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Preface

The Energy Information Administration (EIA) quarterly forecasts of short-term energy supply, demand, and prices are revised in January, April, July, and October for publication in the Short-Term Energy Outlook (Outlook). Methodology volumes, published periodically, contain descriptions of major changes in the forecasting system, analyze previous forecast errors, and provide detailed analyses of current issues that affect EIA's short-term energy forecasts. The principal users of the Outlook are managers and energy analysts in private industry and government. The projections in this volume extend through 1986.

The forecasts are produced using the Short-Term Integrated Forecasting System (STIFS). The STIFS model uses two principal driving variables: a macroeconomic forecast and the world oil price assumptions. Macroeconomic forecasts produced by Data Resources, Inc., (DRI) are adjusted by EIA to reflect EIA projections of the world price of crude oil, which differ from DRI estimates. EIA's Oil Market Simulation Model is used to project the world oil prices.

The three projections for petroleum supply and demand are based on low, middle, and high economic growth scenarios which incorporate high, middle, and low crude oil price trajectories. The discussion and tables in this volume primarily refer to the middle, or base case, scenario and, unless otherwise noted, to the domestic situation. Other cases examining the sensitivity of total petroleum demand to varying assumptions about prices, weather, and economic activity are shown in Table 13. Discussions of the world oil price refer to the cost of imported crude oil to U.S. refiners.

The forecasts and historical data are based on EIA data 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. All percentage changes are calculated from the values in the tables rather than from the rounded numbers cited in the text.

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1. Highlights

The projections in this Short-Term Energy Outlook (Outlook) extend from the third quarter of 1985 through the end of 1986. (The base case assumptions and projections are summarized in Table 1.) The energy picture for 1985 is projected to be different from that for 1984, mainly because of the slower rate of increase expected for economic activity. During 1984, total petroleum demand, net imports, and domestic petroleum production all increased significantly from year-earlier levels. In contrast, 1985 is expected to be a year of falling petroleum demand and imports, with a relatively stable level of domestic production. These trends are a reflection of the general economic patterns. Lower oil prices combined with continued economic growth in 1986 are expected to result in higher levels of oil supply, demand, and imports in 1986. The demand for total energy, which increased by nearly 5 percent in 1984, is expected to grow by more than 1 percent in 1985 and almost 2 percent in 1986.

The highlights from the base case are as follows:

- Final data for 1984 show that domestic petroleum consumption was 15.7 million barrels per day, a 3-percent increase from the 1983 level. Despite continued economic growth assumed for this year, U.S. petroleum demand is projected to drop to about 15.6 million barrels per day in 1985 and then increase to 15.8 million barrels per day in 1986.
- Net oil imports are expected to average about 4.4 million barrels per day in 1985, a drop from the 4.7 million barrels per day in 1984, and then increase to about 4.6 million barrels per day in 1986. This forecast assumes a zero fill rate for the Strategic Petroleum Reserve beginning in the fourth quarter of 1985. The price of imported crude oil to the United States is assumed to fall to \$26 per barrel (in nominal terms) by the end of this year and then remain at that level through 1986. This analysis assumes that no serious disruption of world oil markets occurs, an event that could have major impacts on the domestic oil price and on the supply, demand, and import situation.
- Motor gasoline prices are expected to decline by 1 cent per gallon over the year 1985 and to drop by an additional 4 cents per gallon between 1985 and 1986, mainly as a result of lower crude oil prices. This forecast does include an expected increase in production costs of about 2 cents per gallon attributable to the ruling by the Environmental Protection Agency to reduce the lead content in gasoline.
- Consumption of natural gas is projected to rise to almost 18 trillion cubic feet in 1985, assuming no significant increase in natural gas prices, with the increase in total new supply largely from Canadian imports. Natural gas consumption is projected to remain at that level in 1986. Natural gas production is expected to remain stable at about 17.2 trillion cubic feet in 1985 and 1986.
- Domestic coal consumption is expected to increase to 830 million tons in 1985 (about 5 percent higher than the 1984 level), with coal production at 890 million tons (the same as the year-earlier level). Coal consumption and production in 1986 are forecast to rise by about 2 percent and 3 percent, respectively, from year-earlier levels.

Table 1. Summary of Base Case Assumptions and Projections

	History		Projections		Annual Percentage Change		
	1983	1984	1985	1986	1983-1984	1984-1985	1985-1986
Assumptions							
Real Gross National Product (billion 1972 dollars)	1,535	1,639	1,680	1,718	6.8	2.5	2.3
Index of Industrial Production (Mfg.) (index, 1967=100)	148.2	164.8	167.6	171.2	11.2	1.7	2.1
Average Cost of Imported Crude Oil (nominal dollars per barrel)	29.30	28.88	26.90	26.00	-1.4	-6.9	-3.3
Price Projections (nominal values)^a							
Motor Gasoline ^b (dollars per gallon)	1.22	1.20	1.19	1.15	-1.6	-0.8	-3.4
Retail No. 2 Heating Oil (dollars per gallon)	1.08	1.09	1.03	1.03	0.9	-5.5	0.0
Residential Natural Gas (dollars per thousand cubic feet)	6.06	6.06	6.17	6.20	0.0	1.8	0.5
Residential Electricity (cents per kilowatthour)	7.18	7.56	7.87	8.16	5.3	4.1	3.7
Consumption Projections							
Total Market Economies Petroleum Consumption (million barrels per day)	45.2	46.0	45.9	46.4	1.8	-0.2	1.1
U.S. Total Petroleum Consumption (million barrels per day)	15.23	15.73	15.63	15.80	3.3	-0.6	1.1
Motor Gasoline	6.62	6.69	6.78	6.74	1.1	1.3	-0.6
Distillate Fuel Oil	2.69	2.84	2.92	3.07	5.6	2.8	5.1
Residual Fuel Oil	1.42	1.37	1.14	1.14	-3.5	-16.8	0.0
Other Petroleum ^c	4.50	4.82	4.79	4.85	7.1	-0.6	1.3
Net Petroleum Imports (million barrels per day, including SPR ^d)	4.31	4.72	4.43	4.62	9.5	-6.1	4.3
Coal Consumption (million short tons)	737	791	830	849	7.3	4.9	2.3
Natural Gas Consumption (trillion cubic feet)	16.83	17.64	17.95	17.94	4.8	1.8	-0.1
Electricity Generation (billion kilowatthours)	2,310.3	2,416.3	2,470.6	2,524.0	4.6	2.2	2.2
Total Energy Consumption ^e (quadrillion Btu)	70.50	74.02	75.08	76.53	5.0	1.4	1.9
Thousand Btu/1972 Dollar of GNP	45.93	45.16	44.69	44.55	-1.7	-1.0	-0.3

^aAll prices include taxes, except retail no. 2 heating oil prices.

^bAverage for all grades and services.

^cIncludes crude oil, pentanes plus, other hydrocarbons and alcohol, unfinished oil, and gasoline blending components.

^dSPR = Strategic Petroleum Reserve.

^eThe conversion from physical units to Btu is calculated by STIFS using a subset of Monthly Energy Review (MER) conversion factors. Consequently, the historical data will not precisely match that published in the MER. Note: Minor discrepancies with other published EIA historical data are due to independent rounding.

Sources: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04), 1983 International Energy Annual, DOE/EIA-0219(83), Petroleum Marketing Monthly, DOE/EIA-0380(85/04), Petroleum Supply Monthly, DOE/EIA-0109(85/05), Petroleum Supply Annual, 1984, DOE/EIA-0340(84) /1, Natural Gas Monthly, DOE/EIA-0130(85/05), Electric Power Monthly, DOE/EIA-0226(85/05), and Quarterly Coal Report, DOE/EIA-0121(85/1Q); Organization for Economic Cooperation and Development, Quarterly Oil Statistics, Fourth Quarter 1984; Petroleum Economics Limited, World Quarterly Primary Energy and Supply/Demand, April 1985. Macroeconomic projections are based on modifications to Data Resources, Inc., forecast CONTROL0785.

- An increase of about 2 percent in total electricity generation is projected from 1984 to 1985, followed by an additional increase of 2 percent between 1985 and 1986. Generation levels from coal and nuclear power are projected to rise from 1984 to 1985, while natural gas-fired and petroleum-fired generation levels are expected to decline. These trends are expected to continue in 1986. Net imports of electricity are expected to be about 41 billion kilowatthours in 1985, an increase of about 3 percent from the 1984 level. This increasing trend is projected to continue in 1986.
- Total U.S. energy consumption (as measured by gross energy consumption) is projected to rise by more than 1 percent, to 75 quadrillion Btu, in 1985 and by about 2 percent between 1985 and 1986. The energy intensity of U.S. economic activity is projected to be 44.7 thousand Btu per 1972 dollar of real GNP in 1985, declining to 44.6 thousand Btu per 1972 dollar of real GNP in 1986.

The forecasts previously discussed are the base case projections. Additional sensitivity cases are discussed in the consumption section for petroleum supply and disposition, based on the combined effects of alternative assumptions about economic growth, oil prices, and weather. Should the imported crude oil prices, economic growth rates, or weather during the forecast period differ from the base case assumptions, it is estimated that:

- For each 1-percent increase in GNP above the base case level, petroleum consumption and total imports in 1986 would increase by about 135,000 barrels per day (approximately 0.9 percent and 2.6 percent, respectively).
- For each \$1-per-barrel (approximately 3.8 percent) decline in the price of imported crude oil, petroleum consumption and total imports in 1986 would increase by 160,000 barrels per day (approximately 1.0 percent and 3.1 percent, respectively).
- For each 10-percent increase in heating degree days (from the base case level) during any fourth and succeeding first quarters, petroleum consumption and total imports for those two quarters would increase by an average of about 250,000 barrels per day (approximately 1.6 percent and 4.7 percent, respectively).

Assuming that the impacts of prices, income, and weather on petroleum demand are symmetrical, the above estimates would also hold for changes in the opposite direction. However, some published studies comparing higher versus lower price effects suggest that the effect of price increases on consumption could be larger.

2. The Outlook

Forecast Assumptions

World Oil Prices

In the base case, the nominal price of imported crude oil delivered to U.S. refiners is assumed to decline to about \$26 per barrel by the end of the year and remain at that level through 1986 for the following reasons:

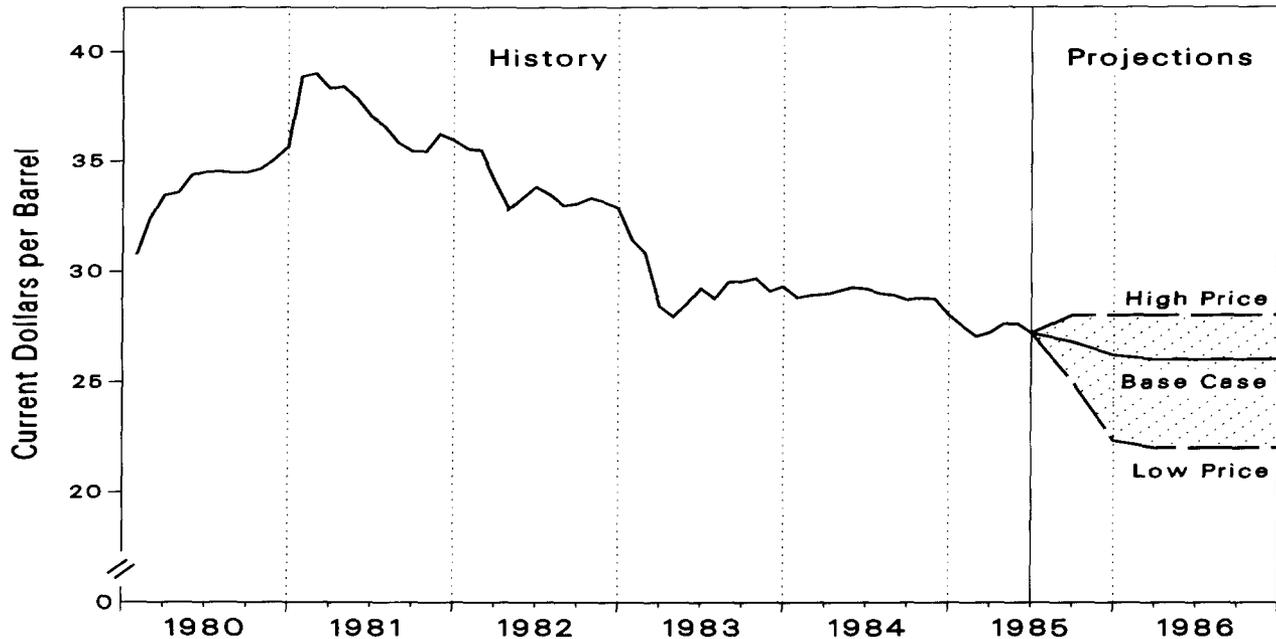
- The projected demand for oil in the market economy countries is not expected to be strong enough to offset the downward pressure on oil prices resulting from continued substitution of other fuels for oil, past high production by members of the Organization of Petroleum Exporting Countries (OPEC), and increased production by non-OPEC countries.
- The differentials between the official prices of OPEC's light and heavy crude oil are assumed to be adjusted to reflect market forces.
- OPEC is assumed to be unable to reach a workable agreement on policies that would sufficiently restrain production to a level necessary to maintain higher official prices. OPEC's production rate is assumed to be adjusted to meet projected demand.

In addition to the base case, two alternative forecasts are presented in this Outlook incorporating differing economic growth and price assumptions in order to provide a range of energy consumption projections (Figure 1). The petroleum price assumptions associated with these cases are as follows:

- High Economic Growth Case: As a result of lower levels of world petroleum demand and/or higher levels of production than expected in the base case, the average price of imported crude oil to U.S. refiners is assumed to fall to \$22 per barrel by the fourth quarter of 1985 and to remain at that level through 1986.
- Low Economic Growth Case: As a result of increased tension and concern about the availability of future supply in the oil market, the price of imported crude oil is assumed to be \$28 per barrel through the forecast period.

The assumptions used to generate the high and low projections are designed to produce the widest probable variation in demand, given the current range of forecasts for these variables. For example, the high growth case uses the low world oil price assumption. This scenario does not imply that high economic growth will result in a lower oil price, nor is this case necessarily inconsistent. Rather, these sensitivity cases are designed to show the effects of the extreme ranges of these variables on petroleum demand.

Figure 1. Imported Crude Oil Prices



Sources: • History: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) (Washington, DC, 1985). • Projections: Table 2.

Macroeconomic Activity

The base case projections assume that economic growth will continue through 1986, but at a lower rate than in the recent past. Based on the Data Resources, Inc., forecast (DRI CONTROL0785), as modified to reflect EIA's imported crude oil price assumptions, growth in real gross national product (GNP) between 1984 and 1985 is assumed to be 2.5 percent, considerably lower than the 6.8 percent growth experienced between 1983 and 1984. Growth in real disposable personal income is projected to be 2.9 percent in 1985, while manufacturing growth is expected to be somewhat lower at 1.7 percent for the year. Slower growth this year is expected to be the result of less expansion in both consumption and investment, as well as lower contributions of government purchases and net exports to overall growth. (Assumptions pertaining to the price of imported crude oil, the economy, and the weather are shown in Table 2.)

Growth in real GNP between 1985 and 1986 is projected to be 2.3 percent. Real disposable income growth is projected to be 2.0 percent over this interval. Manufacturing growth is assumed to improve in 1986, increasing at a projected rate of 2.1 percent from year-earlier levels.

The possibility of either significantly faster or slower growth in economic aggregates should be considered because of uncertainties regarding economic policy, exchange rates, inflation and interest rates, and other important variables. Two alternative cases, designated as high and low economic growth, are presented to show a range of possible energy demands. The high economic growth case is based on a higher assumed level of economic growth, combined with a lower

Table 2. Macroeconomic, Price, and Weather Assumptions for Low, Base and High Economic Growth Cases

Assumptions	History												Economic Growth Case											
	1983			1984			1985			1986			1985			1986								
	1st	2nd	3rd	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year						
Macroeconomic ^a	(billion 1972 dollars)																							
Real Gross National Product	1,491	1,525	1,550	1,573	1,535	1,611	1,639	1,645	1,662	1,639	1,664	1,671	1,694	1,715	1,686	1,732	1,747	1,763	1,782	1,756				
Percent Change from Prior Year	0.5	3.0	4.9	6.4	3.7	8.0	7.5	6.1	5.7	6.8	3.3	2.0	3.0	3.2	2.9	4.1	4.5	4.1	3.9	4.2				
GNP Implicit Price Deflator (Index, 1972=100)	212.9	214.3	215.9	218.2	215.3	220.6	222.4	224.6	226.1	223.4	229.1	230.7	231.9	233.1	231.2	234.3	235.8	237.3	239.0	236.6				
Percent Change from Prior Year	4.4	3.6	3.5	3.8	3.8	3.6	3.8	4.0	3.6	3.8	3.9	3.7	3.3	3.1	3.5	2.3	2.2	2.3	2.5	2.3				
Real Disposable Personal Income	1,073	1,082	1,102	1,124	1,095	1,148	1,165	1,177	1,187	1,169	1,182	1,209	1,211	1,222	1,206	1,229	1,238	1,247	1,258	1,243				
Percent Change from Prior Year	1.9	2.6	4.2	5.2	3.4	7.0	7.7	6.8	5.6	6.8	3.0	3.8	2.9	2.9	3.2	4.0	2.4	3.0	2.9	3.1				
Index of Industrial Production (Mfg.) (Index, 1967=100)	136.4	145.2	152.8	156.5	148.2	161.0	164.4	167.2	166.5	164.8	166.8	167.0	168.0	168.7	167.6	169.4	170.3	171.5	173.6	171.2				
Percent Change from Prior Year	-1.0	5.1	11.0	16.4	7.8	16.3	13.2	9.4	6.4	11.2	3.6	1.6	1.4	3.8	2.5	5.3	6.8	6.3	6.0	6.1				
Oil Price	(U.S. nominal dollars/barrel)																							
Imported Crude Oil Price ^c	30.20	28.57	29.27	29.35	29.30	28.89	29.19	28.87	28.52	28.88	27.26	27.50	25.00	22.30	25.50	22.00	22.00	22.00	22.00	22.00				
U.S. Refiners' Cost ^d	29.62	28.61	28.87	28.94	28.99	28.76	28.79	28.69	28.28	28.63	26.77	27.00	26.40	25.80	26.90	26.00	26.00	26.00	26.00	26.00				
Weather ^e	(number of degree days)																							
Heating Degree Days	2,227	662	64	1,801	4,754	2,423	588	107	1,525	4,643	2,491	446	88	1,669	4,694	2,398	539	88	1,669	4,694				
Cooling Degree Days	18	270	876	70	1,234	17	360	749	82	1,208	22	319	754	62	1,157	28	328	754	62	1,172				

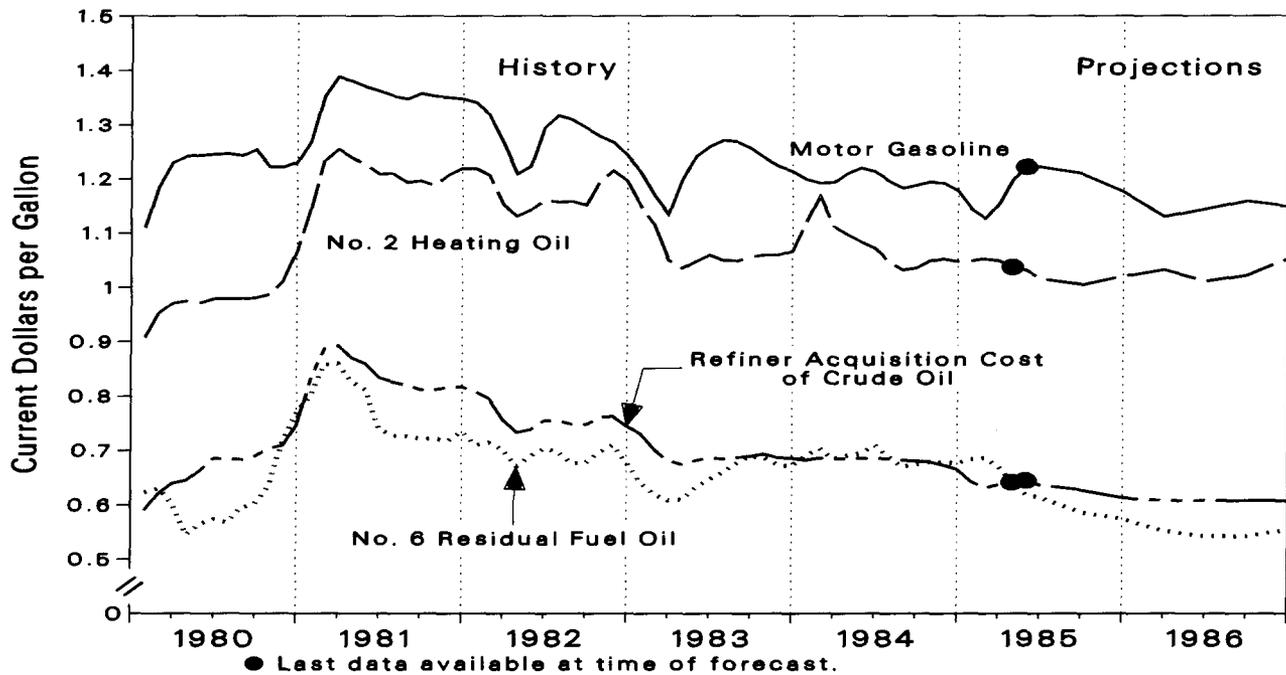
^a Macroeconomic projections from three Data Resources, Inc., model forecasts are seasonally adjusted at annual rates and modified as appropriate to the three world oil price cases. Macroeconomic data for the second quarter of 1985 are estimated.
^b Seasonally adjusted at annual rates.
^c Cost of imported crude oil to U.S. refiners.
^d U.S. Refiner Acquisition Cost of foreign and domestic crude oil.
^e Population-weighted average degree days, revised December 1981. A degree day indicates the temperature variation from 65°F (calculated as the simple average of the daily minimum and maximum temperatures).
 Sources: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04); Bureau of Economic Analysis, U.S. Department of Commerce, Survey of Current Business, as revised, June 1985; National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population, June 1985; Federal Reserve System, Statistical Release G.12.3, June 1985. Macroeconomic projections are based on modifications to Data Resources, Inc., forecasts CONTROLD785, OPTIMO785, and PESSIM785.

world oil price than in the base case; the reverse is true for the low economic growth case. Real GNP growth rates assumed between 1984 and 1985 and between 1985 and 1986 are as follows: high growth, 2.9 percent and 4.2 percent, respectively; low growth, 2.1 percent and -0.5 percent, respectively. The high growth case assumes a more robust growth than the base case throughout the forecast period, while the low growth case assumes a recession lasting from the fourth quarter of 1985 through the third quarter of 1986. High and low economic growth alternatives are based on DRI forecasts OPTIM0785 and PESSIM0785, respectively, modified to reflect oil prices lower and higher than those assumed in the base case.

Energy Product Prices

Prices of petroleum products are projected to decline in nominal terms between 1984 and 1985, following the expected decrease in world oil prices (Figure 2 and Table 3). Prices of natural gas and coal are expected to increase by less than the rate of inflation, and the price of electricity is expected to increase at slightly above the rate of inflation between 1984 and 1985.

Figure 2. Retail Prices For Petroleum Products



Sources: ● History: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) (Washington, DC, 1985). ● Projections: Table 3.

The average price of motor gasoline, which was \$1.22 and \$1.20 per gallon in 1983 and 1984, respectively, is expected to decline by an additional 1 cent per gallon between 1984 and 1985. The decline in the annual average price, attributable mainly to the decrease in crude oil prices and the low first-quarter gasoline price, includes a 2-cent-per-gallon increase expected to occur as a result of the ruling by the Environmental Protection Agency (EPA) to reduce the lead content in gasoline (see box on page 15). This requirement is expected to contribute an initial price increase of about 1 cent per gallon, with a total projected increase of about 2 cents per gallon when more stringent requirements go into effect in 1986. Unseasonably low stock levels this spring pushed gasoline prices in the second quarter up by 8 cents over the level in the first quarter of 1985 and permitted refiners to recover all of the margin they had lost over the previous 12 months. As motor gasoline stocks are rebuilt and as the world oil price falls toward \$26 per barrel, gasoline prices are projected to fall by 4 cents per gallon between 1985 and 1986.

Residential heating oil prices averaged \$1.09 per gallon in 1984 and are projected to drop considerably, by about 6 cents, in 1985. The price of residential heating oil in the first quarter of 1985 was 8 cents below the level a year earlier. This price is expected to decline further during the nonheating months of this year. Assuming normal weather in 1986, the price of heating oil is expected to remain at about the 1985 level.

The average retail price of residual fuel oil increased by 4 cents per gallon in 1984, even though U.S. demand for residual fuel oil decreased. This situation appears to have been caused by events in the international fuel oil market. The British coal strike resulted in an increase in Great Britain's demand for residual fuel oil of about 400,000 barrels per day,¹ and the price of residual fuel oil rose on the international market. In addition, residual fuel oil is now readily interchangeable with heavier crude oils as a heavy feedstock and thus has shared in their increased demand and price. With the ending of the British coal strike, the price of residual fuel oil is expected to decline by 7 cents per gallon in 1985. The effects of the lower world oil price are expected to result in a further price decrease of 7 cents per gallon in 1986.

The residential price of electricity is projected to increase by about 4 percent between 1984 and 1985 (or slightly above the rate of inflation) and to increase at about that same rate between 1985 and 1986. Projected declines in fuel costs are expected to be offset by higher capital costs of new plants (both nuclear and coal-fired) that are expected to come on line in the forecast period.

The residential price of natural gas is projected to increase by less than 2 percent between 1984 and 1985 and to increase only slightly in nominal terms between 1985 and 1986. The reason for this slowing in the rate of increase in natural gas prices is the expected continuation of downward pressure on wellhead prices. Recent quotes for spot natural gas prices to most major pipelines during July were down 12 cents to 50 cents per thousand cubic feet (depending on the source of the gas) since January 1985. Recent price projections from Purchased

¹United Kingdom Department of Energy, Energy Trends: A Statistical Bulletin (London, England, April and June 1985).

Gas Adjustments (PGA) filings also show natural gas prices falling at the well-head. Declining crude oil and petroleum product prices, along with a projected flat demand for natural gas, are expected to keep natural gas wellhead prices from rising.

International Petroleum Markets

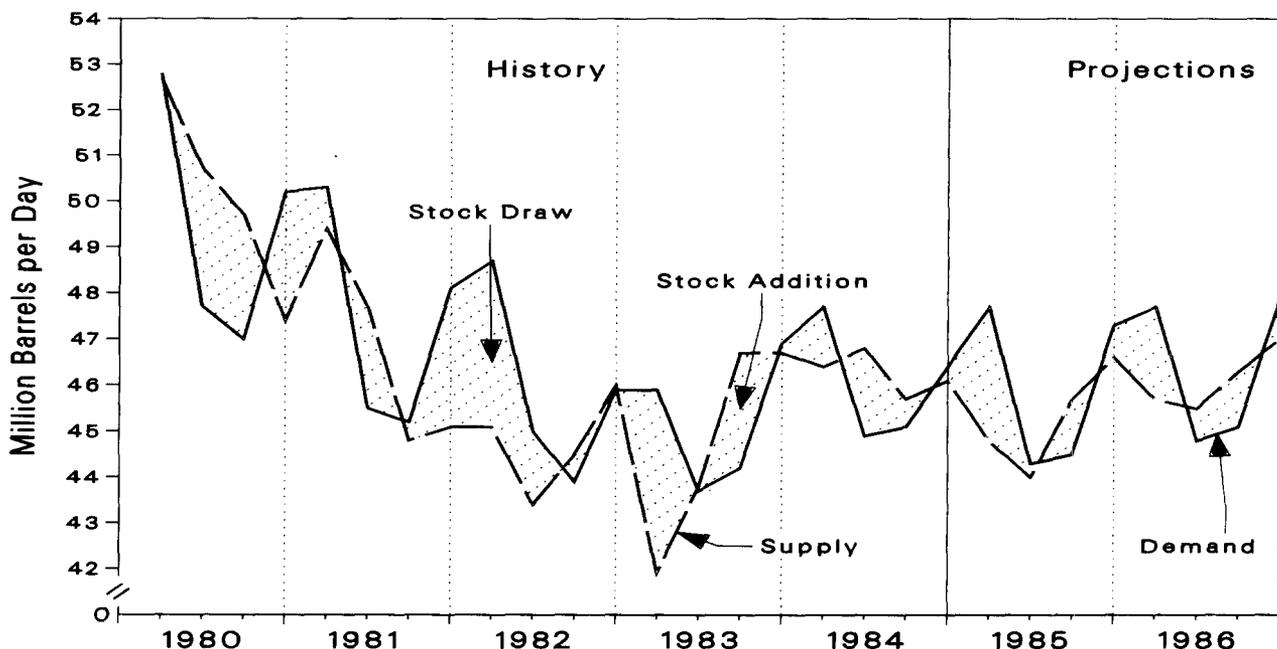
Current Situation

The international oil market again has adjusted to the reality of weak demand and a sustained increase in supply from non-OPEC members: the official and posted crude oil prices have been reduced. Spot prices of crude oil, which appeared to have stabilized earlier this year, have resumed their downward trend resulting from weaker than expected oil demand, a further drawdown of stocks in the second quarter, the negative pressure on profit margins because of the strong dollar in non-U.S. markets, and the sustained increase in crude oil production by non-OPEC producers. The demand for crude oil (excluding about 1.1 million barrels per day of natural gas liquids) from OPEC producers dropped from about 16.3 million barrels per day in the first quarter of 1985 to an estimated 14.9 million barrels per day in the second quarter of 1985. However, the drop in production was not sufficient to stem the downward pressure on oil prices. The market situation was further complicated by the fact that some OPEC members, in their attempt to maintain market shares, gave substantial discounts off the official prices and produced above their nominal quotas.

At their two July meetings, the OPEC oil ministers were unable to adopt policies that would maintain the existing official oil price without widespread discounting. Decisions on the size and distribution of production quotas among the members were postponed until the autumn meeting. The decision of the majority of OPEC members to cut the price of Arabian heavy crude by 50 cents per barrel and medium crude by 20 cents per barrel still leaves the prices of these crudes, as well as the light crudes, considerably above their spot market values. Saudi Arabia has indicated that it is no longer willing to act as the swing producer and is expected to gradually raise its production towards its nominal quota. The combination of essentially no offsetting reductions in production from other OPEC producers and the recent price reductions by Mexico and Egypt created the following situation: the increased Saudi production could be accommodated only by reducing official prices or offering discounts in various forms, or by further adjustment to the differentials between OPEC's light and heavy crude oils to bring them more in line with spot prices.

In 1984, oil consumption in the market economies is estimated to have been nearly 2 percent above the 1983 level, due to strong economic growth in the United States and Japan (Tables 1, 4, and 5). This represents the first year-to-year increase in oil consumption in 4 years (Figure 3). Oil supply in the market economies increased by about 1.2 million barrels per day between 1983 and 1984 as a result of a 2.8-percent increase in production. This supply increase is solely the result of increased production in non-OPEC countries. After producing at higher rates in the first half of 1984, OPEC's production fell in the second half of the year, leaving average daily output from OPEC in 1984 at about the same level as in 1983.

Figure 3. Market Economies Supply and Demand



Sources: ● History: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) and 1983 International Energy Annual, DOE/EIA-0219(83) (Washington, DC); Organization for Economic Cooperation and Development, Quarterly Oil Statistics, Fourth Quarter 1984; Petroleum Economics Limited, World Quarterly Primary Energy and Supply/Demand, April 1985. ● Projections: Table 4.

The petroleum market continues to be affected by the changing level of the dollar on foreign exchange markets. Because the price of internationally traded crude oil is denominated in dollars, changes in the dollar exchange rate with respect to given countries is equivalent to a change in the local currency cost of imported crude oil. The rising dollar has been responsible for increases in the local currency cost of imported crude oil since the spring of 1983, especially in the major oil importing and consuming nations. The deutsche mark cost of imported crude oil in West Germany, for example, increased by 25 percent between the second quarter of 1983 and the first quarter of 1985; the 5-percent decline in the world price of crude oil over that period was more than offset by the 30-percent rise in the dollar against the mark.

Recently, however, the value of the dollar has depreciated against the major currencies and is expected to depreciate further over the forecast horizon. This recent depreciation has had a dramatic effect on the local currency cost of imported crude oil. According to the Federal Trade Office of West Germany, the June 1985 cost of imported crude oil had dropped by about 9 percent from this year's high in March, with about 7 percent of this drop attributable to the depreciation of the dollar against the mark. This decline in the price of crude oil (from both OPEC and non-OPEC sources) as a result of the depreciating dollar has been far more significant than the downward drift in the dollar-denominated OPEC oil price to the United States. Given the exchange rates and world oil prices assumed in this forecast, the major oil importing and consuming countries are expected to experience nominal and real declines in the local currency cost of imported crude oil through 1986.

International Petroleum Forecast

Economic growth in the industrial countries is expected to be 2.6 percent between 1984 and 1985 and 2.4 percent between 1985 and 1986, down from 4.5 percent between 1983 and 1984 (Table 5). Total petroleum demand (product supplied) in the market economies is projected to decline by about 0.1 million barrels per day during 1985; decreases in the United States, Japan, and Europe partially offset the small increase in "other" market economy demand in 1985. Petroleum demand in the developing countries is expected to pick up in 1985 and 1986, if economic conditions in these countries improve as projected. In 1986, petroleum demand in the market economies is expected to increase by about 1 percent as a result of substantial decreases in real oil prices.

OPEC's average crude oil production is expected to be slightly above its latest production quota (of 16 million barrels per day) by about 0.2 million barrels per day in 1985. Total OPEC oil production (including natural gas liquids) is forecast to decrease by about 7 percent between 1984 and 1985, but to increase by almost 3 percent (about 0.5 million barrels per day) in 1986. Non-OPEC production (including liquids production from natural gas, coal, and other sources) is expected to increase by about 700,000 barrels per day in 1985, tapering to an increase of 300,000 barrels per day in 1986 because of slower increases in production from the North Sea, Brazil, and India. The large increase expected in 1985 is the result of incremental production in many different countries, the increased use of alcohol, and the production of liquids from coal. Net exports of oil from the Communist countries are assumed to decrease by about 300,000 barrels per day between 1984 and 1985, and to remain at the 1985 level in 1986, when falling production from the United Soviet Socialist Republic is expected to be offset by expansion in China. Consequently, a decrease of nearly 2 percent in the total supply of oil to the market economies is expected between 1984 and 1985, compared with the nearly 3-percent increase observed between 1983 and 1984.

World petroleum stocks in the market economies at the end of 1985 are projected to be about 200 million barrels lower than the year-earlier level, with an additional drop of 100 million barrels expected by the end of 1986. The decline in petroleum stocks expected in 1985 is the result of weaker than expected demand, expected lower oil prices, higher costs of carrying stocks, and increases in oil supplies from non-Middle East sources. At the end of the third quarter of 1985, total petroleum stocks (including strategic petroleum reserves) in the market economies are projected to be at a level equivalent to about 99 days of forward consumption (at the fourth quarter's average consumption rate of 47.3 million barrels per day), which is considerably above the 88 days of forward consumption during the market turbulence in 1979.

U.S. Petroleum Outlook

Overview

U.S. petroleum demand (product supplied) is expected to decline slightly in 1985, after posting a 3-percent increase in 1984, the first year-to-year increase in 6 years. (The base case forecast is shown in Table 6; alternative cases for high and low growth are shown in Tables 7 and 8, respectively.) Growth in the economy in 1985, although lower than the rate in 1984, is projected to induce some growth in petroleum demand, but not enough to offset the declines associated with continued efficiency improvements, conservation, and fuel switching. In 1986, total petroleum demand is projected to rebound as a result of falling real oil prices and stabilizing demand for residual fuel oil. Net petroleum imports are projected to average about 4.4 million barrels per day in 1985, 6 percent below the 1984 level, and to increase to 4.6 million barrels per day in 1986.

Motor Gasoline

Motor gasoline product supplied averaged 6.7 million barrels per day in 1984, or 1 percent higher than the level in 1983 (Table 9). In 1985, gasoline demand is expected to increase by more than 1 percent from year-earlier levels. Increases in demand resulting from a higher level of vehicle travel are projected to be partly offset by decreases in demand attributable to improvements in vehicle efficiency. Between 1985 and 1986, increases in travel demand are expected to be slightly smaller than increases in efficiency, resulting in a small decrease in motor gasoline product supplied.

According to the U.S. Department of Transportation, the efficiency (in terms of average, observed on-the-road miles per gallon) of passenger cars in the United States increased at an average annual rate of 3.7 percent between 1978 and 1982, and at a noticeably slower rate of 2.8 percent between 1982 and 1983.² Total motor vehicle travel (approximately 85 to 90 percent of which was gasoline-powered) increased by 4.1 percent from 1983 to 1984 on an average daily basis. Gasoline consumption increased by approximately 1.1 percent over the same period, suggesting an improvement in vehicle-miles per gallon between 1983 and 1984 of about 3 percent, below the average increase observed between 1978 and 1982, but slightly above the rate between 1982 and 1983.

²U.S. Department of Transportation, Federal Highway Administration, Highway Statistics Division, Highway Statistics (Annual), Table VM-1 (Washington, DC, 1983).

In the forecast period, automobile efficiency is expected to improve by 1.7 percent and 2.5 percent for 1985 and 1986, respectively. A recently proposed change in the Corporate Average Fuel Economy (CAFE) standard³ for passenger cars from 27.5 miles per gallon to 26.0 miles per gallon would not have any effect on the expected short-run trends in automobile efficiency: such a change in the standard would only be reflective of recent trends in consumer preference for larger, somewhat less efficient automobiles. Growth in motor vehicle travel is expected to average about 2.6 percent for 1985 and 2.1 percent for 1986. Combined, these projections imply little growth in fuel consumption for motor vehicle travel in 1985 and a modest decline in 1986. Continued, long-run efficiency effects in response to price increases experienced during the late 1970's have had a dampening effect on gasoline demand, although these effects could be attenuated if the decline in real gasoline prices resumes.

Distillate Fuel Oil

As a result of the moderation in economic growth, particularly in the industrial sector, distillate fuel oil consumption is projected to increase by nearly 3 percent between 1984 and 1985 (Table 10), to 2.9 million barrels per day. This small increase follows a 6-percent jump experienced in 1984, the largest percentage rise in distillate demand on an annual basis since 1976. Falling real prices and assumed normal weather during the fourth quarter of 1985 (in contrast to warm weather at the end of 1984) contribute to the expected increase in distillate consumption for space heating. A slight increase in the demand for diesel fuel also is expected in 1985 because of lower prices and because of an unusually low demand during the fourth quarter of 1984.

A growth rate of 5 percent in distillate consumption is expected in 1986. Falling real prices are projected to induce further consumption in the transportation sector, while the long-term trend away from heating oil in the residential and commercial sectors appears to have ended, based on recent data.

³The proposed change by the U.S. Department of Transportation's Motor Vehicle Requirements Division, if enacted, would be for the 1986 model year. A final ruling is not expected before October.

The EPA Lead Phasedown

In March 1985, the Environmental Protection Agency (EPA) announced a series of regulations designed to reduce the allowable lead content of leaded motor gasoline. This "lead phasedown" was to occur in two steps: a reduction from the current standard of 1.1 grams of lead per gallon to 0.5 grams of lead per gallon on July 1, 1985, and a further reduction to 0.1 grams of lead per gallon on January 1, 1986. To provide a smooth transition, however, a so-called "banking" provision was added, where refiners and blenders who produced gasoline with lead content below the allowable limits in one quarter could "bank" their "saved" lead and produce above the allowable limits in subsequent quarters through the end of 1987. Furthermore, these lead "rights" could be bought and sold in the marketplace, allowing refiners and blenders who had the capacity to produce gasoline at the lower lead levels to sell their rights to those who did not have that capacity.

The ultimate impact of these regulations on demand, supply, and prices of motor gasoline is far from certain, although it is clear that, by the beginning of 1988, the average lead content of motor gasoline will be no higher than 0.1 grams of lead per gallon. As of July 1985, the possible impacts on motor gasoline markets can be summarized as follows:

- Demand: Apart from possible price impacts, there should be no discernible effect on motor gasoline demand. The changeover from leaded to unleaded gasoline has been continuing for several years, as nearly all new cars sold in the United States require unleaded fuel. By the end of 1986, it is estimated that unleaded gasoline will constitute about 75 percent of total motor gasoline demand. EPA has determined that older cars requiring lead additives for proper engine performance can tolerate a level of 0.1 grams of lead per gallon. The most likely impact on demand would be a function of price: as the price of leaded gasoline moves closer to that of unleaded (because unleaded octane enhancers are more expensive), misfueling is likely to decrease because the savings per gallon would be lower. This effect could accelerate the trend toward unleaded gasoline. Countering this effect, however, is the fact that misfueling may be less damaging to the engines of newer cars, because of the lower average lead content of leaded gasoline. In this case, the new regulations could encourage misfueling if there is any price spread. The net impact is likely to be negligible.
- Supply: Both the reduced lead levels and the banking provisions are likely to have an impact on the quality, if not the quantity, of motor gasoline supplied to the marketplace. The banking provisions have had the impact of reducing average lead levels during the quarter preceding the July 1 initial phasedown. Consequently, lead content during the third and fourth quarters of 1985 may be somewhat higher than the allowed 0.5 grams of lead per gallon. However, producers may continue producing gasoline with lead levels below the mandated standards and carry lead rights into 1987. The decisions will depend on individual producers' forecasts of the demand for leaded and unleaded gasoline, and on the price of lead rights, currently selling for about 3.5 to 5.0 cents per gram

of lead. Presumably, as the January 1, 1988, deadline for use of lead rights approaches, they will become less valuable. On the other hand, if the profitability spread between leaded and unleaded gasoline narrows, the value of lead rights could fall sooner. Total supply should not be affected appreciably. The existence of lead rights, however, has increased the number of downstream "blenders" producing finished gasoline (especially gasohol) with a lead content below the allowable level, thus also producing lead rights to be sold. The impact on measured production of motor gasoline by these blenders is uncertain but is probably less than 30,000 barrels per day.

- Price: The price impact of the lead phasedown is probably the most difficult to forecast. From a cost viewpoint, estimates from EPA and the Energy Information Administration range from about 1 to 3 cents per gallon to meet required octane levels with nonlead additives. These estimates are somewhat corroborated by the current cost of lead rights, which should be equivalent to the nonlead additive octane value of a gram of lead. From a demand viewpoint, the price impact is more uncertain. To the extent that misfueling is lessened, the demand for unleaded gasoline could increase, causing a corresponding price increase. However, this effect will be difficult to separate from the impact attributed to changes in the costs of production. For the purposes of this Outlook, an overall price increase of about 2 cents per gallon was assumed, based on the current price spread between leaded and unleaded, and the expected shares of leaded and unleaded gasoline by the end of 1986. Because of the banking provisions, the 2-cent increase (net of changes due to crude oil prices) was assumed to be phased in smoothly between July 1985 and December 1986.

Residual Fuel Oil

Total consumption of residual fuel oil has declined steadily since 1977, reaching a level in 1984 that was less than half the amount used in 1977. This fuel has shown the largest rate of decrease of any of the petroleum products. The rate of decrease, however, has changed significantly in recent years: The average rate of decrease in residual fuel oil consumption was more than 17 percent per year between 1981 and 1983, but only 4 percent between 1983 and 1984. Total consumption of residual fuel oil is expected to drop by 17 percent between 1984 and 1985 and to remain essentially unchanged in 1986 (Table 11).

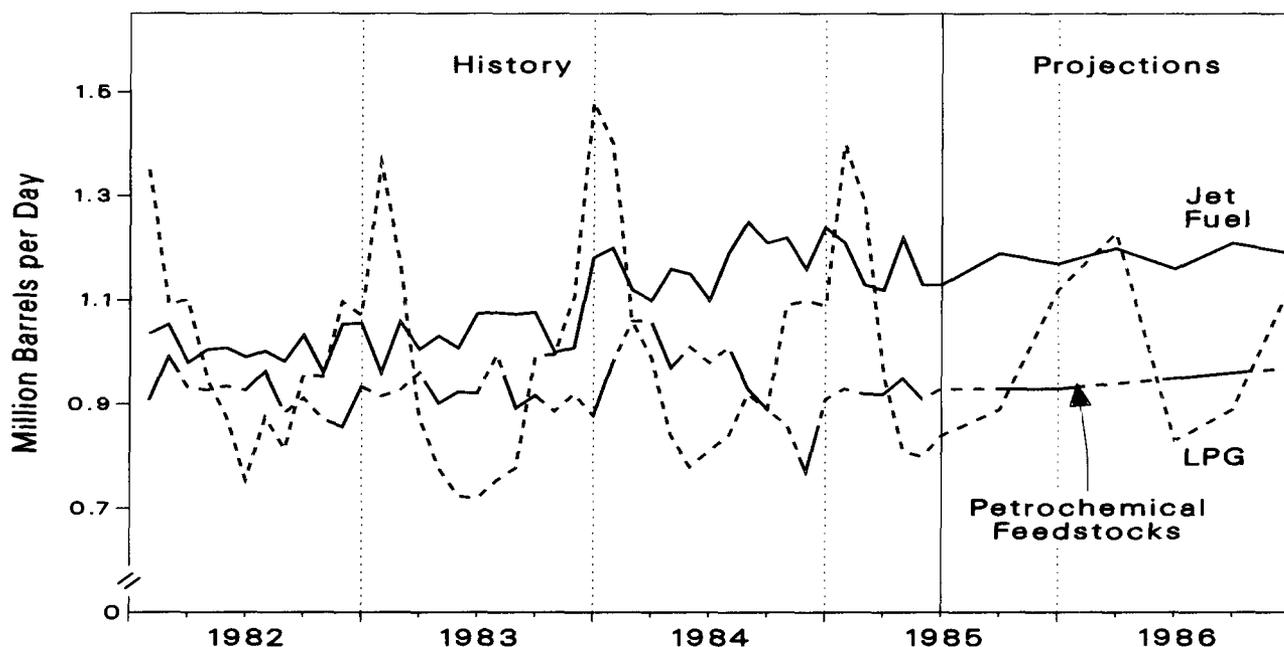
Nonutility demand for residual fuel oil is projected to decrease by almost 13 percent between 1984 and 1985, mainly because of slower economic growth, continued conservation, and industrial fuel switching to natural gas. In 1986, nonutility demand is projected to rise slightly in response to expected decreases in the price of residual fuel oil. Consumption of residual fuel oil at electric utilities is projected to decline by about 21 percent in 1985 and by an additional 7 percent in 1986. Residual fuel oil is expected to remain a relatively high-priced fuel option for electric utilities, although lower crude oil prices could result in a slowing of the decline in utility demand for residual fuel oil in some areas of the country.

Other Petroleum Products

Jet fuel, petrochemical feedstocks, and liquefied petroleum gases (LPG) are the principal components of the other products category, accounting for 3.1 million barrels per day out of a total of 4.8 million barrels per day in 1984 (Table 12). The remaining products, grouped under the miscellaneous category, include petroleum coke, kerosene, still gas, road oil and asphalt, lubricants, waxes, aviation gasoline, special naphthas, and other small-volume petroleum products. "Other" product supplied is projected to remain fairly constant through 1986.

LPG products supplied in 1985 is projected to increase by more than 2 percent from 1984 levels (Figure 4). For the most part, this increase is attributable to colder weather experienced during January and February of this year, along with the fact that the fourth quarter of 1984 was unusually warm. Demands are expected to grow moderately in 1986 as a result of lower petroleum prices.

Figure 4. Major Components of Other Petroleum Demand



Sources: • History: Energy Information Administration, Petroleum Supply Annual (1982-1984), DOE/EIA-0340(82,84)/1, Petroleum Supply Monthly, DOE/EIA-0109(85/05), and Weekly Petroleum Status Report, DOE/EIA-0208(85-28) (Washington, DC). • Projections: Table 12.

Demand for jet fuel is expected to remain fairly constant in 1985, following the large increase in 1984. Jet fuel use has risen in response to an increase in travel as well as a decline in aircraft efficiency, with the Federal Aviation Administration reporting a 1.4-percent decline in average seat-miles per gallon for the 12-month period ending in April. (This drop in efficiency, which reverses fairly steady increases reported for the past several years, appears to have been caused by increased use of some less efficient aircraft to meet heavy travel demands and to compensate for strikes by some of the major airlines.) The rate of growth in demand for jet fuel has begun to taper off, however, with product supplied in the first half of 1985 less than 2 percent higher than year-earlier levels. The demand for jet fuel is expected to grow at a moderate rate between 1985 and 1986.

Demand for petrochemical feedstocks has started to recover after plummeting in the fourth quarter of 1984. For the remainder of 1985, feedstock use is expected to remain constant at slightly more than 0.9 million barrels per day, while output from the chemical industry is projected to grow by about 1 percent. Between 1985 and 1986, feedstocks use is expected to grow by 2.4 percent, slightly under the 2.7-percent increase projected for activity in the chemical sector. The recent shift toward ethane and away from naphtha-based feedstocks is not expected to continue, given changing refinery economics (due to reduced gasoline lead requirements) and increased competition with ethylene-derivative exports from Saudi Arabia and Canada.

Miscellaneous product supplied is projected to remain level through 1986 at close to 1.6 million barrels per day. Only demand for kerosene is projected to decline throughout the forecast period, corresponding to the historical evidence that kerosene demand declines as income increases. Asphalt and road oil product supplied is projected to grow the most rapidly of the miscellaneous products in 1985 before leveling off in 1986.

Domestic Crude Oil Production

Final data for 1984 show that domestic crude oil production (including lease condensate) increased to nearly 8.9 million barrels per day in 1984 (Table 6), the highest level since 1973, when total domestic production reached 9.2 million barrels per day. Domestic production of crude oil is projected to remain at about the 1984 level in 1985 and 1986.

Production from the Alaskan North Slope is expected to increase by nearly 5 percent from 1984 to 1985, as additional production comes on line from the Kuparuk River field. North Slope production during 1986 is expected to be about 3 percent higher than the production during 1985 as the Milne Point field comes on stream early in 1986 and Kuparuk River production increases. Subarctic crude oil production is expected to decrease by less than 1 percent between 1984 and 1985, to 7.17 million barrels per day, and to drop further to about 7.12 million barrels per day in 1986.

Petroleum Inventories

Total primary petroleum stocks were built up by nearly 30 million barrels during the second quarter of 1985, partially offsetting the 108 million barrel draw in the first quarter and bringing the closing stock level for the second quarter of 1985 to more than 1,027 million barrels. This level is about 61 million barrels below year-earlier levels, with crude oil and finished motor gasoline accounting for 9 and 20 million barrels of the difference, respectively. Petroleum stocks in the third quarter of 1985 are expected to continue to be lower than year-earlier levels because of the tendency to defer imports of crude oil during periods of price uncertainty. Finished motor gasoline stocks dropped by only 2 million barrels during the second quarter of 1985, as a result of an increase of gasoline imports to 450,000 barrels per day and the seasonal increase in production (Table 9).

Stocks in the SPR currently are forecast to reach 489 million barrels by October of 1985. At the end of June 1985, SPR crude oil inventories had surpassed 476 million barrels. Crude oil fill rates for the SPR are projected to average 135,000 barrels per day between July and September of 1985 (based on estimates provided by the Office of the Deputy Assistant Secretary for Strategic Petroleum Reserve, U.S. Department of Energy). The SPR fill rates for fiscal year 1986 (beginning in October of 1985) are assumed to be zero based on the Administration's current budgetary proposal.

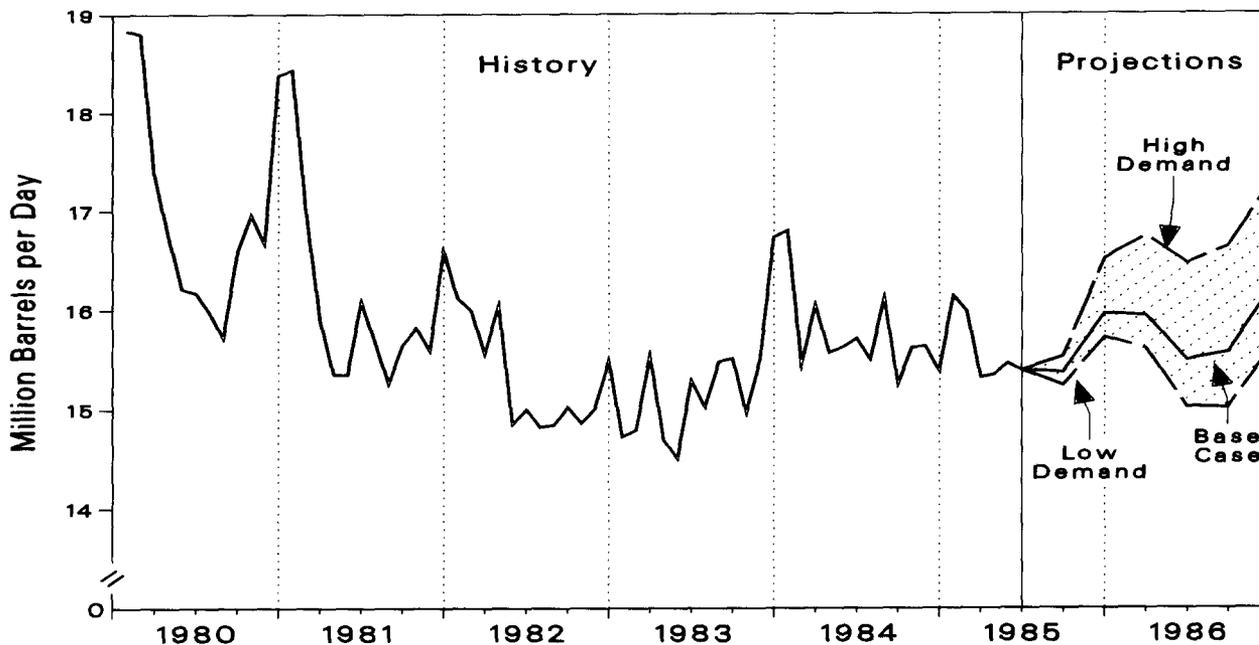
Petroleum Demand Sensitivities

Table 13 and Figure 5 show the response of petroleum demand to changes in price, income, and weather. The sensitivity cases were developed as follows:

- The low and high price demands are based on the price paths shown in Table 3, holding the variables representing economic activity at their base case levels.
- The economic sensitivity cases are derived from the low and high economic growth assumptions given in Table 2, holding prices at their base case trajectories.
- The weather sensitivity cases are based on variations in population-weighted heating degree days and cooling degree days of 10 percent in the first and fourth quarters and 15 percent in the second and third quarters, respectively.

The range of petroleum demand projected for 1985 is about 320,000 barrels per day, with the largest source of uncertainty being prices. During 1986, price again is expected to contribute most to the uncertainty range, which averages about 1.5 million barrels per day overall. The uncertainty attributable to income in 1986 also is projected to be significant, with a range of 630,000 barrels per day resulting from income variations above and below the base case level.

Figure 5. Total Petroleum Demand



Sources: • History: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) (Washington, DC, 1985). • Projections: Tables 6, 7, and 8.

Projections of Other Major Energy Sources

Natural Gas

Total natural gas consumption is projected to increase by almost 2 percent between 1984 and 1985 and remain virtually constant between 1985 and 1986, while no change in natural gas production is expected over the forecast period. The projection for natural gas demand reflects the assumed continuation of economic growth and only moderate increases in natural gas prices during 1985 and 1986. No substantial changes in the nominal price of natural gas are anticipated from the partial deregulation that went into effect in January of this year. The level of natural gas in underground storage is projected to increase only slightly over the forecast period.

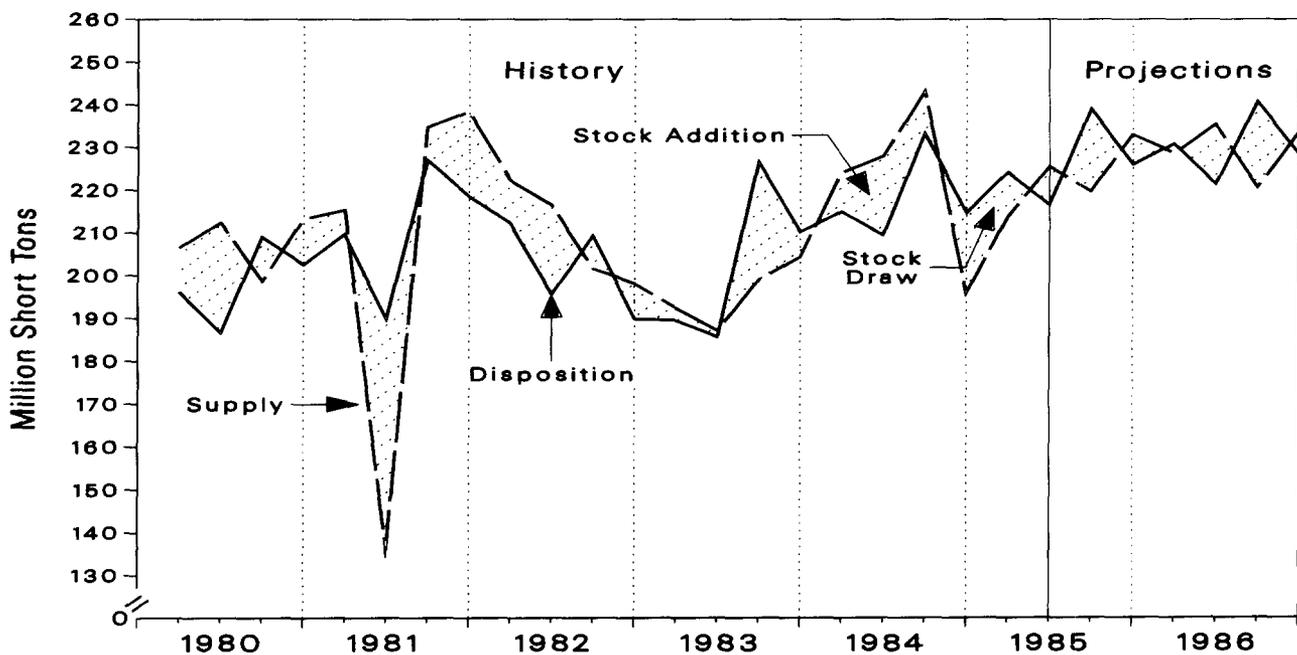
Natural Gas Demand. Total demand for natural gas was 17.6 trillion cubic feet in 1984, and is projected to increase to nearly 18.0 trillion cubic feet in 1985. In 1985, electric utility consumption of natural gas is expected to be almost 3 percent lower than year-earlier levels, as higher levels of generation from coal and nuclear power are expected to slow the demand for natural gas. Total natural gas consumption in 1986 is projected to be about the same as the year-earlier level, with declines in demand at electric utilities expected to balance increases in other demand for natural gas.

Natural Gas Supply. Total dry gas production is projected to remain at the 1984 level of 17.2 trillion cubic feet in 1985 and 1986. These projections for natural gas production are based on the expectation of limited growth in end-use consumption. A lower price floor on Canadian pipeline exports of natural gas to the United States is expected to lead to an increase in U.S. imports of natural gas in 1985 and 1986 and to promote the stabilization of U.S. prices. Net pipeline imports of natural gas were 0.8 trillion cubic feet in 1984 and are projected to increase to about 1 trillion cubic feet per year in 1985 and 1986.

Coal

Coal Production. Although a large portion of the increase in coal production experienced in 1984 was needed to meet increases in utility and industrial coal consumption, a major portion of the increase was for stockpiling in anticipation of a possible fourth-quarter strike (Figure 6). A significant part of the increased coal use in 1985 is expected to be supplied from net stock reductions. This development, along with lower coal exports, is expected to hold coal production in 1985 at the 1984 level of 890 million tons (Table 15). For 1986, coal production is projected to be 916 million tons, or 3 percent higher than the year-earlier level, with most of the increase occurring in response to increased electric utility coal use.

Figure 6. Coal Supply and Disposition



Sources: ● History: Energy Information Administration, Quarterly Coal Report, DOE/EIA-0121(85/1Q) (Washington, DC, 1985). ● Projections: Table 15.

Domestic Coal Consumption. The increase in domestic coal consumption from 1983 to 1984 was more than 7 percent overall, with a 19-percent increase for coke plants, a 6-percent increase for electric utilities, and a 12-percent increase for other consumption. Total coal consumption is expected to increase by 5 percent in 1985, led mainly by increases in the electric utility market, and by about 2 percent between 1985 and 1986. Increases projected for coal consumption at electric utilities reflect the increase in electricity expected to be generated from coal-fired plants. Average utilization rates at coal-fired generating plants are estimated to have exceeded 52 percent in 1984.⁴ The current projections assume an increase in coal plant utilization to more than 53 percent in 1985 and 1986.

Coking coal consumption in 1985 is expected to fall slightly from its 1984 level of 44 million tons. Behind this forecast is the expectation that raw steel production in 1985 will remain near the estimated 1984 level of 91 million tons.⁵ Net reductions in coke stocks are assumed to depress the demand for coking coal. Some improvement in steel output is expected for 1986, increasing coking coal consumption by about 2 million tons on an annual basis.

Projections for retail and general industry coal consumption have been revised downward to 85 million tons for 1985 from the projection of 87 million tons reported in the April 1985 Outlook. Estimates for the first quarter of 1985 proved overly optimistic by more than 1 million tons. Slightly weaker performance by the industrial sector is expected in this forecast compared to the assumptions used for the April 1985 Outlook. As a result, retail and general industry coal consumption is expected to reach only 87 million tons in 1986.

Coal consumed in the manufacture of synthetic fuels is included in the retail and general industry category. During 1984, almost 2 million tons of coal were consumed in the manufacture of synthetic natural gas. Total coal consumed for synfuels is expected to be more than 5 million tons in 1985, rising to 6 million tons in 1986 on an annual basis. However, this forecast assumes that all commercial coal gasification plants will be operating fully during the forecast period. Should the financial difficulties plaguing the Great Plains Coal Gasification Project result in project abandonment, about 5 million tons of coal per year could disappear from industrial coal use.

⁴Electric plant utilization is defined as monthly generation (kilowatthours) divided by capacity, which is defined as the nameplate rating (kilowatts) times the number of hours in the month. The utilization figures are based on estimated monthly capacity numbers which are derived from the same data source used in the Energy Information Administration, Inventory of Power Plants in the United States, DOE/EIA-0095(83) (Washington, DC, 1984).

⁵The estimate of steel production in 1984 is based on preliminary data from the American Iron and Steel Institute Form AIS-7.

Coal Exports. Although coal exports increased slightly between 1983 and 1984, this reversal of the downward slide of U.S. coal exports from the 1981 peak of 113 million tons is expected to be short lived. From the 1984 level of 81 million tons, coal exports are expected to decline to about 76 million tons in 1985 and 72 million tons in 1986. Temporary increases in Canadian requirements for steam coal imports, along with possible excess stockpiling by importers anticipating a U.S. coal strike, had a positive net effect on coal exports for 1984. In addition, because of the extended miners' strike in Great Britain, U.S. exports of metallurgical coal to that country (and to certain European countries) increased significantly⁶ in 1984 and early 1985. For the remainder of 1985 and 1986, these sources of increased demand for U.S. export coal are expected to disappear. Slow economic growth in Europe and continued strength of the dollar are expected to result in relatively weak demand for U.S. export coal.

Electric Power

Electricity generation is expected to increase by more than 2 percent between 1984 and 1985, following an increase of almost 5 percent between 1983 and 1984 (Table 16). This increase reflects a continuation in the upward trend in total generation in response to the economic expansion. With the continuation of moderate economic growth expected next year, total electricity generation is projected to increase by about 2 percent between 1985 and 1986.

The nominal price of residential electricity increased by more than 5 percent between 1983 and 1984, a rate slightly higher than the overall rate of inflation. Electricity prices are expected to increase by about 4 percent between 1984 and 1985 and by somewhat less than 4 percent between 1985 and 1986 (Table 3).

Generation by Energy Source. Fuel shares of electricity generation in 1985 are projected to be: 57 percent coal, 15 percent nuclear power, 12 percent natural gas, 4 percent petroleum, 11 percent hydroelectric power, and less than 1 percent for other energy sources (Figure 7). The projected increases in total generation of 54 billion kilowatthours between 1984 and 1985 and 53 billion kilowatthours between 1985 and 1986 are expected to be supplied primarily by coal and nuclear power.

Nuclear generation is projected to increase by 14 percent between 1984 and 1985, to nearly 374 billion kilowatthours, following the 12-percent increase between 1983 and 1984. An additional increase of 12 percent is projected between 1985 and 1986. This forecast assumes full power operation of 8 new reactors (Catawba 1, Byron 1, Waterford 3, Palo Verde 1, Wolf Creek, Fermi 2, Watts Bar 1, and Diablo Canyon 2) totaling more than 9 gigawatts in 1985, and 11 additional reactors (Limerick 1, Shoreham, Perry 1, Comanche Peak 1, River Bend, Millstone 3, Palo Verde 2, Catawba 2, Harris 1, Byron 2, and Braidwood 1) totaling nearly 12 gigawatts during 1986. Of the reactors expected for 1985, five already are

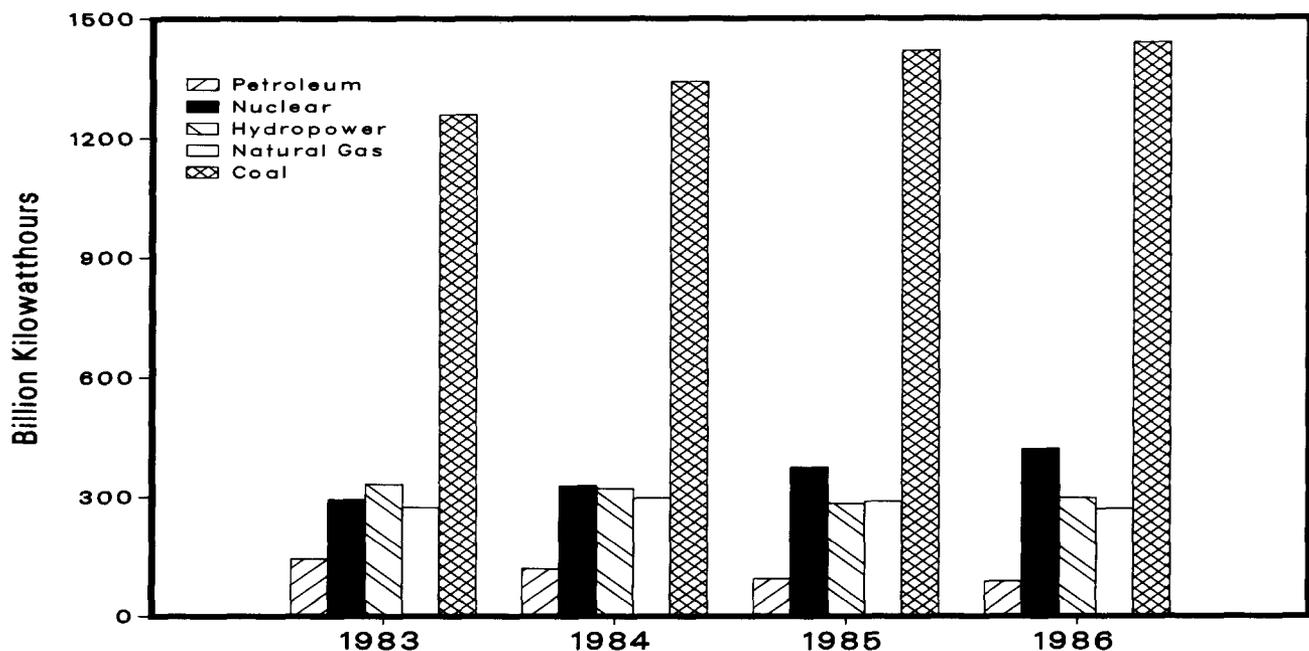
⁶See Energy Information Administration, Weekly Coal Production, DOE/EIA-0218(85/07 and 85/25) (Washington, DC, 1985).

operable and two have received low power licenses. The average capacity factor for nuclear reactors during 1984 was 56.5 percent, and is assumed to decline by about half a percentage point in both 1985 and 1986. This drop occurs because the higher capacity factors for mature reactors are expected to be more than offset by the new reactors that initially operate at lower capacity factors.

Coal-fired generation of electricity is expected to increase by nearly 6 percent from 1984 to 1985 as the demand for electricity continues to increase and as new coal generating capacity begins operation. The outlook for coal-fired generation between 1985 and 1986 shows an increase of more than 1 percent. Following the projected addition of almost 6 gigawatts of coal-fired capacity in 1985, nearly 7 additional gigawatts of capacity are expected during 1986.

Hydroelectric generation in 1985 is projected to be about 284 billion kilowatt-hours, a level below normal because of abnormally low levels of precipitation in many hydroelectric regions of the country. Assuming both normal precipitation and normal levels of water storage in 1986, an increase in hydropower generation is projected from year-earlier levels.

Figure 7. Electricity Generation by Fuel Source



Sources: ● History: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) (Washington, DC, 1985). ● Projections: Table 16.

The combined amount of oil- and natural gas-fired generation is projected to fall through the forecast period, with gas generation falling slightly and oil generation dropping sharply. The lower forecast for oil-fired generation is based on the expected continuation of the rapid downward trend experienced during 1984 and the assumption that most of the increase in total generation not supplied by coal or nuclear power will be from natural gas. However, lower residual fuel oil prices could slow the decline in utility consumption of residual oil over the forecast period.

Net Electricity Imports. Electricity imports have increased significantly in recent years and are becoming an important source of electricity for some regions of the country. A decade of rising oil prices in the United States has encouraged areas dependent on oil-fired generation, such as the Northeast, to purchase electricity from Canada, which currently has a surplus of hydroelectric power. In addition, small net amounts of electricity were imported from Mexico for the first time in 1984.

Net imports of electricity increased by more than 4 billion kilowatthours in 1984, to nearly 40 billion kilowatthours, and accounted for more than 1 percent of total U.S. electricity supply (Table 16). (The actual increase in net imports for 1984 was slightly higher than the estimates published in the April 1985 Outlook.) This increase is attributable both to increased purchases of power (more than half of which is generated from hydroelectric power) over existing lines and to the opening of new transmission lines (the Niagara Interties from Canada and the Imperial Valley-La Rosita Line from Mexico). Transmission capability also is being improved within the United States to increase the ability of the electrical system to move purchased power. Net electricity imports in 1985 are projected to reach 41 billion kilowatthours as a result of increased purchases over existing transmission lines and the opening of a transmission line between Vermont and Canada in the second half of 1985. Another major transmission line between New England and Canada is expected to come into service in the first half of 1986. Net electricity imports are forecast to reach 44 billion kilowatthours in 1986.

Total Domestic Energy Balance

Total energy consumption (measured as gross energy consumption) in 1984 was above the previous year's level for the first time since 1979, reaching 74.0 quadrillion Btu (Table 17). Total energy consumption is projected to increase by more than 1 percent, to 75.1 quadrillion Btu, between 1984 and 1985 and by about 2 percent between 1985 and 1986, to 76.5 quadrillion Btu. Growth in GNP exceeded growth in energy consumption between 1983 and 1984, resulting in the 14th consecutive yearly decline in the energy/GNP ratio, to 45.2 thousand Btu per 1972 dollar of real GNP in 1984 (Table 1). This ratio is expected to fall to 44.7 thousand Btu per 1972 dollar of real GNP in 1985 and to decline further to 44.6 thousand Btu per 1972 dollar of real GNP in 1986.

Table 3. Quarterly Energy Prices (Nominal), History and Projections

Product	History					1985 Price ¹	Projections								
	1984			1985			1986								
	3rd	4th	Year	1st	2nd		3rd	4th	Year	1st	2nd	3rd	4th	Year	
Petroleum															
Gasoline ² (dollars per gallon)	1.19	1.19	1.20	1.14	1.22	Low	1.18	1.09	1.16	1.01	1.02	1.03	1.02	1.02	
						Base	1.21	1.18	1.19	1.13	1.15	1.16	1.15	1.15	
						High	1.23	1.22	1.20	1.19	1.21	1.23	1.22	1.21	
No. 2 Fuel Oil, Wholesale (dollars per gallon)	0.82	0.81	0.83	0.80	0.79	Low	0.73	0.67	0.75	0.66	0.65	0.66	0.67	0.66	
						Base	0.77	0.77	0.78	0.77	0.76	0.76	0.77	0.77	
						High	0.80	0.81	0.80	0.82	0.81	0.81	0.83	0.82	
No. 2 Heating Oil, Retail (dollars per gallon)	1.04	1.05	1.09	1.05	1.03	Low	0.97	0.92	0.99	0.91	0.89	1.01	1.03	1.01	
						Base	1.01	1.02	1.03	1.03	1.01	1.02	1.05	1.03	
						High	1.03	1.07	1.05	1.09	1.07	1.08	1.11	1.09	
No. 6 Residual Fuel Oil ³ (dollars per gallon)	0.68	0.68	0.69	0.68	0.62	Low	0.56	0.51	0.59	0.48	0.47	0.47	0.48	0.48	
						Base	0.59	0.58	0.62	0.55	0.54	0.54	0.55	0.55	
						High	0.61	0.61	0.63	0.59	0.58	0.58	0.58	0.58	
Propane, Consumer Grade (dollars per gallon)	0.72	0.71	0.73	0.76	0.74	Low	0.71	0.68	0.72	0.67	0.65	0.65	0.64	0.65	
						Base	0.72	0.70	0.73	0.69	0.68	0.69	0.68	0.69	
						High	0.73	0.72	0.74	0.72	0.71	0.72	0.71	0.72	
Other															
Coal, Delivered to Utilities (dollars per million Btu)	1.66	1.67	1.66	1.66	1.65	Low	1.64	1.64	1.65	1.65	1.65	1.65	1.65	1.65	
						Base	1.67	1.68	1.67	1.69	1.70	1.71	1.73	1.71	
						High	1.69	1.70	1.68	1.72	1.73	1.75	1.76	1.74	
Natural Gas, Residential (dollars per 1,000 cu. ft.)	6.21	6.18	6.06	6.16	6.20	Low	6.13	6.06	6.14	5.98	6.02	5.96	5.89	5.96	
						Base	6.17	6.16	6.17	6.13	6.23	6.23	6.22	6.20	
						High	6.22	6.24	6.21	6.24	6.38	6.42	6.45	6.37	
Natural Gas, to Utilities (dollars per million Btu)	3.69	3.58	3.58	3.58	3.60	Low	3.71	3.56	3.61	3.53	3.58	3.68	3.52	3.58	
						Base	3.73	3.60	3.63	3.60	3.67	3.80	3.67	3.68	
						High	3.75	3.63	3.64	3.65	3.74	3.89	3.77	3.76	
Electricity, Residential (cents per kilowatthour)	8.03	7.59	7.56	7.32	7.94	Low	8.12	7.74	7.78	7.46	8.01	8.37	8.01	7.96	
						Base	8.30	7.92	7.87	7.63	8.21	8.58	8.23	8.16	
						High	8.44	8.07	7.94	7.78	8.37	8.76	8.40	8.33	

¹The low prices are used with the high economic growth assumptions and the high prices are used with the low economic growth assumptions referred to in Table 2.

²Average for all grades and services.

³Retail residual fuel oil--average, all sulfur contents.

Note: Second quarter 1985 estimated for all fuels except gasoline.

All prices exclude taxes except gasoline, residential natural gas, and electricity.

Sources: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) and Petroleum Marketing Monthly, DOE/EIA-0360(85/04).

**Table 4. International Petroleum Balance
(Million Barrels per Day, Except Closing Stocks)**

	History			Projections									
	1984			1985			1986			1986			
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year
Supply¹													
Production													
U.S. (50 States)	11.1	11.2	11.1	11.0	11.1	11.1	11.2	11.1	11.2	11.2	11.1	11.2	11.2
OPEC	18.2	17.8	18.6	17.4	16.0	17.5	18.2	17.3	17.6	17.3	17.9	18.4	17.8
Other Non-OPEC	14.4	15.1	14.5	15.2	15.1	15.2	15.3	15.2	15.5	15.4	15.5	15.6	15.5
Total Market Economies	43.7	44.1	44.3	43.6	42.2	43.8	44.7	43.6	44.3	43.8	44.5	45.2	44.5
Net Communist Exports	2.0	2.0	2.0	1.2	1.8	1.9	1.9	1.7	1.4	1.7	1.8	1.8	1.7
Total Supply	45.7	46.1	46.2	44.8	44.0	45.7	46.6	45.3	45.7	45.5	46.3	47.0	46.1
Net Stock Withdrawals (+) or Additions (-)													
U.S. (50 States excl. SPR)	0.1	-0.3	-0.1	1.2	-0.3	-0.4	0.0	0.1	0.4	-0.1	-0.4	0.2	0.0
U.S. SPR	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Other Market Economies	-0.5	0.8	0.1	1.8	0.8	-0.6	0.7	0.7	1.6	-0.6	-0.8	0.8	0.2
Total Stock Withdrawals (+)	-0.6	0.4	-0.2	2.8	0.4	-1.2	0.7	0.7	2.0	-0.7	-1.2	0.9	0.3
Product Supplied													
U.S. (50 States)	15.6	15.5	15.7	15.8	15.4	15.4	16.0	15.6	15.9	15.5	15.6	16.2	15.8
U.S. Territories	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Japan	4.2	4.7	4.6	5.2	4.0	4.1	4.8	4.5	5.2	4.2	4.2	4.9	4.6
OECD Europe	11.3	12.1	11.8	12.7	10.8	10.8	12.2	11.6	12.4	11.1	11.1	12.5	11.7
Other Market Economies	13.7	13.7	13.6	13.7	13.8	13.9	14.0	13.8	13.9	13.8	13.9	14.0	13.9
Total Market Economies	45.1	46.4	46.0	47.7	44.3	44.5	47.3	45.9	47.7	44.8	45.1	47.9	46.4
Closing Stocks (billion barrels)	4.9	4.8	4.8	4.6	4.5	4.6	4.6	4.6	4.4	4.5	4.6	4.5	4.5

¹Includes production of crude oil and natural gas liquids, other hydrogen and hydrocarbons for refinery feedstock, refinery gains, alcohol, liquids produced from coal and other sources, and net exports from Communist countries.

Note: Minor discrepancies with other published EIA historical data are due to rounding.

Sources: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04) and 1983 International Energy Annual, DOE/EIA-0219(83); Organization for Economic Cooperation and Development, Quarterly Oil Statistics, Fourth Quarter 1984; and Petroleum Economics Limited, World Quarterly Primary Energy and Supply/Demand, April 1985.

**Table 5. International Economic Growth
(Percent Change from Previous Period)**

	Annual Average	1984 ¹	1985	1986
	1970-1983			
OECD Total ²	2.8	4.5	2.6	2.4
United States ³	2.7	6.8	2.5	2.3
Western Europe	2.4	2.3	2.5	2.3
Japan ³	4.5	5.7	4.4	3.4
Other OECD ⁴	3.1	5.1	3.8	2.5

¹Preliminary estimates for Organization for Economic Cooperation and Development (OECD) countries.

²Gross domestic product.

³Gross national product.

⁴Canada, Australia, and New Zealand.

Sources: Historical data: Organization for Economic Cooperation and Development, Main Economic Indicators, June 1985. Forecasts: Wharton Economic Forecasting Associates, World Economic Outlook, July 1985; Data Resources, Inc., Canadian Forecast, CONTROL062885, European Forecast CONTROL062485, and Japanese Forecast, JPCONTROL0685.

**Table 6. Quarterly Supply and Disposition of Petroleum: Base Case
(Million Barrels per Day, Except Stocks)**

	History				Projections								
	1984		1985		1986		1987						
	3rd	4th	1st	2nd	3rd	4th	1st	2nd					
Supply													
Production													
Crude Oil	6.89	6.93	6.86	6.93	6.93	6.90	6.91	6.92	6.92	6.90	6.89	6.91	6.91
Alaska, North Slope	1.67	1.69	1.66	1.73	1.73	1.75	1.76	1.79	1.79	1.79	1.79	1.79	1.79
Subarctic	7.23	7.24	7.22	7.20	7.20	7.16	7.17	7.14	7.14	7.11	7.11	7.12	7.12
Natural Gas Liquids	1.64	1.66	1.63	1.63	1.60	1.69	1.63	1.73	1.64	1.61	1.69	1.67	1.67
Other Domestic	0.05	0.04	0.05	0.04	0.04	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.04
Processing Gain	0.55	0.57	0.55	0.43	0.49	0.54	0.50	0.53	0.54	0.55	0.54	0.54	0.54
Total Production	11.13	11.19	11.11	11.03	11.06	11.10	11.09	11.22	11.15	11.11	11.17	11.16	11.16
Imports (including SPR)													
Crude Oil	3.41	3.49	3.43	2.56	3.47	3.54	3.24	3.02	3.40	3.55	3.42	3.35	3.35
Refined Products	1.82	1.94	2.01	1.76	1.60	1.90	1.89	2.06	1.70	1.89	2.10	1.94	1.94
Total Imports	5.23	5.43	5.43	4.34	5.27	5.44	5.13	5.08	5.10	5.44	5.51	5.28	5.28
Exports													
Crude Oil	0.15	0.16	0.16	0.16	0.23	0.13	0.17	0.16	0.14	0.11	0.13	0.13	0.13
Refined Products	0.49	0.63	0.54	0.59	0.50	0.49	0.53	0.55	0.53	0.50	0.55	0.53	0.53
Total Exports	0.64	0.81	0.72	0.76	0.73	0.62	0.70	0.71	0.66	0.61	0.68	0.67	0.67
Net Imports (incl. SPR)	4.59	4.62	4.72	3.56	4.54	4.82	4.43	4.36	4.44	4.83	4.83	4.62	4.62
Primary Stock Levels² (million barrels)													
Opening	1088.84	1081.71	1074.55	1105.72	997.71	1027.45	1105.72	1064.68	1032.27	1061.40	1075.00	1064.68	1064.68
Closing	1081.71	1105.72	1105.72	997.71	1027.45	1065.16	1064.68	1032.27	1041.40	1075.00	1057.23	1057.23	1057.23
Net Withdrawals (million barrels per day).....	0.06	-0.26	-0.09	1.20	-0.33	-0.41	0.01	0.36	-0.10	-0.37	0.19	0.02	0.02
SPR Fill Rate Additions(-) (million barrels per day).....	-0.19	-0.21	-0.20	-0.12	-0.16	-0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Primary Supply	15.61	15.34	15.54	15.67	15.11	15.37	15.96	15.94	15.49	15.57	16.19	15.60	15.60
Product Supplied													
Motor Gasoline	6.04	6.69	6.69	6.49	7.00	6.89	6.73	6.39	6.90	6.92	6.76	6.74	6.74
Distillate Fuel Oil	2.57	2.82	2.84	3.28	2.49	2.54	3.18	3.34	2.93	2.68	3.32	3.07	3.07
Residual Fuel Oil	1.21	1.20	1.37	1.36	1.09	0.97	1.14	1.43	1.04	0.96	1.14	1.14	1.14
Other Products ³	5.01	4.83	4.82	4.68	4.62	4.96	4.69	4.79	4.62	5.01	4.98	4.85	4.85
Total Product Supplied	15.62	15.54	15.73	15.81	15.40	15.37	15.96	15.94	15.49	15.57	16.19	15.60	15.60
Unaccounted for	-0.01	-0.20	-0.18	-0.13	-0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Disposition	15.61	15.34	15.54	15.67	15.11	15.37	15.96	15.94	15.49	15.57	16.19	15.60	15.60

SPR = Strategic Petroleum Reserve.

¹Lower 48 States and southern Alaska.

²Excludes crude oil for the Strategic Petroleum Reserve (SPR).

³Includes reclassified petroleum products.

Note: Minor discrepancies with other EIA published historical data are due to rounding.

Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1;

Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; and June data, Weekly Petroleum Status Report,

DOE/EIA-0208(85-27).

**Table 7. Quarterly Supply and Disposition of Petroleum: High Economic Growth Case
(Million Barrels per Day, Except Stocks)**

	History				Projections				
	1984		1985		1986		1987		
	3rd	4th	1st	2nd	1st	2nd	3rd	4th	
Supply Production									
Crude Oil	0.89	0.93	0.80	0.93	0.89	0.90	0.92	0.89	0.91
Alaska, North Slope	1.67	1.69	1.66	1.73	1.75	1.75	1.79	1.79	1.79
Subarctic	7.23	7.24	7.22	7.20	7.14	7.16	7.17	7.11	7.12
Natural Gas Liquids	1.64	1.66	1.63	1.63	1.61	1.63	1.64	1.62	1.67
Other Domestic	0.05	0.04	0.05	0.04	0.05	0.05	0.04	0.05	0.04
Processing Gain	0.55	0.57	0.55	0.49	0.55	0.55	0.55	0.57	0.56
Total Production	11.13	11.19	11.11	11.06	11.10	11.19	11.17	11.14	11.19
Imports (including SPR)									
Crude Oil	3.41	3.49	3.43	3.47	3.61	3.78	3.95	4.03	3.91
Refined Products	1.82	1.94	2.01	1.80	2.05	2.32	2.01	2.40	2.32
Total Imports	5.23	5.43	5.43	5.27	5.66	6.10	5.96	6.43	6.23
Exports									
Crude Oil	0.15	0.18	0.18	0.23	0.13	0.15	0.14	0.11	0.13
Refined Products	0.49	0.63	0.94	0.50	0.49	0.54	0.53	0.50	0.53
Total Exports	0.64	0.81	0.72	0.73	0.62	0.69	0.71	0.61	0.67
Net Imports (incl. SPR)	4.59	4.62	4.72	4.54	5.04	5.40	5.30	5.82	5.57
Primary Stock Levels² (million barrels)									
Opening	1088.84	1081.71	1074.55	1105.72	997.71	1027.45	1070.52	1105.72	1078.01
Closing	1081.71	1105.72	1105.72	997.71	1027.45	1070.52	1078.01	1045.66	1078.01
Net Withdrawals (million barrels per day).....	0.08	-0.26	-0.09	1.20	-0.33	-0.47	-0.08	0.08	0.02
SPR Fill Rate Additions³ (million barrels per day).....	-0.19	-0.21	-0.20	-0.12	-0.16	-0.14	0.00	0.00	0.00
Total Primary Supply	15.61	15.34	15.54	15.67	15.11	15.53	16.51	16.74	16.77
Product Supplied									
Motor Gasoline	6.84	6.69	6.69	6.49	6.97	7.01	6.87	6.78	7.20
Distillate Fuel Oil	2.57	2.82	2.84	3.28	2.57	3.29	2.96	3.49	3.25
Residual Fuel Oil	1.21	1.20	1.37	1.36	1.00	1.23	1.17	1.53	1.25
Other Products ³	5.01	4.83	4.82	4.68	4.99	4.97	4.82	4.93	5.07
Total Product Supplied	15.62	15.54	15.73	15.81	15.40	16.51	16.46	16.63	16.77
Unaccounted for	-0.01	-0.20	-0.18	-0.13	0.00	0.00	0.00	0.00	0.00
Total Disposition	15.61	15.34	15.54	15.67	15.11	16.51	16.46	16.63	16.77

SPR = Strategic Petroleum Reserve.
¹Lower 48 States and southern Alaska.
²Excludes crude oil for the Strategic Petroleum Reserve (SPR).
³Includes reclassified petroleum products.

Note: Minor discrepancies with other EIA published historical data are due to rounding.
Sources: Historical data: Energy Information Administration, *Petroleum Supply Annual*, 1984, DOE/EIA-0340(04)/1;
Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; and June data, *Weekly Petroleum Status Report*,
DOE/EIA-9208(85-27).

**Table 8. Quarterly Supply and Disposition of Petroleum: Low Economic Growth Case
(Million Barrels per Day, Except Stocks)**

	History				Projections				
	1984		1985		1986		1986		
	3rd	4th	Year	1st	2nd	3rd	4th	Year	
Supply									
Production									
Crude Oil	8.89	8.93	8.88	8.93	8.89	8.90	8.92	8.90	8.91
Alaska, North Slope	1.67	1.69	1.64	1.73	1.75	1.79	1.79	1.79	1.79
Subarctic ¹	7.23	7.24	7.22	7.20	7.14	7.11	7.14	7.11	7.12
Natural Gas Liquids	1.64	1.66	1.63	1.63	1.61	1.63	1.63	1.61	1.66
Other Domestic	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.04
Processing Gain	0.55	0.57	0.55	0.43	0.54	0.54	0.53	0.54	0.53
Total Production	11.13	11.19	11.11	11.03	11.09	11.16	11.20	11.09	11.15
Imports (including SPR)									
Crude Oil	3.41	3.49	3.43	2.56	3.37	3.18	2.75	3.24	3.09
Refined Products	1.82	1.94	2.01	1.78	1.90	2.01	1.86	1.64	1.71
Total Imports	5.23	5.43	5.43	4.34	5.27	5.20	4.61	4.87	4.80
Exports									
Crude Oil	0.15	0.18	0.18	0.18	0.13	0.15	0.16	0.11	0.13
Refined Products	0.49	0.63	0.54	0.59	0.49	0.54	0.55	0.50	0.53
Total Exports	0.64	0.81	0.72	0.78	0.62	0.69	0.71	0.61	0.67
Net Imports (incl. SPR)	4.59	4.62	4.72	3.56	4.65	4.50	3.90	4.26	4.13
Primary Stock Levels ² (million barrels)									
Opening	1088.84	1081.71	1074.55	1105.72	997.71	1027.45	1055.89	1010.53	1024.65
Closing	1081.71	1105.72	1105.72	997.71	1027.45	1055.89	1010.53	1024.65	1044.36
Net Withdrawals (million barrels per day)...	0.08	-0.26	-0.09	1.20	-0.33	0.05	0.14	-0.16	-0.35
SPR Fill Rate Additions(-) (million barrels per day).....	-0.19	-0.21	-0.20	-0.12	-0.16	0.00	0.00	0.00	0.00
Total Primary Supply	15.61	15.34	15.54	15.67	15.11	15.72	15.61	15.01	15.31
Product Supplied									
Motor Gasoline	6.84	6.69	6.69	6.49	7.00	6.64	6.27	6.74	6.57
Distillate Fuel Oil	2.57	2.82	2.84	3.28	2.69	3.12	3.25	2.81	3.17
Residual Fuel Oil	1.21	1.20	1.37	1.36	1.09	1.11	1.37	0.97	1.06
Other Products ³	5.01	4.83	4.82	4.68	4.62	4.85	4.72	4.51	4.80
Total Product Supplied	15.62	15.54	15.73	15.81	15.40	15.72	15.61	15.02	15.59
Unaccounted for	-0.01	-0.20	-0.18	-0.13	-0.30	0.00	0.00	0.00	0.00
Total Disposition	15.61	15.34	15.54	15.67	15.11	15.72	15.61	15.02	15.59

SPR = Strategic Petroleum Reserve.
¹Lower 48 States and southern Alaska.
²Excludes crude oil for the Strategic Petroleum Reserve (SPR).
³Includes reclassified petroleum products.
 Note: Minor discrepancies with other EIA published historical data are due to rounding.
 Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1; Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; and June data, Weekly Petroleum Status Report, DOE/EIA-0208(85-27).

**Table 9. Quarterly Supply and Disposition of Motor Gasoline: Base Case
(Million Barrels per Day, Except Stocks)**

	History				Projections								
	1984		1985		1986		1986						
	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	Year	Year	
Supply													
Domestic Production ¹	6.46	6.52	6.45	5.94	6.53	6.49	6.38	6.34	6.06	6.53	6.39	6.36	6.36
Imports	0.28	0.30	0.30	0.34	0.45	0.40	0.42	0.40	0.38	0.39	0.42	0.39	0.39
Exports	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Net Imports	0.27	0.29	0.29	0.34	0.45	0.39	0.42	0.40	0.37	0.38	0.42	0.38	0.38
Primary Finished Stock Levels² (million barrels)													
Opening	204.14	194.10	185.50	205.19	186.38	184.33	182.93	205.19	188.89	184.38	183.49	188.89	188.89
Closing	194.10	205.19	205.19	186.38	184.33	182.93	188.89	188.89	192.45	184.38	187.89	187.89	187.89
Net Withdrawals (million barrels per day)...	0.11	-0.12	-0.05	0.21	0.02	0.02	-0.06	0.04	-0.04	0.09	-0.05	0.00	0.00
Total Primary Supply	6.84	6.69	6.69	6.49	7.00	6.89	6.73	6.78	6.39	6.90	6.76	6.74	6.74
Disposition													
Leaded	2.73	2.53	2.71	2.41	2.54	2.36	2.20	2.38	1.98	2.02	1.74	1.91	1.91
Unleaded	4.11	4.17	3.99	4.09	4.46	4.53	4.54	4.41	4.41	4.88	5.02	4.83	4.83
Total Product Supplied	6.84	6.69	6.69	6.49	7.00	6.89	6.73	6.78	6.39	6.90	6.76	6.74	6.74
Unaccounted for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Disposition	6.84	6.69	6.69	6.49	7.00	6.89	6.73	6.78	6.39	6.90	6.76	6.74	6.74

¹Refinery production plus production at natural gas processing plants.
²Includes stocks at natural gas processing plants. Excludes stocks of reclassified motor gasoline blending components.

Note: Minor discrepancies with other EIA published historical data are due to rounding.
Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1; Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; and June data, Weekly Petroleum Status Report, DOE/EIA-0208(85-27).

Table 10. Quarterly Supply and Disposition of Distillate Fuel Oil: Base Case
(Million Barrels per Day, Except Stocks)

	History				Projections									
	1984				1985				1986					
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year	
Supply														
Refinery Output	2.70	2.77	2.68	2.45	2.60	2.74	2.85	2.66	2.82	2.74	2.86	2.96	2.85	
Imports	0.25	0.31	0.27	0.19	0.23	0.28	0.29	0.25	0.25	0.23	0.27	0.29	0.26	
Exports	0.05	0.06	0.05	0.05	0.03	0.03	0.04	0.04	0.05	0.03	0.03	0.04	0.04	
Net Imports	0.20	0.24	0.22	0.14	0.20	0.24	0.25	0.21	0.19	0.20	0.24	0.25	0.22	
Primary Stock Levels (million barrels)														
Opening	112.85	142.94	140.26	161.07	99.38	109.23	150.08	161.07	142.86	113.64	114.13	151.94	142.86	
Closing	142.94	161.07	161.07	99.38	109.23	150.08	142.86	142.86	113.64	114.13	151.94	142.11	142.11	
Net Withdrawals (million barrels per day)...	-0.33	-0.20	-0.06	0.69	-0.11	-0.44	0.08	0.05	0.32	-0.01	-0.41	0.11	0.00	
Total Primary Supply	2.57	2.82	2.84	3.28	2.69	2.54	3.18	2.92	3.34	2.93	2.68	3.32	3.07	
Product Supplied														
Nonutility Shipments	2.54	2.78	2.80	3.24	2.66	2.50	3.13	2.88	3.29	2.90	2.65	3.28	3.03	
Electric Utility Shipments	0.03	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.05	0.03	0.03	0.04	0.04	
Total Product Supplied	2.57	2.82	2.84	3.28	2.69	2.54	3.18	2.92	3.34	2.93	2.68	3.32	3.07	
Electric Utility Consumption Electric Utility Stock Levels (million barrels)	0.04	0.04	0.04	0.05	0.03	0.04	0.04	0.04	0.05	0.03	0.04	0.04	0.04	
Opening	19.81	18.92	18.80	19.12	17.80	17.66	17.22	19.12	17.49	17.41	17.61	17.16	17.49	
Closing	18.92	19.12	19.12	17.80	17.66	17.22	17.49	17.49	17.41	17.61	17.16	17.38	17.38	
Net Additions (million barrels per day)...	-0.01	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00	
Electric Utility Discrepancy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Unaccounted for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Disposition	2.57	2.82	2.84	3.28	2.69	2.54	3.18	2.92	3.34	2.93	2.68	3.32	3.07	

Note: Minor discrepancies with other EIA published historical data are due to rounding.
Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1; the Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; the Monthly Energy Review, DOE/EIA-0035(85/04); the Electric Power Monthly, DOE/EIA-0226(85/05); and June data, Weekly Petroleum Status Report, DOE/EIA-0208(85-27).

**Table 11. Quarterly Supply and Disposition of Residual Fuel Oil: Base Case
(Million Barrels per Day, Except Stocks)**

	History						Projections						
	1984			1985			1986						
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year
Supply													
Refinery Output	0.81	0.96	0.89	0.99	0.79	0.76	0.84	0.85	1.06	0.90	0.75	0.83	0.88
Imports	0.59	0.56	0.68	0.57	0.41	0.42	0.50	0.48	0.58	0.32	0.38	0.49	0.44
Exports	0.19	0.25	0.19	0.27	0.17	0.16	0.20	0.20	0.19	0.18	0.16	0.20	0.18
Net Imports	0.40	0.30	0.49	0.29	0.24	0.27	0.30	0.28	0.39	0.14	0.22	0.29	0.26
Primary Stock Levels (million barrels)													
Opening	46.88	46.84	48.50	53.00	46.30	40.50	45.78	53.00	45.01	46.39	46.39	47.85	45.01
Closing	46.84	53.00	53.00	46.30	40.50	45.78	45.01	45.01	46.39	46.39	47.85	46.00	46.00
Net Withdrawals (million barrels per day)...	0.00	-0.07	-0.01	0.07	0.06	-0.06	0.01	0.02	-0.02	0.00	-0.02	0.02	-0.00
Total Primary Supply	1.21	1.20	1.37	1.36	1.09	0.97	1.15	1.14	1.43	1.04	0.96	1.14	1.14
Product Supplied													
Nonutility Shipments	0.68	0.76	0.86	0.93	0.80	0.57	0.73	0.75	0.95	0.74	0.62	0.77	0.77
Electric Utility Shipments	0.52	0.44	0.51	0.43	0.29	0.41	0.42	0.39	0.48	0.30	0.34	0.37	0.37
Total Product Supplied	1.21	1.20	1.37	1.36	1.09	0.97	1.15	1.14	1.43	1.04	0.96	1.14	1.14
Electric Utility Consumption	0.53	0.43	0.52	0.50	0.34	0.40	0.41	0.41	0.50	0.30	0.36	0.37	0.38
Electric Utility Stock Levels (million barrels)													
Opening	68.10	67.37	70.57	68.50	62.56	58.67	59.60	68.50	61.15	59.13	59.24	57.78	61.15
Closing	67.37	68.50	68.50	62.56	58.67	59.60	61.15	61.15	59.13	59.24	57.78	57.72	57.72
Net Additions (million barrels per day)...	-0.01	0.01	-0.01	-0.07	-0.04	0.01	0.02	-0.02	-0.02	0.00	-0.02	-0.00	-0.01
Electric Utility Discrepancy	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unaccounted for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Disposition	1.21	1.20	1.37	1.36	1.09	0.97	1.15	1.14	1.43	1.04	0.96	1.14	1.14

Note: Minor discrepancies with other EIA published historical data are due to rounding.
Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1; the Petroleum Supply Monthly, DOE/EIA-0109, Jan. 1985 to May 1985; the Monthly Energy Review, DOE/EIA-0035(85/04); the Electric Power Monthly, DOE/EIA-0226(85/05); and June data, Weekly Petroleum Status Report, DOE/EIA-0208(85-27).

**Table 12. Quarterly Supply and Disposition of Other Petroleum Products: Base Case
(Million Barrels per Day, Except Stocks)**

	History						Projections						
	1984			1985			1986						
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year
Supply													
Net Refinery Output ^b	2.81	2.26	2.57	2.47	2.64	2.75	2.42	2.57	2.37	2.53	2.78	2.37	2.51
Natural Gas Plant Output	1.64	1.66	1.63	1.63	1.60	1.61	1.69	1.63	1.73	1.64	1.61	1.69	1.67
Other Domestic ^c	0.05	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.04	0.05	0.05	0.04	0.04
Net Imports	0.45	0.46	0.47	0.41	0.42	0.51	0.57	0.48	0.56	0.47	0.55	0.60	0.54
Primary Stocks (million barrels)													
Opening	372.12	372.62	356.43	341.08	336.56	349.92	351.67	341.08	342.77	340.19	351.69	355.63	342.77
Closing	372.62	341.08	341.08	336.56	349.92	351.67	342.77	342.77	340.19	351.69	355.63	336.21	336.21
Net Withdrawals	-0.01	0.34	0.04	0.05	-0.15	-0.02	0.10	-0.00	0.03	-0.13	-0.04	0.21	0.02
(million barrels per day)													
Total Primary Supply ...	4.94	4.76	4.76	4.61	4.55	4.90	4.83	4.72	4.72	4.56	4.95	4.91	4.79
Product Supplied													
Jet Fuel	1.21	1.21	1.18	1.16	1.16	1.19	1.17	1.17	1.20	1.16	1.21	1.19	1.19
Liquefied Petroleum Gases ^d	0.88	1.09	0.98	1.21	0.81	0.89	1.12	1.01	1.23	0.83	0.89	1.13	1.02
Petrochemical Feedstocks ^e	0.95	0.85	0.95	0.92	0.93	0.93	0.93	0.93	0.94	0.95	0.96	0.97	0.95
Miscellaneous ^f	1.90	1.61	1.64	1.32	1.65	1.90	1.60	1.62	1.35	1.62	1.89	1.62	1.63
Total Product Supplied	4.94	4.76	4.76	4.61	4.55	4.90	4.83	4.72	4.72	4.56	4.95	4.91	4.79
Unaccounted for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Disposition	4.94	4.76	4.76	4.61	4.55	4.90	4.83	4.72	4.72	4.56	4.95	4.91	4.79

^aExcludes crude oil product supplied and other components of the crude oil supply/demand balance, all of which are accounted for under the total petroleum supply and disposition table.

^bIncludes refinery production of all other products less natural gas liquids, LRG's, and "other liquids" input to refineries.

^cField production of other hydrocarbons and alcohol.

^dIncludes propane, normal butane, and isobutane.

^eIncludes ethane plus naphtha and other oils designated for petrochemical feedstock use.

^fIncludes all petroleum products supplied except motor gasoline, distillate, residual fuel, liquefied petroleum gases, petrochemical feedstocks, and jet fuel.

Sources: Historical data: Energy Information Administration, Petroleum Supply Annual, 1984, DOE/EIA-0340(84)/1, Petroleum Supply Monthly, DOE/EIA-0109(85/05), and Weekly Petroleum Status Report, DOE/EIA-0208(85-28). Data for June 1985 are preliminary.

**Table 13. Petroleum Demand Sensitivity Differentials
(Million Barrels per Day)**

Sensitivities	1985			1986				
	3rd	4th	Year	1st	2nd	3rd	4th	Year
Demand in 50 States								
Low Price	15.49	16.37	15.72	16.50	16.15	16.27	16.87	16.45
Base Case	15.37	15.96	15.63	15.94	15.49	15.57	16.19	15.80
High Price	15.31	15.85	15.54	15.82	15.35	15.45	16.05	15.67
Weather Sensitivity								
Adverse Weather	0.00	0.19	0.05	0.31	0.01	0.00	0.19	0.13
Favorable Weather	-0.00	-0.20	-0.05	-0.32	-0.02	-0.00	-0.20	-0.13
Economic Sensitivity								
High Economic Activity	0.05	0.13	0.05	0.21	0.29	0.34	0.37	0.30
Low Economic Activity	-0.05	-0.13	-0.05	-0.21	-0.32	-0.41	-0.36	-0.33
Combined Sensitivity Differentials ^a (excl. price)								
Upper Range	0.05	0.23	0.07	0.37	0.29	0.34	0.42	0.36
Lower Range	0.05	0.24	0.07	0.38	0.32	0.41	0.41	-0.38
Range of Projected Demand								
High Demand ^b	15.54	16.60	15.79	16.87	16.44	16.61	17.29	16.80
Low Demand ^c	15.26	15.61	15.47	15.44	15.03	15.04	15.64	15.29

^aThe upper range of the differentials is calculated by taking the square root of the sum of the squared adverse weather and high economic activity sensitivities. The lower range of differentials is calculated by taking the square root of the sum of the squared favorable weather and low economic activity sensitivities.

^bLow Price demand plus the combined effects of adverse weather and high economic activity.

^cHigh Price demand less the combined effects of favorable weather and low economic activity.

Table 14. Quarterly Supply and Disposition of Natural Gas
(Trillion Cubic Feet)

	History				Projections									
	1984				1985				1986					
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year	
Supply														
Total Dry Gas Production ¹	4.17	4.35	17.23	4.38	4.20	4.10	4.54	17.22	4.41	4.19	4.10	4.54	17.24	
Net Imports of Dry Gas	0.16	0.23	0.88	0.28	0.20	0.20	0.26	0.95	0.29	0.22	0.21	0.27	1.00	
Net Imports of LNG	-0.01	-0.00	-0.02	-0.00	-0.00	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	
Supplemental Gaseous Fuels	0.03	0.04	0.14	0.04	0.04	0.03	0.04	0.15	0.04	0.03	0.03	0.04	0.15	
Total New Supply	4.35	4.61	18.15	4.70	4.44	4.33	4.84	18.30	4.74	4.44	4.33	4.85	18.36	
Underground Working Gas Storage														
Opening	2.14	3.00	2.60	2.88	1.75	2.35	3.18	2.88	2.90	1.77	2.35	3.18	2.90	
Closing	3.00	2.88	2.88	1.75	2.35	3.18	2.90	2.90	1.77	2.35	3.18	2.92	2.92	
Net Withdrawals ²	-0.85	0.16	-0.21	1.13	-0.61	-0.83	0.28	-0.02	1.13	-0.58	-0.83	0.26	-0.02	
Total Primary Supply ¹	3.49	4.77	17.94	5.83	3.83	3.50	5.12	18.28	5.87	3.86	3.51	5.10	18.34	
Consumption														
Electric Utilities	0.99	0.73	3.11	0.63	0.71	0.98	0.70	3.02	0.60	0.74	0.88	0.61	2.83	
Refinery Fuel	0.15	0.14	0.57	0.13	0.14	0.15	0.15	0.57	0.14	0.15	0.15	0.15	0.59	
All Other Uses ³	2.29	3.82	13.96	4.98	2.92	2.30	4.15	14.35	5.02	2.87	2.38	4.24	14.52	
Subtotal	3.42	4.70	17.64	5.75	3.78	3.43	4.99	17.95	5.77	3.76	3.41	5.00	17.94	
Unaccounted for	0.07	0.07	0.30	0.08	0.06	0.07	0.13	0.33	0.10	0.10	0.10	0.10	0.40	
Total Disposition	3.49	4.73	17.94	5.83	3.83	3.50	5.12	18.28	5.87	3.86	3.51	5.10	18.34	

LNG=Liquefied Natural Gas.

¹Excludes nonhydrocarbon gases removed.

²Net withdrawals may vary from the difference between opening and closing stocks of gas in working gas storage due to book transfers between base and working gas categories, and other storage operator revisions of working gas inventories.

³Includes residential, commercial, and industrial uses other than for refinery fuel, plus use of supplemental gas.

Note: Minor discrepancies with other EIA published historical data are due to rounding.

Sources: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04); Natural Gas Monthly, DOE/EIA-0130(85/05); and Electric Power Monthly, DOE/EIA-0226(85/05).

**Table 16. Quarterly Supply and Disposition of Electricity
(Billion Kilowatthours)**

	History					Projections							
	1984			1985		1985			1986				
	3rd	4th	Year	1st	2nd ³	3rd	4th	Year	1st	2nd	3rd	4th	Year
Generation													
Coal	357.7	334.2	1341.7	352.3	339.5	379.2	348.2	1419.3	362.6	345.5	379.8	350.7	1438.6
Petroleum	30.9	25.0	119.8	28.5	19.2	23.2	23.8	94.7	28.5	17.3	20.9	21.4	88.0
Natural Gas	94.5	70.4	297.4	61.2	68.2	93.7	66.6	289.7	57.4	70.3	84.2	58.4	270.3
Nuclear Power	86.9	80.2	327.6	98.0	83.6	98.3	93.8	373.7	100.1	94.6	114.3	110.5	419.5
Hydropower	73.5	69.0	321.2	78.0	75.2	64.2	66.2	283.6	78.0	81.5	69.6	68.5	297.6
Geothermal Power and Other ¹ ...	2.2	2.5	8.6	2.6	2.3	2.4	2.4	9.8	2.4	2.3	2.6	2.6	10.0
Total Generation	645.7	581.3	2416.3	620.6	588.0	661.1	601.1	2470.6	629.0	611.5	671.3	612.1	2524.0
Net Imports	11.6	10.3	39.7	9.5	8.8	11.4	11.2	41.0	10.1	9.4	12.2	12.3	44.0
Total Supply	657.4	591.6	2456.0	630.1	596.8	672.5	612.3	2511.6	639.2	620.9	683.5	624.4	2568.0
T & D Loss²	46.9	45.0	177.6	42.7	39.7	52.3	46.4	181.1	37.0	36.3	59.9	54.9	188.1
Total Consumption (sales) ..	610.5	546.6	2278.4	587.3	557.1	620.2	565.9	2330.5	602.2	584.6	623.7	569.5	2379.9

¹Includes wind, wood, and waste.

²Transmission and distribution losses through the power network, calculated as total supply minus total sales.

³Estimated second quarter 1985 data.

Note: Minor discrepancies with other EIA published historical data are due to rounding.

Source: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04); and Electric Power Monthly, DOE/EIA-0226(85/05).

**Table 17. Quarterly Supply and Disposition of Total Energy
(Quadrillion Btu)**

	History						Projections						
	1984			1985			1986			1986			
	3rd	4th	Year	1st	2nd	3rd	4th	Year	1st	2nd	3rd	4th	Year
Supply													
Production													
Petroleum ¹	5.34	5.37	21.21	5.24	5.29	5.33	5.37	21.22	5.27	5.30	5.34	5.36	21.27
Natural Gas ²	4.30	4.48	17.77	4.51	4.33	4.23	4.68	17.75	4.55	4.32	4.23	4.68	17.78
Coal	5.37	4.33	19.69	4.72	4.98	4.85	5.15	19.78	5.05	5.20	4.87	5.16	20.27
Nuclear Power	0.95	0.87	3.57	1.07	0.91	1.07	1.02	4.08	1.09	1.03	1.25	1.21	4.57
Hydropower ³	0.78	0.73	3.39	0.82	0.79	0.68	0.70	2.99	0.82	0.86	0.73	0.72	3.14
Geothermal Power and Other ⁴	0.05	0.05	0.18	0.06	0.05	0.05	0.05	0.21	0.05	0.05	0.06	0.06	0.21
Subtotal	16.78	15.83	65.81	16.43	16.35	16.21	16.97	65.95	16.83	16.76	16.47	17.18	67.24
Net Imports													
Crude Oil	1.75	1.77	6.91	1.24	1.72	1.83	1.73	6.52	1.50	1.73	1.84	1.76	6.83
Other Petroleum	0.68	0.66	2.99	0.59	0.66	0.69	0.76	2.78	0.74	0.58	0.68	0.76	2.75
Natural Gas (Dry)	0.17	0.24	0.82	0.29	0.21	0.21	0.27	0.97	0.30	0.23	0.22	0.28	1.02
Liquefied Natural Gas	-0.01	-0.00	-0.02	-0.00	-0.00	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01
Coal and Coke	-0.66	-0.46	-2.14	-0.48	-0.49	-0.52	-0.48	-1.97	-0.39	-0.46	-0.53	-0.48	-1.87
Electricity	0.12	0.11	0.41	0.10	0.09	0.12	0.12	0.43	0.11	0.10	0.13	0.13	0.46
Subtotal	2.04	2.32	8.99	1.74	2.18	2.32	2.40	8.64	2.25	2.17	2.33	2.43	9.19
Primary Stocks													
Net Withdrawals	-0.81	-0.16	-0.47	1.69	-0.74	-0.97	0.32	0.30	1.35	-0.65	-1.02	0.36	0.04
SPR Fill Rate Additions(-)	-0.10	-0.11	-0.41	-0.06	-0.09	-0.07	0.00	-0.22	0.00	0.00	0.00	0.00	0.00
Secondary Stocks⁵													
Net Withdrawals	-0.30	0.25	-0.61	0.44	-0.19	0.39	-0.18	0.45	0.02	-0.30	0.44	-0.12	0.04
Total Supply⁶	17.62	18.13	73.31	20.23	17.52	17.87	19.50	75.12	20.45	17.98	18.23	19.86	76.51
Consumption													
Nonutility Uses													
Petroleum	7.46	7.46	29.84	7.39	7.41	7.38	7.66	29.84	7.46	7.45	7.53	7.82	30.26
Natural Gas	2.51	4.09	14.98	5.28	3.16	2.52	4.42	15.38	5.33	3.11	2.61	4.53	15.58
Coal	0.74	0.77	3.08	0.78	0.78	0.76	0.84	3.16	0.87	0.78	0.79	0.86	3.30
Subtotal	10.71	12.32	47.90	13.45	11.34	10.66	12.92	48.37	13.66	11.35	10.93	13.21	49.15
Electric Utility Inputs													
Petroleum	0.33	0.27	1.29	0.31	0.21	0.25	0.26	1.03	0.31	0.19	0.23	0.23	0.96
Natural Gas	1.02	0.75	3.20	0.65	0.73	1.01	0.72	3.11	0.62	0.76	0.91	0.63	2.92
Coal	3.77	3.51	14.89	3.69	3.53	3.98	3.66	14.86	3.81	3.63	3.99	3.69	15.12
Nuclear Power	0.95	0.87	3.57	1.07	0.91	1.07	1.02	4.08	1.09	1.03	1.25	1.21	4.57
Hydropower ⁶	0.88	0.83	3.78	0.92	0.89	0.80	0.81	3.42	0.93	0.96	0.86	0.85	3.60
Geothermal Power and Other ⁷	0.05	0.05	0.18	0.06	0.05	0.05	0.05	0.21	0.05	0.05	0.06	0.06	0.21
Subtotal	7.00	6.30	26.11	6.70	6.32	7.17	6.53	26.71	6.81	6.62	7.29	6.66	27.38
Gross Energy Consumption⁸	17.71	18.62	74.02	20.14	17.67	17.83	19.45	75.08	20.47	17.97	18.22	19.87	76.53
Electric Utility Adjustments													
Conversion Loss ⁹	4.93	4.43	18.36	4.69	4.42	5.05	4.59	18.75	4.76	4.62	5.16	4.71	19.25
Total Net Energy	12.78	14.19	55.64	15.45	13.25	12.78	14.86	56.33	15.72	13.35	13.06	15.16	57.28
Unaccounted for	-0.11	-0.49	-0.71	0.09	-0.15	0.04	0.05	0.04	-0.02	0.02	0.01	-0.01	-0.02
Total Disposition	17.62	18.13	73.31	20.23	17.52	17.87	19.50	75.12	20.45	17.98	18.23	19.86	76.51

SPR = Strategic Petroleum Reserve.

¹Includes crude oil and lease condensate, natural gas liquids, hydrogen, etc., input to oil refineries.

²Total dry gas production excluding nonhydrocarbon gases removed.

³Includes industrial production.

⁴Includes wood and waste used to generate electricity.

⁵Primarily electric utility stocks.

⁶This total excludes approximately 2 quadrillion Btu of wood.

⁷Includes natural gas used as refinery fuel.

⁸Includes industrial hydroelectric production and net imports of electricity.

⁹Includes plant use and T & D losses.

Note: The conversion from physical units to Btu is calculated by STIFS using a subset of Monthly Energy Review conversion factors. Consequently, the historical data will not precisely match that published in the Monthly Energy Review. In addition, minor discrepancies with EIA published historical data are due to rounding.

Source: Historical data: Energy Information Administration, Monthly Energy Review, DOE/EIA-0035(85/04); and Electric Power Monthly, DOE/EIA-0226(85/05).

Forecast Conversion Factors Used in STIFS

Most of the conversion factors used by the Short-Term Integrated Forecasting System (STIFS) are the 1984 EIA standard conversion factors (found in the Monthly Energy Review). Special factors used in STIFS are derived from data in the Monthly Energy Review or from energy data reports such as the Petroleum Supply Monthly.

Product Identification	Unit	Btu/Unit
A. Thermal Content of Fuels and Energy		
Crude Oil Production	barrel	5,800,000
Crude Oil Imports	barrel	5,823,000
Unfinished Oils	barrel	5,825,000
Total Petroleum Consumed	barrel	5,393,000
Total Petroleum Imports	barrel	5,659,000
Total Petroleum Exports	barrel	5,871,000
Motor Gasoline	barrel	5,253,000
Jet Fuel	barrel	5,608,000
Distillate Fuel Oil	barrel	5,825,000
Refinery Fuel (liquids)	barrel	5,595,000
All Refinery Inputs	barrel	5,769,000
Residual Fuel Oil	barrel	6,287,000
LPG and LRG	barrel	3,599,000
Ethane	barrel	3,082,000
Natural Gas Liquids (production)	barrel	3,960,000
Natural Gas Consumption (dry)	cubic foot	1,031
Natural Gas Production (dry)	cubic foot	1,031
Natural Gas Imports	cubic foot	1,024
Natural Gas Exports	cubic foot	1,010
Supplemental Gaseous Fuel	cubic foot	1,031
Natural Gas Refinery Fuel	cubic foot	1,031
Natural Gas to Utilities	cubic foot	1,030
Bituminous Coal and Lignite Prod.	short ton	22,122,000
Bituminous Coal & Lignite Consumed	short ton	21,698,000
Coal to Electric Utilities	short ton	21,213,000
General Industry and Retail Coal	short ton	22,763,000
Coking Coal	short ton	26,800,000
Coke	short ton	24,800,000
Bituminous Coal and Lignite Imports	short ton	25,000,000
Bituminous Coal and Lignite Exports	short ton	26,445,000
B. Efficiency of Conversion Processes		
1. Electric Power Generation Fuel or Power Source:		
		Btu/kWh (heat rate)
Coal		10,508
Crude Oil		10,724
Distillate Fuel Oil		13,501
Residual Fuel Oil		10,720
Geothermal and Other Energy		21,303
Nuclear Energy		10,905
Natural Gas		10,796
Hydropower		10,445
2. Other Conversion Processes		
		Btu Out/Btu In
Coke		0.69
Synthetic Gas		0.95

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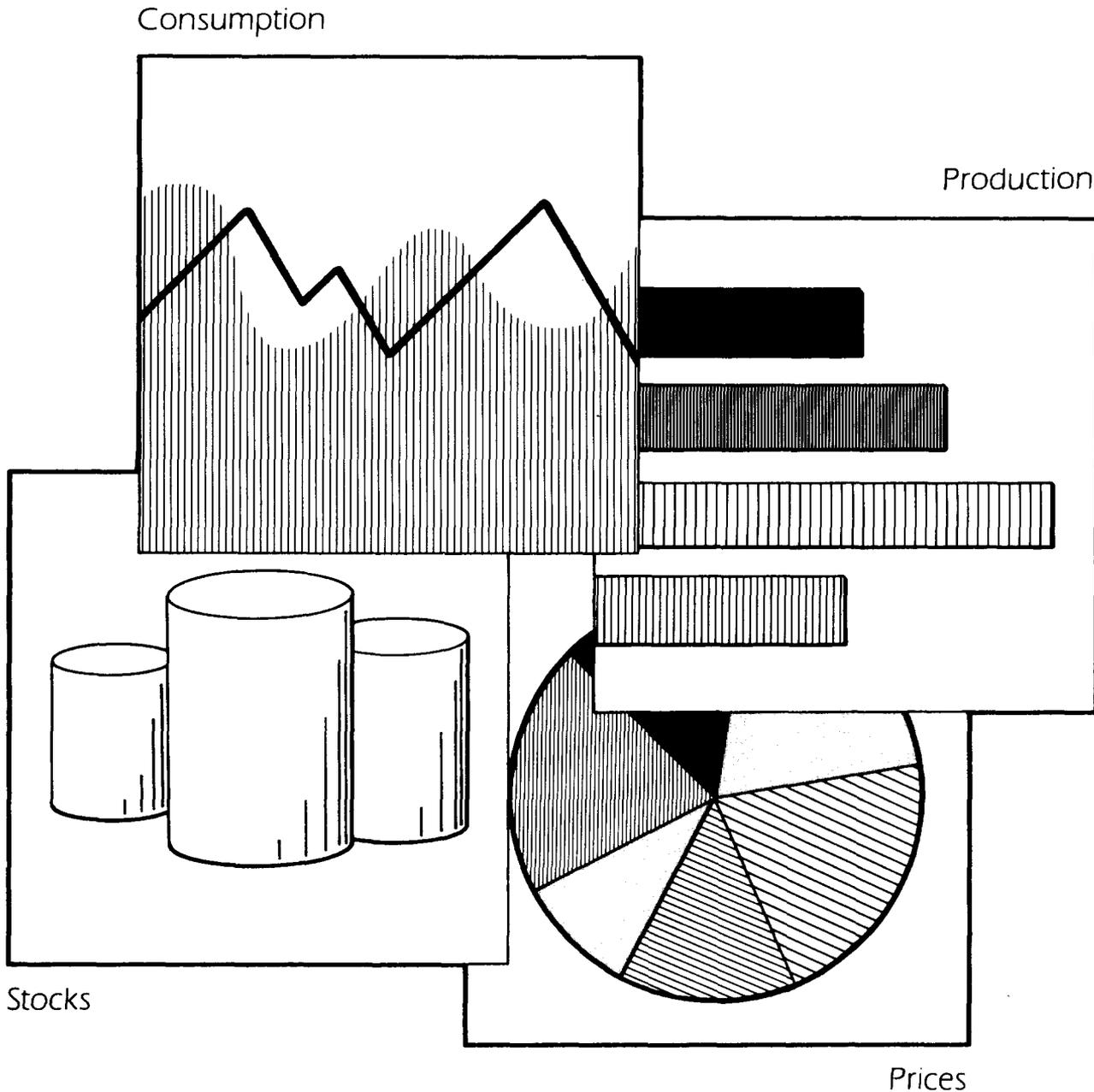
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