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Short-Term Energy Outlook

Quarterly Projections

Second Quarter 1997

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The Energy Information Administration (EIA) prepares quarterly short-term energy supply, demand, and price projections for publication in January, April, July, and October in the *Outlook*.

The forecast period for this issue of the *Outlook* extends from the second quarter of 1997 through the fourth quarter of 1998. Values for the first quarter of 1997, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in EIA's *Weekly Petroleum Status Report*) or are calculated from model simulations that use the latest exogenous information available (for example, electricity sales and generation are simulated by using actual weather data). The historical energy data, compiled in the second quarter 1997 version of the Short-Term Integrated Forecasting System (STIFS) database, are mostly EIA data regularly published in the *Monthly Energy Review, Petroleum Supply Monthly*, and other EIA publications. Minor discrepancies between the data in these publications and the historical data in this *Outlook* are due to independent rounding. The STIFS database is archived quarterly and is available from the National Technical Information Service.

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

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Average retail gasoline prices (an average of all grades, all services) this summer are projected to be 1 to 2 cents per gallon below the 1996 summer average. Gasoline prices are expected to fall slightly this summer because crude oil prices (as represented by the U.S. refiner acquisition cost of imported oil) are expected to be below the average seen during the 1996 driving season.

. . . While Gasoline Demand Looks Up

Gasoline demand is expected to be up 1.8 percent this summer, in contrast to the rather paltry 0.7-percent growth rate seen last year. This development would yield the highest summer demand level ever (8.14 million barrels per day) and is reflective of the trend toward steadily higher domestic gasoline use that has been evident since 1991.

Crude Oil Prices Expected to Stabilize: World Demand Growth Should Balance Expected Additions to Supply

World oil prices (as represented by the average U.S. refiner cost of imported oil), already sharply reduced from high midwinter levels, are expected to generally remain below 1996 levels for the rest of 1997. Nevertheless, significant additional declines from the current price average (estimated at $19.75 per barrel in March) are not anticipated. Continued world-wide economic growth in 1997 and 1998, matched by increases in oil production, should lead prices that remain relatively stable (in the $19- to $20-per-barrel range) over the next 7 quarters.

Gas Wellhead Prices to Decline Moderately from High 1996 Levels

The average natural gas wellhead price in 1996 increased by 45 percent over 1995 prices. In 1997, the average annual wellhead price is projected to remain near 1996 levels, if the weather is normal. Except for the high prices at the beginning of this year, however, 1997 is generally a down year for gas prices. Average gas prices should decline moderately in 1998, although this mostly depends on an uneventful winter next year. As the experience of both of the previous winters has shown, sharp changes in the weather, particularly cold weather this spring, could once more decrease gas in storage and propel spot prices to elevated levels.

Electricity Demand to Grow More Slowly in 1997 and 1998

In 1997, electricity demand is expected to grow at a slower pace than it did in 1996, as mild winter weather offsets the effect of solid economic growth. In 1998, demand is expected to rise along with the economy.

Coal Production Continues to Rise to Meet Domestic and Export Demands

Coal production is expected to continue to grow during the forecast period, as production increases in the Western region offset declines in the Interior and Appalachian regions. U.S. electricity demand for coal and external demand for coal exports are the driving forces.

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

	Year				Annual Percentage Change		
	1995	1996	1997	1998	1995-1996	1996-1997	1997-1998
Real Gross Domestic Product (GDP) (billion chained 1992 dollars)	6743	6911	7105	7249	2.5	2.8	2.0
Imported Crude Oil Price [a] (nominal dollars per barrel)	17.15	20.58	20.00	19.97	20.0	-2.8	-0.2
Petroleum Supply **Crude Oil Production** [b] (million barrels per day)	6.56	6.47	6.33	6.12	-1.4	-2.2	-3.3
Total Petroleum Net Imports (including SPR) (million barrels per day)	7.89	8.42	8.84	9.17	6.7	5.0	3.7
Energy Demand							
World Petroleum (million barrels per day)	70.3	72.0	73.7	75.5	2.4	2.4	2.4
Petroleum (million barrels per day)	17.72	18.23	18.23	18.48	2.9	0.0	1.4
Natural Gas (trillion cubic feet)	21.58	21.99	22.25	23.23	1.9	1.2	4.4
Coal (million short tons)	959	1006	1019	1026	4.9	1.3	0.7
Electricity (billion kilowatthours) Utility Sales [c]	3009	3086	3119	3176	2.6	1.1	1.8
Nonutility Own Use [d]	158	162	166	169	2.5	2.5	1.8
Total	3167	3248	3285	3346	2.6	1.1	1.9
Adjusted Total Energy Demand [e] (quadrillion Btu)	90.6	93.4	93.8	95.6	3.2	0.4	1.9
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	13.43	13.52	13.20	13.18	0.7	-2.4	-0.2
Renewable Energy as Percent of Total	7.5	7.7	7.2	7.1			

[a]Refers to the refiner acquisition cost (RAC) of imported crude oil.

[b]Includes lease condensate.

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

[d]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1996 are estimates.

[e]The conversion from physical units to Btu is calculated by using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review* (*MER*). Consequently, the historical data may not precisely match those published in the *MER* or the *Annual Energy Review* (*AER*).

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Latest data available from Bureau of Economic Analysis and Energy Information Administration; latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Quarterly Coal Report*, DOE/EIA-0121; *International Petroleum Statistics Report* DOE/EIA-0520; *Weekly Petroleum Status Report* DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

Summer Outlook for Motor Gasoline
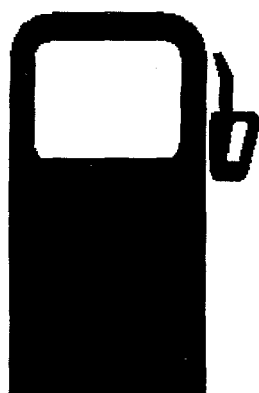
Average retail gasoline prices are projected to be lower this summer than last year due to lower crude oil costs. Meanwhile, motor gasoline demand is projected to increase by 1.8 percent to more than 8 million barrels per day for the first time. Supplies are expected to be adequate to meet the record demand, because growth in domestic gasoline output is expected to keep pace with the expanding market. Imports are expected to be similar to those of last year, while stocks are not expected to contribute to incremental supplies.

Due to projected lower crude oil costs, summer retail gasoline prices (an average of all grades, all services) are expected to decline (see Summary Table below and Figure 1). Crude oil prices are expected to average 47 cents per gallon, down about 2 cents from last summer's average. Wholesale and retail prices are also expected to average about 1-2 cents less than last year, despite continued demand growth and below-normal stocks.

Reflecting continued growth in the economy, long-term trends in the growth of the driving-age population, and declining prices, motor gasoline demand for the 1997 driving season is projected to climb 1.8 percent from that of last year to more

U.S. Motor Gasoline Summer Outlook: Mid World Oil Price Case

	1996			1997			Percent Change		
	Q2	Q3	Summer	Q2	Q3	Summer	Q2	Q3	Summer
Demand/Supply (million barrels per day)									
Total Demand	7.985	8.001	7.993	8.128	8.154	8.141	1.8%	1.9%	1.8%
Total Output [a]	7.628	7.692	7.660	7.784	7.869	7.827	2.0%	2.3%	2.2%
Net Stock Withdrawal	-0.016	0.046	0.015	-0.004	-0.003	-0.004	NM	NM	NM
Net Imports	0.373	0.264	0.318	0.348	0.289	0.318	-6.7%	9.6%	0.1%
Refinery Utilization (percent)	94.5%	94.8%	94.6%	96.2%	96.4%	96.3%			
Stocks (million barrels, ending period)									
Total Gasoline Stocks	204.6	200.4	200.4	196.2	196.5	196.5	-4.1%	-2.0%	-2.0%
Finished	165.0	161.4	161.4	156.6	155.7	155.7	-5.1%	-3.5%	-3.5%
Blending Components	39.7	39.1	39.1	39.6	40.8	40.8	-0.2%	4.4%	4.4%
Prices (cents per gallon)									
Imported Crude Oil Price [b]	47.9	49.3	48.6	48.0	45.6	46.8	0.2%	-7.4%	-3.7%
Wholesale Gasoline Price [c]	75.7	71.7	73.7	74.4	69.3	71.8	-1.7%	-3.3%	-2.5%
Retail Gasoline Price [d]	134.6	130.6	132.6	132.6	129.8	131.2	-1.4%	-0.6%	-1.0%
Market Indicators									
Real GDP (billion 1992 dollars)	6892.6	6928.4	6910.5	7090.0	7121.3	7105.6	2.9%	2.8%	2.8%
Real Income (bill. 1992 dollars)	5054.5	5114.6	5084.6	5241.3	5288.4	5264.8	3.7%	3.4%	3.5%
Industrial Output (index, 1987=1.0)	1.233	1.243	1.238	1.278	1.285	1.282	3.6%	3.4%	3.5%
Driving Age Population (millions)	204.5	204.9	204.7	206.4	206.8	206.6	0.9%	0.9%	0.9%
Miles Travelled (mill. miles per day)	7013.7	7134.5	7074.4	7192.1	7326.0	7259.4	2.5%	2.7%	2.6%
Average MPG (miles per gallon)	20.91	21.23	21.07	21.07	21.39	21.23	0.7%	0.8%	0.8%

[a]Refinery output plus motor gasoline field production, including fuel ethanol blended into gasoline and new supply of oxygenates and other hydrocarbons for gasoline production.
[b]Cost of imported crude oil to U.S.
[c]Price of gasoline sold by refiners to resellers.
[d]Average pump price for gasoline, all grades and services.
Notes: NM = number to small to be meaningful. Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: latest data available from: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109; *Monthly Energy Review*, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System; U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

Summer Outlook for Motor Gasoline _____

Figure 1. Retail Gasoline Prices and Average Crude Oil Costs (Year-Over-Year Changes)
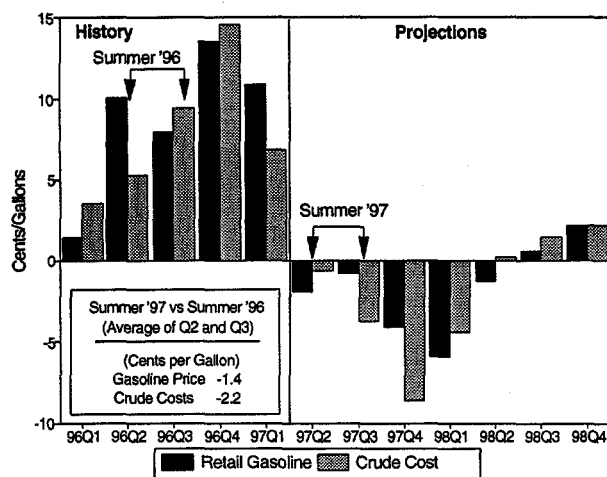
Mid World Oil Price Case
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 2. Annual Gasoline Market Trends

Mid World Oil Price Case
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

than 8.1 million barrels per day (see Summary Table). (For simplicity, the summer driving season is defined as the second and third calendar quarters of the year). This would be the highest summer demand ever. That demand growth--more than twice that of the previous year--reflects a 2.6-percent increase in highway travel brought about by income growth and price declines. Pump prices are expected to average $1.31 per gallon, slightly below last summer's average. In inflation-adjusted terms, that represents a price decline of 4 percent. This projection contrasts with that of the previous summer driving season, in which the upward surge in prices resulting from unexpected crude oil price hikes during the first half of last year helped to constrain demand growth to below 1 percent.

The U.S. summer gasoline market is therefore expected to be balanced but fairly tight. But the 140,000 barrels-per-day increase in total domestic production is expected to match that of demand. Refinery utilization rates are projected to average 96 percent, up from 95 percent last summer. Moreover, import volumes are expected to be similar to those of last summer. Nonetheless, gasoline prices could reach or exceed last summer's elevated levels--even with lower crude oil prices--if

refiners run into production problems or imports turn out to be less available than projected.

Despite the relatively weak performance last year, gasoline demand has been increasing steadily since 1991 and is poised to set new highs (Figure 2). Summer demand this year is expected to reflect this trend, resulting in levels well above 8 million barrels per day. It should be noted that last summer's anemic growth in demand was constrained by price spikes earlier in the year.

This summer's demand growth is therefore not likely to be transitory phenomenon but a reflection of two long-term factors: the relentless impact on travel demand of long-term population and income trends; and the slowdown (to about 1 percent or less) in average highway fuel efficiency. Figure 2 illustrates these salient trends in the gasoline market, including the decline in real fuel costs observed during the last 10 years.

Since about 1992, growth in highway travel in the United States has not been accompanied by significant increases in average vehicle efficiency. The apparent slowdown in fuel efficiency gains is in large measure the product of a declining trend in

Figure 3. Summer Gasoline Net Imports
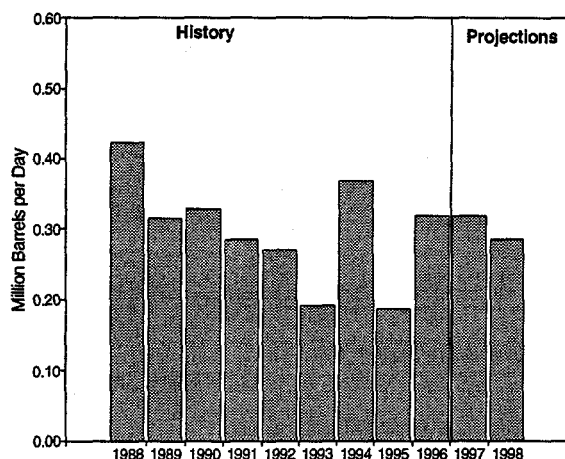
Mid World Oil Price Case
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 4. Motor Gasoline Stocks

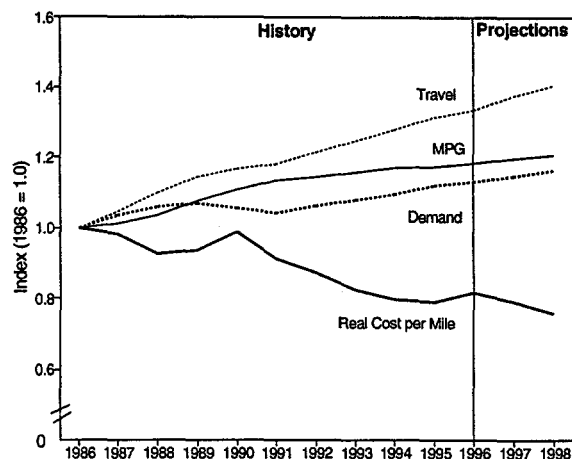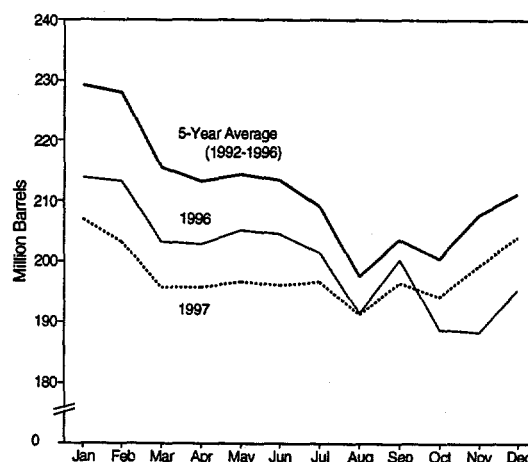Mid World Oil Price Case
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

real gasoline prices (Figure 2) which dates back to 1982.

Gasoline imports have generally declined since 1988, especially relative to total supply (Figure 3). Large investments in domestic gasoline production capacity have enabled domestic suppliers to more than keep up with demand growth. Net imports turned upward last year, however, and growth in U.S. demand this summer promises to prevent declines of imported product, even if the expected record utilization rates at U.S. refineries are achieved.

Stocks are projected to be slightly below those of last year, though edging closer to year-earlier levels as the season progresses (Figure 4). But, as in the

case of distillate during the past winter, low stock levels are believed to reflect refiners' aversions to a possible downside price risk, based on their experience of early 1996, when crude and product prices fell. Figure 4 shows an absence of stock draw as a supply source this summer, a pattern similar to that of the previous summer driving season.

In general, for the U.S. gasoline market to meet the expected demand growth with lower or even flat prices compared with last summer, much hinges on the ability of U.S. refiners to step up gasoline production levels to new highs, and on the continued availability of foreign supplies suitable for the U.S. market.

The Outlook

Figure 5. U.S. Monthly Crude Oil Prices
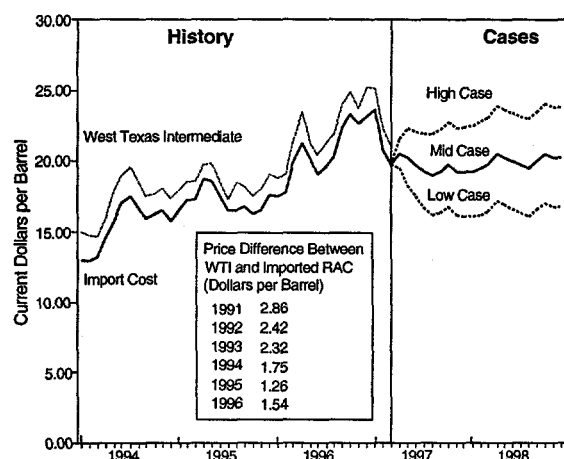
Sources: Second Quarter 1997 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 6. U.S. Macroeconomic Indicators
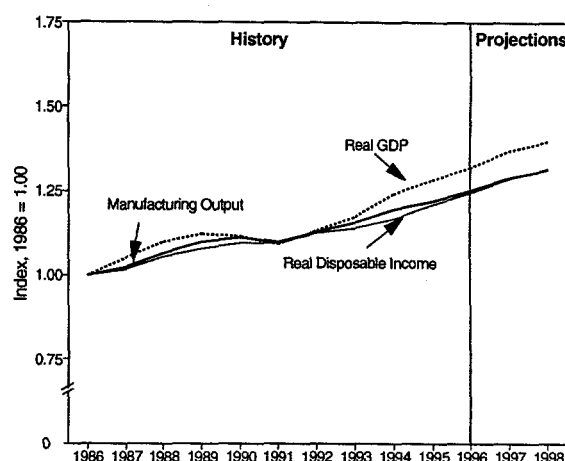
Sources: Second Quarter 1997 STIFS database, U.S. Commerce Department, and Federal Reserve Board. Details provided in Figure References Section.

World Oil Prices

- This forecast assumes the continuation of Iraqi humanitarian oil sales approved by the United Nations in December 1996. It is assumed that the United Nations Security Council will renew Resolution 986 every 6 months, allowing Iraq to continue exporting about 600,000 barrels per day.

- Our current mid-price projection calls for a settling down of world oil prices from the relatively high levels in late 1996, averaging about $20 per barrel in 1997 and 1998 (Figure 5). This forecast assumes that supply increases, from both OPEC and non-OPEC sources, will more than offset strong increases in world oil demand.

- The high and low price cases illustrated in Figure 5 represent a typical uncertainty range around our base case forecast.

Economic Outlook

- U.S. Gross Domestic Product (GDP) is expected to average 2.8 percent growth in 1997 and 2.0 percent in 1998. Growth in disposable income

should reach 3.4 percent in 1997 and 2.3 percent in 1998 (Figure 6 and Table 1).

- Inflation should remain moderate over the next few years. Commodity prices have increased, but only for agricultural products and oil. Consumer price inflation is expected to be 2.7 percent in 1997 and 2.9 percent in 1998 (Table 2).

- Manufacturing production growth exceeds real GDP growth, reaching 3.9 percent in 1997, as investment and export growth remain strong. In 1998, manufacturing production growth slows to 2.0 percent growth as investment growth decelerates. Total employment will increase slowly over the forecast.

Weather Assumptions

- For the mid-case, heating and cooling degree-days are assumed to follow historical norms in the forecast period. This results in winter 1997/98 being almost 4 percent colder than last winter (calculated from Table 1).

International Oil Demand _____

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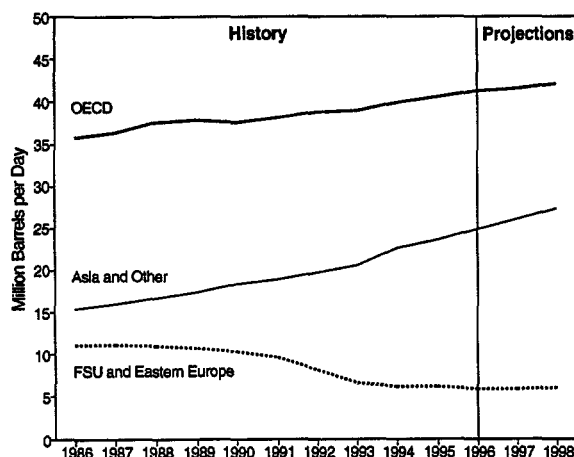
Figure 8. World Oil Demand Changes by Region

- World oil demand is expected to continue to increase during the next 2 years. By 1998, total world oil demand may average 75.5 million barrels per day (Table 3). All indicators (price, GDP growth, weather) point toward continued annual increments of 1.7 million barrels per day worldwide in 1997 and 1.8 million barrels per day in 1998, or an annual average growth of 2.4 percent compared with the 1.3 percent average growth seen between 1991 and 1995.

- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to increase by 400,000 barrels per day in 1997 and 600,000 barrels per day in 1998, an average annual rate of 1.1 percent (Figure 7 and Table 3). The United States' oil demand growth is nonexistent in 1997, but over 40 percent of OECD oil demand growth in 1998 comes from the United States.

- The major story has been the strong growth in oil demand among non-OECD countries: China (average annual growth rate of 6 percent in 1997 and 1998), Other Asia[1] (7 percent), and Latin America[2] (3.5 percent); these are all areas where oil demand growth is expected to exceed the world average growth rate of 2.4 percent. Significant growth is also expected in Eastern Europe (3 percent) and Africa (2.5 percent) as the economies in these regions begin to exhibit more substantial growth.[3]

- Oil demand in the former Soviet Union (FSU) is projected to stabilize in 1997 and 1998, following years of major declines (Figure 8). This increase reflects the expectation that economic activity may be positive for the first time in many years. Demand stood at 8.9 million barrels per day in 1988, reached a low of 4.5 million barrels per day in 1996, and is forecast to remain at 4.5 million barrels per day in 1997 and 1998 (Figure 8 and Table 3).

Figure 9. World Oil Production

*Total-OECD-FSU-OPEC.
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 10. OPEC Oil Production and Capacity
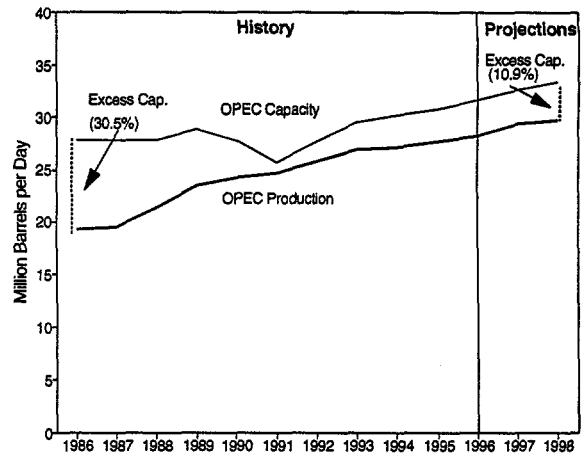
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

- On December 9, 1996, the United Nations approved additional Iraqi oil exports under U.N. Security Council Resolution 986. These oil sales have added over 600,000 barrels per day of oil to the world market. Additional oil from the North Sea and other non-OPEC countries should provide enough oil in 1997 and 1998 so that production from OPEC, excluding that from Iraq, will increase only slightly (Figure 9).

- With additional Iraqi oil exports, there will be little pressure for OPEC members to increase production in 1997 if capacity expansion plans are realized (Figure 10). Without any major increases in capacity expected--just a continuation of the production creep of the past several years--the additional Iraqi oil will, along with increases in non-OPEC production, be sufficient to supply the market. However, OPEC countries, such as Venezuela and Nigeria, are expected to increase oil production throughout the forecast period, with Algeria adding significant production in 1998.

- Even Saudi Arabia, although sticking relatively close to its crude oil production quota of 8 million barrels per day, is realizing increased production from non-crude natural gas liquids, which are excluded from their OPEC quota, and crude oil from the Neutral Zone shared with Kuwait.

- Sustained growth of non-OPEC supply is expected to continue for the foreseeable future, both inside and outside of the OECD (Figure 9). The major growth story within the OECD region is North Sea production, which grew by 0.4 million barrels per day in 1996 and is expected to increase an additional 0.5 million barrels per day in 1997, with increases in production expected to be less in 1998 (Table 3). Only 4 million barrels of oil per day were produced in the North Sea as recently as 1991; North Sea oil production is expected to average nearly 6.8 million barrels per day in 1997, and nearly 7.2 million barrels per day in 1998.[4] This tremendous growth has been critical in keeping prices stable, given the high rate of world demand growth (Table 3).

International Oil Supply

Figure 11. Non-OPEC, Non-OECD Oil Production

Figure 12. Annual OPEC Production and World Demand Changes, 1986-1998
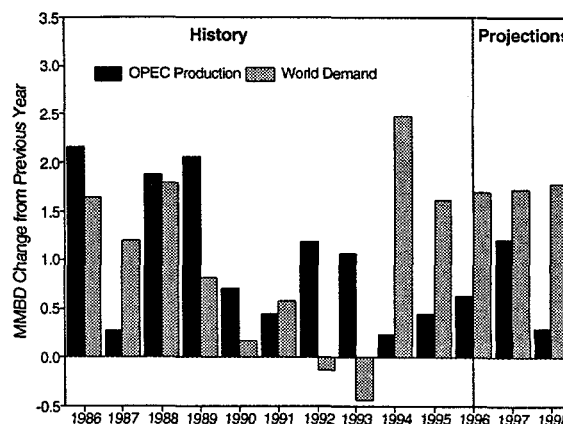
- Outside the OECD, the non-OPEC growth story is depicted by the "Other" group in Figure 11. Increments from this group are accelerating due to increases from Latin America, Africa, Other Asia, and some slight increases from the Middle East. Figure 11 shows growth from these regions since 1985, and particularly since 1990, following the Iraqi invasion of Kuwait. Privatization efforts are beginning to accelerate growth, particularly in Latin America. Together, the non-OECD, non-OPEC countries (excluding the Former Soviet Union republics (FSU)) are expected to increase production by over 1.1 million barrels per day between 1996 and 1998 to 17.8 million barrels

per day (Table 3), up nearly 5 million barrels per day since 1988.

- Joint ventures in the FSU, although growing slowly due to legal problems and export pipeline constraints, are beginning to foster positive supply prospects. Significant near-term increases are most likely to come from Kazakstan, Russia, and Azerbaijan, rather than from any of the other former republics.

- Non-OPEC supply has become a significant source of oil production during the last few years. Since 1994, OPEC production has increased less than world oil demand every year (Figure 12).
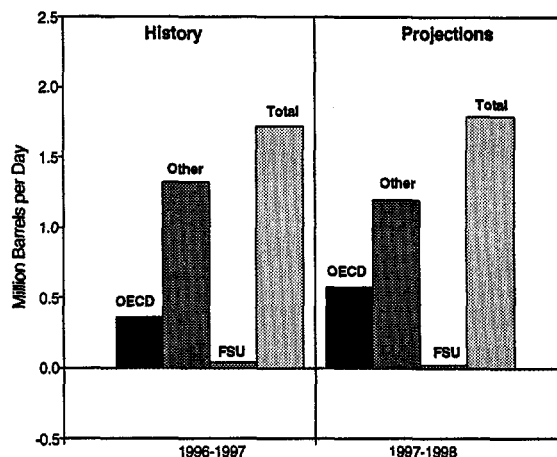
Figure 13. OECD Commercial Oil Stocks
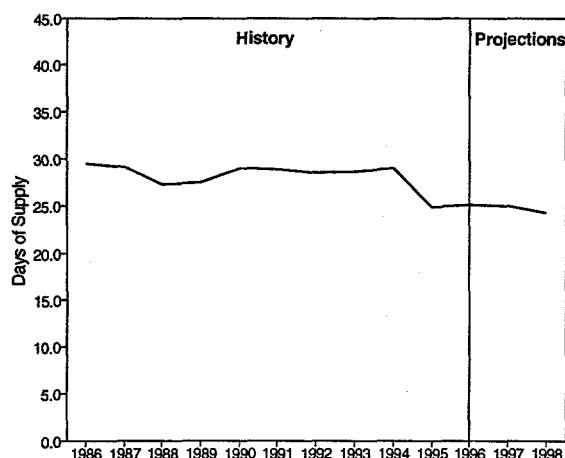
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.
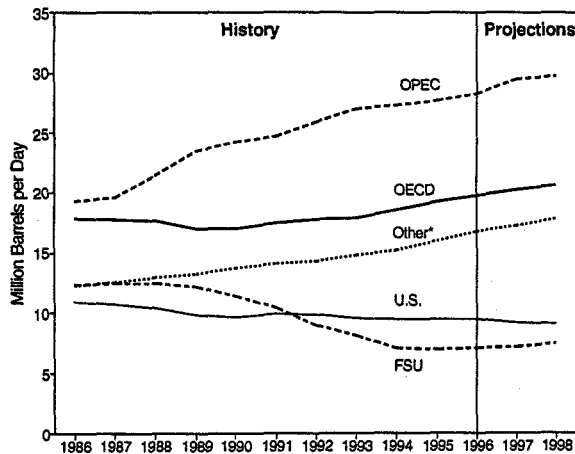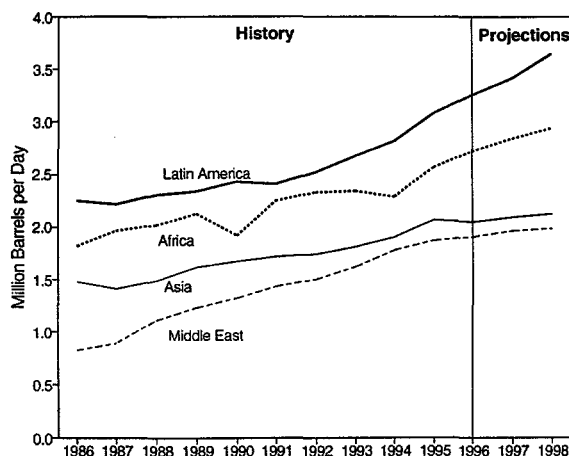
Figure 14. FSU Oil Output, Demand, and Net Exports
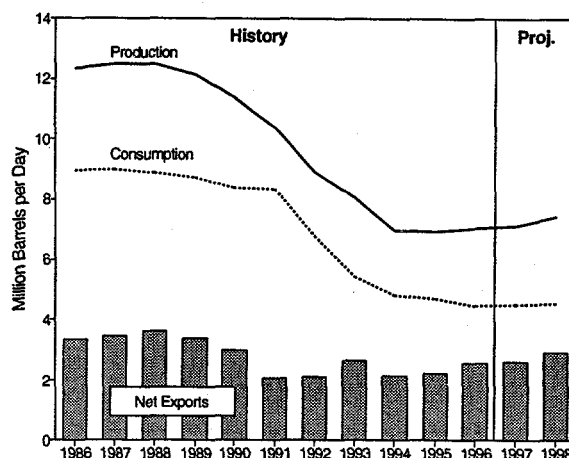
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

- Commercial oil inventories in OECD countries are expected to increase slightly in 1997 before declining in 1998 to levels similar to those in 1996 (Figure 13). This follows the sharp decline in 1995 brought about by uncertainty over the timing of Iraqi oil sales, colder than normal weather, and low profitability in the refining sector. However, with the additional supply of Iraqi oil and a return to normal weather, oil inventories in OECD countries should remain higher than the historically low levels in 1995.

- Outside Iraq, about one-half million barrels of capacity expansions are expected in OPEC for both 1997 and 1998. Most of the expansion is expected in Venezuela and Nigeria, with Algeria adding significant growth in 1998. OPEC excess production capacity, including that of Iraq, is expected to remain at 3.2 million barrels per day in 1997 before increasing to 3.6 million barrels per day in 1998. Saudi Arabia controls most of the excess, with about 2 million barrels per day of excess production capacity.[5]

- Current exports of crude oil worldwide are averaging 32 million barrels per day. About 60 per cent comes from OPEC countries.[6] Saudi Arabia is by far the world's largest exporter, with over 7 million barrels per day of crude exports. It may be surprising to some people that Norway is the world's second largest exporter of crude oil.[7]

- Net exports from the FSU are expected to remain flat in 1997 before increasing by about 0.3 million barrels per day in 1998 (Figure 14 and Table 3). By 1998, oil production in some of the FSU republics, such as Kazakstan, Azerbaijan and Russia, should begin increasing at more substantial rates. Thus, exports are expected to rise from 2.6 million barrels per day in 1996 to 2.9 million barrels per day in 1998.

- With the Iraqi oil exports allowed under U.N. Security Council Resolution 986, exports from the Persian Gulf region are expected to increase in 1997. Oil exports from the rest of the Persian Gulf countries are expected to increase only slightly over the next year as regional consumption increases largely offset production increases.

U.S. Oil Demand

Figure 15. U.S. Petroleum Demand
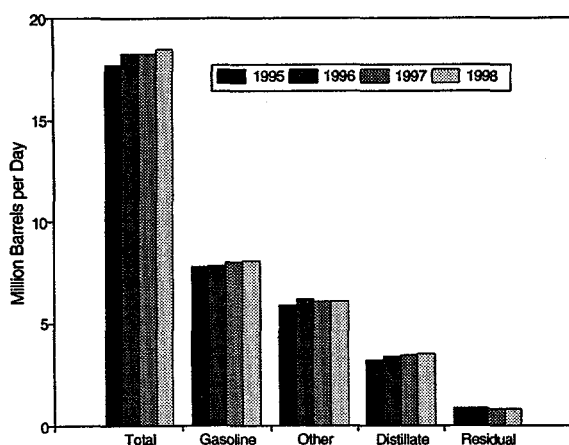
Figure 16. Distillate Demand Growth

- Having increased by 500,000 barrels per day, or 2.9 percent, in 1996, petroleum demand is projected to remain flat in 1997 (Figure 15 and Table 5). Weather differences account for much of last year's large increase and lack of growth projected for 1997 (Table 1). In 1998, assumptions of normal weather, continued growth, and stable prices are expected to bring about an increase of 250,000 barrels per day, or 1.4 percent, in petroleum demand.

- Gasoline demand in 1996 grew by an anemic 0.8 percent as a result of harsh first-quarter weather and higher prices. The forecast period is expected to witness steady growth in demand, averaging 1.6 percent, assuming normal weather, little price change, and small fuel efficiency increases.

- Led by sizable increases in air traffic, jet fuel demand registered a 4.2-percent increase in 1996. But that growth is expected to moderate somewhat to an average 1.6 percent per year during the forecast period. Air travel capacity is projected to increase by an average 5 percent per year, resulting in fuel efficiency increases of more than 3 percent. These projections, however, presume no major disruption arising from possible labor disputes in the next few months (Table 2).

- Buoyed by cold weather, 1996 distillate consumption rose more than 5 percent. Warmer-than-normal weather in the first quarter of 1997 is expected to sharply reduce that growth this year to only 1 percent (Figure 16). For 1998, normal weather is expected to induce distillate demand growth of 2.4 percent.

- In 1996, residual fuel oil demand declined slightly from that of 1995, despite colder-than-normal weather. But demand is projected to fall further in 1997, partly due to warmer-than-normal weather during the first quarter.But all of the major sectors are projected to experience declines in consumption. In 1998, however demand for residual fuel is expected to stabilize, albeit at near historical lows.

Figure 17. U.S. Crude Oil Production
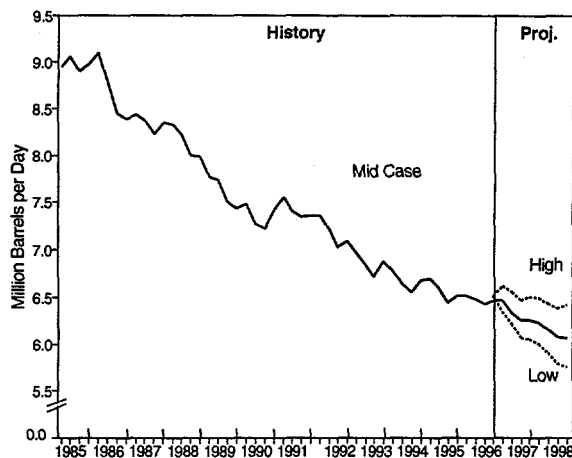
Figure 18. U.S. Net Petroleum Imports (Percent of Total Demand)
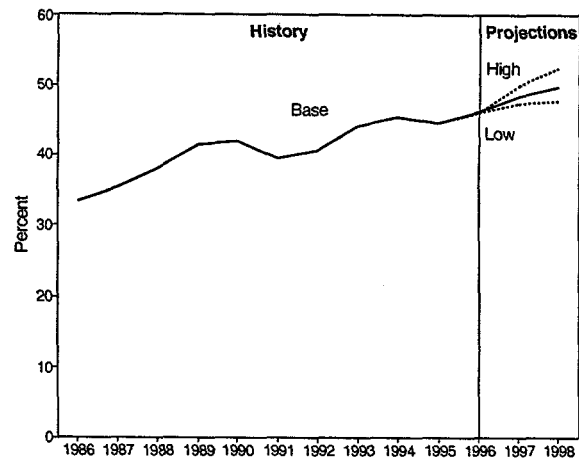
- In 1996, the decline in U.S. oil production slowed due to a slight increase in lower-48 production.[8] However, at mid-case prices, total U.S. domestic crude oil production in 1997 is expected to decline by 140,000 barrels per day, or 2.2 percent, and by an additional 210,000 barrels per day, or 3.3 percent, in 1998 (Table 5 and Figure 17).

- In 1996, declining U.S. crude oil production and higher demand contributed to an average 8.4 million barrels per day of total petroleum net imports, just below the record 8.6 million barrels per day set in 1977.[9] In 1997, total net imports are projected to exceed 1977's record high, equaling 48.5 percent of total petroleum demand in the base case (Figure 18), and continue to increase to 49.6 percent in 1998. In the low-to-high price ranges, the net import share of demand could range between 47 and 51 percent.

- Oil production in the lower 48 States is expected to decline by 50,000 barrels per day in 1997 and by 120,000 barrels per day in 1998. Oil production from the Mars, Ram Powell, Auger, and Santa Ynez Federal Offshore fields is expected to account for about 6.7 percent of lower-48 oil production by the end of 1998. Mars Field production started in August 1996

and is expected to peak at 100,000 barrels per day in early 1997. The Ram-Powell Field is expected to start in the last quarter of 1997 and peak later at a rate of 60,000 barrels per day. The Santa Ynez field, Federal offshore California, is currently producing at 100,000 barrels per day.[10]

- Alaska will account for almost 21 percent of total U.S. oil production in 1997. Oil production in Alaska is expected to decline by about 6.7 percent in both 1997 and 1998. Production from recent discoveries will partially offset the expected production decline from the giant Prudhoe Bay and other North Slope fields. A large-scale enhanced-oil recovery project was initiated in September 1996 in the Kuparuk River field, which should enable production to remain at 260,000 barrels per day over the forecast period.[11]

- Crude oil production could be as high as 6.8 million barrels per day by the fourth quarter of 1998, given the high price case, or as low as 6.0 million barrels per day under the low price scenario.

- The rig count is estimated at an average of 783 in 1996, with further increases to 924 in 1997 and to 1062 in 1998 expected.[12]

U.S. Energy Prices

Figure 19. U.S. Oil and Gas Prices
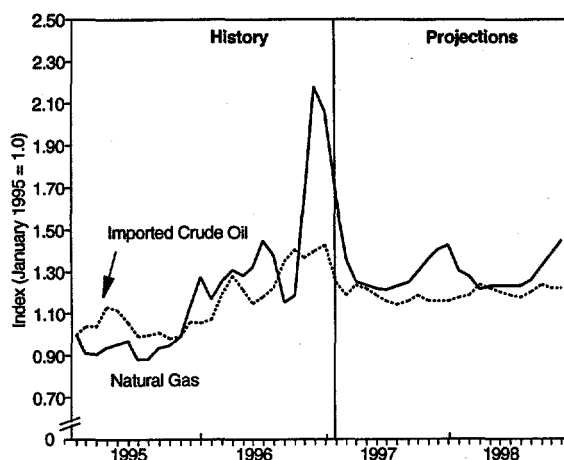
Figure 20. Petroleum Product Prices

- World oil prices started the year at about $23.50 per barrel in January, the result of low stocks and erratic weather. However the unusually warm weather in late January and February caused spot crude oil prices to tumble. In February and March, the price of crude oil is expected to average about $20.00 per barrel. Prices are projected to decline as increases in world production offset growth in world demand. Prices in 1997 are assumed to be at their highest in the first quarter at $21.30 per barrel due to the high January price. Continued world-wide economic growth in 1998, will be matched by increases in oil production, leading to prices that remain more or less equal to the 1997 price, with crude oil prices peaking in the spring (second quarter) driving season and in the fourth quarter heating season (Figure 19).

- The $3.40 per barrel crude oil price increase in 1996 was passed through to all petroleum products. In 1997 and 1998, the stable average annual crude oil prices should generally be seen in the product prices. Motor gasoline diesel

fuel oil as well as residential heating oil prices should show little deviation on an annual basis through 1998 (Table 4 and Figure 20). Residual fuel prices will follow the crude oil price path with seasonal variations.

- Retail motor gasoline prices (an average of all types, all services) peaked last May at $1.38 per gallon, then fell steadily through September. But, as crude oil prices began climbing in the end of fourth quarter last year, gasoline price increases soon followed. Pump prices should be around $1.30 per gallon in the first quarter of 1997. The declining crude oil prices of February and March could counter the normal spring driving season price runup. Thus, it is expected that gasoline prices this spring may increase by only a few cents per gallon from current prices, compared to the 15 cents per gallon first to second quarter jump in 1996. In 1998, assuming stable crude oil prices, more pump price seasonality than in 1997 is projected. However, the annual average retail price is expected to remain fairly flat compared to the 1997 price.

Figure 21. Natural Gas Prices by Sector
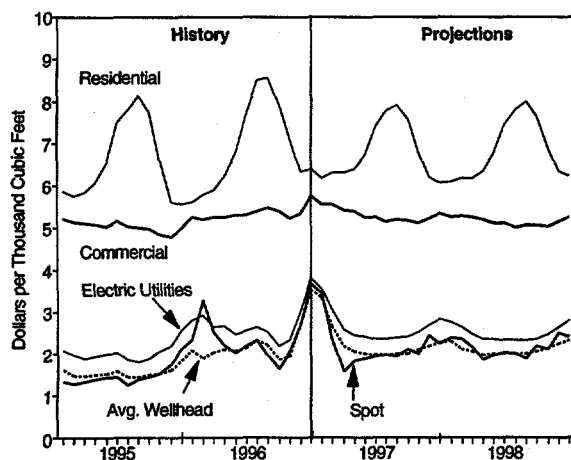
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 22. Fossil Fuel Prices to Electric Utilities

Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

- Residential heating oil prices had large gains last winter as the heating season began with high crude oil prices and low inventories. By winter's end, considerable distillate production plus falling crude oil prices and some unusually warm weather in the Northeast, where most of the nation's heating oil is consumed, caused a steep rise in inventory levels and a corresponding drop in heating oil prices. These prices should continue to decline through the summer as demand for this fuel diminishes. Next winter's prices are projected to be several cents per gallon lower than the previous winter's prices. This estimate is based on the assumption of normal weather and steady crude oil prices, which should produce adequate inventories, thus leading to a calmer market and less gyrations in distillate prices. For 1998, a typical heating oil price pattern is also expected, with the overall annual average about a penny per gallon below the 1997 price.

- Spot prices for natural gas at the wellhead have taken a wild ride this past winter, increasing by more than 100 percent from September to December last year, then plummeting by more than 50 percent from the first week to the last week of February.[13] Low underground storage levels at the start of the heating season and dramatic shifts in the weather led to this price volatility. Although the composite wellhead price is not as unstable as the spot price, it is expected, nonetheless, that wellhead prices will plummet by about 70 cents per thousand cubic feet in the second quarter this year compared to the first quarter's prices.

- The average natural gas wellhead price in 1997 is projected to nearly equal the 1996 levels, due to the high first quarter price runup, after increasing by 45 percent over 1995 prices, if the weather is normal (Table 4 and Figure 21). The price should dip in 1998, again assuming normal weather and increases in domestic production and Canadian imports, as well as continued improvements in market efficiencies (i.e. lower drilling costs and better inventory management). However, as the experience of both of the previous winters has shown, low inventories and sharp changes in the weather, particularly cold weather, could once more deplete gas in storage and propel spot prices to elevated levels. In the very short term, a cold snap in early spring similar to that of the spring of 1993, could also impact prices.

U.S. Energy Prices

- Residential natural gas prices are expected to rise slightly in 1997, mostly due to the high prices of the first quarter, then flatten in 1998. This is because the projected modest decline in wellhead prices, which accounts for about one-third of the residential price, will be offset by small increases in transmission and distribution costs. These costs (capital, labor and maintenance costs), which make up the remaining two-thirds of the end-use prices, are projected to increase at less than the rate of inflation through 1998.

- In 1995, natural gas prices to electric utilities were, on average, about 76 percent of the residual fuel oil price (Table 4). Due to the 40 percent jump in prices at the natural gas wellhead between 1995 and 1996, natural gas prices to electric utilities rose to 87 percent of the residual fuel oil price in 1996. This ratio is projected to dip to about 82 percent in 1998 as natural gas prices moderate.

- Coal prices to electric utilities in 1996 were at their lowest level since 1979[14] and are expected to continue to drop through 1998 (Table 4 and Figure 22). Continued achievement in mining productivity has resulted in a downward trend for coal prices. Moreover, there could soon be increased competition in the spot market for coal due in part to the emerging deregulation of the electric utility sector.

- Annual average residential electricity prices are projected to fall through 1997 and 1998 as a result of moderate costs for capital, labor capital, and fossil fuels. Also, generation from non-utility producers and increased conservation efforts have reduced the need to build expensive new power plants.

Figure 23. Energy Demand Sensitivities; Macro Cases
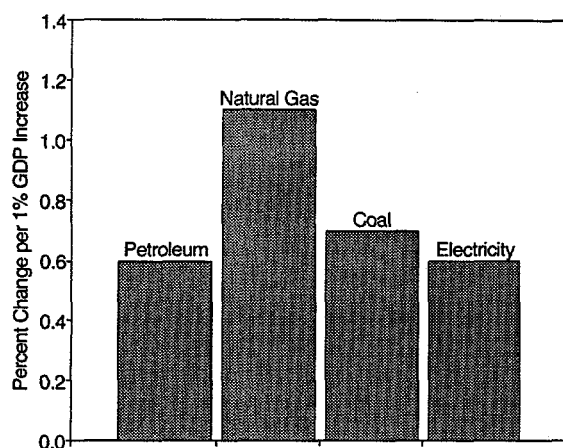
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 24. Energy Demand Sensitivities; Weather Cases
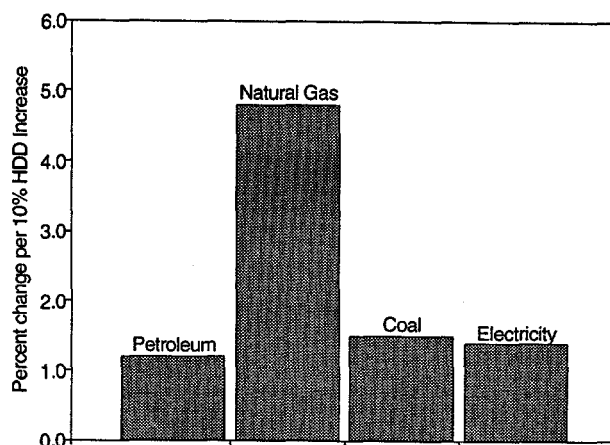
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.
HDD=Heating degree-days.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 2.8 percent per year in 1997 and 2.0 percent in 1998. To enhance the usefulness of the mid-case forecasts, sensitivities of energy demand and supply, using alternative macroeconomic, price, and weather assumptions, are also derived. Plausible macroeconomic and weather-related petroleum demand sensitivities are illustrated in Figures 23 and 24 and Table 6.

- A 1-percent increase in real GDP raises petroleum demand by about 0.6 percent, natural gas demand by 1.1 percent, coal demand by 0.7 percent, and electricity demand by 0.6 percent (Figure 23). The impact of shifts in economic growth varies, depending upon distribution of incremental growth across energy-intensive and non-energy-intensive sectors.

- A 10 percent increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces petroleum demand by 0.3 percent. A 10 percent increase

gas prices at the wellhead, assuming no price response for other fuels, reduces natural gas demand by 0.4 percent.

- A 10 percent increase in heating degree-days increases winter petroleum demand by 1.2 percent, natural gas demand by 4.8 percent, coal demand by 1.5 percent, and electricity demand by 1.4 percent (Figure 24). The impact of heating degree-day deviations from normal may not be symmetrical. Extremely cold weather could result in indirect effects on fuel oil markets due to potential natural gas supply constraints.

- A 10-percent increase in cooling degree-days increases summer petroleum demand by about 0.1 percent, other fuels by 1.4 percent.

- A $1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 95,000 barrels per day (Table 7).

U.S. Natural Gas Demand

Figure 25. U.S. Natural Gas Demand Trends
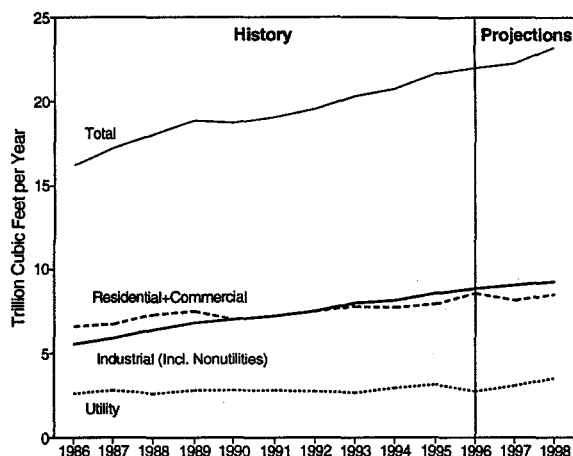
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 26. Natural Gas Demand for Power Generation

Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

- In 1996, natural gas demand grew by 1.9 percent, a downward revision from the 3.1 percent previously estimated in the first quarter 1997 *Outlook*. Soaring gas prices are the reason, particularly in the fourth quarter of 1996, prompting some fuel switching in the utility sector. In 1997, demand is expected to grow by only 1.2 percent due to mild weather and high prices in the beginning of the first quarter (Figure 25 and Table 8). In 1998, natural gas demand is expected to rise by 4.4 percent, due to moderating prices, normal weather and lower hydropower availability in the utility sector leading to increased gas use.

- In 1997, based on the milder-than-normal first quarter and the assumption of normal weather for the remainder of the year, residential demand is expected to be down by 5.0 percent for the year compared with high 1996 levels. In 1998, residential demand is expected to increase by 3.7 percent due partly to the assumption of normal first quarter weather relative to 1997

and also to the continued addition of new gas-heated homes.

- Industrial gas demand in both 1997 and 1998 is expected to grow by 2.6 percent due to the strong economic activity offsetting the effects of high gas prices.

- A big jump in gas consumption for utility power generation is expected in 1997 (Figure 26), compared with the decline in 1996. This is the result mainly of decreased availability of hydropower for electricity generation, based on the assumption of a return to normal rainfall from the abnormally high 1996 levels. Similar factors will drive an additional increase in 1998 (Tables 8 and 10).

- Commercial sector demand in 1997 is expected to decline somewhat from high 1996 levels. In 1998, commercial sector demand is expected to continue to rise along with the economy, based on the assumption of normal weather.

Figure 27. U.S. Dry Gas Production and Net Imports
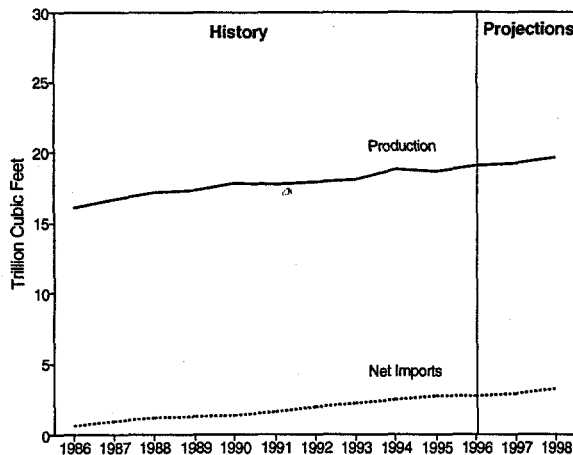
Sources: Second Quarter 1997 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section.

Figure 28. Total Gas in Underground Storage
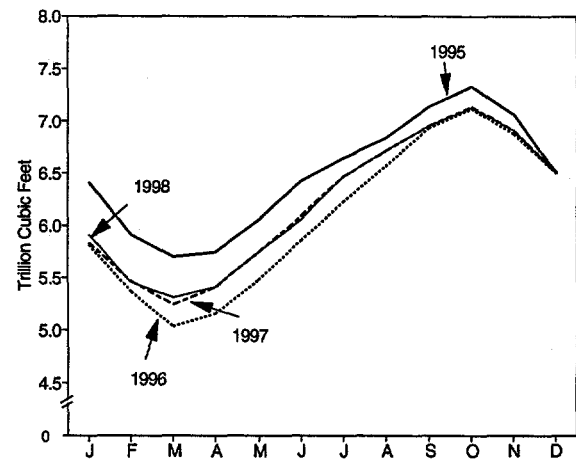
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

- U.S. dry gas production is expected to rise through the forecast period, encouraged by wellhead prices averaging $2.20 per thousand cubic feet between 1996 and 1998, as well as pressure from natural gas demand growth. U.S. dry gas production growth in 1997 is expected to rise by 0.9 percent. In 1998, gas production is expected to continue to grow by 2.0 percent (Figure 27 and Table 8).

- Comparisons to last year's winter storage levels affected perceptions of the storage situation this winter and, together with cold weather in the beginning of fourth quarter 1996, caused gas prices to soar. However, towards the middle of the first quarter of 1997, overall gas storage was above last year's level, which, together with mild weather, caused prices to drop dramatically in mid-February. Underground gas storage levels are expected to end this winter season higher than they were last year (Figure 28).

- The use of salt cavern storage, marketing hubs and trading areas along pipeline systems seems to allow storage owners to maintain lower stocks than in the past since these facilities

increase the industry's short-term delivery capability.[15] In the gas-producing region particularly, use of salt cavern storage allows increased rate of turnover of gas storage, effectively reducing the levels of storage needed.[16]

- The resurgence of gas exploration and development in the offshore Gulf in 1996 is expected to provide new supply in 1997 and 1998. The Baker Hughes natural gas rig count for the month of February was 492 rigs, about 58 percent of all rigs actively drilling.[17]

- In 1997, net imports could increase by 7.6 percent due to strong U.S. demand and favorable price differentials. Also, about 200 million cubic feet per day of increased pipeline capacity to the U.S. northeast is expected in November 1997, with expansion of the Trans-Canada pipeline. In 1998, net imports are expected to rise by another 9.9 percent as more than 900 million cubic feet per day of total increased export capacity is expected to be added on the TransCanada and Northern Border pipelines.[18]

U.S. Coal Demand and Supply

Figure 29. U.S. Coal Demand Trends
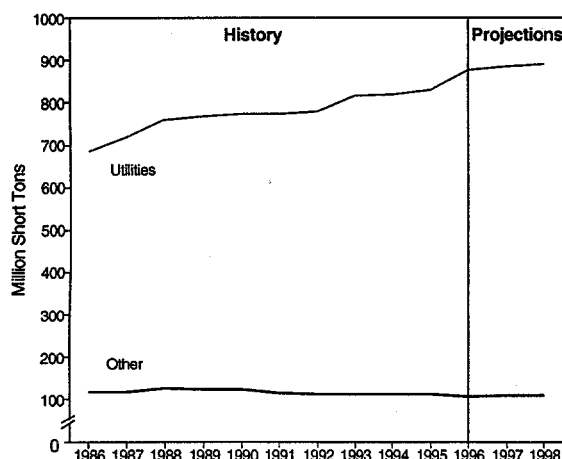
Figure 30. U.S. Coal Production Trends by Region

- Electricity demand growth will continue to be the driving force behind coal consumption. Total coal demand is expected to increase by 1.3 percent in 1997 and by 0.7 percent in 1998 (Figure 29 and Table 9).

- Coal demand by utility and nonutility electricity generators grew by 5.6 percent to a record 897.7 million short tons in 1996. Despite slower growth in electricity demand (1.1 percent in 1997, compared to 2.6 percent in 1996) electricity sector coal demand is expected to grow by 1.3 percent in 1997 (Table 9). In 1998, 1.8 percent growth in electricity demand will lead to 0.7 percent growth in coal demand by the electricity sector.

- Coal carbonized (consumed) by coke plants fell 5.2 percent in 1996 to 31.3 million short tons. Demand growth for coal at coke plants is expected to remain around 33 million short tons throughout the forecast period, primarily as a result of coking plant capacity constraints. Another factor hampering the growth of coke plant coal consumption is the use of non-coke methods of steel production (steel recycling and electric arc furnaces) by the iron and steel

industry. Electric-arc production grew by 7.1 percent in 1996, accounting for 41.9 percent of raw steel production. Coal-based raw steel production declined by 3.1 percent in 1996.[19]

- Demand for coal by the retail and general industry sectors is projected at 76.9 million short tons in 1997, a 0.2 percent decrease from 1996 demand. Demand will remain relatively flat in 1998.

- U.S. coal exports are expected to continue growing in 1997 and 1998. Exports will be 91.9 million short tons in 1997, a 1.5 percent increase, and 92.4 million short tons in 1998 (Table 9).

- Coal production was a record 1,062.6 million short tons in 1996. Production is expected to grow by 2.9 percent in 1997, with annual output reaching 1,093.3 million short tons in 1997 (Figure 30). Production will grow by an additional 1.2 percent in 1998. Production in the Western region should continue to rise over the forecast period, while production in the Interior and Appalachian regions declines in 1998.[20]

Figure 31. U.S. Electricity Demand
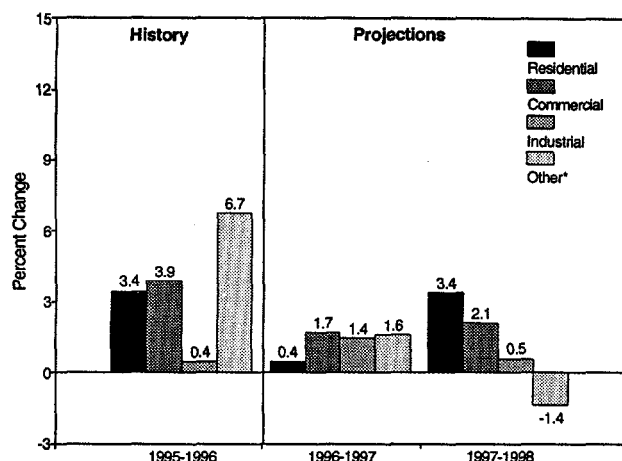
*Includes nonutility own use
Sources: Second Quarter 1997 STIFS database. Details provided in Figure References Section.

Figure 32. U.S. Electricity Production*
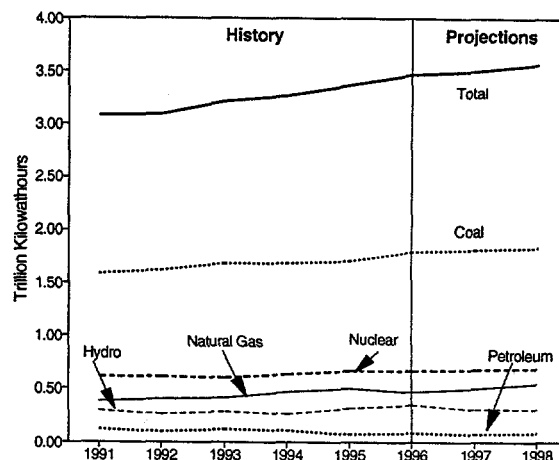
*Includes nonutilities
Sources: Second Quarter 1997 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section.

- In 1997, electricity demand is expected to grow more slowly, at 1.1 percent, than it did in 1996 (see Table HL1). This is due mainly to weather factors relative to the weather extremes of first and fourth quarters of 1996 (Figure 31 and Table 10). In 1998, demand is expected to rise by 1.8 percent, along with the economy.

- Residential demand growth for electricity in 1997 is estimated at only 0.4 percent (Figure 31), reflecting in large part the mild first quarter. Normal weather in the remainder of the forecast period, particularly in first quarter 1998, together with housing additions, results in additional residential demand increases of 3.4 percent in 1998.

- Commercial sector electricity demand is expected to rise by 1.7 percent in 1997, and by 2.1 percent in 1998, along with commercial employment (Figure 32 and Tables 10 and 2).

- Industrial demand is expected to grow by 1.4 percent in 1997. It is projected to be flat in 1998 (Table 10).

- U.S. utility generation is expected to be flat in 1997 compared with 1996's 2.8 percent growth rate due to relatively lower heating demands in

first and fourth quarters of 1997. Generation is expected to resume growing in 1998 as weather is assumed normal. Nonutility generation, which is impacted more by economic than weather factors, is expected to continue to increase at faster rates of 5.1 percent in 1997 and 3.4 percent in 1998, a result of capacity additions.[21]

- Hydropower generation by electric utilities in 1997 and 1998 is expected to decline from abnormally high 1996 levels due to the assumption of a return to normal precipitation in the Pacific Northwest (Figure 33).

- Nuclear power generation is expected to continue to rise during the forecast period. Increases in nuclear generation are due to the continuing improvement in the performance efficiency of existing plants.

- In 1997 and 1998, net imports of electricity are expected to be flat as domestic electricity generation is sufficient to meet incremental demand.

U.S. Renewable Energy Demand

Figure 33. Renewable Energy Use for Electricity
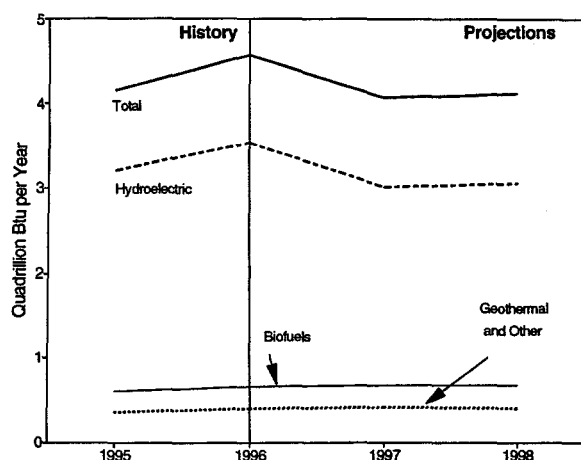
Figure 34. Renewable Energy Use by Sector
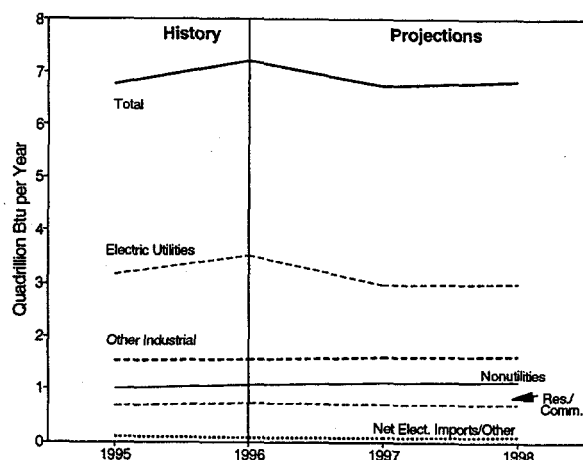
- Renewable energy use in the United States amounted to about 7.2 quadrillion Btu (quads), or about 7.7 percent, of total domestic gross energy demand in 1996 (Tables HL1 and 11). In 1996, use of renewables increased by 6.4 percent due to an increase in hydroelectric generation resulting from heavy rainfall. In 1997, renewables use is expected to decrease by an annual average of 6.4 percent, as rainfall and therefore water levels return to normal from their unusually high 1996 levels in the major hydro-generating areas. Renewables use in 1998 grows by 1.2 percent.

- More than half of all renewable energy use measured by EIA is associated with the production of electricity. While the biggest component of electricity producers' use of renewables is hydroelectric power generated by electric utilities (Figure 33), a significant and growing portion of renewables use occurs at nonutility generating facilities.

- Hydropower generation by electric utilities is expected to decrease in 1997 from high 1996 levels because of assumed normal stream flow in the Pacific Northwest.

- Most of the nonutility use of renewables involves biofuels, principally wood, wood by-products, and waste. However, all of the major forms of renewables used at nonutilities (including hydropower) are projected to grow.

- Most of the utility use of renewables involves hydropower. Since hydroelectric availability is expected to return to normal in 1997 due to the assumption of a return to normal precipitation, utility use of renewables will show a decline this year.

- Currently, aside from power generation, the most significant area of renewables use is in the industrial sector, accounting for 21 percent of the total in 1996 (Figure 34). This component is principally biofuels.

- Renewables use in the combined residential and commercial sector, at about 0.71 quad in 1996, generally accounts for about 10 percent of total domestic renewables demand (Table 11). Most of this energy is wood used for home heating, with only a very small amount having to do with solar hot water heating.[22]

Table 1.   U.S. Macroeconomic and weather Assumptions

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Macroeconomic [a]															
Real Gross Domestic Product (billion chained 1992 dollars - SAAR)	6814	6893	6928	7009	7049	7090	7121	7161	7203	7236	7262	7295	6911	7105	7249
Percentage Change from Prior Year	1.7	2.7	2.2	3.4	3.4	2.9	2.8	2.2	2.2	2.1	2.0	1.9	2.5	2.8	2.0
Annualized Percent Change from Prior Quarter	2.0	4.6	2.1	4.6	2.3	2.3	1.8	2.2	2.3	1.8	1.4	1.8			
GDP Implicit Price Deflator (Index, 1992=1.000)	1.090	1.096	1.102	1.107	1.113	1.119	1.125	1.131	1.139	1.145	1.152	1.159	1.099	1.122	1.149
Percentage Change from Prior Year	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.2	2.1	2.4
Real Disposable Personal Income (billion chained 1992 Dollars - SAAR)	5038	5055	5115	5147	5207	5241	5288	5316	5356	5372	5393	5410	5088	5263	5383
Percentage Change from Prior Year	2.7	3.0	3.1	2.7	3.4	3.7	3.4	3.3	2.9	2.5	2.0	1.8	2.9	3.4	2.3
Manufacturing Production (Index, 1987=1.000)	1.229	1.248	1.263	1.274	1.291	1.300	1.307	1.310	1.317	1.325	1.333	1.338	1.253	1.302	1.328
Percentage Change from Prior Year	0.8	2.7	3.3	4.0	5.0	4.2	3.5	2.8	2.0	1.9	2.0	2.1	2.7	3.9	2.0
OECD Economic Growth (percent) [b]													2.4	2.6	2.3
Weather [c]															
Heating Degree-Days															
U.S.	2406	552	89	1667	2155	524	89	1636	2327	524	89	1636	4714	4404	4576
New England	3361	933	151	2247	3088	915	171	2269	3267	915	171	2269	6692	6442	6621
Middle Atlantic	3120	750	87	2008	2807	716	105	2026	2993	716	105	2026	5965	5654	5839
U.S. Gas-Weighted	2501	636	135	1768	2303	539	81	1686	2426	539	81	1686	5040	4609	4732
Cooling Degree-Days (U.S.)	21	368	725	54	31	334	758	72	30	334	758	72	1168	1194	1193

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

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

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

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*. Projections of OECD growth are based on WEFA Group, "World Economic Outlook," Volume 1. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

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

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Macroeconomic [a]															
Real Fixed Investment															
(billion chained 1992 dollars-SAAR)	1013	1031	1058	1064	1075	1088	1103	1114	1126	1133	1136	1139	1042	1095	1133
Real Exchange Rate															
(index)	0.997	1.013	1.017	1.030	1.052	1.049	1.045	1.039	1.030	1.023	1.015	1.008	1.014	1.046	1.019
Business Inventory Change															
(billion chained 1992 dollars-SAAR)	12.0	-3.9	11.9	17.4	10.6	10.8	9.1	4.4	3.1	2.9	3.6	3.3	9.4	8.7	3.2
Producer Price Index															
(index, 1980-1984=1.000)	1.263	1.274	1.281	1.287	1.289	1.285	1.287	1.291	1.294	1.300	1.306	1.312	1.276	1.288	1.303
Consumer Price Index															
(index, 1980-1984=1.000)	1.551	1.565	1.574	1.587	1.597	1.606	1.617	1.629	1.641	1.653	1.665	1.678	1.569	1.612	1.659
Petroleum Product Price Index															
(index, 1980-1984=1.000)	0.632	0.727	0.701	0.746	0.744	0.690	0.664	0.668	0.684	0.679	0.671	0.688	0.702	0.691	0.681
Non-Farm Employment															
(millions)	118.5	119.3	120.0	120.5	121.2	121.8	122.4	122.8	123.3	123.7	124.1	124.5	119.6	122.0	123.9
Commercial Employment															
(millions)	80.2	81.0	81.6	82.2	82.8	83.4	84.0	84.4	84.8	85.2	85.5	85.9	81.2	83.6	85.4
Total Industrial Production															
(index, 1987=1.000)	1.213	1.233	1.243	1.257	1.268	1.278	1.285	1.288	1.295	1.302	1.310	1.315	1.237	1.280	1.306
Housing Stock															
(millions)	110.6	111.0	111.4	111.8	112.1	112.5	112.9	113.2	113.6	113.9	114.2	114.6	111.2	112.7	114.1
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1987=1.000)	1.161	1.172	1.189	1.199	1.205	1.213	1.220	1.223	1.228	1.234	1.240	1.242	1.180	1.215	1.236
Vehicle Miles Traveled [b]															
(million miles/day)	6181	7014	7134	6625	6427	7192	7326	6802	6587	7367	7478	6935	6739	6939	7094
Vehicle Fuel Efficiency															
(miles per gallon)	19.59	20.91	21.23	19.97	20.26	21.07	21.39	20.11	20.41	21.24	21.55	20.26	20.44	20.72	20.88
Real Vehicle Fuel Cost															
(cents per mile)	3.94	4.11	3.91	4.12	4.04	3.92	3.75	3.86	3.72	3.74	3.63	3.78	4.02	3.89	3.72
Air Travel Capacity															
(mill. available ton-miles/day)	381.7	399.7	413.3	397.0	400.4	421.0	438.5	428.0	421.3	438.0	455.8	444.8	397.9	422.1	440.1
Aircraft Utilization															
(mill. revenue ton-miles/day)	212.9	233.2	244.5	230.1	223.8	239.4	255.3	239.2	232.9	249.0	265.0	249.6	230.2	239.5	249.2
Aircraft Yield															
(cents per ton-mile)	14.10	13.98	12.56	13.71	15.15	14.75	13.88	14.69	15.88	15.53	14.69	15.52	13.59	14.62	15.41
Raw Steel Production															
(millions)	26.55	26.05	25.62	25.67	25.51	25.50	24.95	26.58	27.57	27.73	27.14	27.91	103.89	102.53	110.34

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

[b]Includes all highway travel.

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release* G.17(419); U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

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

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Demand [a]															
OECD															
U.S. (50 States)	18.3	17.9	18.1	18.6	18.0	18.1	18.3	18.6	18.5	18.2	18.4	18.8	18.2	18.2	18.5
U.S. Territories	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Canada	1.8	1.7	1.8	1.8	1.8	1.7	1.8	1.9	1.8	1.7	1.8	1.9	1.8	1.8	1.8
Europe	14.5	13.8	14.3	14.8	14.8	14.0	14.5	15.0	14.9	14.1	14.7	15.2	14.3	14.6	14.7
Japan	6.4	5.2	5.4	6.1	6.5	5.3	5.5	6.1	6.7	5.4	5.6	6.3	5.8	5.8	6.0
Australia and New Zealand	1.0	1.0	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0
Total OECD	42.2	39.7	40.6	42.4	42.3	40.2	41.1	42.8	43.1	40.6	41.6	43.3	41.2	41.6	42.2
Non-OECD															
Former Soviet Union	4.8	4.3	4.3	4.7	4.8	4.3	4.3	4.7	4.7	4.4	4.4	4.7	4.5	4.5	4.5
Europe	1.6	1.4	1.4	1.5	1.6	1.4	1.4	1.5	1.7	1.4	1.4	1.6	1.4	1.5	1.5
China	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0	4.0	4.1	3.6	3.8	4.0
Other Asia	8.6	8.4	8.0	9.1	9.3	9.1	8.6	9.8	9.9	9.6	9.2	10.5	8.6	9.2	9.8
Other Non-OECD	12.6	12.7	12.7	12.9	13.0	13.1	13.1	13.3	13.3	13.4	13.4	13.7	12.7	13.1	13.5
Total Non-OECD	31.0	30.3	29.9	31.8	32.4	31.6	31.2	33.2	33.5	32.9	32.5	34.5	30.8	32.1	33.3
Total World Demand	73.3	70.0	70.5	74.2	74.6	71.8	72.4	76.0	76.7	73.5	74.1	77.9	72.0	73.7	75.5
Supply [b]															
OECD															
U.S. (50 States)	9.4	9.4	9.4	9.6	9.3	9.2	9.1	9.2	9.1	9.1	9.0	9.0	9.4	9.2	9.1
Canada	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.5	2.6	2.7
North Sea [c]	6.2	6.1	6.1	6.5	6.5	6.6	6.9	7.1	7.1	7.1	7.2	7.4	6.2	6.8	7.2
Other OECD	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.7
Total OECD	19.5	19.6	19.6	20.2	20.0	20.0	20.3	20.5	20.5	20.5	20.5	20.8	19.7	20.2	20.6
Non-OECD															
OPEC	28.1	28.1	28.3	28.7	29.3	29.5	29.5	29.6	29.6	29.7	29.8	30.0	28.3	29.5	29.8
Former Soviet Union	7.1	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.3	7.4	7.5	7.6	7.1	7.1	7.5
China	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.1	3.2	3.3
Mexico	3.3	3.4	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.3	3.4	3.5
Other Non-OECD	10.1	10.2	10.2	10.4	10.5	10.5	10.6	10.8	10.9	11.0	11.0	11.1	10.2	10.6	11.0
Total Non-OECD	51.7	51.8	52.0	52.6	53.4	53.7	53.9	54.3	54.5	54.8	55.2	55.6	52.0	53.8	55.0
Total World Supply	71.2	71.4	71.6	72.8	73.4	73.7	74.2	74.8	75.0	75.3	75.7	76.4	71.7	74.0	75.6
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.9	-0.7	-0.1	0.5	0.3	-0.6	-0.4	0.4	0.4	-0.6	-0.3	0.5	0.1	-0.1	0.0
Other	1.1	-0.7	-1.0	1.0	0.9	-1.2	-1.4	0.8	1.3	-1.2	-1.3	1.0	0.1	-0.2	-0.1
Total Stock Withdrawals	2.0	-1.4	-1.1	1.4	1.3	-1.9	-1.8	1.2	1.7	-1.8	-1.7	1.5	0.2	-0.3	-0.1
Closing Stocks, OECD only (billion barrels)	2.6	2.6	2.7	2.7	2.5	2.6	2.7	2.7	2.6	2.7	2.7	2.7	2.7	2.7	2.7
Non-OPEC Supply	43.1	43.3	43.3	44.1	44.0	44.2	44.6	45.2	45.4	45.6	45.9	46.4	43.5	44.5	45.8
Net Exports from Former Soviet Union	2.4	2.8	2.8	2.4	2.3	2.8	2.8	2.5	2.6	3.0	3.1	2.9	2.6	2.6	2.9

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

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

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

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

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

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

Sources: Energy Information Administration: latest data available from EIA databases supporting the following reports: *International Petroleum Statistics Report*, DOE/EIA-0520; Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

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

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Imported Crude Oil [a] (dollars per barrel)	18.38	20.11	20.70	23.03	21.36	20.16	19.17	19.42	19.50	20.25	19.75	20.34	20.58	20.00	19.97
Natural Gas Wellhead (dollars per thousand cubic feet)	2.00	2.12	2.15	2.73	2.74	2.01	2.00	2.20	2.17	1.99	2.01	2.25	2.25	2.24	2.11
Petroleum Products															
Gasoline Retail [b] (dollars per gallon)	1.20	1.35	1.31	1.30	1.30	1.33	1.30	1.26	1.24	1.31	1.30	1.29	1.29	1.30	1.29
No. 2 Diesel Oil, Retail (dollars per gallon)	1.16	1.23	1.21	1.30	1.27	1.24	1.20	1.24	1.22	1.22	1.20	1.25	1.23	1.23	1.22
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.59	0.61	0.63	0.72	0.62	0.57	0.57	0.61	0.58	0.56	0.56	0.62	0.64	0.59	0.58
No. 2 Heating Oil, Retail (dollars per gallon)	0.96	0.98	0.91	1.06	1.03	0.94	0.90	0.97	0.99	0.95	0.90	0.99	0.99	0.99	0.98
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	19.28	18.12	17.65	20.72	19.59	18.44	17.65	18.79	19.21	18.25	17.51	19.24	18.96	18.66	18.64
Electric Utility Fuels															
Coal (dollars per million Btu)	1.29	1.30	1.28	1.28	1.28	1.29	1.27	1.25	1.26	1.27	1.25	1.24	1.29	1.27	1.25
Heavy Fuel Oil [d] (dollars per million Btu)	3.00	2.93	2.83	3.41	3.17	3.00	2.86	3.09	3.06	2.97	2.83	3.16	3.02	3.03	3.01
Natural Gas (dollars per million Btu)	2.79	2.55	2.47	2.92	3.02	2.41	2.40	2.68	2.63	2.36	2.34	2.64	2.63	2.56	2.46
Other Residential															
Natural Gas (dollars per thousand cubic feet)	5.74	6.67	8.29	6.48	6.25	6.68	7.74	6.21	6.13	6.66	7.81	6.35	6.30	6.42	6.41
Electricity (cents per kilowatthour)	7.90	8.52	8.83	8.24	7.81	8.37	8.65	8.18	7.74	8.33	8.60	8.12	8.38	8.26	8.20

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.
Notes: Data are estimated for the first quarter of 1997. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Monthly Energy Review*, DOE/EIA-0035; *Electric Power Monthly*, DOE/EIA-0226.

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

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Crude Oil Supply															
Domestic Production [a]	6.52	6.47	6.42	6.47	6.48	6.33	6.26	6.26	6.23	6.15	6.07	6.05	6.47	6.33	6.12
Alaska	1.46	1.38	1.35	1.40	1.37	1.29	1.26	1.29	1.28	1.22	1.18	1.19	1.40	1.30	1.22
Lower 48	5.06	5.10	5.08	5.07	5.11	5.04	5.00	4.96	4.95	4.93	4.89	4.86	5.08	5.03	4.91
Net Imports (including SPR) [b]	6.90	7.67	7.60	7.32	7.23	8.00	7.97	7.58	7.29	8.17	8.13	7.86	7.37	7.70	7.86
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	0.03	0.05	0.12	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.00
Other Stock Withdrawn or Added (-)	0.04	-0.16	0.11	0.21	-0.23	-0.10	0.03	0.00	-0.08	-0.04	0.06	0.02	0.05	-0.07	-0.01
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.20	0.38	0.16	0.17	0.21	0.28	0.28	0.27	0.26	0.28	0.28	0.27	0.23	0.26	0.27
Total Crude Oil Supply	13.67	14.40	14.41	14.25	13.71	14.50	14.52	14.10	13.69	14.54	14.53	14.20	14.18	14.21	14.24
Other Supply															
NGL Production	1.74	1.83	1.86	1.90	1.81	1.79	1.78	1.80	1.82	1.82	1.82	1.84	1.83	1.80	1.82
Other Hydrocarbon and Alcohol Inputs	0.32	0.29	0.30	0.33	0.31	0.27	0.30	0.31	0.32	0.29	0.31	0.33	0.31	0.30	0.31
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.78	0.84	0.85	0.87	0.75	0.81	0.81	0.79	0.76	0.81	0.81	0.79	0.83	0.79	0.79
Net Product Imports [c]	0.96	1.15	0.99	1.09	0.85	1.21	1.28	1.22	1.41	1.27	1.34	1.22	1.05	1.14	1.31
Product Stock Withdrawn or Added (-)	0.82	-0.59	-0.31	0.18	0.52	-0.54	-0.43	0.38	0.47	-0.56	-0.39	0.43	0.02	-0.02	-0.01
Total Supply	18.29	17.91	18.09	18.63	17.95	18.05	18.28	18.62	18.48	18.18	18.43	18.82	18.23	18.23	18.48
Demand															
Motor Gasoline	7.51	7.99	8.00	7.90	7.55	8.13	8.15	8.05	7.69	8.26	8.26	8.15	7.85	7.97	8.09
Jet Fuel	1.60	1.52	1.59	1.60	1.59	1.56	1.62	1.65	1.62	1.58	1.64	1.67	1.58	1.61	1.63
Distillate Fuel Oil	3.62	3.23	3.14	3.49	3.52	3.31	3.25	3.52	3.78	3.36	3.29	3.56	3.37	3.40	3.50
Residual Fuel Oil	0.96	0.77	0.83	0.81	0.87	0.77	0.73	0.87	1.00	0.73	0.71	0.89	0.84	0.81	0.83
Other Oils [d]	4.60	4.41	4.54	4.84	4.41	4.29	4.52	4.52	4.39	4.26	4.52	4.54	4.60	4.44	4.43
Total Demand	18.29	17.91	18.09	18.63	17.95	18.05	18.28	18.62	18.48	18.18	18.43	18.82	18.23	18.23	18.48
Total Petroleum Net Imports	7.86	8.81	8.59	8.41	8.08	9.21	9.25	8.81	8.69	9.44	9.47	9.08	8.42	8.84	9.17
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	300	314	304	285	305	314	311	311	318	322	316	314	285	311	314
Total Motor Gasoline	203	205	200	196	196	196	197	204	213	204	201	206	196	204	206
Finished Motor Gasoline	159	165	161	157	151	157	156	163	171	165	160	165	157	163	165
Blending Components	44	40	39	38	44	40	41	41	42	40	41	41	38	41	41
Jet Fuel	34	39	43	40	39	41	42	43	40	42	42	43	40	43	43
Distillate Fuel Oil	90	102	115	127	97	103	122	126	91	102	121	124	127	126	124
Residual Fuel Oil	32	35	38	46	38	40	43	43	34	37	39	41	46	43	41
Other Oils [e]	235	267	280	251	242	282	299	251	246	291	307	258	251	251	258
Total Stocks (excluding SPR)	893	961	980	944	918	976	1013	978	943	997	1027	986	944	978	986
Crude Oil in SPR	589	584	574	566	564	564	564	564	564	564	564	564	566	564	564
Total Stocks (including SPR)	1482	1546	1554	1510	1481	1539	1576	1541	1506	1561	1591	1549	1510	1541	1549

[a]Includes lease condensate.

[b]Net imports equals gross imports plus SPR imports minus exports.

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

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

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

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

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109, and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Table 6. Approximate Energy Demand Sensitivities[a] for the STIFS[b] Model
(Percent Deviation from Base Case)

Demand Sector	+ 1% GDP	+ 10% Prices		+ 10% Weather[e]	
		Crude Oil[c]	N.Gas Wellhead[d]	Fall/Winter[f]	Spring/Summer[f]
Petroleum					
Total	0.6%	-0.3%	0.1%	1.2%	0.1%
Motor Gasoline	0.1%	-0.3%	0.0%	0.0%	0.0%
Distillate Fuel	0.8%	-0.2%	0.0%	2.9%	0.2%
Residual Fuel	1.6%	-3.4%	2.6%	6.0%	2.1%
Natural Gas					
Total	1.1%	0.3%	-0.4%	4.8%	1.4%
Residential	0.1%	0.0%	0.0%	8.4%	1.7%
Commercial	0.9%	0.0%	0.0%	7.6%	1.3%
Industrial	1.7%	0.2%	-0.5%	1.4%	0.1%
Electric Utility	1.8%	1.6%	-1.5%	4.9%	4.1%
Coal					
Total	0.7%	0.0%	0.0%	1.5%	1.4%
Electric Utility	0.6%	0.0%	0.0%	1.6%	1.6%
Electricity					
Total	0.6%	0.0%	0.0%	1.4%	1.4%
Residential	0.1%	0.0%	0.0%	3.2%	3.1%
Commercial	0.9%	0.0%	0.0%	1.1%	1.2%
Industrial	0.8%	0.0%	0.0%	0.0%	0.0%

[a]Percent change in demand quantity resulting from specified percent changes in model inputs.
[b]Short-Term Integrated Forecasting System.
[c]Refiner acquisitions cost of imported crude oil.
[d]Average unit value of marketed natural gas production reported by states.
[e]Refers to percent changes in degree-days.
[f]Response during fall/winter period (first and fourth calendar quarters) refers to change in heating degree-days. Response during the spring/summer period refers to change in cooling degree-days.

Table 7.   Forecast Components for U.S. Crude Oil Production
(Million Barrels per Day)

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.42	5.75	0.66	0.10	0.57
Lower 48 States	5.20	4.56	0.63	0.08	0.55
Alaska	1.22	1.19	0.03	0.02	0.02

Note: Components provided are for the fourth quarter 1998; totals are from Tables 5 and 7. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

Table 8. U.S. Natural Gas Supply and Demand: Mid World Oil Price Case
(Trillion Cubic Feet)

	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	1998 1st	1998 2nd	1998 3rd	1998 4th	Year 1996	Year 1997	Year 1998
Supply															
Total Dry Gas Production	4.74	4.70	4.72	4.85	4.75	4.75	4.76	4.93	4.85	4.85	4.86	5.02	19.02	19.19	19.58
Net Imports	0.66	0.65	0.67	0.71	0.69	0.71	0.72	0.79	0.79	0.77	0.78	0.84	2.69	2.90	3.19
Supplemental Gaseous Fuels	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.13	0.13	0.13
Total New Supply	5.44	5.39	5.42	5.59	5.48	5.48	5.51	5.75	5.68	5.65	5.67	5.90	21.84	22.22	22.90
Underground Working Gas Storage															
Opening	6.50	5.04	5.86	6.93	6.51	5.24	6.09	6.96	6.51	5.31	6.06	6.95	6.50	6.51	6.51
Closing	5.04	5.86	6.93	6.51	5.24	6.09	6.96	6.51	5.31	6.06	6.95	6.50	6.51	6.51	6.50
Net Withdrawals	1.46	-0.82	-1.07	0.42	1.26	-0.85	-0.87	0.45	1.20	-0.76	-0.89	0.45	0.00	0.00	0.01
Total Supply	6.91	4.57	4.35	6.01	6.74	4.64	4.64	6.19	6.88	4.89	4.77	6.36	21.84	22.21	22.91
Balancing Item [a]	0.21	0.32	-0.03	-0.34	0.20	0.26	-0.14	-0.29	0.59	0.21	-0.13	-0.34	0.15	0.03	0.33
Total Primary Supply	7.12	4.88	4.32	5.67	6.94	4.90	4.51	5.90	7.48	5.11	4.64	6.01	21.99	22.25	23.23
Demand															
Lease and Plant Fuel	0.31	0.31	0.31	0.32	0.32	0.30	0.30	0.32	0.31	0.31	0.31	0.33	1.25	1.25	1.26
Pipeline Use	0.23	0.16	0.14	0.18	0.23	0.16	0.15	0.19	0.23	0.16	0.15	0.19	0.71	0.73	0.73
Residential	2.46	0.90	0.38	1.48	2.32	0.85	0.38	1.41	2.46	0.87	0.38	1.43	5.22	4.96	5.14
Commercial	1.36	0.63	0.39	0.89	1.28	0.61	0.41	0.89	1.39	0.63	0.42	0.91	3.28	3.19	3.34
Industrial (Incl. Cogenerators)	2.25	2.09	2.04	2.22	2.29	2.13	2.08	2.33	2.38	2.17	2.13	2.38	8.60	8.82	9.05
Cogenerators [b]	0.56	0.51	0.52	0.60	0.56	0.54	0.57	0.65	0.58	0.56	0.59	0.68	2.20	2.32	2.41
Electricity Production															
Electric Utilities	0.46	0.74	1.01	0.53	0.45	0.81	1.13	0.71	0.66	0.92	1.20	0.72	2.74	3.10	3.49
Nonutilities (Excl. Cogen.)	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.06	0.19	0.20	0.21
Total Demand	7.12	4.88	4.32	5.67	6.94	4.90	4.51	5.90	7.48	5.11	4.64	6.01	21.99	22.25	23.23

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

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

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

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

Table 9. U.S. Coal Supply and Demand: Mid World Oil Price Case
(Million Short Tons)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Production	258.1	261.6	270.3	272.6	275.0	273.0	275.6	269.6	279.0	274.7	279.2	274.0	1062.6	1093.3	1106.9
Appalachia	109.8	112.2	109.8	112.2	114.3	114.8	109.1	108.3	113.5	113.1	107.8	107.4	444.1	446.4	441.7
Interior	43.8	42.5	43.3	47.0	45.3	42.8	42.6	44.4	44.6	41.4	41.1	42.9	176.7	175.1	170.0
Western	104.4	106.8	117.2	113.4	115.4	115.5	124.0	117.0	120.9	120.2	130.3	123.7	441.9	471.8	495.2
Primary Stock Levels [a]															
Opening	34.4	36.9	37.3	33.8	31.5	35.0	35.0	33.0	32.0	34.0	34.0	32.0	34.4	31.5	32.0
Closing	36.9	37.3	33.8	31.5	35.0	35.0	33.0	32.0	34.0	34.0	32.0	31.0	31.5	32.0	31.0
Net Withdrawals	-2.4	-0.5	3.6	2.3	-3.5	(S)	2.0	1.0	-2.0	(S)	2.0	1.0	2.9	-0.5	1.0
Imports	1.7	1.6	2.1	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	7.1	7.5	7.5
Exports	20.5	23.0	23.5	23.4	22.3	23.0	23.3	23.2	22.5	23.2	23.4	23.3	90.5	91.9	92.4
Total Net Domestic Supply	236.8	239.6	252.4	253.3	251.0	251.8	256.2	249.3	256.4	253.4	259.7	253.5	982.2	1008.5	1023.0
Secondary Stock Levels [b]															
Opening	134.6	124.5	134.3	127.2	121.8	117.8	129.8	114.5	111.2	111.3	122.5	109.1	134.6	121.8	111.2
Closing	124.5	134.3	127.2	121.8	117.8	129.8	114.5	111.2	111.3	122.5	109.1	108.4	121.8	111.2	108.4
Net Withdrawals	10.1	-9.8	7.1	5.4	4.1	-12.1	15.3	3.3	-0.1	-11.2	13.4	0.7	12.8	10.6	2.8
Total Supply	247.0	229.8	259.5	258.7	255.1	239.8	271.5	252.6	256.3	242.2	273.1	254.2	995.0	1019.0	1025.8
Demand															
Coke Plants	8.0	8.0	7.1	8.3	7.8	8.1	8.3	8.3	7.8	8.2	8.4	8.2	31.3	32.5	32.7
Electricity Production															
Electric Utilities	214.8	203.0	232.9	223.0	220.6	207.5	238.5	217.1	221.3	209.0	239.6	218.3	873.7	883.7	888.2
Nonutilities (Excl. Cogen.) [c]	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	7.0	7.0	7.0	7.0	24.0	26.0	28.0
Retail and General Industry [d]	20.3	18.0	17.9	20.9	20.2	17.7	18.2	20.8	20.2	18.0	18.0	20.7	77.0	76.9	76.9
Total Demand	249.0	234.9	263.9	258.2	255.1	239.8	271.5	252.6	256.3	242.2	273.1	254.2	1006.0	1019.0	1025.8
Discrepancy [e]	-2.0	-5.1	-4.4	0.5	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	-11.0	(S)	(S)

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

[b] Secondary stocks are held by users.

[c] Consumption of coal by Independent Power Producers (IPPs). In 1994, IPP consumption was estimated to be 3.775 million tons per quarter. Quarterly estimates and projections for coal consumption by nonutility generators are based on estimates for annual coal-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867 (Annual Nonutility Power Producer Report). Data for first quarter 1997 are estimates.

[d] Synfuels plant demand in 1993 was 1.7 million tons per quarter and is assumed to remain at that level in 1994, 1995, 1996, 1997 and 1998.

[e] Historical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference. Forecast discrepancy identically zero by assumption.

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

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

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

Table 10. U.S. Electricity Supply and Demand: Mid World Oil Price Case
(Billion Kilowatthours)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Net Utility Generation															
Coal	427.5	405.1	462.2	441.1	436.8	415.4	476.5	433.2	443.2	418.5	477.7	434.8	1735.9	1761.9	1774.2
Petroleum	22.4	12.8	18.6	14.1	15.8	12.8	17.3	13.2	17.6	11.0	16.3	15.8	67.9	59.0	60.8
Natural Gas	44.6	71.3	96.7	50.7	42.4	76.3	106.7	66.6	61.7	86.4	112.5	68.0	263.3	292.0	328.6
Nuclear	174.4	163.5	177.0	159.9	174.8	157.4	183.6	165.8	177.1	159.5	186.0	168.0	674.8	681.6	690.6
Hydroelectric	91.1	92.6	73.1	72.1	81.4	78.5	61.5	62.9	72.9	76.1	63.7	63.8	328.8	284.4	276.5
Geothermal and Other [a]	1.5	1.5	2.2	2.1	1.8	1.7	1.8	1.8	1.7	1.6	1.7	1.7	7.2	7.1	6.7
Subtotal	761.4	746.7	829.8	740.0	752.9	742.2	847.4	743.6	774.3	753.2	857.9	752.1	3077.9	3086.1	3137.4
Nonutility Generation [b]															
Coal	16.1	14.7	15.1	17.4	15.9	15.5	16.3	18.7	16.4	16.0	16.8	19.3	63.3	66.4	68.5
Petroleum	4.4	4.0	4.1	4.7	4.5	4.4	4.6	5.3	4.9	4.8	5.0	5.7	17.3	18.8	20.4
Natural Gas	52.3	47.9	49.1	56.5	52.3	50.8	53.3	61.2	54.2	52.7	55.3	63.6	205.8	217.6	225.9
Other Gaseous Fuels [c]	3.2	2.9	3.0	3.4	3.0	2.9	3.1	3.5	3.0	2.9	3.1	3.5	12.5	12.5	12.6
Hydroelectric	3.9	3.6	3.7	4.2	4.0	3.8	4.0	4.6	4.1	4.0	4.2	4.9	15.3	16.4	17.3
Geothermal and Other [d]	20.5	18.7	19.2	22.1	19.9	19.4	20.3	23.4	20.2	19.7	20.6	23.7	80.5	83.0	84.3
Subtotal	100.3	91.8	94.2	108.3	99.6	96.9	101.6	116.7	103.0	100.1	105.0	120.7	394.7	414.7	428.8
Total Generation	861.8	838.6	924.0	848.3	852.6	839.1	948.9	860.3	877.2	853.3	962.9	872.7	3472.7	3500.8	3566.2
Net Imports [e]	7.1	9.5	13.0	8.6	6.9	9.3	12.7	8.4	6.9	9.2	12.6	8.3	38.3	37.3	37.0
Total Supply	868.9	848.0	937.1	856.9	859.5	848.3	961.6	868.7	884.1	862.5	975.5	881.1	3510.9	3538.1	3603.2
Losses and Unaccounted for [f]	55.1	78.0	60.3	69.7	49.6	71.4	65.9	66.4	51.0	72.6	66.8	67.3	263.1	253.3	257.7
Demand															
Electric Utility Sales															
Residential	290.5	239.2	302.2	247.3	282.7	238.2	307.5	255.6	298.4	245.4	314.6	262.1	1079.2	1084.0	1120.4
Commercial	209.9	216.3	246.6	214.9	213.0	217.7	252.8	218.9	220.4	222.3	256.8	221.6	887.6	902.5	921.2
Industrial	247.7	252.5	262.6	254.7	248.0	258.1	268.6	257.0	249.1	259.3	270.1	258.7	1017.5	1031.8	1037.3
Other	24.6	24.3	26.8	26.0	26.4	24.2	26.3	24.1	24.5	23.3	25.7	23.6	101.7	100.9	97.2
Subtotal	772.7	732.4	838.1	742.9	770.1	738.2	855.2	755.7	792.4	750.3	867.2	766.1	3086.0	3119.2	3176.0
Nonutility Gener. for Own Use [b]	41.1	37.6	38.6	44.4	39.8	38.7	40.6	46.6	40.7	39.6	41.5	47.7	161.8	165.6	169.5
Total Demand	813.8	770.0	876.7	787.3	809.9	776.9	895.8	802.3	833.1	789.9	908.7	813.8	3247.8	3284.8	3345.5
Memo:															
Nonutility Sales to Electric Utilities [b]	59.2	54.2	55.6	63.9	59.8	58.2	61.0	70.1	62.3	60.6	63.5	73.0	232.9	249.1	259.3

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

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

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

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

[e] Data for 1996 are estimates.

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

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

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

Table 11.   U.S. Renewable Energy Use by Sector: Mid World Oil Price Case
(Quadrillion Btu)

	Year				Annual Percentage Change		
	1995	1996	1997	1998	1995-1996	1997-1998	1997-1998
Electric Utilities							
Hydroelectric Power [a]	3.054	3.380	2.844	2.876	10.7	-15.9	1.1
Geothermal, Solar and Wind Energy [b]	0.099	0.111	0.110	0.100	12.1	-0.9	-9.1
Biofuels [c]	0.017	0.020	0.020	0.020	17.6	0.0	0.0
Total	3.170	3.511	2.975	2.995	10.8	-15.3	0.7
Nonutility Power Generators							
Hydroelectric Power [a]	0.152	0.158	0.169	0.177	3.9	7.0	4.7
Geothermal, Solar and Wind Energy [b]	0.248	0.276	0.287	0.295	11.3	4.0	2.8
Biofuels [c]	0.585	0.628	0.645	0.653	7.4	2.7	1.2
Total	0.985	1.061	1.101	1.125	7.7	3.8	2.2
Total Power Generation	4.156	4.573	4.076	4.121	10.0	-10.9	1.1
Other Sectors							
Residential and Commercial [d]	0.677	0.713	0.695	0.697	5.3	-2.5	0.3
Industrial [e]	1.545	1.546	1.586	1.620	0.1	2.6	2.1
Transportation [f]	0.088	0.063	0.083	0.088	-28.4	31.7	6.0
Total	2.310	2.322	2.363	2.405	0.5	1.8	1.8
Net Imported Electricity [g]	0.304	0.309	0.301	0.299	1.6	-2.6	-0.7
Total Renewable Energy Demand	6.769	7.204	6.740	6.824	6.4	-6.4	1.2

[a]Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

[b]Also includes photovoltaic and solar thermal energy.

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

[d]Includes biofuels and solar energy consumed in the residential and commercial sectors.

[e]Consists primarily of biofuels for use other than in electricity cogeneration.

[f]Ethanol blended into gasoline.

[g]Represents 78.6 percent of total electricity net imports, which is the proportion of total 1994 net imported electricity (0.459 quadrillion Btu) attributable to renewable sources (0.361 quadrillion Btu). This marks a change in the way electricity imports are handled in this report so far as renewables calculations are concerned. Previous reports assumed 100 percent of electricity net imports was from renewable (hydroelectric) sources.

(S) Less than 500 billion Btu.

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

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

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

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

								Year							
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Real Gross Domestic Product (GDP) (billion chained 1992 dollars)	5138	5330	5490	5648	5863	6060	6139	6079	6244	6386	6609	6743	6911	*7105*	*7249*
Imported Crude Oil Price [a] (nominal dollars per barrel)	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.15	20.58	*20.00*	*19.97*
Petroleum Supply															
Crude Oil Production [b] (million barrels per day)	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.47	*6.33*	*6.12*
Total Petroleum Net Imports (including SPR) (million barrels per day)	4.72	4.29	5.44	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.42	*8.84*	*9.17*
Energy Demand															
World Petroleum (million barrels per day)	20.0	59.9	60.6	62.2	63.4	65.2	66.0	66.2	66.8	66.6	66.2	70.3	72.0	*73.7*	*75.5*
U.S. Petroleum (million barrels per day)	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.23	*18.23*	*18.48*
Natural Gas (trillion cubic feet)	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.99	*22.25*	*23.23*
Coal (million short tons)	791	818	804	837	884	891	897	894	902	938	945	959	1006	*1019*	*1026*
Electricity (billion kilowatthours) Utility Sales [c]	2286	2324	2369	2457	2578	2647	2713	2762	2763	2861	2935	3009	3086	*3119*	*3176*
Nonutility Own Use [d]	NA	NA	NA	NA	NA	108	113	122	132	138	150	158	162	*166*	*169*
Total	NA	NA	NA	NA	NA	2755	2826	2884	2895	3000	3085	3167	3248	*3285*	*3346*
Total Energy Demand [e] (quadrillion Btu)	70.5	74.1	74.0	74.3	76.9	80.2	81.3	81.0	81.9	83.6	85.0	87.1	89.8	*90.2*	*91.9*
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	16.46	16.71	16.19	15.85	15.81	15.97	16.00	13.92	13.12	13.10	12.86	12.91	13.00	*12.69*	*12.67*
Adjusted Total Energy Demand [e] (quadrillion Btu)	NA	NA	NA	NA	NA	81.9	84.1	84.0	85.2	86.9	88.5	90.6	93.4	*93.8*	*95.6*
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	NA	NA	NA	NA	NA	1.63	1.66	14.43	13.64	13.61	13.39	13.43	13.52	*13.20*	*13.18*

[a] Refers to the imported cost of crude oil to U.S. refiners.
[b] Includes lease condensate.
[c] Total annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's Electric Power Monthly, DOE/EIA-0226. Data for 1996 are estimates.
[d] Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report."
[e] "Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1995, DOE/EIA-0384(95), Table 1.1 for the period 1960 to 1989. Adjusted "Total Energy Demand" refers to the aggregate energy demand concept reported in the same table for 1990 and beyond. The former concept is extended here in order to provide a more consistent long-term energy demand series. The latter concept is more comprehensive and is intended as the primary energy demand aggregate for assessing energy intensity trends since 1990. The adjusted measure incorporates information on renewable energy consumption among households, commercial establishments, and electricity generating facilities other than electric utilities (including industrial cogenerators). The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, Monthly Energy Review (MER). Consequently, the historical data may not precisely match those published in the MER or the AER.

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Latest data available from Bureau of Economic Analysis; Energy Information Administration; latest data available from EIA databases supporting the following reports: Petroleum Supply Monthly, DOE/EIA-0109; Petroleum Supply Annual, DOE/EIA-0340/2; Natural Gas Monthly, DOE/EIA-0130; Electric Power Monthly, DOE/EIA-0226; and Quarterly Coal Report, DOE/EIA-0121; International Petroleum Statistics Report DOE/EIA-0520; Weekly Petroleum Status Report DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

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

	Year														
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Macroeconomic															
Real Gross Domestic Product (billion chained 1992 dollars)	5138	5330	5490	5648	5863	6060	6139	6079	6244	6386	6609	6743	6911	7105	7249
GDP Implicit Price Deflator (Index, 1992=1.000)	0.759	0.786	0.806	0.831	0.861	0.897	0.936	0.973	1.000	1.026	1.050	1.076	1.099	1.122	1.149
Real Disposable Personal Income (billion chained 1992 Dollars)	3842	3959	4087	4154	4318	4404	4485	4486	4614	4667	4778	4946	5088	5263	5383
Manufacturing Production (Index, 1987=1.000)	0.903	0.924	0.950	1.000	1.047	1.067	1.062	1.037	1.078	1.117	1.179	1.221	1.253	1.302	1.328
Real Fixed Investment (billion chained 1992 dollars)	762	799	805	799	818	832	806	741	783	836	921	976	1042	1095	1133
Real Exchange Rate (Index, 1990=1.000)	NA	NA	NA	NA	NA	NA	1.000	1.008	1.012	1.056	1.033	0.960	1.014	1.046	1.019
Business Inventory Change (billion chained 1992 dollars)	28.9	-4.5	-4.2	5.1	9.5	19.2	6.6	-6.1	-9.3	5.5	8.3	11.8	9.4	8.7	3.2
Producer Price Index (index, 1980-1984=1.000)	1.037	1.032	1.002	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.248	1.276	1.288	1.303
Consumer Price Index (index, 1980-1984=1.000)	1.039	1.076	1.097	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	1.569	1.612	1.659
Petroleum Product Price Index (index, 1980-1984=1.000)	0.874	0.832	0.532	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.608	0.702	0.691	0.681
Non-Farm Employment (millions)	94.4	97.4	99.3	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.2	117.2	119.6	122.0	123.9
Commercial Employment (millions)	58.0	60.8	62.9	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.1	78.8	81.2	83.6	85.4
Total Industrial Production (Index, 1987=1.000)	0.930	0.945	0.956	1.000	1.044	1.063	1.062	1.041	1.074	1.110	1.166	1.204	1.237	1.280	1.306
Housing Stock (millions)	94.5	96.3	98.0	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.8	111.2	112.7	114.1
Weather [a]															
Heating Degree-Days															
U.S.	4514	4642	4295	4334	4653	4726	4016	4200	4441	4700	4483	4531	4714	4404	4576
New England	6442	6571	6517	6546	6715	6887	5848	5960	6844	6728	6672	6559	6692	6442	6621
Middle Atlantic	5777	5660	5665	5699	6088	6134	4998	5177	5964	5948	5934	5831	5965	5654	5839
U.S. Gas-Weighted	4704	4856	4442	4391	4779	4856	4139	4337	4458	4754	4659	4707	5040	4609	4732
Cooling Degree-Days (U.S.)	1214	1194	1249	1269	1283	1156	1260	1331	1040	1218	1220	1293	1168	1194	1193

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

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, Statistical Release G.17(419); U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0297.

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

	Year														
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Demand [a]															
OECD															
U.S. (50 States)	15.8	15.8	16.3	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	18.2	18.2	18.5
Europe [b]	12.1	12.0	12.5	12.6	12.7	12.8	12.6	13.4	13.6	13.5	13.6	14.1	14.3	14.6	14.7
Japan	4.6	4.4	4.4	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.8	5.8	6.0
Other OECD	2.5	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	2.9	2.9	3.0
Total OECD	34.9	34.7	35.7	36.3	37.5	37.9	37.5	38.1	38.8	39.0	39.9	40.5	41.2	41.6	42.2
Non-OECD															
Former Soviet Union	8.9	9.0	9.0	9.0	8.9	8.7	8.4	8.4	6.8	5.4	4.8	4.7	4.5	4.5	4.5
Europe	1.8	2.2	2.2	2.2	2.2	2.1	2.0	1.3	1.3	1.2	1.4	1.4	1.4	1.5	1.5
China	1.7	1.9	2.0	2.1	2.3	2.4	2.3	2.5	2.7	3.0	3.2	3.3	3.6	3.8	4.0
Other Asia	3.7	3.7	3.9	4.1	4.4	4.9	5.3	5.7	6.1	6.4	7.4	8.0	8.6	9.2	9.8
Other Non-OECD	8.9	9.1	9.5	9.7	10.0	10.4	10.7	10.8	10.9	11.2	12.0	12.3	12.7	13.1	13.5
Total Non-OECD	25.1	25.9	26.5	27.1	27.7	28.5	28.7	28.6	27.8	27.2	28.8	29.8	30.8	32.1	33.3
Total World Demand	59.9	60.6	62.2	63.4	65.2	66.4	66.2	66.8	66.6	66.2	68.7	70.3	72.0	73.7	75.5
Supply [c]															
OECD															
U.S. (50 States)	11.1	11.2	10.9	10.6	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.4	9.2	9.1
Canada	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
North Sea [d]	3.4	3.6	3.8	3.8	3.8	3.7	3.9	4.0	4.3	4.6	5.4	5.8	6.2	6.8	7.2
Other OECD	1.3	1.4	1.3	1.4	1.4	1.3	1.5	1.5	1.5	1.3	1.5	1.6	1.6	1.6	1.7
Total OECD	17.6	18.0	17.9	17.8	17.7	17.0	17.0	17.5	17.8	17.8	18.6	19.2	19.7	20.2	20.6
Non-OECD															
OPEC	18.4	17.2	19.3	19.6	21.5	23.5	24.2	24.7	25.9	26.9	27.2	27.6	28.3	29.5	29.8
Former Soviet Union	12.2	11.9	12.3	12.5	12.5	12.1	11.4	10.4	8.9	8.1	7.0	7.0	7.1	7.1	7.5
China	2.3	2.5	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	3.1	3.2	3.3
Mexico	3.1	3.0	2.8	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.1	3.3	3.4	3.5
Other Non-OECD	6.1	6.6	6.8	6.9	7.4	7.5	7.7	8.1	8.4	8.7	9.1	9.9	10.2	10.6	11.0
Total Non-OECD	42.0	41.2	43.9	44.6	47.0	48.9	49.4	49.2	49.2	49.8	49.4	50.6	52.0	53.8	55.0
Total World Supply	59.6	59.3	61.8	62.4	64.7	65.9	66.4	66.7	66.9	67.6	68.0	69.8	71.7	74.0	75.6
Total Stock Withdrawals	-0.2	0.3	-0.9	-0.1	-0.4	-0.2	-0.2	0.1	-0.3	-1.4	0.7	0.5	0.2	-0.3	-0.1
Closing Stocks, OECD only (billion barrels)	2.7	2.6	2.7	2.7	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.7	2.7
Net Exports from Former Soviet Union	3.3	3.0	3.4	3.5	3.6	3.4	3.0	2.1	2.1	2.7	2.2	2.2	2.6	2.6	2.9

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

[b]OECD Europe includes the former East Germany.

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

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

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

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

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

Sources: Energy Information Administration: latest data available from EIA databases supporting the following reports: *International Petroleum Statistics Report*, DOE/EIA-0520, and Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database.

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

	Year														
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Imported Crude Oil [a] (dollars per barrel)	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.15	20.58	20.00	19.97
Natural Gas Wellhead (dollars per thousand cubic feet)	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.85	1.55	2.25	2.24	2.11
Petroleum Product															
Gasoline Retail [b] (dollars per gallon)	1.20	1.20	0.93	0.96	0.96	1.06	1.22	1.20	1.19	1.17	1.17	1.21	1.29	1.30	1.29
No. 2 Diesel Oil, Retail (dollars per gallon)	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.10	1.22	1.23	1.21
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	0.64	0.59	0.58
No. 2 Heating Oil, Retail (dollars per gallon)	1.09	1.05	0.84	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.89	0.86	0.98	0.98	0.97
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.49	18.96	18.66	18.64
Electric Utility Fuel															
Coal (dollars per million Btu)	1.66	1.65	1.58	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.27	1.25
Heavy Fuel Oil [d] (dollars per million Btu)	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	3.02	3.03	3.01
Natural Gas (dollars per million Btu)	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	2.63	2.56	2.46
Other Residential															
Natural Gas (dollars per thousand cubic feet)	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.06	6.30	6.42	6.41
Electricity (cents per kilowatthour)	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.3	8.2

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Monthly Energy Review*, DOE/EIA-0035; *Electric Power Monthly*, DOE/EIA-0226.

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

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Supply															
Crude Oil Supply															
Domestic Production [a]	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.47	6.33	6.12
Alaska	1.72	1.83	1.87	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.48	1.40	1.30	1.22
Lower 48	7.16	7.15	6.81	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.08	5.08	5.03	4.91
Net Imports (including SPR) [b]	3.25	3.00	4.02	4.52	4.95	5.70	5.79	5.67	5.99	6.69	6.96	7.14	7.37	7.70	7.86
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stock Draw (Including SPR)	-0.20	-0.05	-0.08	-0.12	-0.04	-0.09	0.02	-0.01	0.01	-0.06	-0.02	0.09	0.05	-0.07	-0.01
Product Supplied and Losses	-0.07	-0.06	-0.05	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.18	0.15	0.14	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.23	0.26	0.27
Total Crude Oil Supply	12.04	12.00	12.72	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.18	14.21	14.24
Other Supply															
NGL Production	1.63	1.61	1.55	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.83	1.80	1.82
Other Hydrocarbon and Alcohol Inputs	0.08	0.11	0.11	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.31	0.30	0.31
Crude Oil Product Supplied	0.06	0.06	0.05	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.55	0.56	0.62	0.64	0.66	0.66	0.70	0.71	0.77	0.76	0.77	0.77	0.83	0.79	0.79
Net Product Imports [c]	1.47	1.29	1.41	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.75	1.05	1.14	1.31
Product Stock Withdrawn or Added (-)	-0.08	0.15	-0.12	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	0.02	-0.02	-0.01
Total Supply	15.76	15.78	16.33	16.72	17.33	17.37	17.05	16.76	17.10	17.25	17.72	17.72	18.23	18.23	18.48
Demand															
Motor Gasoline [d]	6.69	6.78	6.94	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.85	7.97	8.09
Jet Fuel	1.18	1.22	1.31	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.58	1.61	1.63
Distillate Fuel Oil	2.84	2.87	2.91	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.21	3.37	3.40	3.50
Residual Fuel Oil	1.37	1.20	1.42	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.84	0.81	0.83
Other Oils [e]	3.68	3.71	3.75	3.90	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.36	4.60	4.44	4.43
Total Demand	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.23	18.23	18.48
Total Petroleum Net Imports	4.72	4.29	5.44	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.42	8.84	9.17
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	345	321	331	349	330	341	323	325	318	335	337	303	285	311	314
Total Motor Gasoline	243	223	233	226	228	213	220	219	216	226	215	202	196	204	206
Jet Fuel	40	40	50	50	44	41	52	49	43	40	47	40	40	43	43
Distillate Fuel Oil	161	144	155	134	124	106	132	144	141	141	145	130	127	126	124
Residual Fuel Oil	53	50	47	47	45	44	49	50	43	44	42	37	46	43	41
Other Oils [f]	261	247	265	260	267	257	261	267	263	273	275	258	251	251	258

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Net imports equals finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] For years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, *Short-Term Energy Outlook*, EIA/DOE-0202(93/3Q), for details on this adjustment.
[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[f] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109, and *Weekly Petroleum Status Report*, DOE/EIA-0208.

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

	Year 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Supply															
Total Dry Gas Production	17.47	16.45	16.06	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.82	18.60	19.02	19.19	19.58
Net Imports	0.79	0.89	0.69	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.69	2.69	2.90	3.19
Supplemental Gaseous Fuels	0.11	0.13	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.13	0.13	0.13
Total New Supply	18.36	17.47	16.86	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.39	21.40	21.84	22.22	22.90
Underground Working Gas Storage															
Opening	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.51
Closing	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.51	6.50
Net Withdrawals	-0.26	0.26	-0.12	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.46	0.00	0.00	0.01
Total Supply	18.10	17.73	16.74	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.08	21.86	21.84	22.21	22.91
Balancing Item [a]	-0.15	-0.45	-0.52	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.37	-0.28	0.15	0.03	0.33
Total Primary Supply	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.99	22.25	23.23
Demand															
Lease and Plant Fuel	1.08	0.97	0.92	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.12	1.22	1.25	1.25	1.26
Pipeline Use	0.53	0.50	0.49	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.70	0.71	0.73	0.73
Residential	4.56	4.43	4.31	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.22	4.96	5.14
Commercial	2.52	2.43	2.32	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.03	3.28	3.19	3.34
Industrial (Incl. Nonutilities)	6.15	5.90	5.58	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.17	8.58	8.79	9.02	9.26
Cogenerators [b]	NA	NA	NA	NA	NA	1.12	1.30	1.41	1.67	1.80	1.98	2.18	2.20	2.32	2.41
Other Nonutil. Gen. [b]	NA	NA	NA	NA	NA	0.06	0.09	0.16	0.18	0.22	0.17	0.17	0.19	0.20	0.21
Electric Utilities	3.11	3.04	2.60	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.20	2.74	3.10	3.49
Total Demand	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.99	22.25	23.23

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

[b] Annual projections for nonutility gas consumption, as well as the detail on independent power producers' share of gas consumption, are provided by the office of Coal, Nuclear, Electric and Alternative Fuels, Energy Information Administration.

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

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

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

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Supply															
Production	895.9	883.6	890.3	918.8	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1033.0	1062.6	1093.3	1106.9
Appalachia	444.1	424.7	428.3	443.1	449.3	464.8	489.0	457.8	456.6	409.7	445.4	436.0	444.1	446.4	441.7
Interior	198.3	188.8	196.6	201.8	193.2	198.1	205.8	195.4	195.7	167.2	179.9	166.7	176.7	175.1	170.0
Western	253.5	270.1	265.3	273.9	307.8	317.9	334.3	342.8	345.3	368.5	408.3	430.2	441.9	471.8	495.2
Primary Stock Levels [a]															
Opening	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	31.5	32.0
Closing	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	31.5	32.0	31.0
Net Withdrawals	-0.2	1.0	1.0	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	2.9	-0.5	1.0
Imports	1.3	2.0	2.2	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.1	7.5	7.5
Exports	81.5	92.7	85.5	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.5	91.9	92.4
Total Net Domestic Supply	815.6	793.9	808.0	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	950.4	982.2	1008.5	1023.0
Secondary Stock Levels [b]															
Opening	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	121.8	111.2
Closing	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	121.8	111.2	108.4
Net Withdrawals	-28.6	27.0	-5.0	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	12.8	10.6	2.8
Total Supply	787.0	820.8	803.1	834.4	882.3	896.5	899.4	891.4	901.8	930.2	946.1	951.9	995.0	1019.0	1025.8
Demand															
Coke Plants	44.0	41.1	35.9	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	33.0	31.3	32.5	32.7
Electricity Production															
Electric Utilities	664.4	693.8	685.1	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.0	873.7	883.7	888.2
Nonutilities (Excl. Cogen.)	NA	NA	NA	NA	NA	0.9	1.6	6.0	10.0	12.3	15.1	20.8	24.0	26.0	28.0
Retail and General Industry [c]	82.9	83.2	83.3	82.1	83.4	82.3	83.1	81.5	80.2	81.1	81.2	78.6	77.0	76.9	76.9
Total Demand [d]	791.3	818.0	804.2	836.9	883.6	890.6	897.1	893.6	902.4	938.3	945.3	961.4	1006.0	1019.0	1025.8
Discrepancy [e]	-4.3	2.8	-1.2	-2.5	-1.3	5.9	2.3	-2.3	-0.6	-8.1	0.8	-9.5	-11.0	S	S

[a] Primary stocks are held at the mines, preparation plants, and distribution points.
[b] Secondary stocks are held by users.
[c] Sy.fuels plant demand in 1993 was 1.7 million tons per quarter and is assumed to remain at that level in 1994, 1995, 1996, 1997 and 1998. Syn.fuels plant demand in 1993 was 1.7 million tons to independent power producers not calculated in Retail and General Industry for years prior to 1993.
[d] Total excludes any shipments to independent power producers not captured in Retail and General Industry.
[e] Historical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference, plus any shipment to independent power producers not captured in Retail and General Industry.
(S) indicates amounts of less than 50,000 tons.
Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121, and *Electric Power Monthly*, DOE/EIA-0226. Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.
Projections: Energy Information Administration, Short-Term Energy Outlook, Second Quarter 1997.

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

	Year														
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Supply															
Net Utility Generation															
Coal	1341.7	1402.1	1385.8	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1652.9	1735.9	*1761.9*	*1774.2*
Petroleum	119.8	100.2	136.6	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.8	67.9	*59.0*	*60.8*
Natural Gas	297.4	291.9	248.5	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	307.3	263.3	*292.0*	*328.6*
Nuclear	327.6	383.7	414.0	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	674.8	*681.6*	*690.6*
Hydroelectric	321.2	281.1	290.8	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	328.8	*284.4*	*276.5*
Geothermal and Other [a]	8.6	10.7	11.5	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.4	7.2	*7.1*	*6.7*
Subtotal	2416.3	2469.8	2487.3	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3077.9	*3086.1*	*3137.4*
Nonutility Generation [b]	NA	NA	NA	NA	NA	191.3	221.8	253.7	296.0	325.5	354.9	374.4	394.7	*414.7*	*428.8*
Total Generation	NA	NA	NA	NA	NA	2975.6	3030.0	3078.7	3093.2	3208.1	3265.6	3369.0	3472.7	*3500.8*	*3566.2*
Net Imports	39.7	40.9	35.9	46.3	31.8	11.0	2.0	22.3	28.3	28.4	44.6	37.6	38.3	*37.3*	*37.0*
Total Supply	NA	NA	NA	NA	NA	2986.6	3032.0	3101.0	3121.6	3236.5	3310.3	3406.6	3510.9	*3538.1*	*3603.2*
Losses and Unaccounted for [c]	NA	NA	NA	NA	NA	231.4	206.1	217.1	226.6	236.9	225.5	240.0	263.1	*253.3*	*257.7*
Demand															
Electric Utility Sales															
Residential	780.1	793.9	819.1	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1008.5	1043.3	1079.2	*1084.0*	*1120.4*
Commercial	582.6	606.0	630.5	660.4	699.1	725.9	751.0	765.7	761.3	794.6	820.3	854.7	887.6	*902.5*	*921.2*
Industrial	837.8	836.8	830.5	858.2	896.5	925.7	945.5	946.6	972.7	977.2	1008.0	1013.1	1017.5	*1031.8*	*1037.3*
Other	85.2	87.3	88.6	88.2	89.6	89.8	92.0	94.3	93.4	94.9	97.8	97.5	101.7	*100.9*	*97.2*
Subtotal	2285.8	2324.0	2368.8	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3008.6	3086.0	*3119.2*	*3176.0*
Nonutility Own Use [b]	NA	NA	NA	NA	NA	108.4	113.4	121.9	131.6	138.1	150.2	157.9	161.8	*165.6*	*169.5*
Total Demand	NA	NA	NA	NA	NA	2755.2	2825.9	2883.9	2895.0	2999.6	3084.8	3166.6	3247.8	*3284.8*	*3345.5*
Memo:															
Nonutility Sales to Electric Utilities [d]	18.0	26.0	39.9	50.0	68.0	83.0	108.5	131.9	164.4	187.4	204.7	216.5	232.9	*249.1*	*259.3*

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

[b] For 1989 to 1991, estimates for nonutility generation are estimates made by the Energy Markets and Contingency Information Division, based on Form EIA-867 data. History and Projections for the same items are from the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration, based on Form EIA-867 (Annual Nonutility Power Producer Report).

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

[d] Historical data for nonutility sales to electric utilities are from the Energy Information Administration, Annual Energy Review, DOE/EIA-0389, Table 8.1, for 1982 to 1988; from Form EIA-867 (Annual Nonutility Power Producer Report) for 1989 to 1995.

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

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

Text References and Notes

International Oil Demand

[1]"Other Asia" includes: Afghanistan, American Samoa, Bangladesh, Bhutan, Brunei, Burma, Cambodia, Cook Islands, Fiji, French Polynesia, Hong Kong, India, Indonesia, Kiribati, North Korea, South Korea, Laos, Macau, Malaysia, Maldives, Mongolia, Nauru, Nepal, New Caledonia, Niue, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, U.S. Pacific Islands, Vanuatu, Vietnam, Wake Island, Western Samoa.

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

[3]Energy Information Administration, Energy Markets and Contingency Information Division.

International Oil Supply

[4]Energy Information Administration, Energy Markets and Contingency Information Division.

World Oil Stocks and Net Trade

[5]Energy Information Administration, Energy Markets and Contingency Information Division.

U.S. Oil Supply

[8]New Federal Offshore production in the Auger and Mars fields contributed to an increase in lower-48 production in 1996 over production in 1995.

[9]Energy Information Administration, *Historical Monthly Energy Review*, 1973-1992, August 1994, Table 3.1b, p. 83.

[10]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

[11]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

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

U.S. Energy Prices

[13]*Natural Gas Week*, February 10, 1997, p. 24; and February 24, 1997, p. 6 and p. 24.

[14]Energy Information Administration, *Monthly Energy Review*, DOE/EIA--0035(97/02), Table 9.10.

U.S. Natural Gas Supply

[15]Energy Information Administration, *Natural Gas Monthly*, June 1996, p. 6.

[16]Energy Information Administration, Office of Oil and Gas, *Natural Gas Weekly Market Update*, June 24, 1996, p. 2.

[17]*Natural Gas Week*, March 17, 1997, p. 17.

[18]Sidney Sharpe, "Pipeline Fever Grips Energy Patch," *The Financial Post* (Calgary, Canada), November 8, 1996, p. 20.

U.S. Coal Demand and Supply

[19]Total raw steel production was 103.9 million short tons in 1996. Coal-based steel production was 60.4 million short tons and electric-arc production was 43.5 million short tons. Source: American Iron and Steel Institute.

Text References and Notes _____

[20]The States in the Appalachian region are: Alabama, Georgia, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. The Interior region is composed of: Arkansas, Illinois, Indiana, Iowa, Kansas, Western Kentucky, Louisiana, Missouri, Oklahoma, and Texas. The Western region States are: Alaska, Arizona, California, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming.

U.S. Electricity Demand and Supply

[21]Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

U.S. Renewable Energy Demand

[22]In 1994, residential and commercial use of wood for heating amounted to an estimated 85 percent of all renewables used in the combined sector (Energy Information Administration, *Renewable Energy Annual*, DOE/EIA-0603(95), Table 2.

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

1. **History:** Crude oil costs: compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; gasoline prices: Second 1997 STIFS database.

2. **History:** Travel: Compiled from monthly data used in the Federal Highway Administration publication, *Traffic Volume Trends*; Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*,DOE/EIA-0340/1, Table S4 for historical series, adjusted for 1993 reporting basis (for fuel ethanol blended into motor gasoline see *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4, MPG is calculated as travel (in miles)/Demand (in gallons); Real Fuel Cost per mile is calculated as the real retail price (nominal cents per gallon divided by the consumer price index) divided by MPG (miles per gallon). **Projections:** Second quarter 1997 STIFS database, case "BBB."

3. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4; *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Second quarter 1997 STIFS database, case "BBB."

4. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4; *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Second quarter 1997 STIFS database, case "BBB."

5. **History:** Import cost: Compiled from monthly data for the refiner acquisition cost of imported crude oil used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; *Weekly Petroleum Status Report*, DOE/EIA-0208, Table 13. **Projections:** Second quarter 1997 STIFS database, BBB, BLB, and BHB cases; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

6. **History:** Manufacturing Production: Federal Reserve System, Statistical Release G 17; GDP: U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.* **Projections:** DRI/McGraw-Hill Forecast CONTROL0297, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.

7. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8, for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

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8. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8, for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

9. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1, for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

10. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2, for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

11. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2, for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

12. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1, for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

13. **History:** Compiled from annual data used in publication of Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035, Table 10.3, for historical series and recent data. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

14. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 1; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

15. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Tables S4 through S10; *Petroleum Supply Monthly*, DOE/EIA-0109, Tables S4 through S10, adjusted in years prior to 1993 for new (1993) reporting basis for fuel ethanol blended into motor gasoline (See *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B). **Projections:** Second quarter 1997 STIFS database, case "BBB."

16. **History:** Energy Information Administration, *Fuel Oil and Kerosene Report*, DOE/EIA-0535, Table 13. **Projections** (including sectoral estimates for 1996): Second quarter 1997 STIFS database, case "BBB."

17. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1997 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.

18. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1997 STIFS database, case "BBB."

19. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, and *Natural Gas Monthly*, DOE/EIA-0130, Table 4, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1. **Projections:** Second quarter 1997 STIFS database.

20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Tables 2, 4, and 15, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Tables 2, 4, and 15. **Projections:** Second quarter 1997 STIFS database.

21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, February 1997. **Projections:** Second quarter 1997 STIFS database, case "BBB."

22. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** Second quarter 1997 STIFS database, case "BBB."

23. Calculated by comparing STIFS model solution results for the base case to an alternative set of results assuming an additional 1 percent growth in real GDP.

24. Calculated by comparing STIFS model solution results for the base case to an alternative set of results assuming an additional 10 percent growth in heating degree days.

25. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1997 database, case "BBB."

26. **History:** Nonutility Generators, 1989-1993: Energy Information Administration, Form EIA-867 (1993); other volumes compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Nonutility Generators: Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: Second quarter 1997 STIFS database, case "BBB."

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27. **History:** Production and net imports of natural gas compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131/2, Table 2, for historical series; for recent production data, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1997 STIFS database, case "BBB."

28. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1997 STIFS database, case "BBB."

29. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 45. **Projections:** Second quarter 1997 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."

30. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 4. **Projections:** Second quarter 1997 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

31. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 51. **Projections:** Second quarter 1997 STIFS database, case "BBB."

32. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 3, and Form EIA-759. **Projections:** Second quarter 1997 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.

33. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Second quarter 1997 STIFS database; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Second quarter 1997 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

34. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Second quarter 1997 STIFS database; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Second quarter 1997 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.