremental demand for electricity is being met in 1995 mainly by coal, hydropower, and nuclear generation. Electricity demand is not expected to grow as rapidly next year as in 1995 because of slower economic growth and prospects for lower summer demand next year.

Coal Demand Rises Along With Demand for Electricity

Coal used to produce electricity is expected to increase by 1.4 percent in 1995 in response to increases in electricity demand. U.S. coal exports are expected to rise in 1995 by 17 percent. Exports should continue growing in 1996, as worldwide demand improves.

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

	Price Case[a]	Year				Annual Percentage Change		
		1993	1994	1995	1996	1993-1994	1994-1995	1995-1996
Real Gross Domestic Product (GDP)								
(billion 1987 dollars) .... Mid	Mid	5135	5344	5500	5615	4.1	2.9	2.1
Imported Crude Oil Price	Low			16.81	12.69		8.3	-24.5
(nominal dollars per barrel) .... Mid	Mid	16.15	15.52	17.03	16.00	-3.9	9.7	-6.0
	High			17.18	18.30		10.7	6.5
Petroleum Supply								
Crude Oil Production [b]	Low			6.51	6.07		-2.3	-6.8
(million barrels per day) .... Mid	Mid	6.85	6.66	6.53	6.28	-2.8	-2.0	-3.8
	High			6.53	6.35		-2.0	-2.8
Total Petroleum Net Imports (including SPR)	Low			8.09	9.11		0.5	12.5
(million barrels per day) .... Mid	Mid	7.62	8.05	8.07	8.73	5.6	0.2	8.2
	High			8.05	8.53		0.0	6.0
Energy Demand								
World Petroleum .... Mid	Mid	66.6	68.5	69.4	70.9	2.9	1.3	2.2
Petroleum	Low			17.68	18.28		-0.2	3.4
(million barrels per day) .... Mid	Mid	17.24	17.72	17.67	18.10	2.8	-0.3	2.4
	High			17.67	17.97		-0.3	1.7
Natural Gas	Low			21.46	21.93		3.5	2.2
(trillion cubic feet) .... Mid	Mid	20.29	20.73	21.46	22.05	2.2	3.5	2.7
	High			21.46	22.08		3.5	2.9
Coal								
(million short tons) .... Mid	Mid	933	939	950	955	0.6	1.2	0.5
Electricity (billion kilowatthours)								
Utility Sales [c] .... Mid	Mid	2861	2921	2997	3032	2.1	2.6	1.2
Nonutility Own Use [d] .... Mid	Mid	138	150	156	160	8.7	4.0	2.6
Total .... Mid	Mid	2999	3071	3154	3192	2.4	2.7	1.2
Adjusted Total Energy Demand [e]								
(quadrillion Btu) .... Mid	Mid	86.9	89.0	90.5	92.3	2.4	1.7	2.0
Adjusted Total Energy Demand per Dollar of GDP								
(thousand Btu per 1987 Dollar) .... Mid	Mid	16.93	16.65	16.46	16.44	-1.7	-1.1	-0.1
Renewable Energy as Percent of Total .... Mid	Mid	7.2	7.1	7.4	7.3			

[a]Refers 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.

[b]Includes lease condensate.

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

[d]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1994 are estimates.

[e]The 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*.
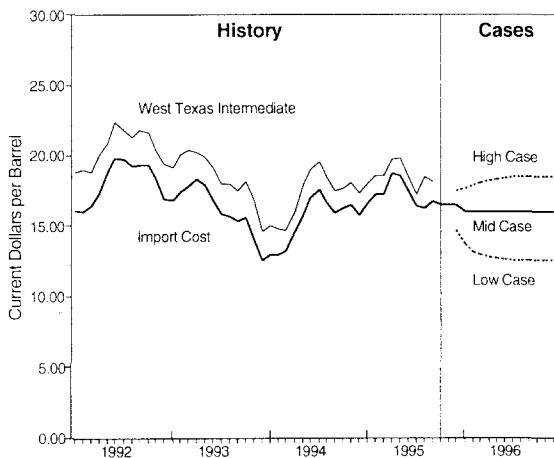
SPR: Strategic Petroleum Reserve.

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(95/09); *Petroleum Supply Monthly*, DOE/EIA-0109(95/09); *Petroleum Supply Annual 1994*, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/1Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0995.

The Outlook

Outlook Assumptions _____

Figure 1. U.S. Monthly Crude Oil Prices

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 in 1996 (Figure 1 and Table 4).

- There is more downward price uncertainty than upward, even assuming the absence of Iraqi crude exports. Although there could be periods of price increases, for example, during a cold spell, fundamentals suggest that prices would move downward after a short period. The major reason is OPEC's response to the potential loss of market share over the next year. The low-price scenario projects periods of prices as low as $12.50 per barrel.

- The high-price scenario (periods of world oil price rises as high as $18.50 per barrel) primarily reflects recent price uncertainty during speculative periods or tight market situations, such as during a winter cold spell.

Economic Outlook

- The economy is expected to grow by 2.9 percent in 1995, slowing to 2.1 percent in 1996, as increases in prices and interest rates continue to affect investment. Growth in

Figure 2. U.S. Macroeconomic Indicators

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

- The rise in interest rates affects interest-sensitive parts of the economy--with investment, housing starts, new car sales experiencing a slowdown in 1996. Strong economic growth in 1994 and early 1995 put increased upward pressure on prices, and consumer prices are expected to increase 2.9 and 3.1 percent in 1995 and 1996, respectively, compared to 2.6 percent in 1994.

- Manufacturing production shows strong growth in 1995, slowing in 1996 to 2.6 percent. Total employment will increase over the forecast, following the pattern of GDP growth.

Weather Assumptions

- Heating and cooling degree-days are assumed normal in the forecast period (beyond August 1995). For 1995, peak-period cooling demand was much increased from 1994 levels, and this is expected to be the situation for heating demand in the fourth quarter as well (Table 1).

Special Assumptions for Environmental, Tax, and Other Energy-Related Policies

This section summarizes the potential impacts of current legislative actions on the short-term energy forecasts for the United States, and shows how these impacts are incorporated in this *Outlook*. The impacts are anticipated to directly affect energy prices, consumption, or production.
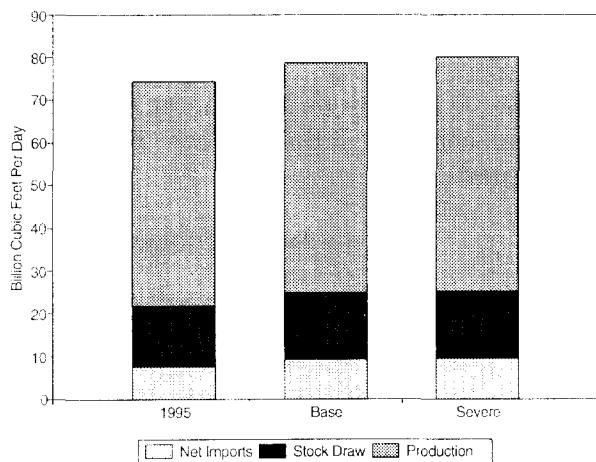
Effective Date	Policy Description	Impact on Forecast
October 1992	1995-1996 winter will be the third season for oxygenated gasoline, required to be sold in carbon monoxide nonattainment areas during winter months.	Motor gasoline prices expected to be 3 to 5 cents per gallon higher in the nonattainment areas, compared with other regions, raising national prices by an average of 1 to 2 cents per gallon during winter months.[a]
Autumn 1993	FERC Order 636-A implemented, restructuring the way pipelines determine rates, and separating pipeline sales and transportation services.	Market-driven changes will continue. Reliance on stored natural gas for peak demand likely to rise, but pricing expected to be more competitive.
October 1993	Motor Fuel Tax Increase	Federal excise tax increase of 4.3 cents per gallon for motor gasoline and diesel fuel, and 48.5 cents per thousand cubic feet for compressed natural gas used in motor vehicles.
	Federal low-sulfur standard for on-highway use.	After temporary price hikes and spot shortages, the rule has added about 1-2 cents per gallon to the price of diesel fuel.
January 1995	Phase I reformulated gasoline in 9 high-ozone cities plus opt-in areas.	Approximately 3.5 to 4 cents per gallon higher cost in affected cities.[b]
	Phase I reduction in sulfur dioxide emissions from electric utility steam generation units fired by fossil fuels, by a system of tradeable allowances, switching or blending with lower sulfur fuels, and retrofitting with scrubbers.	Electricity prices will be slightly higher than would otherwise be the case.
October 1995	Commercial Air Transportation Tax	Federal excise tax of 4.3 cents per gallon of motor fuel is applied to jet fuel used in commercial aviation.

[a] Energy Information Administration, "Demand, Supply, and Price Outlook for Oxygenated Gasoline, Winter 1992-1993", *Monthly Energy Review*, DOE/EIA-0035(92/08) (Washington, DC, August 1992), pp. 5 and 9.

[b] Energy Information Administration, "Demand, Supply and Price Outlook for Reformulated Motor Gasoline 1995", *Monthly Energy Review*, DOE/EIA-0035 (94/07) (Washington DC, July 1994), pp. 2 and 10.
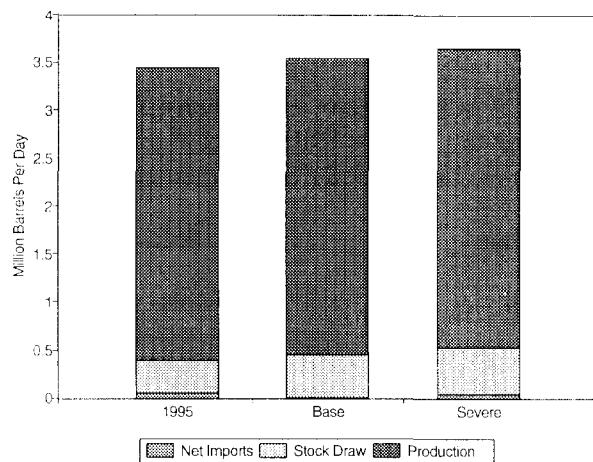
1995-1996 Winter Fuels Outlook

**Figure 3. Natural Gas Supply/Demand Balances
First Quarter 1996**

Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 45.
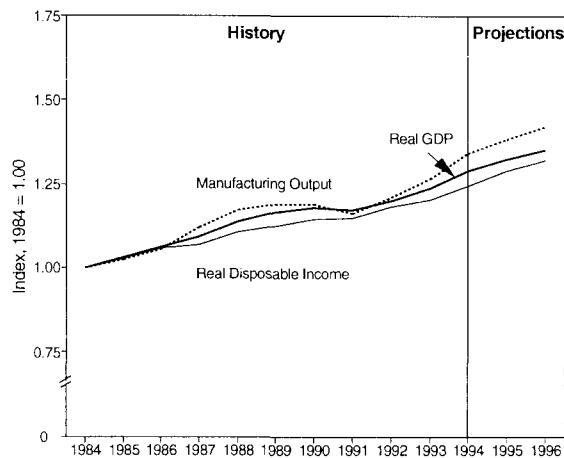
**Figure 4. Distillate Supply/Demand Balances
First Quarter 1996**

Sources: Fourth Quarter 1995 STIFS database, and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References section, p. 45.

This section summarizes the fuel demand and supply projections for the coming winter season. For the purposes of this analysis, winter is defined as the period from October 1 through March 31. In order to help put the upcoming heating season in better perspective, an alternative winter scenario involving a 10-percent-colder-than-normal first quarter 1995 is examined. Some qualitative analysis of unpredictable factors that may affect the winter fuels market is offered. The projections in this article are derived from simulation of the Short-Term Integrated Forecasting System (STIFS).

The Base Case Outlook

Assumptions

Demand for distillate fuel and natural gas is projected to be significantly greater during the upcoming winter season than during the previous heating season. Normal winter weather, which underlies the base-case assumption, is expected to be much colder than the unusually mild heating season last year, which depressed consumption of heating fuels. Supplies of heating oil and natural gas, however, are expected to be ample, even if

colder-than-normal winter conditions prevail (Figures 3 and 4).
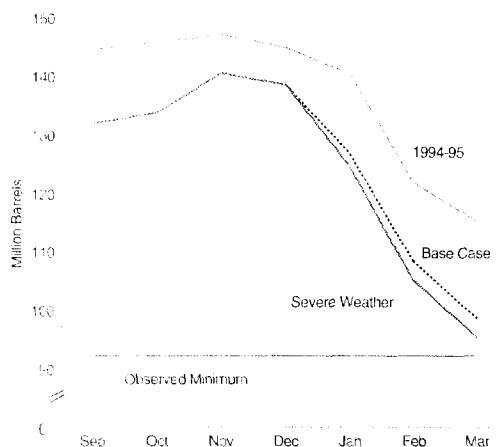
Demand

Distillate fuel oil consumption for the winter season (October through March) is projected to average 3.40 million barrels per day, up 110,000 barrels per day from last year. Under assumptions of a normal winter, weather in the northeastern part of the U.S., the principal heating fuel region, is expected to be 11.3 percent colder (in terms of heating degree days) than last year's very mild winter season. For the first quarter 1996, demand is projected to be 3.54 million barrels per day, approximately 90,000 barrels per day higher than during the same quarter in 1995. This would bring peak-quarter distillate demand to its highest level since 1988[1], though only slightly above the cold first quarter of 1994.

Winter natural gas demand, which declined by 2.2 percent in 1994-1995 due to the very mild temperatures, is projected to increase by 5.6 percent in 1995-1996 with the return of normal winter weather. Natural gas requirements for the

Figure 5. Distillate Winter Stocks

Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 45.

Figure 6. Winter Retail Heating Oil Prices

Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References section, p. 45.

upcoming winter are projected to be 69.5 billion cubic feet per day compared to 65.8 billion cubic feet per day during last winter. Higher residential and commercial demand for gas, which is weather related, is reflected in this overall gas demand increase, but higher industrial demand for gas, an indication of rising economic growth, is also a factor.

Electricity demand, which grew by 1.8 percent during the 1994-1995 winter, is projected to grow by 2.1 percent in the coming winter under assumptions of normal weather. But, demand in the weather-sensitive residential and commercial sectors, which declined slightly last winter as a result of the mild weather, is projected to jump 4.2 percent during this winter.

Supply

Refinery output of distillate fuel oil is projected to average 3.20 million barrels per day for the winter as a whole, up 60,000 barrels per day from last year. Increases in production are therefore expected to keep pace with that of consumption. Net stock withdrawals are projected to average 180,000 barrels per day, similar to the 160,000

barrels per day observed last winter (Figure 5). Primary stock levels at beginning of the winter season were an estimated 132 million barrels, 12 million barrels below last year's level. Projected end-of-season stock level is 99 million barrels. Although 16 million barrels less than last year, that level is still 7 million barrels above the record low of 92 million barrels recorded in April 1992. As a result, combined refinery production and stocks withdrawals are expected to meet almost all of the projected demand for the winter as a whole. Net imports are projected to average 30,000 barrels per day, and are thus expected to play a minor role in winter supply this year in the base case.

Natural gas supplies are also expected to be ample. Dry gas production is expected to average 53.3 billion cubic feet per day, up from 52.4 billion cubic feet per day last year. Stock withdrawals are expected to provide 10.0 billion cubic feet per day, well above the 8.7 billion cubic feet per day of last winter. End-of season underground stocks are projected to be 5.4 trillion cubic feet, noticeably lower than the 5.7 trillion cubic feet recorded at the end of the last winter season, but still higher than the 5.3 trillion cubic feet level prevailing at the end of the unusually cold first quarter of 1994.

1995-1996 Winter Fuels Outlook

Net imports are expected to average 7.6 billion cubic feet per day, similar to last heating season's 7.3 billion cubic feet per day, reflecting the steady increase of Canadian gas imports in U.S. gas supply.

Prices

Average retail prices are expected to be higher from those of the 1994-95 winter season. Retail heating oil prices are expected to average $0.94 per gallon, compared to $0.87 per gallon last winter (Figure 6). With crude oil prices expected to be generally lower this winter than last, this outlook implies a noticeable improvement in overall supplier margins for heating oil. Residential retail prices for natural gas are projected to be $6.17 per thousand cubic feet, compared to $5.97 per thousand cubic feet last year. For natural gas, most of the impetus for higher residential prices stems from expected improvements in producer (wellhead) prices compared to the relatively depressed situation last winter and spring.

Alternative Weather Scenario

Assumptions

The following results assume 10 percent colder-than-normal weather during the January--March quarter. Compared to the harsh conditions that prevailed during the first quarter of 1994, such weather would be 5 percent colder for the U.S. as a whole but 2 percent warmer for the Northeast, the principal heating oil market. Still, these conditions imply an increase in heating degree-days of just over 20 percent for the U.S. Northeast region and for the nation as a whole. This scenario assumes a uniformly colder-than-average first quarter rather than unanticipated cold snaps that might occur.

Demand and Supply

In such a winter quarter, heating oil demand would be expected to rise 130,000 barrels per day, or 3.7 percent, from that of the base case. That incremental requirement could be met principally by an additional stock drawdown of 40,000 barrels per day, which would still leave primary inventory levels at 95 million barrels, 3 million barrels above the April 1992 low of 92 million barrels. In a winter characterized by sudden cold snaps, such as that which occurred during the first quarter of 1994, the pipeline distribution system can supply more than 1 million barrels per day on a short-term basis.

Natural gas consumption during the first quarter could average 82.8 billion cubic feet per day compared to 78.8 billion cubic feet per day in the normal weather scenario.
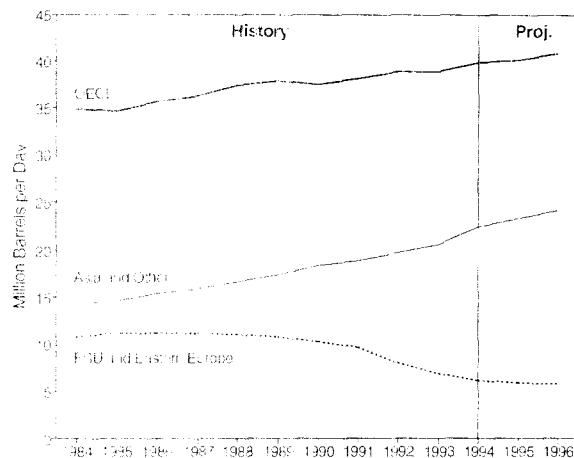
The increase in dry gas production could evidently match that of demand. Expected production could average 57.5 billion cubic feet per day, compared to 54.1 billion cubic feet per day in the base case. But that level of production is well below the estimated winter capacity of 60.4 billion cubic feet.[2]

Prices

Prices can and have increased during sudden cold snaps. However, the price impact of a 10-percent-above-normal weather scenario on heating fuels would be slight. For the first quarter, average heating oil retail prices would be $0.96 per gallon, slightly higher than the $0.95 per gallon in the base case. Natural gas wellhead prices would be expected to rise somewhat as greater pressure on the overall supply is felt, and they would be expected to remain above the base case for some months since off-season storage injection rates would have to be increased. For the first quarter, residential gas prices could be about 6 percent higher with 10 percent colder weather than in the normal weather case.

Figure 7. 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. 45.
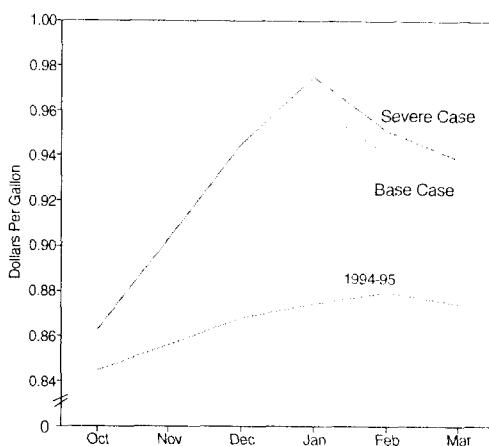
Figure 8. World Oil Demand Changes by Region

Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 45.

- World oil demand is expected to rise by over 2 percent to almost 71 million barrels per day in 1996. This indicates a demand increase of 3.5 million barrels per day since 1992 (Table A3). In 1995, the increase is expected to be 0.9 million barrels per day and an additional 1.5 million barrels per day in 1996 (Table 3 and Figure 7). This development reflects continuing oil demand growth in the developing world[3] and a smaller decline in demand in the former Soviet Union (FSU).

- Oil demand in the FSU is expected to decline by only 200,000 barrels per day this year and remain level next year, after declining by about 900,000 barrels per day in 1994. Oil demand in 1995 is expected to be 4.6 million barrels per day, compared to nearly 9 million barrels per day in 1987. However, in order to achieve higher oil export revenues, the FSU is not expected to return to pre-recession oil demand levels as natural gas is being used as a substitute fuel to meet energy demand growth.

- Oil demand in China and Other Asia is expected to increase by 5 to 6 percent in 1995

and 1996 as the economies of many of these countries continue to grow by 6 to 10 percent or more each year. In Africa and Latin America[4], oil demand is expected to grow by only 1.5 to 2.5 percent in 1995 and 1996. In the Middle East, oil demand is expected to increase by 4 percent per annum in both 1995 and 1996.[5]

- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to increase by nearly 200,000 barrels per day in 1995 (Figure 8), with nearly all of the increase coming from outside the United States. In 1996, OECD demand is expected to grow by an additional 700,000 barrels per day, with over half of the increase coming from the United States.

- 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.

Figure 9. 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. 45.

Figure 10. 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. 45.

- There are three major developments in the international oil supply picture: North Sea production, non-OECD production, and OPEC production. Major increases in North Sea production will fundamentally change the market for the next two years, while falling FSU production may have come to an end. These developments, combined with continued increments from other non-OECD producers, have made the outlook for OPEC somewhat uncertain (Table 3 and Figure 9).

- Petroleum production in the North Sea is expected to increase by over 300,000 barrels per day in 1995, and by another 600,000 barrels per day in 1996. Production by non-OPEC developing countries[6] is expected to rise by over 300,000 barrels per day in both 1995 and 1996.

- In the FSU, production appears to have leveled out. Following a nearly 1.1 million barrel per day decline in 1994, oil production is expected to decline by only 200,000 barrels per day in 1995, but remain at 6.8 million barrels per day on average in 1996 before potentially increasing in 1997.

- U.S. total production is expected to decline, falling by about 200,000 barrels per day between 1995 and 1996 even though total production was nearly level in 1995.

- With these developments, non-OPEC supply is projected to increase by 700,000 barrels per day in 1995 and another 1.3 million barrels per day in 1996. OPEC production is expected to increase by 500,000 barrels per day in 1995, and by about 300,000 barrels per day in 1996. As a result, OPEC's market share continues to decline.

- OPEC capacity additions are expected to increase roughly in line with production increases over the next year (Figure 10).

- As a result, average OPEC excess production capacity (excluding Iraq) is expected to be 2.8 million barrels per day in 1995. Most of the excess capacity is in Saudi Arabia (1.9 million barrels per day), Kuwait (200,000 barrels per day), Iran (200,000 barrels per day), and the United Arab Emirates (200,000 barrels per day).[7]
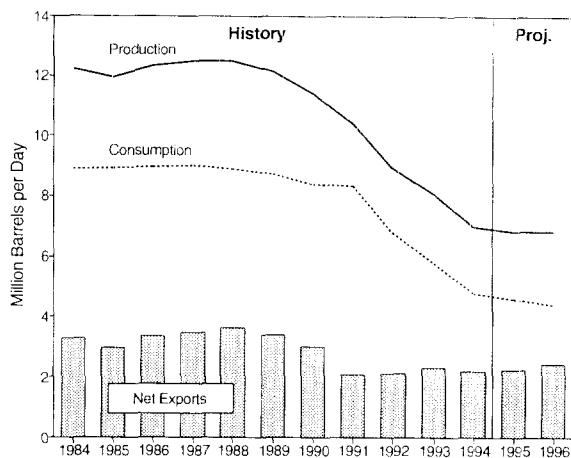
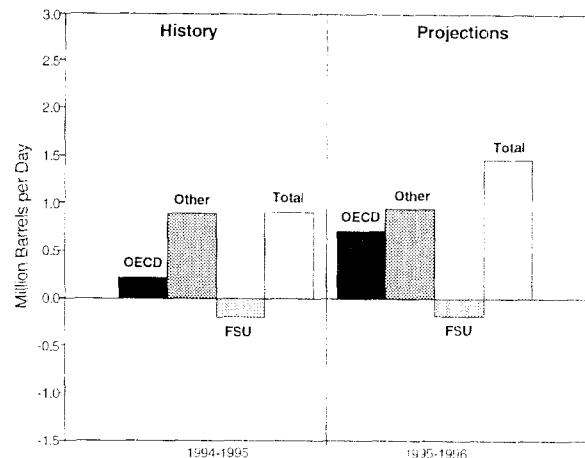### Figure 11. Market Economies' Commercial Oil Stocks

Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 45.

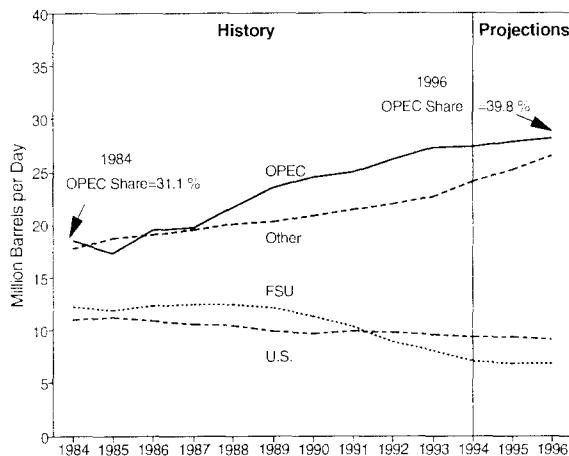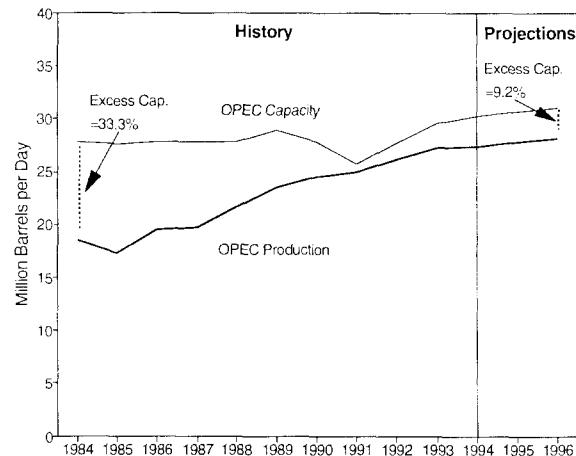### Figure 12. FSU Oil Output, Demand, and Net Exports

Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 45.

• With petroleum stock levels in the Market Economies (which exclude the former centrally planned economies) increasing each year since 1986, this *Outlook* projects that stock levels will continue to increase in 1995 and 1996.

• "Days of Supply" is the number of days of consumption that can be supplied by non-government stocks above the minimum operating level. Even though demand is expected to increase significantly, the "Days of Supply" is expected to increase by the end of 1996 (Figure 11).

• Although world commercial stock levels are expected to be higher at the end of 1995 compared with the last several years because of the expected demand growth, OECD commercial stocks are decreasing. Not until prices show a sustained increase should higher stocking behavior be expected. But even so,
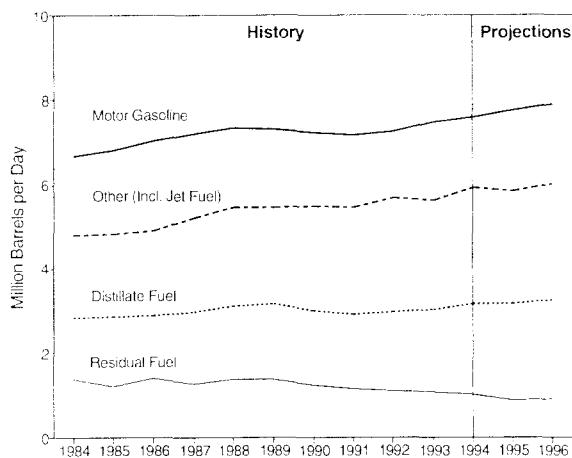
marketers probably will attempt to hold lower days of supply.

• Net exports from the FSU are estimated 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 2.4 million barrels per day in 1996 (Figure 12 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 1994, 18.2 million barrels were produced by the Persian Gulf countries, of which the U.S. imported 1.7, Japan imported nearly 4.0, and western Europe imported 3.5 million barrels per day.

U.S. Oil Demand

Figure 13. U.S. Petroleum Demand

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

Figure 14. Gasoline Market Indicators

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

- U.S. petroleum demand is projected to fall by 50,000 barrels per day, or 0.3 percent, in 1995 but rise by 430,000 barrels per day, or 2.5 percent in 1996 (Figure 13 and Table 6). Reversing the weather-related year-to-year decline of 270,000 barrels per day during the first half of this year, second-half 1995 demand is projected to increase by a modest 40,000 barrels per day. Assumptions of normal weather patterns and continued growth in transportation energy demand accounts for the higher growth rate in 1996.

- Motor gasoline demand is projected to increase by an average of 2.0 percent in 1995 and 1996 (Figure 14). This reflects an average growth rate in highway travel of 2.3 percent. The resultant 0.3 percent growth in fuel efficiency represents the continued marked slowdown in efficiency growth brought about by ongoing shifts in consumer preference for minivans, light trucks, and sports utility vehicles; implementation of RFG regulations; and the depletion of older, less-fuel efficient vehicles available for retirement.

- Distillate demand projections reflect year-to-year changes in weather as well as growth in transportation demand. Having declined by 20,000 barrels per day during the first half of this year, demand is projected to increase 40,000 barrels per day, or 1.3 percent, during the second half. Continued growth in transportation demand and assumptions of normal weather result in a projected 90,000 barrels per day, or 2.8 percent, increase in demand for 1996.

- After several years of declines, residual fuel oil demand is projected to stabilize and slightly increase beginning in the fourth quarter of 1995. Nonetheless, demand for 1995 as a whole is projected to show a contraction of 13.7 percent compared with 1994, as electric utilities and industrial customers continue to utilize natural gas more heavily. The reduction in excess gas supplies expected under normal weather conditions next year may allow for a modest recovery in residual fuel use.

Figure 15. U.S. Crude Oil Production

Figure 16. U.S. Net Oil Imports' Share of Demand
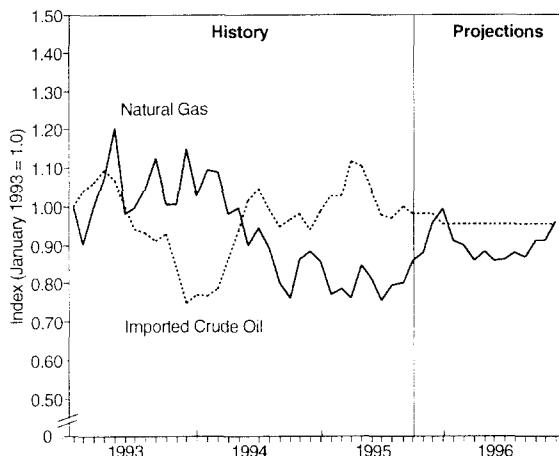
- At mid-case prices, total U.S. domestic crude oil production is expected to decline by 130,000 barrels per day, 2.0 percent, in 1995, and by an additional 250,000 barrels per day, 3.8 percent, in 1996 (Table 6 and Figure 15).

- Oil production in the lower 48 States is expected to drop by 50,000 barrels per day in 1995, and by 120,000 barrels per day in 1996. Oil production from new projects in Federal offshore waters (the Santa Ynez unit in the Pacific, the Auger project in the Gulf of Mexico, and the Point Arguello Field in the Pacific) are expected to account for about 3.8 percent of total U.S. oil production by the end of 1996.[8]

- Oil production in Alaska is expected to decline by 5.1 percent in 1995, and by another 8.8 percent in 1996. Installation of additional gas-handling facilities in the giant Prudhoe Bay oil field is complete and no major investments are planned for this field during the forecast period. The Point McIntyre Field is expected to produce about 140,000 barrels per day, and

the Niakuk Field is expected to produce about 25,000 barrels per day during the forecast.[9]

- 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) and production from new projects in the Federal Offshore, or as low as 5.9 million barrels per day under the low price scenario (Table 5).

- Declining oil production and rising demand in the United States means an increase in net imports of crude oil and products of 680,000 barrels per day between 1994 and 1996. Total net imports should equal 48.2 percent of total petroleum demand in 1996 in the base case (Figure 16). The net import share of demand could range between 50 and 47 percent depending on where actual oil prices land in the low-to-high price range (Tables 5 and 7).

- According to Baker Hughes, Inc., the rig count for 1994 averaged 774. The rig count is expected to decline to an average of 721 in 1995, but is expected to increase to 746 in 1996.[10]

U.S. Energy Prices _____
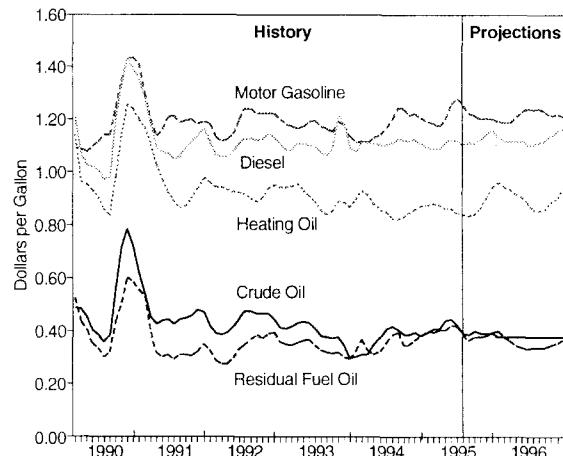
Figure 17. U.S. Oil and Gas Prices

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

Figure 18. Petroleum Product Prices
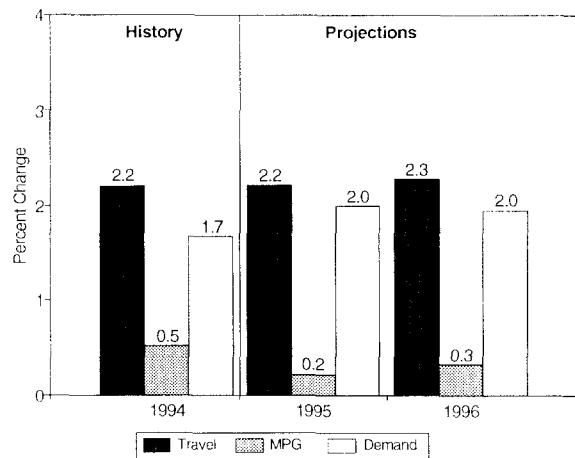

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

• World oil prices fell by about $2 per barrel in the third quarter of 1995 (Figure 17). This was due to a return to world market stability following a brief period of uncertainty after the imposition of a U.S. embargo on Iranian oil and Iraq's rejection of the U.N.'s conditions for lifting sanctions. Natural gas wellhead prices, meanwhile, have been falling throughout the year. These low gas prices have been the result of continued rapid and large scale improvements in market efficiency, exploration and drilling technology, but more immediately because of excess supplies generated by the second mildest winter weather in the last 20 years.[11]

• From the 1994 average of $15.52 per barrel, crude oil prices are expected to rise about $1.50 per barrel in 1995, with all of the increase in the first half of the year. Prices should moderate somewhat for the reminder of the forecast, and are expected to stabilize at $16 per barrel through 1996. This projected

decrease in the 1996 world 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).

• The high residual fuel oil prices in the first half of 1995 were due to higher crude oil prices and tight world fuel oil supplies. Residual fuel oil prices have been declining along with the price of crude oil since last July, and are projected to follow the crude oil price path throughout the forecast, but with seasonal variations (Table 4 and Figure 18).

• In 1995, after peaking in the second quarter, the retail gasoline price is expected to gain 4 cents per gallon above the 1994 average. However, in 1996 these prices are expected to stay flat while crude oil prices fall by 2 cents per gallon as both refiner and retail margins each gain about a penny .
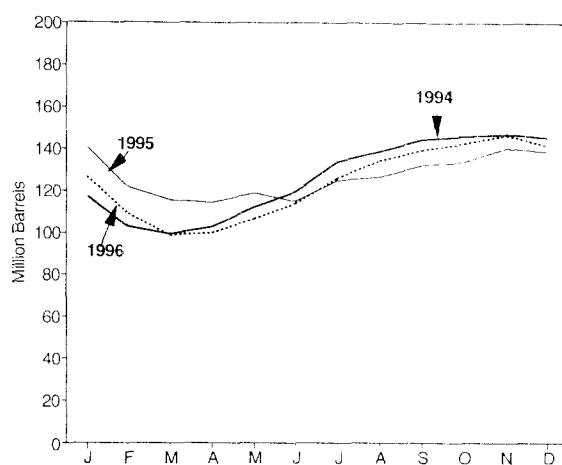
Figure 19. Motor Gasoline Price Components (Year-to-Year Change)

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.
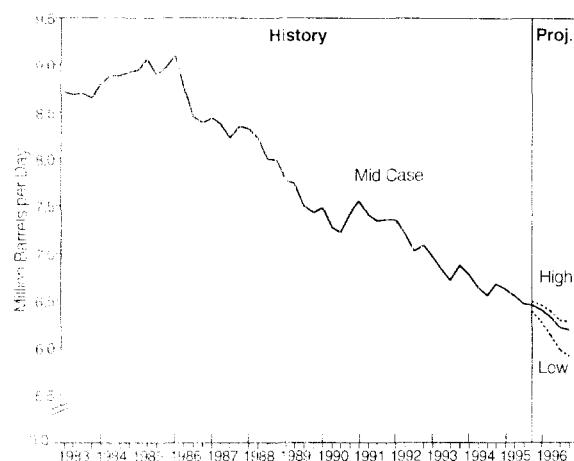
Figure 20. Distillate Inventories

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

• The additional costs associated with reformulated gasoline have stabilized and currently average about 4 cents per gallon in the affected areas, averaging 1.5 cents per gallon nationally (Figure 19).[12]

• 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 prices down. Residential heating oil prices are expected to start rising in the fourth quarter of this year and peak at 95 cents per gallon in the first quarter of 1996 if the winter weather is normal. Distillate inventories going into the fourth quarter of 1995 are projected to be about 10 million barrels less than year earlier levels (Figure 20). Assuming flat crude oil prices, a repeat of last year's mild winter could result in prices similar to those of the winter of 1994-1995 (Table 4).

• Natural gas prices are expected to retain their advantage over heavy oil (residual fuel) prices at electric utilities through 1996. However, the wide price difference in 1995 between natural gas and residual fuel, which was caused by

climbing crude oil prices and high European demand for residual fuel oil during the middle of the year coupled with falling natural gas wellhead prices, should decrease moderately in 1996 as residual fuel prices are expected to decline.

• The expected net effect on natural gas wellhead prices of the mild winter weather (more than 10 percent warmer than normal) in the first quarter of this year is a drop of 21 cents per thousand cubic feet in the average wellhead price from 1994 to 1995 (Table 4). Spot natural gas wellhead prices bottomed out at $1.25 per million Btu in July, the lowest average monthly spot price since March 1992.[13]

• Gas prices have been low in 1995 because of unexpectedly weak demand in core markets (residential and commercial) and because of a related significant excess storage situation. This was principally caused by extremely mild winter weather in late 1994 and early 1995. Stocks now appear to be at more normal levels as the heating season begins and, assuming

U.S. Energy Prices

Figure 21. Natural Gas Prices by Sector

Figure 22. Fossil Fuel Prices to Electric Utilities

normal weather, prices should rebound significantly in the first quarter of 1996 and for the year as a whole. Still, average wellhead gas prices are expected to remain relatively low (Table 4), reflecting the pressure on prices from increased competition and efficiencies in gas resource development .

• Residential customers of natural gas have seen the lower gas prices in 1995 as the wellhead costs have fallen (Figure 21). In 1996, the residential price should increase more or less in step with expected wellhead cost increases.

• Coal prices to electric utilities are expected to decrease slightly through 1996 (Figure 22), even after accounting for the additional costs associated with compliance with the Clean Air Act (CAA). Continued strides in mining productivity should more than offset the CAA costs.

• Residential electricity prices, which have been growing by an average of 1.2 percent per year

over the last 10 years, are expected to increase by approximately the same amount through 1996.

• The reasons for this moderate electricity price rise is that the costs of producing and distributing electricity (fuel, labor, and capital) have risen only slightly during this period. Fossil fuel costs have declined, labor costs have not risen faster than inflation, while the cost of capital for maintenance and new equipment has been tempered by modest inflation since the mid-1980's. Also, there have been relatively few (but costly) new plants added by utilities during this period. Much of the increased demand for electricity has been met by non-utility generation, from either co-generation or independent producers. Finally, demand side management has been implemented by utilities to encourage conservation by customers. This has reduced the need to build new power plants which would have increased the cost of electricity.
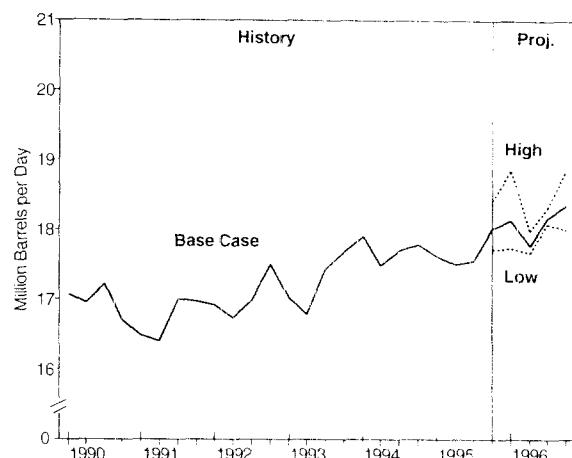
Figure 23. Total Petroleum Demand: Macro Cases

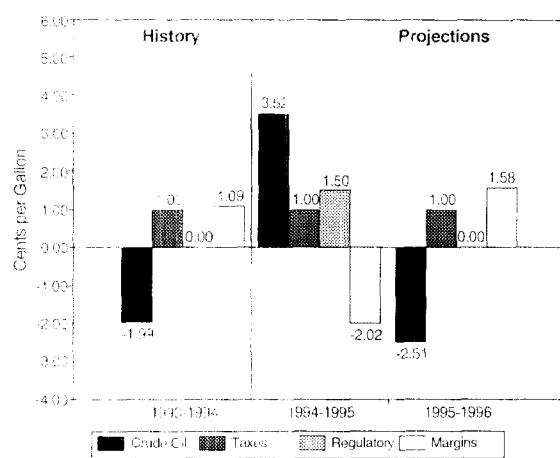Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

Figure 24. Total Petroleum Demand: Weather Cases

Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 2.9 and 2.1 percent per year in 1995 and 1996. 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 23 and 24.

- 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 123,000 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).
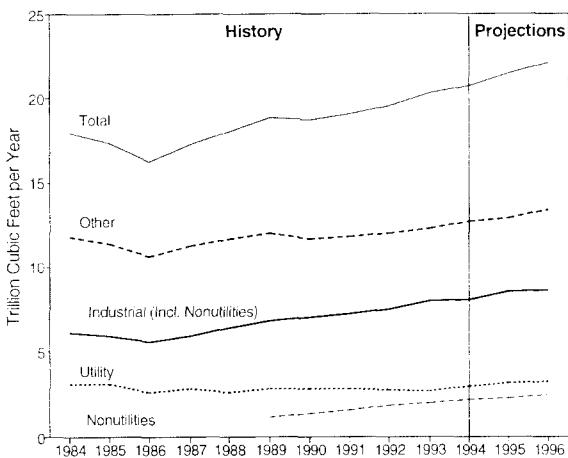
- A $1-per-barrel increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces demand by about 52,000 barrels per day (Tables 9 and 10).

- A $1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 60,000 barrels per day.

- A 1-percent increase in heating degree-days increases demand by about 25,000 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 8,000 barrels per day. (See Appendix A for sensitivity calculation methodology.)

U.S. Natural Gas Demand
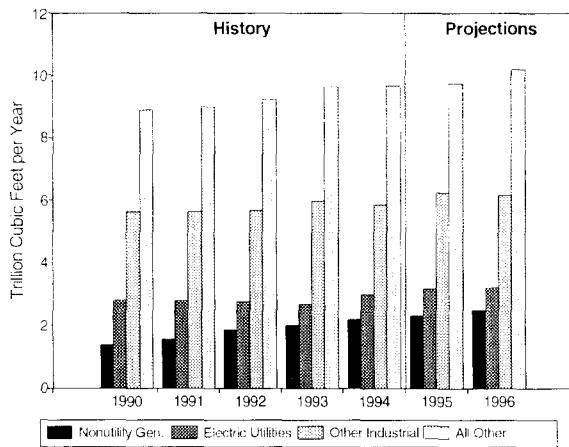
Figure 25. U.S. Natural Gas Demand Trends

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

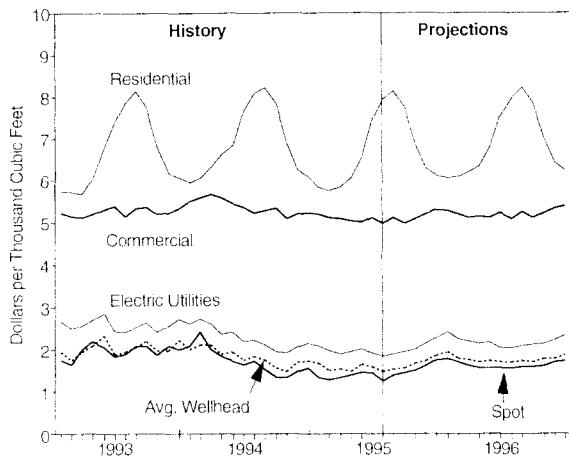### Figure 26. Natural Gas Demand for Power Generation and Other Uses

Mid World Oil Price Case
Note: "All Other" denotes residential and commercial demand.
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.
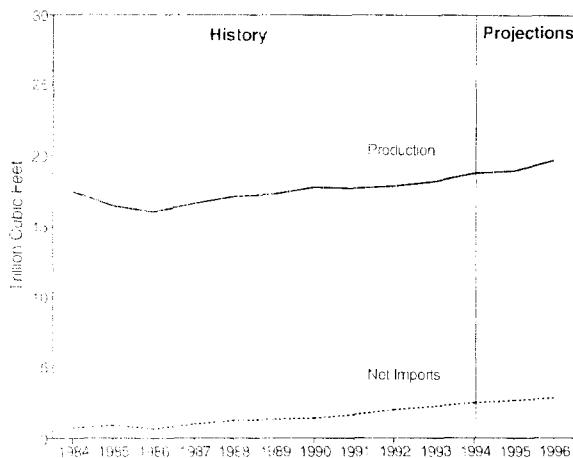
• The high temperatures in the summer months of July and August, together with higher than anticipated economic growth and relatively low gas prices, are expected to help raise total annual gas demand in 1995 by 3.5 percent especially if normal weather conditions prevail in the fourth quarter. In 1996, a record high of 22.1 trillion cubic feet in total gas demand is projected, as demand grows by 2.7 percent (Figure 25 and Table 10). This expected growth, which would bring U.S. gas demand to its highest level since 1973[14], is dependent on the assumption of normal weather, and continued economic growth of over 2 percent in 1996.

• In 1996, due mainly to assumptions of normal weather, residential demand is expected to be up by 5.8 percent. This growth also reflects the continued addition of new natural gas customers.

• Given the relatively low natural gas prices and continued economic growth, particularly in manufacturing production, 1995 is likely to

show an increase in industrial gas use of 6.1 percent. In 1996, industrial gas demand growth continues to grow, but at a somewhat lower rate, along with the economy (Figure 26).

• Growth in gas-powered electricity generation by utilities is expected to rise by 4.4 percent in 1995 as lower-priced gas edges out oil generation (Table 12), and as electricity demand continues to climb. In 1996, gas-powered electricity generation is expected to slip somewhat from 1995 levels, as electricity demand grows more slowly and as gas prices rise. Nonutility gas generation is expected to continue to rise through the forecast period as additional gas-powered capacity is added (Table 10).

• Commercial sector demand is expected to continue to rise along with the economy in 1995 and 1996 as commercial growth continues.
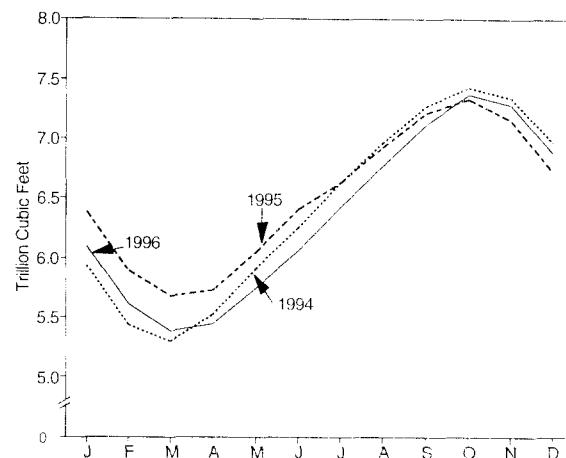
Figure 27. U.S. Dry Gas Production and Net Imports

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section, p. 45.
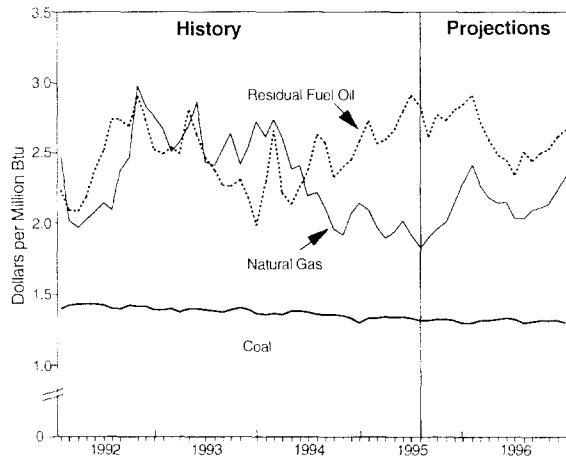
Figure 28. Total Gas in Underground Storage

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

- U.S. dry gas production is expected to continue to rise through the forecast period. Dry gas production in 1995 is projected at close to 19.0 trillion cubic feet, up 0.6 percent from 1994. In 1996, dry gas production is expected to increase by another 3.7 percent, to 19.7 trillion cubic feet (Figure 27 and Table 10).

- High July temperatures throughout the nation slowed gas storage injections, as power plants reported large demand for gas to meet air conditioning demand. While injections rose in August, high temperatures in California and less availability of hydro-electric power caused net withdrawals from storage in August. Working gas storage was estimated at 2,750 billion cubic feet, or 86 percent of capacity, on September 29, 202 billion cubic feet less than at the same time last year (Figure 28).[15] However, by the start of the heating season gas storage is expected to be comparable to 1994 levels, which were about normal.

- The natural gas rig count for the month of September was 413 rigs. This number was
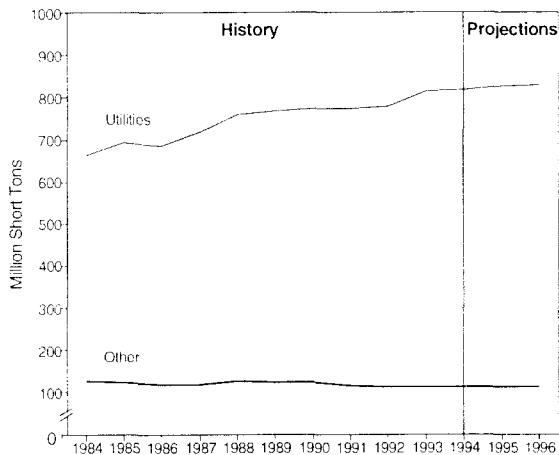
equal to 53.9 percent of all rigs drilling.[16] Gas production has continued to increase even as drilling has been decreasing in the past three years. This is due to the rising level of technological capability in exploration and recovery.

- Increasing U.S. gas production together with rising imports of competitively priced gas from Canada have tended to help lower gas prices. Net natural gas imports are forecast to continue to expand through the forecast, by 4.9 percent in 1995, and by 8.5 percent in 1996. Gas import capacity remains above projected import levels. In 1996, net natural gas imports are expected to amount to 12.7 percent of total U.S. demand.

- U.S. dry gas productive capacity has stabilized, after declining for several years. The gap between production and capacity is staying about steady or narrowing slightly, as the production level increases.[17]

U.S. Coal Demand and Supply _____

Figure 29. U.S. Coal Demand Trends
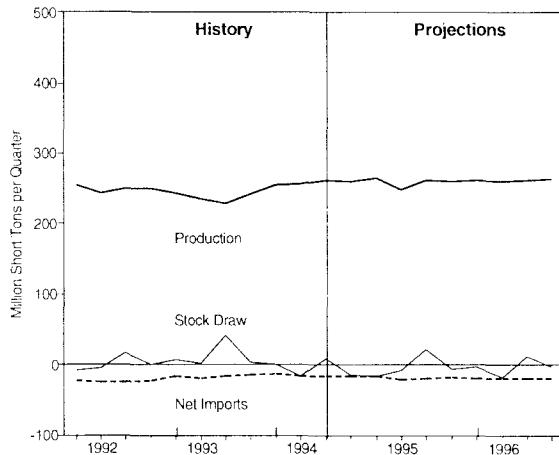
- Total coal demand is expected to increase by 1.1 percent in 1995 (Table 11). Rising demand for coal in the electricity sector will help stimulate an additional 0.6 percent increase in coal demand in 1996 (Figure 29).

- Coal consumed by utility and nonutility generators to produce electricity is expected to increase by 1.4 percent in 1995 (Table 11) in response to sizable increases in electricity demand. In 1996, little growth in demand for electricity from utilities is expected to bring about only a 0.5 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 2.1 percent increase in steel output last year was

Figure 30. Components of U.S. Coal Supply
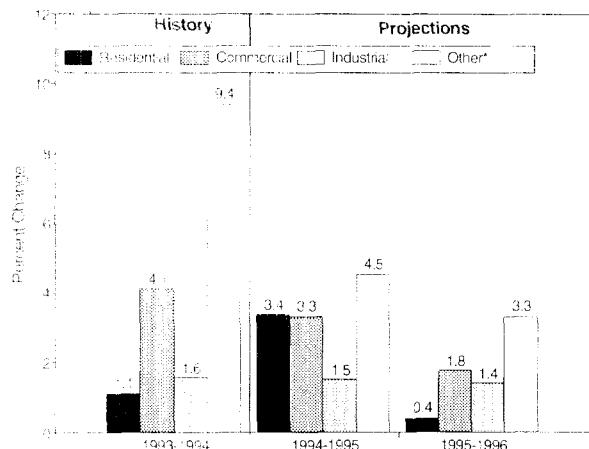
accompanied by a 1.3 percent decrease in coking coal demand (Table 2).

- Milder than normal weather in the first half of the year will lower coal demand in the retail and general industry sectors by 2.5 percent in 1995. Assumption of normal weather and 2.1 percent growth in the economy will lead to demand of almost 81 million short tons of coal in 1996 from these sectors, close to the 1994 level. 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 1995, increasing by 17 percent. Exports should continue growing in 1996, as worldwide demand improves (Table 11).

- Coal production is expected to remain flat in 1995, but increase by 1.2 percent in 1996, with an annual output level of 1,047 million short tons in 1996 (Figure 30).

Figure 31. U.S. Electricity Demand
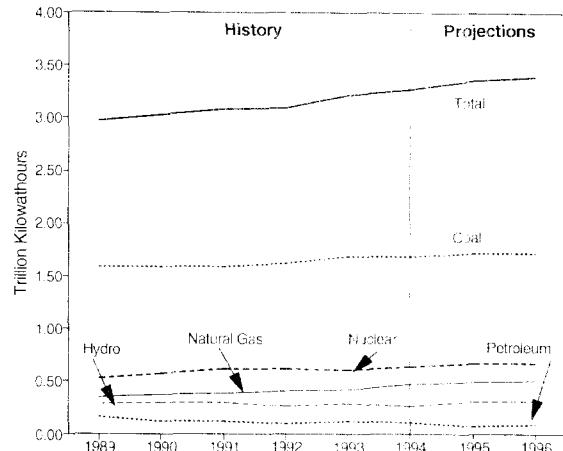
*Includes nonutility own use
Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

Figure 32. U.S. Electricity Production*

*Includes nonutilities
Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 45.
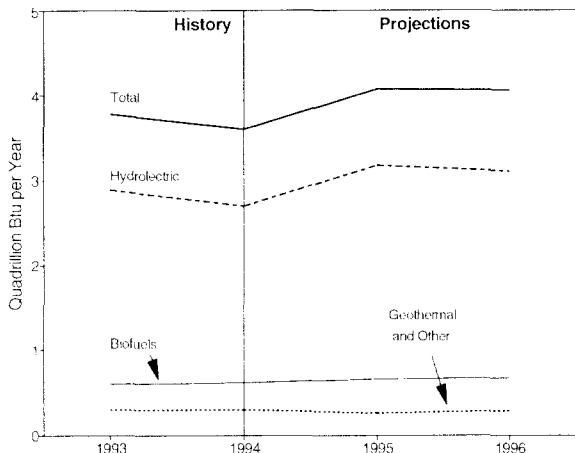
• Demand for air conditioning during the heat wave in July and August was likely the major contributor to the estimated 6.3 percent increase in electricity demand over third quarter 1994. This is expected to bring total 1995 electricity demand up by 2.7 percent over 1994. In 1996, total electricity demand is expected to increase by 1.2 percent.

• Residential demand growth for electricity in 1995 is projected at 3.4 percent, due mainly to summer weather effects. In 1996, residential demand growth is expected to be 0.4 percent due to the assumption of normal weather, and thus lower summer demand next year.

• Commercial sector demand is projected to rise by 3.3 percent in 1995 and by 1.8 percent in 1996, due primarily to expanding employment (Figure 31 and Table 12).

• Industrial demand is projected to grow by 1.5 percent in 1995 and by 1.4 percent in 1996, reflecting the continuing growth in industrial output (Table 12).

• U.S. utilities are expected to generate about 2.6 percent more electricity in 1995 and 3.2 percent more in 1996. Nonutility generation is expected to increase at even faster rates of 5.0 percent in 1995, and 5.9 percent in 1996, as a result of capacity additions (Table 12).[18]

• Hydropower generation by electric utilities is expected to increase in 1995 from the low 1994 levels due to improvements in streamflow conditions in the Pacific Northwest (Figure 32).

• Nuclear power generation is expected to rise in 1995 and 1996, as Watts Bar 1 goes on-line and Browns Ferry 3 returns to service.[19]

• Net imports of electricity from Canada in 1995 are expected to be somewhat lower than the record 1994 levels. This is because U.S. exports to Canada increased in early 1995 over 1994, mainly in the Pacific Northwest. As water conditions in the area have improved, competition for sales has sharpened. However, high purchases from Ontario and Quebec are expected to continue through 1996.

U.S. Renewable Energy Demand
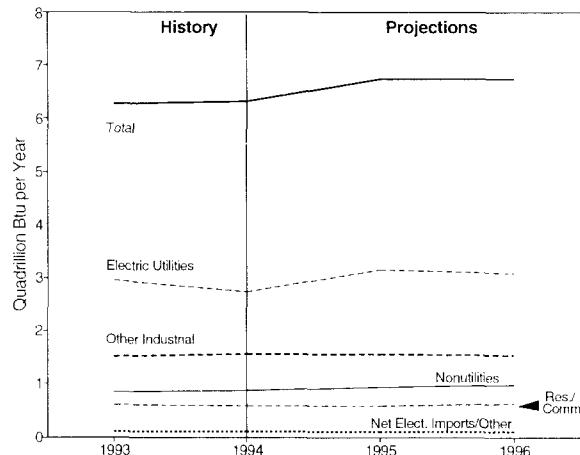
Figure 33. Renewable Energy Use for Electricity

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section, p. 45.

Figure 34. Renewable Energy Use by Sector

Mid World Oil Price Case
Sources: Fourth Quarter 1995 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 45.

• Renewable energy use in the United States amounted to about 6.3 quadrillion Btu (quads), or about 7.2 percent of total domestic gross energy demand in 1994 (Table 13). In 1994, renewables demand growth slowed to under 1 percent due to an overall reduction in hydroelectric power availability. In 1995, renewables growth should resume as hydroelectric sources recover and use of biomass nonutility power generation expands.

• 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 33), a significant and growing share of renewables use occurs at nonutility generating facilities.

• Use of hydropower generation in the utility sector in 1995 has been recovering from low 1994 levels as very high rainfall pushed water levels up in the Pacific Northwest. In 1996 hydropower use declines somewhat, assuming normal rainfall.

• Most of the nonutility use of renewables involves biofuels, principally wood and wood by-products. 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 0.28 quad increase in total use of renewables in the power generation sector over the 3-year period from 1993 through 1996, about 49 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 25 percent of the total in 1994 (Figure 34). This component is principally biofuels.

• Renewables use in the combined residential and commercial sector, at about 0.60 quad in 1994, 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	1994 1st	2nd	3rd	4th	1995 1st	2nd	3rd	4th	1996 1st	2nd	3rd	4th	Year 1994	1995	1996
Macroeconomic [a]																
Real Gross Domestic Product	High								5547	5617	5678	5739	5779		5503	5703
(billion 1987 dollars - SAAR)	Mid	5261	5314	5367	5434	5470	5485	5510	5534	5573	5600	5628	5660	5344	5500	5615
	Low								5521	5528	5522	5517	5541		5497	5527
	High								2.1	2.7	3.5	4.1	4.2		3.0	3.6
Percentage Change from Prior Year	Mid	3.7	4.1	4.4	4.1	4.0	3.2	2.7	1.8	1.9	2.1	2.1	2.3	4.1	2.9	2.1
	Low								1.6	1.1	0.7	0.1	0.4		2.9	0.6
Annualized Percent Change	High								2.6	5.1	4.4	4.2	2.8			
from Prior Quarter	Mid	3.3	4.0	4.0	5.0	2.7	1.1	1.8	1.7	2.8	2.0	2.0	2.2			
	Low								0.8	0.5	-0.5	-0.3	1.7			
GDP Implicit Price Deflator	High								1.294	1.302	1.306	1.311	1.318		1.285	1.309
(Index, 1987=1.000)	Mid	1.250	1.259	1.265	1.269	1.276	1.281	1.287	1.295	1.305	1.312	1.320	1.327	1.261	1.285	1.316
	Low								1.296	1.308	1.318	1.328	1.336		1.285	1.322
	High								2.0	2.0	2.0	1.9	1.8		1.9	1.9
Percentage Change from Prior Year	Mid	1.7	2.0	2.3	2.3	2.1	1.8	1.8	2.0	2.2	2.4	2.5	2.4	2.1	1.9	2.4
	Low								2.1	2.5	2.9	3.2	3.1		1.9	2.9
Real Disposable Personal Income	High								4014	4080	4123	4169	4196		3971	4142
(billion 1987 Dollars - SAAR)	Mid	3779	3812	3841	3911	3951	3939	3981	4004	4046	4063	4084	4105	3836	3969	4075
	Low								3994	4012	4003	4000	4015		3966	4007
	High								2.6	3.3	4.7	4.7	4.5		3.5	4.3
Percentage Change from Prior Year	Mid	3.3	3.0	3.6	4.4	4.5	3.3	3.6	2.4	2.4	3.1	2.6	2.5	3.6	3.5	2.7
	Low								2.1	1.6	1.6	0.5	0.5		3.4	1.0
Manufacturing Production	High								1.246	1.276	1.304	1.330	1.342		1.238	1.313
(Index, 1987=1.000)	Mid	1.168	1.189	1.205	1.228	1.243	1.232	1.230	1.239	1.253	1.264	1.274	1.282	1.198	1.236	1.268
	Low								1.233	1.231	1.224	1.218	1.221		1.234	1.224
	High								1.5	2.7	5.9	8.2	7.7		3.3	6.1
Percentage Change from Prior Year	Mid	4.4	5.9	6.6	6.9	6.4	3.6	2.0	1.0	0.8	2.6	3.6	3.4	6.0	3.2	2.6
	Low								0.4	-1.0	-0.6	-0.9	-0.9		3.1	-0.9
OECD Economic Growth (percent) [b]														2.8	2.8	2.7
Weather [c]																
Heating Degree-Days																
U.S.		2438	488	97	1439	2109	580	95	1636	2354	524	89	1636	4462	4420	4603
New England		3631	860	183	1998	2997	994	182	2269	3306	915	171	2269	6672	6442	6660
Middle Atlantic		3357	674	121	1782	2721	763	109	2026	3028	716	105	2026	5934	5619	5875
U.S. Gas-Weighted		2496	520	116	1527	2164	631	92	1686	2480	539	81	1686	4659	4573	4786
Cooling Degree-Days (U.S.)		34	375	732	69	21	328	872	72	30	334	758	72	1210	1293	1193

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

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

[c] Population-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. 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(95/09); U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, August 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), August 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0995.

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

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Macroeconomic [a]															
Real Fixed Investment (billion 1987 dollars - SAAR)	873	892	910	940	973	986	*1000*	*1013*	*1020*	*1022*	*1022*	*1022*	904	*993*	*1022*
Real Exchange Rate (index)	1.078	1.057	1.016	1.009	0.997	0.937	*0.964*	*0.961*	*0.960*	*0.960*	*0.958*	*0.961*	1.040	*0.965*	*0.960*
Business Inventory Change (billion 1987 dollars - SAAR)	9.9	0.7	4.5	4.1	12.0	14.8	*-1.5*	*-7.2*	*-6.9*	*-5.1*	*-3.3*	*-1.8*	4.8	*4.5*	*-4.3*
Producer Price Index (index, 1980-1984=1.000)	1.196	1.199	1.209	1.215	1.236	1.248	*1.255*	*1.265*	*1.276*	*1.278*	*1.286*	*1.293*	1.205	*1.251*	*1.283*
Consumer Price Index (index, 1980-1984=1.000)	1.468	1.477	1.490	1.498	1.510	1.522	*1.531*	*1.543*	*1.556*	*1.568*	*1.581*	*1.593*	1.483	*1.527*	*1.575*
Petroleum Product Price Index (index, 1980-1984=1.000)	0.550	0.581	0.637	0.597	0.584	0.655	*0.605*	*0.607*	*0.633*	*0.613*	*0.601*	*0.596*	0.591	*0.613*	*0.611*
Non-Farm Employment (millions)	112.7	113.6	114.5	115.3	116.1	116.4	*116.8*	*117.4*	*118.1*	*118.7*	*119.2*	*119.6*	114.0	*116.7*	*118.9*
Commercial Employment (millions)	74.9	75.7	76.4	77.1	77.7	78.1	*78.6*	*79.2*	*79.7*	*80.2*	*80.7*	*81.0*	76.0	*78.4*	*80.4*
Total Industrial Production (index, 1987=1.000)	1.156	1.174	1.188	1.205	1.220	1.212	*1.214*	*1.219*	*1.232*	*1.241*	*1.250*	*1.257*	1.181	*1.216*	*1.245*
Housing Stock (millions)	107.3	107.7	108.6	109.0	109.2	109.6	*109.9*	*110.2*	*110.6*	*110.9*	*111.2*	*111.5*	108.2	*109.7*	*111.1*
Miscellaneous															
Gas Weighted Industrial Production (index, 1987=1.000)	1.136	1.157	1.161	1.183	1.203	1.186	*1.181*	*1.179*	*1.190*	*1.198*	*1.204*	*1.209*	1.159	*1.187*	*1.200*
Vehicle Miles Traveled (million miles/day)	5849	6710	6802	6354	6067	6818	*6978*	*6422*	*6173*	*7010*	*7132*	*6574*	6431	*6573*	*6723*
Vehicle Fuel Efficiency (miles per gallon)	19.30	20.72	20.69	19.78	19.31	20.45	*20.98*	*19.93*	*19.32*	*20.80*	*20.85*	*19.96*	20.15	*20.19*	*20.25*
Real Vehicle Fuel Cost (cents per mile)	3.93	3.75	3.98	4.09	4.06	4.00	*3.85*	*3.91*	*3.95*	*3.76*	*3.74*	*3.82*	3.94	*3.95*	*3.82*
Air Travel Capacity (mill. available ton-miles/day)	340.7	362.3	382.7	377.0	370.5	378.3	*398.8*	*385.7*	*379.4*	*392.4*	*412.4*	*398.1*	365.8	*383.4*	*395.6*
Aircraft Utilization (mill. revenue ton-miles/day)	186.3	205.8	222.6	210.7	202.1	217.6	*235.1*	*213.5*	*205.1*	*223.7*	*242.4*	*219.7*	206.4	*217.1*	*222.8*
Aircraft Yield (cents per ton-mile)	13.90	13.33	12.44	12.67	13.33	13.57	*12.60*	*13.33*	*14.12*	*13.22*	*12.29*	*13.10*	13.08	*13.21*	*13.18*
Raw Steel Production (millions)	24.19	24.56	24.04	25.41	26.26	25.31	*24.91*	*26.41*	*25.69*	*24.50*	*23.56*	*24.51*	97.93	*102.89*	*98.26*

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. 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(95/09); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 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)*, August 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0995.

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

	1994 1st	1994 2nd	1994 3rd	1994 4th	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	Year 1994	Year 1995	Year 1996
Demand [a]															
OECD															
U.S. (50 States)	17.9	17.5	17.7	17.8	17.6	17.5	17.6	18.0	18.1	17.8	18.2	18.3	17.7	17.7	18.1
U.S. Territories	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3
Canada	1.7	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.8	1.8
Europe [b]	13.6	13.2	13.5	14.0	14.0	13.4	13.6	14.1	14.2	13.6	13.8	14.3	13.6	13.8	14.0
Japan	6.2	5.1	5.5	5.9	6.4	5.3	5.3	5.9	6.4	5.3	5.4	6.0	5.7	5.7	5.8
Australia and New Zealand	0.9	0.9	0.9	1.0	0.9	0.9	1.0	1.0	0.9	0.9	1.0	1.0	0.9	0.9	1.0
Total OECD	40.6	38.7	39.6	40.6	40.9	39.1	39.5	41.0	41.6	39.6	40.4	41.7	39.9	40.1	40.8
Non-OECD															
Former Soviet Union	5.3	4.4	4.6	4.9	5.1	4.2	4.4	4.7	4.9	4.0	4.2	4.5	4.8	4.6	4.4
Europe	1.5	1.3	1.3	1.4	1.5	1.3	1.3	1.4	1.6	1.4	1.4	1.5	1.4	1.4	1.4
China	3.1	3.1	3.1	3.2	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.6	3.1	3.3	3.5
Other Asia	7.4	7.3	7.0	8.0	7.7	7.6	7.3	8.4	8.1	8.0	7.7	8.8	7.4	7.8	8.1
Other Non-OECD	11.8	11.8	11.9	12.1	12.1	12.1	12.2	12.4	12.5	12.5	12.6	12.8	11.9	12.2	12.6
Total Non-OECD	29.1	27.9	27.9	29.6	29.8	28.6	28.6	30.3	30.5	29.3	29.3	31.1	28.6	29.3	30.1
Total World Demand	69.7	66.6	67.5	70.2	70.6	67.7	68.1	71.4	72.1	69.0	69.7	72.8	68.5	69.4	70.9
Supply [c]															
OECD															
U.S. (50 States)	9.4	9.3	9.3	9.6	9.4	9.4	9.3	9.4	9.3	9.2	9.1	9.1	9.4	9.4	9.2
Canada	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4
North Sea [d]	5.2	5.3	5.2	5.8	5.8	5.5	5.7	6.1	6.4	6.1	6.3	6.7	5.4	5.7	6.3
Other OECD	1.4	1.4	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	18.3	18.3	18.4	19.3	19.2	18.7	18.8	19.3	19.6	19.1	19.3	19.7	18.6	19.0	19.4
Non-OECD															
OPEC	27.2	27.4	27.4	27.7	27.6	28.0	27.9	28.0	28.1	28.2	28.3	28.3	27.4	27.9	28.2
Former Soviet Union	7.2	7.0	6.9	7.0	6.9	6.9	6.8	6.8	6.9	6.9	6.8	6.8	7.0	6.8	6.8
China	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	2.9	3.0	3.1
Mexico	3.2	3.2	3.2	3.2	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.3
Other Non-OECD	8.6	8.7	8.9	9.1	9.3	9.2	9.3	9.4	9.7	9.9	10.0	10.0	8.8	9.3	9.9
Total Non-OECD	49.1	49.2	49.4	49.9	49.9	50.2	50.2	50.5	51.1	51.3	51.5	51.5	49.4	50.2	51.3
Total World Supply	67.4	67.6	67.8	69.2	69.1	69.0	69.1	69.8	70.7	70.4	70.7	71.2	68.0	69.2	70.8
Stock Changes and Statistical Discrepancy															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.7	-0.4	-0.6	0.3	0.6	-0.1	-0.3	-0.1	0.4	-0.6	-0.4	0.3	0.0	0.0	-0.1
Other	-0.3	-0.7	-0.2	-0.9	0.5	-1.4	-0.9	1.3	0.7	-1.1	-0.9	1.0	-0.5	-0.1	-0.1
Total Stock Withdrawals	0.4	-1.1	-0.8	-0.5	1.1	-1.5	-1.2	1.3	1.2	-1.8	-1.3	1.3	-0.5	-0.1	-0.1
Statistical Discrepancy	1.8	0.2	0.6	1.6	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.3	1.0	0.3	0.3
Closing Stocks (billion barrels) [e]	5.6	5.7	5.8	5.8	5.7	5.9	6.0	5.8	5.7	5.9	6.0	5.9	5.8	5.8	5.9
Non-OPEC Supply	40.2	40.1	40.4	41.5	41.5	40.9	41.1	41.9	42.6	42.3	42.5	43.1	40.6	41.4	42.6
Net Exports from Former Soviet Union	1.9	2.6	2.3	2.1	1.8	2.6	2.4	2.1	2.1	2.8	2.6	2.3	2.2	2.2	2.4

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

[b]OECD Europe includes the former East Germany.

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

[d]Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

[e]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 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(95/10); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, September 1995.

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

	Price Case	1994 1st	1994 2nd	1994 3rd	1994 4th	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	Year 1994	Year 1995	Year 1996
Imported Crude Oil [a]	Low								15.66	13.10	12.70	12.50	12.50		16.81	12.69
(dollars per barrel)	Mid	13.00	15.80	16.71	16.15	17.01	18.20	16.47	16.50	16.00	16.00	16.00	16.00	15.52	17.03	16.00
	High								17.07	17.86	18.30	18.50	18.50		17.18	18.30
Natural Gas Wellhead	Low								1.72	1.67	1.61	1.59	1.65		1.60	1.63
(dollars per thousand cubic feet)	Mid	2.08	1.87	1.72	1.63	1.57	1.57	1.53	1.75	1.82	1.69	1.69	1.81	1.82	1.61	1.75
	High								1.87	2.05	1.98	1.97	2.10		1.63	2.03
Petroleum Products																
Gasoline Retail [b]	Low								1.19	1.13	1.15	1.15	1.13		1.21	1.14
(dollars per gallon)	Mid	1.11	1.15	1.23	1.21	1.18	1.24	1.23	1.20	1.19	1.23	1.23	1.21	1.17	1.21	1.21
	High								1.21	1.22	1.28	1.29	1.27		1.22	1.27
No. 2 Diesel Oil, Retail	Low								1.12	1.05	1.04	1.03	1.07		1.11	1.05
(dollars per gallon)	Mid	1.10	1.10	1.12	1.12	1.09	1.12	1.11	1.14	1.12	1.11	1.11	1.15	1.11	1.11	1.12
	High								1.15	1.16	1.16	1.17	1.21		1.12	1.18
No. 2 Heating Oil, Wholesale	Low								0.52	0.45	0.43	0.42	0.45		0.50	0.44
(dollars per gallon)	Mid	0.52	0.49	0.51	0.50	0.49	0.51	0.49	0.54	0.51	0.50	0.49	0.53	0.51	0.51	0.51
	High								0.55	0.56	0.55	0.55	0.58		0.51	0.56
No. 2 Heating Oil, Retail	Low								0.90	0.89	0.84	0.78	0.85		0.88	0.86
(dollars per gallon)	Mid	0.91	0.87	0.83	0.86	0.88	0.86	0.84	0.92	0.95	0.91	0.86	0.92	0.88	0.88	0.92
	High								0.93	0.98	0.96	0.91	0.98		0.89	0.97
No. 6 Residual Fuel Oil, Retail [c]	Low								15.35	13.61	11.56	11.45	12.16		16.30	12.25
(dollars per barrel)	Mid	14.37	13.86	15.84	15.34	16.83	17.45	15.75	16.19	16.05	14.23	14.20	14.99	14.78	16.54	14.93
	High								16.62	17.50	16.00	16.12	16.80		16.66	16.66
Electric Utility Fuels																
Coal	Low								1.29	1.28	1.28	1.27	1.26		1.31	1.27
(dollars per million Btu)	Mid	1.36	1.38	1.35	1.33	1.33	1.33	1.31	1.31	1.31	1.32	1.31	1.31	1.36	1.32	1.31
	High								1.36	1.37	1.40	1.39	1.39		1.35	1.39
Heavy Fuel Oil [d]	Low								2.66	2.36	2.00	2.04	2.15		2.70	2.13
(dollars per million Btu)	Mid	2.39	2.26	2.54	2.48	2.61	2.80	2.73	2.80	2.75	2.42	2.48	2.60	2.40	2.73	2.56
	High								2.87	2.98	2.69	2.79	2.89		2.75	2.84
Natural Gas	Low								2.10	2.14	2.01	1.97	2.07		1.97	2.04
(dollars per million Btu)	Mid	2.65	2.31	2.10	2.03	1.98	1.96	1.89	2.13	2.29	2.10	2.08	2.22	2.23	1.97	2.16
	High								2.21	2.50	2.36	2.33	2.48		1.99	2.40
Other Residential																
Natural Gas	Low								6.22	6.03	6.56	7.84	6.17		6.20	6.29
(dollars per thousand cubic feet)	Mid	6.08	6.89	8.03	6.27	5.79	6.46	7.93	6.28	6.10	6.67	8.00	6.41	6.41	6.22	6.43
	High								6.35	6.18	6.88	8.28	6.54		6.24	6.56
Electricity	Low								8.23	7.87	8.46	8.73	8.19		8.37	8.32
(cents per kilowatthour)	Mid	7.89	8.57	8.85	8.31	7.99	8.58	8.89	8.47	8.12	8.76	9.04	8.55	8.40	8.50	8.62
	High								8.88	8.61	9.31	9.62	9.10		8.69	9.16

[a] Cost of imported crude oil to U.S.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes 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(95/09); and *Petroleum Marketing Monthly*, DOE/EIA-0380(95/09).

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

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Supply															
Crude Oil Supply															
Domestic Production [a]	6.78	6.64	6.55	6.68	6.63	6.56	6.46	6.39	6.27	6.13	5.98	5.92	6.66	6.51	6.07
Alaska	1.61	1.53	1.50	1.59	1.56	1.50	1.42	1.40	1.38	1.33	1.26	1.27	1.56	1.47	1.31
Lower 48	5.16	5.10	5.05	5.10	5.07	5.05	5.05	4.98	4.89	4.80	4.72	4.65	5.10	5.04	4.76
Net Imports (including SPR) [b]	6.12	7.06	7.66	7.00	6.74	7.35	7.46	7.72	7.44	8.15	8.51	7.95	6.96	7.32	8.01
Gross Imports (excluding SPR)	6.17	7.15	7.74	7.12	6.83	7.46	7.55	7.83	7.56	8.26	8.60	8.05	7.05	7.42	8.12
SPR Imports	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Exports	0.09	0.11	0.07	0.12	0.09	0.11	0.09	0.10	0.12	0.11	0.08	0.10	0.10	0.10	0.10
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
SPR Stock Withdrawn or Added (-)	-0.04	-0.02	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	-0.01
Other Stock Withdrawn or Added (-)	-0.08	0.16	-0.08	-0.02	-0.01	0.12	0.27	-0.22	-0.11	-0.04	-0.01	0.03	-0.01	0.04	-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	0.36	0.32	0.23	0.16	0.13	0.21	0.18	0.27	0.26	0.28	0.28	0.27	0.27	0.20	0.27
Total Crude Oil Supply	13.13	14.15	14.36	13.81	13.49	14.23	14.37	14.15	13.85	14.50	14.75	14.16	13.87	14.06	14.32
Other Supply															
NGL Production	1.64	1.71	1.77	1.79	1.77	1.77	1.74	1.75	1.75	1.73	1.74	1.76	1.73	1.76	1.75
Other Hydrocarbon and Alcohol Inputs	0.24	0.23	0.26	0.29	0.30	0.31	0.30	0.37	0.34	0.32	0.33	0.39	0.26	0.32	0.34
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	0.76	0.77	0.82	0.72	0.75	0.78	0.79	0.77	0.81	0.82	0.79	0.77	0.76	0.80
Net Product Imports [c]	1.33	1.22	1.10	0.72	0.71	0.65	0.89	0.81	0.95	1.16	1.13	1.16	1.09	0.77	1.10
Gross Product Imports [c]	2.16	1.99	1.92	1.66	1.61	1.47	1.69	1.78	1.89	2.06	2.00	2.13	1.93	1.64	2.02
Product Exports	0.83	0.77	0.82	0.95	0.90	0.82	0.80	0.97	0.94	0.90	0.88	0.98	0.84	0.87	0.92
Product Stock Withdrawn or Added (-) [d]	0.81	-0.58	-0.56	0.35	0.60	-0.22	-0.53	0.17	0.58	-0.58	-0.39	0.29	0.00	0.00	-0.03
Total Supply	17.89	17.49	17.70	17.79	17.61	17.49	17.55	18.05	18.24	17.94	18.40	18.55	17.72	17.68	18.28
Demand															
Motor Gasoline	7.21	7.71	7.83	7.65	7.48	7.94	7.92	7.68	7.65	8.08	8.20	7.90	7.60	7.76	7.96
Jet Fuel	1.51	1.52	1.54	1.54	1.52	1.44	1.55	1.57	1.53	1.51	1.59	1.57	1.53	1.52	1.55
Distillate Fuel Oil	3.53	3.03	2.95	3.15	3.45	3.09	2.91	3.27	3.55	3.16	3.11	3.38	3.16	3.18	3.30
Residual Fuel Oil	1.26	1.03	0.89	0.91	0.89	0.82	0.84	0.98	1.07	0.93	0.93	1.05	1.02	0.88	1.00
Other Oils [e]	4.38	4.21	4.49	4.55	4.28	4.21	4.33	4.54	4.44	4.27	4.57	4.65	4.41	4.34	4.48
Total Demand	17.89	17.49	17.70	17.79	17.62	17.49	17.55	18.05	18.24	17.94	18.40	18.55	17.72	17.68	18.28
Total Petroleum Net Imports	7.45	8.27	8.77	7.72	7.45	8.00	8.35	8.53	8.38	9.31	9.64	9.10	8.05	8.09	9.11
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	342	328	335	337	338	327	303	323	333	337	338	335	337	323	335
Total Motor Gasoline	213	212	205	215	211	205	203	213	214	212	208	222	215	213	222
Finished Motor Gasoline	176	177	169	176	168	164	161	174	174	174	169	183	176	174	183
Blending Components	38	35	36	39	43	41	42	39	40	38	39	39	39	39	39
Jet Fuel	38	41	45	47	39	40	40	44	46	46	46	48	47	44	48
Distillate Fuel Oil	99	120	145	145	115	115	132	138	98	114	139	141	145	138	141
Residual Fuel Oil	42	39	44	42	38	36	39	41	37	40	40	42	42	41	42
Other Oils [g]	260	293	317	275	266	294	325	286	275	313	326	279	275	286	279
Total Stocks (excluding SPR)	994	1033	1092	1061	1007	1017	1041	1046	1003	1061	1097	1067	1061	1046	1067
Crude Oil in SPR	590	592	592	592	592	592	592	593	594	595	596	598	592	593	598
Total Stocks (including SPR)	1584	1624	1684	1653	1599	1609	1633	1639	1597	1656	1693	1665	1653	1639	1665

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] Includes an estimate of minor product stock change based on monthly data.
[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[f] Includes crude oil in transit to refineries.
[g] Includes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.
SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding. 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(93/01-95/09); 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)

	1994 1st	1994 2nd	1994 3rd	1994 4th	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	Year 1994	Year 1995	Year 1996
Supply															
Crude Oil Supply															
Domestic Production [a]	6.78	6.64	6.55	6.68	6.63	6.56	6.46	6.45	6.41	6.33	6.22	6.19	6.66	6.53	6.28
Alaska	1.61	1.53	1.50	1.59	1.56	1.50	1.42	1.44	1.42	1.37	1.30	1.31	1.56	1.48	1.35
Lower 48	5.16	5.10	5.05	5.10	5.07	5.05	5.05	5.01	4.98	4.96	4.92	4.88	5.10	5.05	4.93
Net Imports (including SPR) [b]	6.12	7.06	7.66	7.00	6.74	7.35	7.46	7.65	7.27	7.87	8.17	7.56	6.96	7.30	7.72
Gross Imports (excluding SPR)	6.17	7.15	7.74	7.12	6.83	7.46	7.55	7.76	7.38	7.98	8.25	7.66	7.05	7.40	7.82
SPR Imports	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Exports	0.09	0.11	0.07	0.12	0.09	0.11	0.09	0.10	0.12	0.11	0.08	0.10	0.10	0.10	0.10
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
SPR Stock Withdrawn or Added (-)	-0.04	-0.02	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	-0.01
Other Stock Withdrawn or Added (-)	-0.08	0.16	-0.08	-0.02	-0.01	0.12	0.27	-0.22	-0.11	-0.04	-0.01	0.03	-0.01	0.04	-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	0.36	0.32	0.23	0.16	0.13	0.21	0.18	0.27	0.26	0.27	0.28	0.27	0.27	0.20	0.27
Total Crude Oil Supply	13.13	14.15	14.36	13.81	13.49	14.23	14.37	14.14	13.81	14.42	14.64	14.04	13.87	14.06	14.23
Other Supply															
NGL Production	1.64	1.71	1.77	1.79	1.77	1.77	1.74	1.75	1.75	1.74	1.74	1.76	1.73	1.76	1.75
Other Hydrocarbon and Alcohol Inputs	0.24	0.23	0.26	0.29	0.30	0.31	0.30	0.37	0.34	0.32	0.33	0.39	0.26	0.32	0.34
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	0.76	0.77	0.82	0.72	0.75	0.78	0.79	0.76	0.80	0.82	0.79	0.77	0.76	0.79
Net Product Imports [c]	1.33	1.22	1.10	0.72	0.71	0.65	0.89	0.79	0.88	1.07	1.02	1.07	1.09	0.76	1.01
Gross Product Imports [c]	2.16	1.99	1.92	1.66	1.61	1.47	1.69	1.76	1.82	1.97	1.90	2.05	1.93	1.63	1.93
Product Exports	0.83	0.77	0.82	0.95	0.90	0.82	0.80	0.97	0.94	0.90	0.88	0.98	0.84	0.87	0.92
Product Stock Withdrawn or Added (-) [d]	0.81	-0.58	-0.56	0.35	0.60	-0.22	-0.53	0.17	0.57	-0.59	-0.39	0.29	0.00	0.00	-0.03
Total Supply	17.89	17.49	17.70	17.79	17.61	17.49	17.55	18.02	18.13	17.77	18.17	18.34	17.72	17.67	18.10
Demand															
Motor Gasoline	7.21	7.71	7.83	7.65	7.48	7.94	7.92	7.67	7.61	8.02	8.14	7.84	7.60	7.75	7.90
Jet Fuel	1.51	1.52	1.54	1.54	1.52	1.44	1.55	1.57	1.53	1.51	1.58	1.57	1.53	1.52	1.55
Distillate Fuel Oil	3.53	3.03	2.95	3.15	3.45	3.09	2.91	3.27	3.54	3.13	3.07	3.34	3.16	3.18	3.27
Residual Fuel Oil	1.26	1.03	0.89	0.91	0.89	0.82	0.84	0.97	1.03	0.85	0.82	0.96	1.02	0.88	0.92
Other Oils [e]	4.38	4.21	4.49	4.55	4.28	4.21	4.33	4.54	4.43	4.25	4.55	4.63	4.41	4.34	4.47
Total Demand	17.89	17.49	17.70	17.79	17.62	17.49	17.55	18.02	18.13	17.77	18.17	18.34	17.72	17.67	18.10
Total Petroleum Net Imports	7.45	8.27	8.77	7.72	7.45	8.00	8.35	8.44	8.15	8.95	9.19	8.63	8.05	8.07	8.73
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	342	328	335	337	338	327	303	323	333	337	338	335	337	323	335
Total Motor Gasoline	213	212	205	215	211	205	203	213	214	212	208	222	215	213	222
Finished Motor Gasoline	176	177	169	176	168	164	161	174	174	174	169	183	176	174	183
Blending Components	38	35	36	39	43	41	42	39	40	38	39	39	39	39	39
Jet Fuel	38	41	45	47	39	40	40	44	46	46	46	48	47	44	48
Distillate Fuel Oil	99	120	145	145	115	115	132	139	99	114	140	142	145	139	142
Residual Fuel Oil	42	39	44	42	38	36	39	41	37	40	40	42	42	41	42
Other Oils [g]	260	293	317	275	266	294	325	286	275	313	327	280	275	286	280
Total Stocks (excluding SPR)	994	1033	1092	1061	1007	1017	1041	1046	1004	1061	1098	1069	1061	1046	1069
Crude Oil in SPR	590	592	592	592	592	592	592	593	594	595	596	598	592	593	598
Total Stocks (including SPR)	1584	1624	1684	1653	1599	1609	1633	1639	1598	1657	1695	1667	1653	1639	1667

[a]Includes lease condensate.
[b]Net imports equals gross imports plus SPR imports minus exports.
[c]Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d]Includes an estimate of minor product stock change based on monthly data.
[e]Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[f]Includes crude oil in transit to refineries.
[g]Includes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. 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(93/01-95/09); 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)

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Supply															
Crude Oil Supply															
Domestic Production [a]	6.78	6.64	6.55	6.68	6.63	6.56	6.46	6.49	6.46	6.39	6.29	6.28	6.66	6.53	6.35
Alaska	1.61	1.53	1.50	1.59	1.56	1.50	1.42	1.47	1.46	1.40	1.33	1.34	1.56	1.49	1.38
Lower 48	5.16	5.10	5.05	5.10	5.07	5.05	5.05	5.01	5.00	4.99	4.96	4.94	5.10	5.05	4.97
Net Imports (including SPR) [b]	6.12	7.06	7.66	7.00	6.74	7.35	7.46	7.61	7.19	7.76	8.01	7.38	6.96	7.29	7.58
Gross Imports (excluding SPR)	6.17	7.15	7.74	7.12	6.83	7.46	7.55	7.71	7.30	7.87	8.09	7.48	7.05	7.39	7.69
SPR Imports	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Exports	0.09	0.11	0.07	0.12	0.09	0.11	0.09	0.10	0.12	0.11	0.08	0.10	0.10	0.10	0.10
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
SPR Stock Withdrawn or Added (-)	-0.04	-0.02	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	-0.01
Other Stock Withdrawn or Added (-)	-0.08	0.16	-0.08	-0.02	-0.01	0.12	0.27	-0.22	-0.11	-0.04	-0.01	0.03	-0.01	0.04	-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	0.36	0.32	0.23	0.16	0.13	0.21	0.18	0.27	0.26	0.27	0.28	0.26	0.27	0.20	0.27
Total Crude Oil Supply	13.13	14.15	14.36	13.81	13.49	14.23	14.37	14.13	13.79	14.37	14.56	13.95	13.87	14.06	14.17
Other Supply															
NGL Production	1.64	1.71	1.77	1.79	1.77	1.77	1.74	1.75	1.75	1.74	1.74	1.76	1.73	1.76	1.75
Other Hydrocarbon and Alcohol Inputs	0.24	0.23	0.26	0.29	0.30	0.31	0.30	0.37	0.34	0.32	0.33	0.39	0.26	0.32	0.34
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	0.76	0.77	0.82	0.72	0.75	0.78	0.79	0.76	0.80	0.81	0.78	0.77	0.76	0.79
Net Product Imports [c]	1.33	1.22	1.10	0.72	0.71	0.65	0.89	0.77	0.83	1.01	0.94	1.01	1.09	0.76	0.95
Gross Product Imports [c]	2.16	1.99	1.92	1.66	1.61	1.47	1.69	1.74	1.78	1.91	1.82	1.98	1.93	1.63	1.87
Product Exports	0.83	0.77	0.82	0.95	0.90	0.82	0.80	0.97	0.94	0.90	0.88	0.98	0.84	0.87	0.92
Product Stock Withdrawn or Added (-) [d]	0.81	-0.58	-0.56	0.35	0.60	-0.22	-0.53	0.17	0.57	-0.59	-0.39	0.28	0.00	0.00	-0.03
Total Supply	17.89	17.49	17.70	17.79	17.61	17.49	17.55	18.00	18.05	17.65	18.00	18.18	17.72	17.66	17.97
Demand															
Motor Gasoline	7.21	7.71	7.83	7.65	7.48	7.94	7.92	7.66	7.58	7.98	8.10	7.80	7.60	7.75	7.86
Jet Fuel	1.51	1.52	1.54	1.54	1.52	1.44	1.55	1.57	1.53	1.51	1.58	1.57	1.53	1.52	1.55
Distillate Fuel Oil	3.53	3.03	2.95	3.15	3.45	3.09	2.91	3.27	3.53	3.11	3.04	3.31	3.16	3.18	3.25
Residual Fuel Oil	1.26	1.03	0.89	0.91	0.89	0.82	0.84	0.96	1.00	0.80	0.75	0.91	1.02	0.88	0.86
Other Oils [e]	4.38	4.21	4.49	4.55	4.28	4.21	4.33	4.54	4.43	4.24	4.53	4.60	4.41	4.34	4.45
Total Demand	17.89	17.49	17.70	17.79	17.62	17.49	17.55	18.00	18.05	17.65	18.00	18.18	17.72	17.67	17.97
Total Petroleum Net Imports	7.45	8.27	8.77	7.72	7.45	8.00	8.35	8.39	8.02	8.77	8.95	8.39	8.05	8.05	8.53
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	342	328	335	337	338	327	303	323	333	337	338	335	337	323	335
Total Motor Gasoline	213	212	205	215	211	205	203	213	214	212	208	222	215	213	222
Finished Motor Gasoline	176	177	169	176	168	164	161	174	174	174	169	183	176	174	183
Blending Components	38	35	36	39	43	41	42	39	40	38	39	39	39	39	39
Jet Fuel	38	41	45	47	39	40	40	44	46	46	46	48	47	44	48
Distillate Fuel Oil	99	120	145	145	115	115	132	139	99	114	140	142	145	139	142
Residual Fuel Oil	42	39	44	42	38	36	39	41	37	40	40	42	42	41	42
Other Oils [g]	260	293	317	275	266	294	325	286	275	313	328	281	275	286	281
Total Stocks (excluding SPR)	994	1033	1092	1061	1007	1017	1041	1046	1004	1062	1099	1070	1061	1046	1070
Crude Oil in SPR	590	592	592	592	592	592	592	593	594	595	596	598	592	593	598
Total Stocks (including SPR)	1584	1624	1684	1653	1599	1609	1633	1639	1598	1657	1696	1668	1653	1639	1668

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] Includes an estimate of minor product stock change based on monthly data.
[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[f] Includes crude oil in transit to refineries.
[g] Includes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.
SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding. 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(93/01-95/09); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 8.   U.S. Petroleum Demand Sensitivities

	1995 One Quarter[a]	1996 Four Quarters[a]
Economic Activity		
Gross Domestic Product (billion 1987 dollars)	5,521 - 5,547	5,527 - 5,703
Resulting Change in Petroleum Demand (million barrels per day)[b]	0.05	0.39
Energy Prices		
Imported Crude Oil (nominal dollars per barrel)[c]	$15.66 - $17.07	$12.69 - $18.30
Resulting Change in Petroleum Demand (million barrels per day)[b]		
Due to Changes in the Crude Oil Price	-0.05	-0.31
Weather		
Heating Degree-Days (average per day)[d]	16.39 - 20.57	20.31 - 24.03
Resulting Change in Petroleum Demand (million barrels per day)	0.35	0.49
Cooling Degree-Days (average per day)[d]	-	5.57 - 6.58
Resulting Change in Petroleum Demand (million barrels per day)[b]	-	0.13

[a]In the weather case, calculations apply to certain quarters only, as follows: for heating degree-days: for 1995 the fourth quarter only is used; for 1996 the average of first and fourth quarters only are used; for cooling degree-days in 1995 the third quarter only is used; for 1996, the average of the second and third quarters is used.
[b]Ranges of petroleum product supplied associated with varying each determinant (or determinants), holding other things equal.
[c]Cost of imported crude oil to U.S. refiners.
[d]Heating 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	6.28	5.92	0.36	0.14	0.23
Lower 48 States	4.94	4.65	0.29	0.10	0.19
Alaska	1.34	1.27	0.07	0.04	0.04

   Note: Components provided are for the fourth quarter 1996; 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)

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Supply															
Total Dry Gas Production [a]	4.70	4.68	4.67	4.80	4.74	4.74	4.71	4.78	4.98	4.81	4.89	5.00	18.85	18.97	19.68
Net Imports	0.62	0.59	0.61	0.64	0.69	0.59	0.62	0.68	0.72	0.70	0.68	0.71	2.46	2.58	2.80
Supplemental Gaseous Fuels	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.13	0.13	0.12
Total New Supply	5.36	5.30	5.31	5.48	5.46	5.36	5.36	5.50	5.74	5.53	5.59	5.75	21.44	21.68	22.60
Underground Working Gas Storage															
Opening	6.65	5.30	6.25	7.27	6.97	5.68	6.40	7.21	6.72	5.38	6.06	7.12	6.65	6.97	6.72
Closing	5.30	6.25	7.27	6.97	5.68	6.40	7.21	6.72	5.38	6.06	7.12	6.88	6.97	6.72	6.88
Net Withdrawals	1.35	-0.95	-1.02	0.30	1.29	-0.72	-0.81	0.48	1.34	-0.68	-1.06	0.24	-0.32	0.24	-0.15
Total Supply [a]	6.70	4.35	4.29	5.78	6.75	4.64	4.55	5.98	7.08	4.86	4.53	5.99	21.13	21.92	22.45
Balancing Item [b]	0.15	0.09	-0.14	-0.51	-0.04	0.13	-0.12	-0.44	0.09	-0.04	-0.16	-0.29	-0.40	-0.46	-0.40
Total Primary Supply [a]	6.86	4.44	4.16	5.27	6.71	4.77	4.44	5.54	7.17	4.81	4.37	5.70	20.73	21.46	22.05
Demand															
Lease and Plant Fuel	0.31	0.31	0.31	0.32	0.31	0.31	0.32	0.33	0.32	0.32	0.34	0.34	1.24	1.27	1.31
Pipeline Use	0.21	0.14	0.13	0.16	0.21	0.15	0.12	0.17	0.21	0.14	0.14	0.18	0.64	0.65	0.67
Residential	2.44	0.80	0.38	1.26	2.17	0.84	0.38	1.39	2.43	0.86	0.38	1.40	4.87	4.79	5.07
Commercial	1.27	0.54	0.38	0.75	1.18	0.58	0.39	0.84	1.32	0.59	0.40	0.86	2.94	2.98	3.16
Industrial (Incl. Cogenerators)	2.09	1.88	1.87	2.03	2.19	2.06	2.00	2.10	2.22	2.07	2.00	2.16	7.87	8.35	8.45
Cogenerators [c]	0.43	0.43	0.54	0.61	0.50	0.56	0.54	0.51	0.54	0.60	0.58	0.55	2.00	2.10	2.28
Electricity Production															
Electric Utilities	0.51	0.74	1.04	0.70	0.61	0.78	1.12	0.67	0.63	0.78	1.07	0.72	2.99	3.18	3.20
Nonutilities (Excl. Cogen.)	0.04	0.04	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.18	0.19	0.21
Total Demand	6.86	4.44	4.16	5.27	6.71	4.77	4.44	5.54	7.17	4.81	4.37	5.70	20.73	21.46	22.05

[a] Excludes nonhydrocarbon gases removed.

[b] The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

[c] Quarterly 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(95/09); *Natural Gas Monthly*, DOE/EIA-0130(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); 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)

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Supply															
Production	255.2	257.0	260.9	260.5	265.3	248.5	261.4	259.8	262.4	260.1	261.5	262.9	1033.5	1034.9	1047.0
Primary Stock Levels [a]															
Opening	25.3	34.1	35.8	33.0	33.2	42.3	42.1	37.0	36.0	37.0	36.0	34.0	25.3	33.2	36.0
Closing	34.1	35.8	33.0	33.2	42.3	42.1	37.0	36.0	37.0	36.0	34.0	34.0	33.2	36.0	34.0
Net Withdrawals	-8.9	-1.6	2.8	-0.3	-9.1	0.2	5.1	1.0	-1.0	1.0	2.0	(S)	-7.9	-2.8	2.0
Imports	1.8	1.6	2.3	1.9	1.8	1.6	1.9	1.9	1.9	1.9	1.9	2.0	7.6	7.2	7.7
Exports	14.9	17.9	19.7	18.8	19.0	23.2	20.7	20.5	21.1	21.8	22.1	22.0	71.4	83.4	87.1
Total Net Domestic Supply	233.3	239.0	246.3	243.3	238.9	227.2	247.7	242.2	242.2	241.2	243.3	242.9	961.8	956.0	969.6
Secondary Stock Levels [b]															
Opening	120.5	112.3	126.7	121.2	136.1	143.5	151.8	135.2	143.0	145.0	164.0	154.0	120.5	136.1	143.0
Closing	112.3	126.7	121.2	136.1	143.5	151.8	135.2	143.0	145.0	164.0	154.0	157.7	136.1	143.0	157.7
Net Withdrawals	8.2	-14.4	5.5	-14.9	-7.3	-8.4	16.7	-7.8	-2.0	-19.0	10.0	-3.6	-15.7	-6.9	-14.7
Total Supply	241.5	224.6	251.7	228.4	231.6	218.8	264.4	234.3	240.2	222.2	253.3	239.3	946.1	949.1	954.9
Demand															
Coke Plants	7.8	8.0	7.9	8.1	8.1	8.3	8.0	8.2	8.1	8.1	8.0	8.1	31.7	32.7	32.3
Electricity Production															
Electric Utilities	207.9	196.3	218.6	194.5	199.0	191.1	234.8	201.4	207.7	192.1	223.0	206.2	817.3	826.3	828.9
Nonutilities (Excl. Cogen.) [c]	2.4	2.4	2.4	2.4	2.9	2.9	2.9	2.9	3.3	3.3	3.3	3.3	9.4	11.7	13.1
Retail and General Industry [d]	21.9	18.9	19.2	21.0	20.6	17.9	18.6	21.9	21.2	18.7	19.1	21.7	81.0	79.0	80.6
Total Demand	239.9	225.5	248.1	226.0	230.7	220.3	264.4	234.3	240.2	222.2	253.3	239.3	939.4	949.7	954.9
Discrepancy [e]	1.5	-0.9	3.6	2.4	0.9	-1.5	(S)	(S)	(S)	(S)	(S)	(S)	6.7	-0.6	(S)

[a]Primary stocks are held at the mines, preparation plants, and distribution points.

[b]Secondary stocks are held by users.

[c]Consumption of coal by Independent Power Producers (IPPs). In 1993, IPP consumption was estimated to be 1.5 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 first quarter 1995 are estimates.

[d]Synfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.

[e]Historical 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(95/09); and *Quarterly Coal Report*, DOE/EIA-0121(95/1Q); 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)

	1994				1995				1996				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1994	1995	1996
Supply															
Net Utility Generation															
Coal	417.4	393.6	435.6	388.8	398.3	382.9	*471.1*	*403.8*	*416.6*	*385.0*	*445.5*	*412.6*	**1635.5**	*1656.2*	*1659.7*
Petroleum	32.2	24.6	20.4	13.9	14.3	12.1	*20.4*	*15.6*	*16.6*	*16.0*	*19.5*	*15.9*	**91.0**	*62.5*	*68.0*
Natural Gas	49.5	71.7	100.9	69.1	59.6	75.1	*106.2*	*62.8*	*59.4*	*73.7*	*101.3*	*67.8*	**291.1**	*303.8*	*302.2*
Nuclear	155.6	143.5	174.9	166.5	167.1	160.1	*178.0*	*163.0*	*173.5*	*156.7*	*182.1*	*164.9*	**640.4**	*668.1*	*677.2*
Hydroelectric	61.2	70.9	56.5	55.1	74.7	78.4	*70.4*	*66.3*	*76.1*	*77.5*	*65.2*	*62.6*	**243.7**	*289.9*	*281.4*
Geothermal and Other [a]	2.3	2.1	2.2	2.3	1.4	1.2	*1.6*	*1.8*	*1.9*	*1.8*	*1.9*	*1.9*	**8.9**	*6.0*	*7.5*
Subtotal	718.3	706.4	790.5	695.6	715.4	709.8	*847.7*	*713.5*	*744.0*	*710.8*	*815.5*	*725.7*	**2910.7**	*2986.4*	*2996.0*
Nonutility Generation [b]															
Coal	12.7	12.6	15.8	18.0	14.7	16.2	*15.7*	*15.0*	*15.6*	*17.3*	*16.6*	*15.9*	**59.0**	*61.5*	*65.4*
Petroleum	3.2	3.2	4.0	4.6	3.8	4.2	*4.1*	*3.9*	*4.1*	*4.6*	*4.4*	*4.2*	**15.1**	*16.0*	*17.4*
Natural Gas	38.5	38.2	48.1	54.9	45.2	50.0	*48.2*	*46.0*	*48.2*	*53.3*	*51.4*	*49.1*	**179.7**	*189.4*	*201.9*
Other Gaseous Fuels [c]	2.7	2.7	3.3	3.8	2.8	3.1	*3.0*	*2.9*	*2.8*	*3.1*	*3.0*	*2.8*	**12.5**	*11.9*	*11.6*
Hydroelectric	2.8	2.8	3.5	4.0	3.2	3.6	*3.5*	*3.3*	*3.5*	*3.9*	*3.7*	*3.6*	**13.2**	*13.6*	*14.7*
Geothermal and Other [d]	16.2	16.0	20.2	23.0	19.1	21.1	*20.4*	*19.5*	*19.9*	*22.0*	*21.3*	*20.3*	**75.4**	*80.1*	*83.5*
Subtotal	76.1	75.5	95.0	108.4	88.8	98.3	*94.8*	*90.5*	*94.1*	*104.1*	*100.4*	*95.9*	**354.9**	*372.5*	*394.4*
Total Generation	794.4	781.9	885.4	804.0	804.2	808.2	*942.5*	*804.0*	*838.1*	*814.9*	*915.9*	*821.6*	**3265.6**	*3358.9*	*3390.5*
Net Imports [e]	11.2	10.0	13.6	9.9	8.3	9.8	*12.9*	*9.4*	*8.7*	*9.9*	*13.5*	*9.8*	**44.6**	*40.5*	*41.9*
Total Supply	805.5	791.9	899.0	813.9	812.5	818.0	*955.4*	*813.4*	*846.8*	*824.9*	*929.4*	*831.4*	**3310.3**	*3399.4*	*3432.4*
Losses and Unaccounted for [f]	46.2	68.4	56.6	67.9	47.2	77.1	*59.7*	*61.5*	*47.3*	*68.7*	*62.9*	*61.9*	**239.2**	*245.5*	*240.9*
Demand															
Electric Utility Sales															
Residential	272.6	220.2	284.9	228.0	262.7	220.6	*318.0*	*238.4*	*281.6*	*227.0*	*292.3*	*243.1*	**1005.8**	*1039.7*	*1044.0*
Commercial	195.5	200.8	231.9	199.0	198.2	204.4	*251.4*	*200.9*	*209.6*	*209.2*	*241.9*	*209.1*	**827.3**	*854.9*	*869.9*
Industrial	235.5	247.5	260.2	249.3	243.3	251.6	*261.3*	*250.9*	*245.9*	*254.4*	*266.1*	*254.7*	**992.4**	*1007.1*	*1021.2*
Other	23.5	23.0	25.2	23.7	23.8	23.0	*25.3*	*23.6*	*24.3*	*23.4*	*25.5*	*23.7*	**95.3**	*95.7*	*97.0*
Subtotal	727.1	691.5	802.2	700.1	728.0	699.6	*855.9*	*713.9*	*761.4*	*714.0*	*825.8*	*730.7*	**2920.9**	*2997.4*	*3031.9*
Nonutility Gener. for Own Use [b]	32.2	31.9	40.2	45.9	37.3	41.3	*39.8*	*38.0*	*38.1*	*42.1*	*40.6*	*38.8*	**150.2**	*156.5*	*159.6*
Total Demand	759.3	723.4	842.4	745.9	765.4	740.9	*895.7*	*751.9*	*799.5*	*756.1*	*866.5*	*769.5*	**3071.1**	*3153.9*	*3191.5*
Memo:															
Nonutility Sales to Electric Utilities [b]	43.9	43.5	54.8	62.5	51.5	57.0	*55.0*	*52.5*	*56.0*	*62.0*	*59.8*	*57.1*	**204.7**	*216.0*	*234.8*

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

[b] Electricity 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 first quarter 1995 are estimates.

[c] Includes refinery still gas and other process or waste gases, and liquefied petroleum gases.

[d] Includes geothermal, solar, wind, wood, waste, nuclear, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

[e] Data for 1994 and first quarter 1995 are estimates.

[f] Balancing 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(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); 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		
	1993	1994	1995	1996	1993-1994	1994-1995	1995-1996
Electric Utilities							
Hydroelectric Power [a]	2.765	2.554	3.038	2.950	-7.6	19.0	-2.9
Geothermal, Solar and Wind Energy [b]	0.159	0.146	0.090	0.118	-8.2	-38.4	31.1
Biofuels [c]	0.021	0.021	0.018	0.019	0.0	-14.3	5.6
Total	2.944	2.721	3.146	3.087	-7.6	15.6	-1.9
Nonutility Power Generators							
Hydroelectric Power [a]	0.119	0.137	0.141	0.152	15.1	2.9	7.8
Geothermal, Solar and Wind Energy [b]	0.141	0.149	0.160	0.169	5.7	7.4	5.6
Biofuels [c]	0.577	0.594	0.630	0.654	2.9	6.1	3.8
Total	0.837	0.880	0.930	0.975	5.1	5.7	4.8
Total Power Generation	3.781	3.601	4.076	4.062	-4.8	13.2	-0.3
Other Sectors							
Residential and Commercial [d]	0.608	0.597	0.596	0.613	-1.8	-0.2	2.9
Industrial [e]	1.505	1.556	1.546	1.529	3.4	-0.6	-1.1
Transportation [f]	0.088	0.098	0.105	0.106	11.4	7.1	1.0
Total	2.201	2.251	2.248	2.247	2.3	-0.1	0.0
Net Imported Electricity [g]	0.293	0.462	0.419	0.434	57.7	-9.3	3.6
Total Renewable Energy Demand	6.275	6.314	6.743	6.744	0.6	6.8	0.0

[a]Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.
[b]Also includes photovoltaic and solar thermal energy.
[c]Biofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.
[d]Includes biofuels and solar energy consumed in the residential and commercial sectors.
[e]Consists primarily of biofuels for use other than electricity cogeneration.
[f]Ethanol blended into gasoline.
[g]Net 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: 1993: 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														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Real Gross Domestic Product (GDP) (billion 1987 dollars)	3760	3907	4149	4280	4404	4540	4719	4838	4897	4868	4979	5135	5344	*5500*	*5615*
Imported Crude Oil Price [a] (nominal dollars per barrel)	33.55	29.30	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.15	15.52	*17.03*	*16.00*
Petroleum Supply															
Crude Oil Production [b] (million barrels per day)	8.65	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	*6.53*	*6.28*
Total Petroleum Net Imports (including SPR) (million barrels per day)	4.31	4.31	4.71	4.29	5.44	5.92	6.59	7.20	7.15	6.58	6.94	7.62	8.05	*8.07*	*8.73*
Energy Demand															
World Petroleum (million barrels per day)	59.7	59.0	59.9	60.6	62.2	63.4	65.2	66.0	66.2	66.8	66.6	66.6	68.5	*69.4*	*70.9*
U.S. Petroleum (million barrels per day)	15.31	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	*17.67*	*18.10*
Natural Gas (trillion cubic feet)	18.00	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.29	20.73	*21.46*	*22.05*
Coal (million short tons)	707	737	791	818	804	837	884	894	900	893	899	933	939	*950*	*955*
Electricity (billion kilowatthours) Utility Sales [c]	2086	2151	2286	2324	2369	2457	2578	2647	2713	2762	2763	2861	2921	*2997*	*3032*
Nonutility Own Use [d]	NA	NA	NA	NA	NA	NA	NA	108	113	122	132	138	150	*156*	*160*
Total	NA	NA	NA	NA	NA	NA	NA	2755	2826	2884	2895	2999	3071	*3154*	*3192*
Total Energy Demand [e] (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	NA	84.1	84.0	85.2	86.9	89.0	*90.5*	*92.3*
Total Energy Demand per Dollar of GDP (thousand Btu per 1987 Dollar)	NA	NA	NA	NA	NA	NA	NA	NA	17.17	17.26	17.11	16.93	16.65	*16.46*	*16.44*
Adjusted Total Energy Demand [e] (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	NA	86.6	86.7	88.2	89.8	92.1	*93.7*	*95.5*
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1987 Dollar)	NA	NA	NA	NA	NA	NA	NA	NA	17.69	17.82	17.70	17.50	17.24	*17.03*	*17.01*

[a]Refers 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.

[b]Includes lease condensate.

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

[d]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1994 are estimates.

[e]"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1994, DOE/EIA-0384(94) 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 houeholds, 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 (MER)*. Consequently, the historical data may not precisely match that 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(95/09); *Petroleum Supply Monthly*, DOE/EIA-0109(95/09); *Petroleum Supply Annual 1994*, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/1Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0995.

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

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Macroeconomic															
Real Gross Domestic Product (billion 1987 dollars)	3760	3907	4149	4280	4404	4540	4719	4838	4897	4868	4979	5135	5344	5500	5615
GDP Implicit Price Deflator (Index, 1987=1.000)	0.838	0.871	0.910	0.944	0.969	1.000	1.038	1.086	1.133	1.176	1.209	1.235	1.261	1.285	1.316
Real Disposable Personal Income (billion 1987 Dollars)	2820	2894	3080	3162	3262	3290	3404	3465	3524	3538	3648	3704	3836	3969	4075
Manufacturing Production (Index, 1987=1.000)	0.766	0.809	0.893	0.916	0.943	1.000	1.047	1.064	1.061	1.040	1.081	1.130	1.198	1.236	1.268
Real Fixed Investment (billion 1987 dollars)	558	595	690	724	727	723	753	754	741	685	723	805	904	993	1022
Real Exchange Rate (index)	NA	NA	NA	NA	NA	NA	NA	NA	1.000	1.012	1.015	1.063	1.040	0.965	0.960
Business Inventory Change (billion 1987 dollars)	-12.8	0.6	27.5	-3.7	-2.1	6.6	15.1	18.6	3.0	-6.2	-10.2	-0.8	4.8	4.5	-4.3
Producer Price Index (index, 1980-1984=1.000)	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	1.251	1.283
Consumer Price Index (index, 1980-1984=1.000)	0.965	0.996	1.039	1.076	1.097	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.527	1.575
Petroleum Product Price Index (index, 1980-1984=1.000)	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	0.611
Non-Farm Employment (millions)	89.6	90.1	94.4	97.4	99.3	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.0	116.7	118.9
Commercial Employment (millions)	53.8	54.9	58.0	60.8	62.9	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.0	78.4	80.4
Total Industrial Production (index, 1987=1.000)	0.819	0.849	0.928	0.944	0.953	1.000	1.045	1.061	1.061	1.043	1.077	1.121	1.181	1.216	1.245
Housing Stock (millions)	91.1	92.4	94.5	96.3	98.0	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.7	111.1
Weather [a]															
Heating Degree-Days															
U.S.	4619	4627	4514	4642	4295	4334	4653	4726	4016	4200	4441	4700	4462	4420	4603
New England	6697	6305	6442	6571	6517	6546	6715	6887	5848	5960	6844	6728	6672	6442	6660
Middle Atlantic	5866	5733	5777	5660	5665	5699	6088	6134	4998	5177	5964	5948	5934	5619	5875
U.S. Gas-Weighted	4853	4810	4704	4856	4442	4391	4779	4856	4139	4337	4458	4754	4659	4573	4786
Cooling Degree-Days (U.S.)	1136	1260	1214	1194	1249	1269	1283	1156	1260	1331	1040	1218	1210	1293	1193

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

Sources: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(95/09); U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, August 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), August 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0995.

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

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Demand [a]															
OECD															
U.S. (50 States)	15.5	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
Europe [b]	12.4	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
Japan	4.6	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
Other OECD	2.5	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
Total OECD	35.0	34.4	34.9	34.7	35.7	36.3	37.5	37.9	37.5	38.1	38.8	38.9	39.9	40.1	40.8
Non-OECD															
Former Soviet Union	9.1	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	4.4
Europe	1.8	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
China	1.7	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
Other Asia	3.5	3.5	3.7	3.7	3.9	4.1	4.4	4.9	5.3	5.7	6.1	6.4	7.4	7.8	8.1
Other Non-OECD	8.6	8.7	8.9	9.1	9.5	9.7	10.0	10.4	10.7	10.8	10.9	11.2	11.9	12.2	12.6
Total Non-OECD	24.7	24.7	25.1	25.9	26.5	27.1	27.7	28.5	28.7	28.6	27.8	27.7	28.6	29.3	30.1
Total World Demand	59.7	59.0	59.9	60.6	62.2	63.4	65.2	66.4	66.2	66.8	66.6	66.6	68.5	69.4	70.9
Supply [c]															
OECD															
U.S. (50 States)	10.8	10.8	11.1	11.2	10.9	10.6	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.2
Canada	1.6	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	2.4
North Sea [d]	2.7	3.1	3.4	3.6	3.8	3.8	3.8	3.7	3.9	4.0	4.3	4.6	5.4	5.7	6.3
Other OECD	1.1	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
Total OECD	16.2	16.8	17.6	18.0	17.9	17.8	17.7	17.0	17.0	17.5	17.8	17.8	18.6	19.0	19.4
Non-OECD															
OPEC	19.9	18.5	18.5	17.3	19.5	19.7	21.6	23.5	24.5	25.0	26.2	27.3	27.4	27.9	28.2
Former Soviet Union	12.2	12.3	12.2	11.9	12.3	12.5	12.5	12.1	11.4	10.4	8.9	8.1	7.0	6.8	6.8
China	2.0	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
Mexico	3.0	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
Other Non-OECD	4.9	9.5	5.9	6.4	6.7	6.8	7.2	7.5	7.7	7.8	8.1	8.4	8.8	9.3	9.9
Total Non-OECD	42.0	41.3	42.0	41.2	43.9	44.6	47.0	48.9	49.4	49.2	49.2	49.8	49.4	50.2	51.3
Total World Supply	58.2	58.1	59.6	59.3	61.8	62.4	64.7	65.9	66.4	66.7	66.9	67.6	68.0	69.2	70.8
Total Stock Withdrawals	1.2	0.4	-0.2	0.3	-0.9	-0.1	-0.4	-0.2	-0.4	-0.1	-0.1	-0.3	-0.5	-0.1	-0.1
Statistical Discrepancy	0.1	0.3	0.4	0.5	0.9	0.7	0.6	0.4	0.1	0.2	-0.1	-0.7	1.0	0.3	0.3
Closing Stocks (billion barrels) [e]	4.9	4.8	4.8	4.7	5.1	5.1	5.2	5.3	5.4	5.5	5.5	5.6	5.8	5.8	5.9
Net Exports from Former Soviet Union	3.2	3.4	3.3	3.0	3.4	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.2	2.2	2.4

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

[b]OECD Europe includes the former East Germany.

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

[d]Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

[e]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(95/09); and *International Energy Annual 1993,* DOE/EIA-0219(93); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, August 1995.

Table A4. Annual Average U.S. Energy Prices

(Nominal Dollars)

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Imported Crude Oil [a] (dollars per barrel)	33.55	29.30	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.15	15.52	*17.03*	*16.00*
Natural Gas Wellhead (dollars per thousand cubic feet)	2.46	2.59	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.03	1.82	*1.61*	*1.75*
Petroleum Product															
Gasoline Retail [b] (dollars per gallon)	1.28	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*	*1.21*
No. 2 Diesel Oil, Retail (dollars per gallon)	NA	1.15	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	*1.11*	*1.12*
No. 2 Heating Oil, Wholesale (dollars per gallon)	NA	0.81	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	*0.51*	*0.51*
No. 2 Heating Oil, Retail (dollars per gallon)	NA	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*
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	28.40	27.33	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.78	*16.54*	*14.93*
Electric Utility Fuel															
Coal (dollars per million Btu)	1.65	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*
Heavy Fuel Oil [d] (dollars per million Btu)	4.84	4.57	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	*2.73*	*2.56*
Natural Gas (dollars per million Btu)	3.38	3.47	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	*1.97*	*2.16*
Other Residential															
Natural Gas (dollars per thousand cubic feet)	5.05	6.04	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.16	6.41	*6.22*	*6.43*
Electricity (cents per kilowatthour)	6.8	7.2	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	*8.5*	*8.6*

[a] Cost of imported crude oil to U.S.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes 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(95/09); and *Petroleum Marketing Monthly*, DOE/EIA-0380(95/09).

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

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Supply															
Crude Oil Supply															
Domestic Production [a]	8.65	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.53	6.28
Alaska	1.70	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	1.35
Lower 48	6.95	6.97	7.16	7.15	6.81	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.05	4.93
Net Imports (including SPR) [b]	3.26	3.17	3.24	3.00	4.03	4.53	4.95	5.70	5.77	5.62	5.99	6.69	6.96	7.30	7.72
Other SPR Supply	0.00	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	0.01
Stock Draw (Including SPR)	-0.14	-0.22	-0.20	-0.05	-0.08	-0.13	0.00	-0.09	0.03	0.04	0.00	-0.08	-0.02	0.04	-0.05
Product Supplied and Losses	-0.06	-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
Unaccounted-for Crude Oil	0.07	0.11	0.18	0.15	0.14	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.20	0.27
Total Crude Oil Supply	11.77	11.69	12.04	12.00	12.72	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	14.06	14.23
Other Supply															
NGL Production	1.52	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	1.75
Other Hydrocarbon and Alcohol Inputs	0.07	0.08	0.08	0.11	0.11	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.32	0.34
Crude Oil Product Supplied	0.06	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
Processing Gain	0.57	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	0.79
Net Product Imports [c]	1.05	1.15	1.47	1.29	1.41	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.76	1.01
Product Stock Withdrawn or Added (-) [d]	0.28	0.15	-0.08	0.15	-0.12	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.00	-0.03
Total Supply	15.32	15.18	15.76	15.78	16.33	16.72	17.33	17.37	17.05	16.76	17.10	17.25	17.72	17.67	18.10
Demand															
Motor Gasoline [e]	6.45	6.58	6.69	6.78	6.94	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.75	7.90
Jet Fuel	1.01	1.05	1.18	1.22	1.31	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.52	1.55
Distillate Fuel Oil	2.67	2.69	2.84	2.87	2.91	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.18	3.27
Residual Fuel Oil	1.72	1.42	1.37	1.20	1.42	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.88	0.92
Other Oils [e,f]	3.46	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	4.47
Total Demand [e]	15.31	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.67	18.10
Total Petroleum Net Imports	4.31	4.31	4.71	4.29	5.44	5.92	6.59	7.20	7.15	6.58	6.94	7.62	8.05	8.07	8.73
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [g]	350	344	345	321	331	349	330	341	323	325	318	335	337	323	335
Total Motor Gasoline	235	222	243	223	233	226	228	213	220	219	216	226	215	213	222
Jet Fuel	37	39	42	40	50	50	44	41	52	49	43	40	47	44	48
Distillate Fuel Oil	179	140	161	144	155	134	124	106	132	144	141	141	145	139	142
Residual Fuel Oil	66	49	53	50	47	47	45	44	49	50	43	44	42	41	42
Other Oils [h]	270	281	261	247	265	260	267	257	261	267	263	273	275	286	280

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] Includes an estimate of minor product stock change based on monthly data.
[e] For years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, Short-Term Energy Outlook, EIA/DOE-0202(93/3Q), for details on this adjustment.
[f] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[g] Includes crude oil in transit to refineries.
[h] Includes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.
SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding. 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(93/01-95/09); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table A6. Annual U.S. Natural Gas Supply and Demand
(Trillion Cubic Feet)

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Supply															
Total Dry Gas Production [a]	17.82	16.09	17.47	16.45	16.06	16.62	17.10	17.31	17.81	17.70	17.84	18.24	18.85	*18.97*	*19.68*
Net Imports	0.88	0.86	0.79	0.89	0.69	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	*2.58*	*2.80*
Supplemental Gaseous Fuels	0.15	0.13	0.11	0.13	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.13	*0.13*	*0.12*
Total New Supply	18.85	17.09	18.36	17.47	16.86	17.66	18.42	18.69	19.38	19.45	19.88	20.57	21.44	*21.68*	*22.60*
Underground Working Gas Storage															
Opening	6.57	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*	*6.72*
Closing	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	*6.72*	*6.88*
Net Withdrawals	-0.31	0.44	-0.26	0.26	-0.12	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	*0.24*	*-0.15*
Total Supply [a]	18.54	17.53	18.10	17.73	16.74	17.68	18.32	19.02	18.77	19.61	20.02	20.56	21.13	*21.92*	*22.45*
Balancing Item [b]	-0.54	-0.69	-0.15	-0.45	-0.52	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.27	-0.40	*-0.46*	*-0.40*
Total Primary Supply [a]	18.00	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.29	20.73	*21.46*	*22.05*
Demand															
Lease and Plant Fuel	1.11	0.98	1.08	0.97	0.92	1.15	1.10	1.07	1.24	1.13	1.17	1.18	1.24	*1.27*	*1.31*
Pipeline Use	0.60	0.49	0.53	0.50	0.49	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.64	*0.65*	*0.67*
Residential	4.63	4.38	4.56	4.43	4.31	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.87	*4.79*	*5.07*
Commercial	2.61	2.43	2.52	2.43	2.32	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.94	*2.98*	*3.16*
Industrial (Incl. Nonutilities)	5.83	5.64	6.15	5.90	5.58	5.95	6.38	6.82	7.02	7.23	7.53	7.99	8.05	*8.54*	*8.65*
Cogenerators [c]	NA	NA	NA	NA	NA	NA	NA	1.12	1.30	1.45	1.68	1.85	2.00	*2.10*	*2.28*
Other Nonutil. Gen. [c]	NA	NA	NA	NA	NA	NA	NA	0.06	0.09	0.12	0.17	0.17	0.18	*0.19*	*0.21*
Electric Utilities	3.23	2.91	3.11	3.04	2.60	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	*3.18*	*3.20*
Total Demand	18.00	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.29	20.73	*21.46*	*22.05*

[a] Excludes nonhydrocarbon gases removed.
[b] The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.
[c] Nonutility 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(95/09); *Natural Gas Monthly*, DOE/EIA-0130(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); Form EIA-867, "Annual Nonutility Power Producer Report."

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

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Supply															
Production	838.1	782.1	895.9	883.6	890.3	918.8	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1034.9	1047.0
Primary Stock Levels [a]															
Opening	24.1	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	36.0
Closing	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	36.0	34.0
Net Withdrawals	-12.6	2.9	-0.2	1.0	1.0	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-2.8	2.0
Imports	0.7	1.3	1.3	2.0	2.2	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.7
Exports	106.3	77.8	81.5	92.7	85.5	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	83.4	87.1
Total Net Domestic Supply	719.9	708.4	815.6	793.9	808.0	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	956.0	969.6
Secondary Stock Levels [b]															
Opening	185.3	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	143.0
Closing	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	143.0	157.7
Net Withdrawals	-10.0	26.6	-28.6	27.0	-5.0	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	-6.9	-14.7
Total Supply	710.0	735.0	787.0	820.8	803.1	834.4	882.3	896.5	899.4	891.4	901.8	930.2	946.1	949.1	954.9
Demand															
Coke Plants	40.9	37.0	44.0	41.1	35.9	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	32.7	32.3
Electricity Production															
Electric Utilities	593.7	625.2	664.4	693.8	685.1	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	826.3	828.9
Nonutilities (Excl. Cogen.)	NA	NA	NA	NA	NA	NA	NA	3.9	4.1	4.9	6.1	7.3	9.4	11.7	13.1
Retail and General Industry [c]	72.3	74.4	82.9	83.2	83.3	82.1	83.4	82.3	83.1	81.5	80.2	81.1	81.0	79.0	80.6
Total Demand [d]	706.9	736.7	791.3	818.0	804.2	836.9	883.6	893.6	899.6	892.5	898.5	933.2	939.4	949.7	954.9
Discrepancy [e]	3.1	-1.6	-4.3	2.8	-1.2	-2.5	-1.3	3.0	-0.2	-1.2	3.3	-3.1	6.7	-0.6	S

[a]Primary stocks are held at the mines, preparation plants, and distribution points.

[b]Secondary stocks are held by users.

[c]Synfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.

[d]Total excludes any shipments to independent power producers not calculated in Retail and General Industry for years prior to 1993.

[e]Historical 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: 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(95/09); and *Quarterly Coal Report*, DOE/EIA-0121(95/1Q), and Form EIA-867, "Annual Nonutility Power Producer Report."

Table A8. Annual U.S. Electricity Supply and Demand
(Billion Kilowatthours)

	Year														
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Supply															
Net Utility Generation															
Coal	1192.0	1259.4	1341.7	1402.1	1385.8	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1656.2	1659.7
Petroleum	146.8	144.5	119.8	100.2	136.6	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	62.5	68.0
Natural Gas	305.3	274.1	297.4	291.9	248.5	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	303.8	302.2
Nuclear	282.8	293.7	327.6	383.7	414.0	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	668.1	677.2
Hydroelectric	309.2	332.1	321.2	281.1	290.8	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	289.9	281.4
Geothermal and Other [a]	5.2	6.5	8.6	10.7	11.5	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.0	7.5
Subtotal	2241.2	2310.3	2416.3	2469.8	2487.3	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2986.4	2996.0
Nonutility Generation [b]	NA	NA	NA	NA	NA	NA	NA	191.3	221.8	253.7	296.0	325.2	354.9	372.5	394.4
Total Generation	NA	NA	NA	NA	NA	NA	NA	2975.6	3030.0	3078.7	3093.2	3207.8	3265.6	3358.9	3390.5
Net Imports	29.3	35.3	39.7	40.9	35.9	46.3	31.8	11.0	2.0	22.3	28.3	28.4	44.6	40.5	41.9
Total Supply	NA	NA	NA	NA	NA	NA	NA	2986.6	3032.0	3101.0	3121.6	3236.2	3310.3	3399.4	3432.4
Losses and Unaccounted for [c]	NA	NA	NA	NA	NA	NA	NA	231.4	206.1	217.1	226.6	236.9	239.2	245.5	240.9
Demand															
Electric Utility Sales															
Residential	729.5	750.9	780.1	793.9	819.1	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1005.8	1039.7	1044.0
Commercial	526.4	543.8	582.6	606.0	630.5	660.4	699.1	725.9	751.0	765.7	761.3	794.6	827.3	854.9	869.9
Industrial	744.9	776.0	837.8	836.8	830.5	858.2	896.5	925.7	945.5	946.6	972.7	977.2	992.4	1007.1	1021.2
Other	85.6	80.2	85.2	87.3	88.6	88.2	89.6	89.8	92.0	94.3	93.4	94.9	95.3	95.7	97.0
Subtotal	2086.4	2151.0	2285.8	2324.0	2368.8	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2920.9	2997.4	3031.9
Nonutility Own Use [b]	NA	NA	NA	NA	NA	NA	NA	108.4	113.4	121.9	131.6	137.8	150.2	156.5	159.6
Total Demand	NA	NA	NA	NA	NA	NA	NA	2755.2	2825.9	2883.9	2895.0	2999.3	3071.1	3153.9	3191.5
Memo:															
Nonutility Sales															
to Electric Utilities [d]	6.0	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	234.8

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

[b]For 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.

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

[d]Historical 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(95/09); *Electric Power Monthly*, DOE/EIA-0226(95/08); 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.

1995-1996 Winter Fuels Outlook

[1]The first quarter 1988 value for distillate fuel demand is 3.55 million barrels per day, based on monthly values appearing in the Energy Information Administration's *Historical Monthly Energy Review*, DOE/EIA-0035(73-92).
[2]Energy Information Administration, Reserves and Natural Gas Division.

International Oil Demand

[3]Developing world is defined as all countries not included in either the OECD or FSU, and excluding China, which is listed separately.
[4]Latin 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.
[5]Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

International Oil Supply

[6]Non-OPEC developing countries are those which do not belong to either OPEC, FSU or OECD.
[7]Excess capacity data by country provided by Energy Information Administration, Energy Markets and Contingency Information Division.

U.S. Oil Supply

[8]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.
[9]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.
[10]Drilling rig projections provided by the Energy Information Administration, Reserves and Natural Gas Division.

U.S. Energy Prices

[11]For the October 1994 to 1995 period, heating degree-days totaled 2109. Since October 1974, that level was only matched by the 2099 recorded for October 1990 to March 1991. Source: National Oceanographic and Atmospheric Administration.
[12]*Reuters's News Service*, September 20, 1995. In the second week of September 1995, the price differential for RFG and conventional gasoline were 2.1 cents for N.Y.H, 0.9 cents for Gulf Coast, and 4.2 cents for L.A.
[13]*Natural Gas Week*, September 4, 1995, "Composite Average Spot Wellhead Price", p. 6.

U.S. Natural Gas Demand

[14]Energy 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*, October 9, 1995, p. 24.
[16]*Natural Gas Week*, October 2, 1995, p. 17.
[17]Energy Information Administration, Reserves and Natural Gas Division.

Text References and Notes

U.S. Electricity Demand and Supply

[18]Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.
[19]Energy 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, September 12, 1995. **Projections:** Fourth quarter 1995 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 CONTROL0995, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.

3. Fourth quarter 1995 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

4. Fourth quarter 1995 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

5. Fourth quarter 1995 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

6. Fourth quarter 1995 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

7. **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.

8. **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.

Figure References

9. **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.

10. **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.

11. **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.

12. **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.

13. **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:** Fourth quarter 1995 STIFS database, case "BBB."

14. **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:** Fourth quarter 1995 STIFS database, case "BBB."

15. **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:** Fourth quarter 1995 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.

16. **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:** Fourth quarter 1995 STIFS database, case "BBB." The imports share variable is calculated as the ratio of total net petroleum imports divided by total petroleum demand.

17. **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:** Fourth quarter 1995 STIFS database.

18. **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:** Fourth quarter 1995 STIFS database.

19. **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 EN1; regulatory component (oxygenated and reformulated gasoline programs) calculations provided by Tancred C. Lidderdale, Energy Markets and Contingency Information Division, Energy Information Administration. **Projections:** Fourth quarter 1995 STIFS database.

20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S5. **Projections:** Fourth quarter 1995 STIFS database, case "BBB."

21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, September 4, 1995, p. 6. **Projections:** Fourth quarter 1995 STIFS database, case "BBB."

22. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** Fourth quarter 1995 STIFS database, case "BBB."

23. **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:** Fourth quarter 1995 STIFS database, cases "BBB," "BBS," and "BBL."

24. **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:** Fourth quarter 1995 STIFS database, cases "BBB," "HBB," and "LBB."

25. **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:** Fourth quarter 1995 database, case "BBB."

26. **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:**

Figure References

Nonutility Generators: Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: Fourth quarter 1995 STIFS database, case "BBB."

27. **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:** Fourth quarter 1995 STIFS database, case "BBB."

28. **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:** Fourth quarter 1995 STIFS database, case "BBB."

29. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report,* DOE/EIA-0121, Table 45. **Projections:** Fourth quarter 1995 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."

30. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report,* DOE/EIA-0121, Table 1. **Projections:** Fourth quarter 1995 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

31. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly,* DOE/EIA-0226, Table 51. **Projections:** Fourth quarter 1995 STIFS database, case "BBB."

32. **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:** Fourth quarter 1995 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.

33. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review,* DOE/EIA-0384, Table 10.1; Third quarter 1995 STIFS database, and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Fourth quarter 1995 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

34. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review,* DOE/EIA-0384, Table 10.1; and Fourth quarter 1995 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Fourth quarter 1995 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

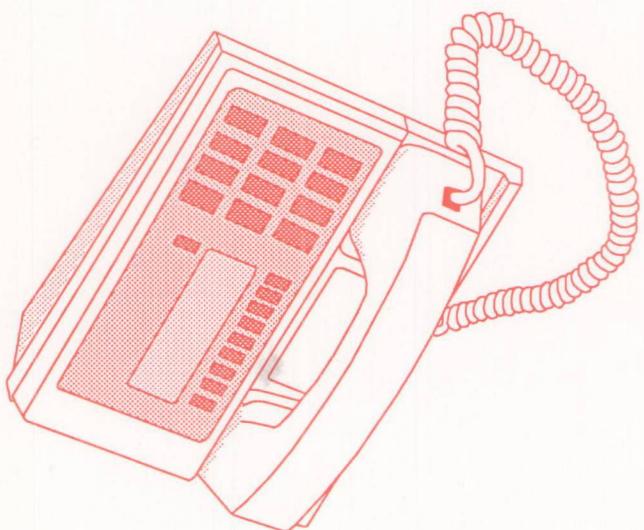# Computation of Petroleum Demand Sensitivities

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 1995 is as follows: (5547 - 5521) / ((5547 + 5521) / 2), or 0.47 percent. For each period, the petroleum demand difference (in million barrels per day) is divided by the percentage difference in GDP. For 1995, the average petroleum demand difference is 5228,000 barrels per day; thus, a 1-percent change in GDP corresponds to a change in demand of (52,000/0.47), or 110,000 barrels per day. For 1996, a 3.1-percent change in GDP corresponds to a change in demand of 395,000 barrels per day; thus, a 1-percent change in GDP corresponds to a demand change of 126,000 barrels per day. The average of the 1995 and 1996 results (weighting the 1995 results by 92 days and the 1996 results by 366 days) is 123,000 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.

Call for your copy of EIA New Releases

. . . . . A concise and timely review of new statistical publications and energy news

Offered from the National Energy Information Center

For a complimentary copy of this bimonthly bulletin, or a complimentary subscription, call (202)586-8800.

You can also view (or print) the newsletter from EIA's World Wide Web site at http://www.eia.doe.gov

Energy Information Administration
U.S. Department of Energy
Forrestal Building, EI-231
Washington, DC 20585

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300