Short-Term ENERGY OUTLOOK

QUARTERLY PROJECTIONS

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Short-Term Energy Outlook

Quarterly Projections

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Domestic crude oil production figures are provided by the EIA Dallas Field Office, under the supervision of John H. Wood (214-767-2200). Nuclear electricity generation forecasts are provided by Kenneth Wade (202-426-1248); projections for hydroelectric generation, electricity imports, and nonutility generation are provided by Rebecca McNerney (202-426-1251); and coal production, imports, and exports are provided by Byung Doo Hong (202-426-1126)—all of the EIA Office of Coal, Nuclear, Electric and Alternate Fuels.

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

The forecast period for this issue of the *Outlook* extends from the third quarter of 1996 through the fourth quarter of 1997. Values for the second quarter of 1996, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in the *Weekly Petroleum Status Report*) or are calculated from model simulations using the latest exogenous information available (for example, electricity sales and generation are simulated using actual weather data). The historical energy data, compiled in the third quarter 1996 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 using the Short-Term Integrated Forecasting System (STIFS).

Changes to Macroeconomic Measures

In mid-January 1996, the Bureau of Economic Analysis released its comprehensive revision of the National Income and Product Accounts, which was incorporated into the STIFS model as well as the DRI/McGraw Hill U.S. economic model and forecast. The most important changes are:

1) a shift in emphasis from fixed-weighted to chain-weighted measures of output and prices, the difference being that in chain-weighted GDP, changes in the components of real GDP are valued according to how they compare with other prices today, while in fixed-weighted GDP, changes in the components of real GDP today are valued at the base year's prices;

2) a change in the base year from 1987 to 1992;

3) a new treatment for government expenditures consisting of breaking down the government components of GDP into government consumption and government investment, and adding the services provided by general government fixed assets, such as roads and schools, to government consumption;

4) a change in the way depreciation on physical capital is estimated, from estimates based on straight-line depreciation to estimates based on used equipment and structure prices.

In re-estimating GDP growth for 1995 based on these new methods, growth was substantially lower than estimated in the last forecast. This is due to reductions in estimated spending growth relating to investment of all types, increased estimates of inflation, as well as to the application of the chain-weighted approach to price and real spending aggregation.

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Oil Price Decline from Spring Run-Up Expected to End at $18 Per Barrel in Mid-Summer

Having already retreated from a monthly peak of about $21 per barrel in April, the world oil price is expected to settle at $18 per barrel by mid-summer. A difficult winter, coupled with a delay in expected supplies and low stocks, pushed spot oil prices to their highest levels in over four years by the end of winter. Diminished but still strong market pressures lead to an expected average price about $2 per barrel above previous estimates.

Gasoline Market Update: High Spring Prices Falling; Demand Growth Continues Despite Apparent Slow Start This Year

Retail gasoline prices, which were about 12 cents per gallon above 1995 levels in May, are expected to be at least 10 cents below the spring peak by September. Crude oil and spot gasoline prices have been falling since April, and are expected to settle at levels that will push through some additional declines to pump prices over the rest of the summer. Despite the downward trend, a generally tighter oil market all around should maintain prices above 1995 levels for the rest of the year. Steady growth in gasoline demand is expected through the summer. However, weather-related weakness in the first quarter may keep annual 1996 growth below 2.0 percent.

Overall Oil Imports Rising Sharply, as Expected; Record Levels May be Matched this Year

In 1996 and 1997, total petroleum net imports are projected to reach or exceed 1977's record high. Total net imports should equal 50 percent of total petroleum demand in 1997 in the base case. The net import share of demand could range between 49 and 52 percent in the high-to-low price ranges.

Strong Cooling Demand Adds Pressure to Summer Natural Gas Prices

Following a sharp run-up this winter, stemming from cold temperatures and low stocks, expected spot and average natural gas wellhead prices for the summer were boosted temporarily by a stretch of hot weather in parts of May and June. The early heat wave pushed power generation and gas consumption to unexpected highs just as serious efforts to replenish very low underground storage levels were getting under way. Average wellhead prices this summer might remain 25 to 30 percent above summer 1995 prices.

Gas Storage Level Remains A Prime Concern For Gas Markets

Record low levels of natural gas in storage in the United States, coupled with only moderate rates of refill thus far and high temperatures in some regions of the country, continues to be a concern in the natural gas market. Working gas storage is forecast to be below "normal" levels by the beginning of the heating season on November 1 at current refill rates.

1996 Electricity Demand Growth to Continue at 1995 Levels; Possible Supply Problems Loom in New England This Summer

In 1996, total electricity demand is expected to continue to grow at close to the 2.6 percent seen in 1995. This is due mainly to assumptions of continuing economic growth and the weather-related demand in the first half of the year. Hot weather in the Northeast could result in supply restrictions there this year, with three nuclear plants in Connecticut shut down for operational review until 1997.

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

	Price Case [a]	Year				Annual Percentage Change		
		1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Real Gross Domestic Product (GDP)								
(billion chained 1992 dollars) [b]	Mid	**6604**	**6739**	*6883*	*6993*	**2.0**	*2.1*	*1.6*
Imported Crude Oil Price	Low			*17.07*	*15.00*		*-0.5*	*-12.1*
(nominal dollars per barrel)	Mid	**15.52**	**17.15**	*18.52*	*18.00*	**10.5**	*8.0*	*-2.8*
	High			*19.96*	*21.00*		*16.4*	*5.2*
Petroleum Supply								
Crude Oil Production [c]	Low			*6.33*	*5.89*		*-3.5*	*-7.0*
(million barrels per day)	Mid	**6.66**	**6.56**	*6.39*	*6.16*	**-1.5**	*-2.6*	*-3.6*
	High			*6.44*	*6.39*		*-1.8*	*-0.8*
Total Petroleum Net Imports (including SPR)	Low			*8.65*	*9.54*		*9.6*	*11.1*
(million barrels per day)	Mid	**8.05**	**7.89**	*8.55*	*9.11*	**-2.0**	*8.4*	*6.5*
	High			*8.46*	*8.74*		*7.2*	*3.3*
Energy Demand								
World Petroleum	Mid	**68.6**	**69.9**	*71.8*	*73.5*	**1.9**	*2.7*	*2.4*
Petroleum	Low			*18.13*	*18.52*		*2.3*	*2.2*
(million barrels per day)	Mid	**17.72**	**17.72**	*18.10*	*18.35*	**0.0**	*2.1*	*1.4*
	High			*18.06*	*18.21*		*1.9*	*0.8*
Natural Gas	Low			*22.31*	*22.63*		*3.1*	*1.4*
(trillion cubic feet)	Mid	**20.75**	**21.64**	*22.33*	*22.71*	**4.3**	*3.2*	*1.7*
	High			*22.36*	*22.78*		*3.3*	*1.9*
Coal								
(million short tons)	Mid	**945**	**959**	*969*	*983*	**1.5**	*1.0*	*1.4*
Electricity (billion kilowatthours)								
Utility Sales [d]	Mid	**2935**	**3009**	*3086*	*3121*	**2.5**	*2.6*	*1.1*
Nonutility Own Use [e]	Mid	**150**	**156**	*160*	*163*	**4.0**	*2.6*	*1.9*
Total	Mid	**3085**	**3165**	*3245*	*3284*	**2.6**	*2.5*	*1.2*
Adjusted Total Energy Demand [f]								
(quadrillion Btu)	Mid	**88.5**	**90.8**	*92.8*	*93.6*	**2.6**	*2.2*	*0.9*
Adjusted Total Energy Demand per Dollar of GDP								
(thousand Btu per 1992 Dollar)	Mid	**13.40**	**13.47**	*13.48*	*13.38*	**0.5**	*0.1*	*-0.7*
Renewable Energy as Percent of Total	Mid	**7.2**	**7.6**	*7.7*	*7.3*			

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

[b]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[c]Includes lease condensate.

[d]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.

[e]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 1995 are estimates.

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

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Petroleum Supply Monthly*, DOE/EIA-0109(96/05); *Petroleum Supply Annual 1995*, DOE/EIA-0340(95)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); and *Quarterly Coal Report*, DOE/EIA-0121(95/3Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0596.

The Outlook

Outlook Assumptions

Figure 1. U.S. Monthly Crude Oil Prices
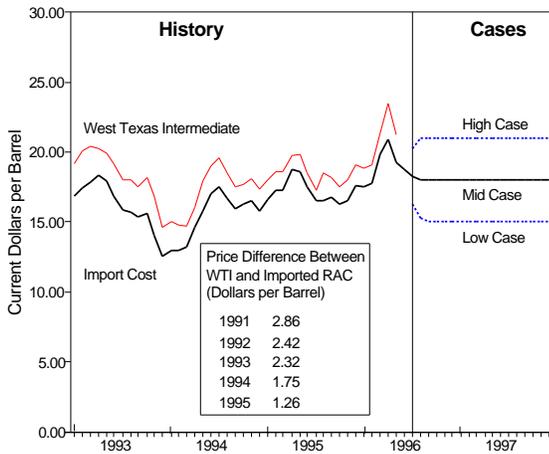
Sources: Third Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 2. U.S. Macroeconomic Indicators
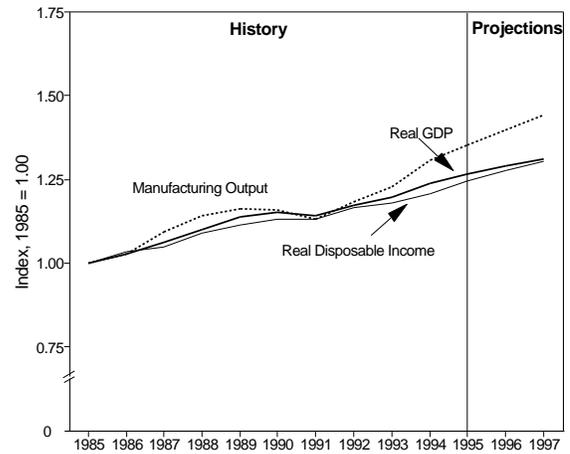
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database, U.S. Commerce Department, and Federal Reserve Board. Details provided in Figure References section.

World Oil Prices

- Uncertainty and price volatility characterize the outlook for oil prices over the forecast period. While oil production potential is adequate, inventories are low and may remain so for some time, which could cause price fluctuations during any supply disruptions. Prices could also be weak because of increasing world production rates in the face of potential Iraqi oil sales. Also adding to uncertainty is the rapid rise in world demand.

- In the mid-price case, the world oil price is expected to remain near $18 per barrel throughout 1997 (Figure 1 and Table 4).

- World oil prices could rise to $21 per barrel for a duration if an event is short-lived, or remain at that level if demand surges, even if only by one-half million barrels per day. Prices could easily fall to $15 per barrel if winter is warmer than usual and Iraqi oil sales continue through the forecast.

- This time next year, analysts probably will be discussing the full return of Iraq to the market.

Economic Outlook

- U.S. Gross Domestic Product (GDP) is expected to average 2.1 percent growth in 1996 and 1.6 percent in 1997. Growth in disposable income should reach 2.4 percent in 1996, and 2.2 percent in 1997 (Figure 2 and Table 1).

- Inflation is not expected to increase substantially over the next few years. Commodity prices have increased, but only for agricultural products and oil. Consumer price inflation is expected to be 2.4 percent in 1996 and 2.3 percent in 1997.

- Manufacturing production growth slows in 1996 and 1997, as investment and export growth slow from their higher 1995 levels. Total employment will increase over the forecast, but more slowly than it did in 1995.

Weather Assumptions

- Heating and cooling degree-days are assumed to follow historical norms in the forecast period. This results in third quarter 1996 being 14 percent cooler than in 1995 (Table 1).

Figure 3. World Oil Demand
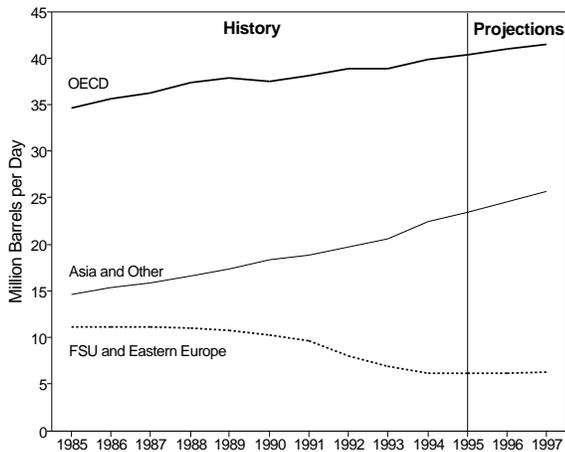
Mid World Oil Price Case
 Sources: Energy Information Administration, Energy Markets and Contingency
Information Division. Details provided in Figure References Section.

Figure 4. World Oil Demand Changes by Region

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

- World oil demand continues to increase to record levels. By 1997, total world oil demand may reach 73.5 million barrels per day (Table 3 and Figure 3). All indicators (price, GDP growth, weather) point toward continued annual increments of over 1.8 million barrels per day worldwide in 1996 and 1997, or an annual average growth of 2.5 percent, compared with the 1 percent average growth seen between 1991 and 1995.

- The 1991-1995 period showed low world oil demand growth because demand was declining significantly in the Former Soviet Union (FSU), offsetting the increases outside the FSU. But excluding the FSU, the growth trend is different: in 1991, world oil demand outside the FSU was 58.4 million barrels per day. By 1997, world oil demand outside the FSU will have grown by 10 million barrels per day to 68.7 million barrels per day, or an annual average rate of increase of 2.7 percent.

- Significantly, oil demand in the FSU is projected to increase in 1996 following years of major declines. This 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 4.6 million barrels per day in 1995, and is forecast to increase to 4.8 million barrels per day in 1997.

- Oil demand in China is expected to increase by 6 percent per year as the government attempts to slow petroleum imports even though the economy is growing at nearly 10 percent annually. Other Asia is expected to increase by about 6.5 percent in 1996 and 1997, as the economies of many of these countries continue to grow by 6 to 10 percent or more each year. In Africa, Latin America[1], and the Middle East, with economic growth between 4 and 5 percent for many of the economies, oil demand is expected to grow by about 2.8 percent in 1996 and 1997.[2]

- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to increase by 700,000 barrels per day in 1996 and 500,000 barrels per day in 1997, an annual rate of 1.5 percent (Figure 4). The United States' oil demand growth represents over half of OECD growth.

International Oil Supply _____

Figure 5. World Oil Production

*Total-OECD-FSU-OPEC.
Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.
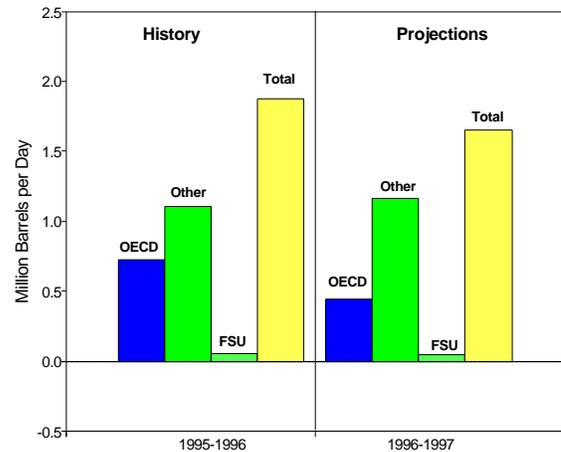
Figure 6. Non-OPEC, Non-OECD Oil Production

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

- With Iraqi humanitarian oil sales expected to range between 600 and 800 thousand barrels per day, depending on the price of oil, the world oil market changes from tight supply conditions to a situation where inventory building should ease higher price pressures. Oil inventories were drawn over the last winter by one-half to one million barrels per day more than expected by the market. About half the Iraqi sales are expected to be added to inventories, while increasing demand absorbs the remainder. Normal winter weather during the next heating season should not exert the same market pressures as did last winter's. Other developments in OPEC and non-OPEC supply also point to stable prices.

- In spite of what may be formally agreed to, no unilateral production cutbacks should be expected by OPEC members[3] in 1996 and, in fact, several members may be able to increase production in 1997 if capacity expansion plans are realized (Figures 5 and 8).   No major increases are expected, just a continuation of

the production creep of the past several years. Even Saudi Arabia, although sticking to its crude production quota of 8 million barrels per day, is realizing increased production of non-crude natural gas liquids and output from the Neutral Zone that is excluded from the OPEC quota. Although no significant surplus production capacity was utilized during the price run-up of last winter, cumulative production creep of 1.5 million barrels per day from OPEC kept oil prices generally "low."

- Sustained growth of non-OPEC supply is expected to continue for the foreseeable future, particularly in the non-OECD region (Figure 6). The major growth story within the OECD region is North Sea production, which grew by over 0.5 million barrels per day in 1995 and is expected to be even higher in 1996, although some slowing is expected in 1997.   These amounts have been critical in keeping prices stable, given the high rate of world demand growth. Outside the OECD, the non-OPEC growth story is depicted by the "Other"

Figure 7. China and Mexico Oil Production

Mid World Oil Price Case
 Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.
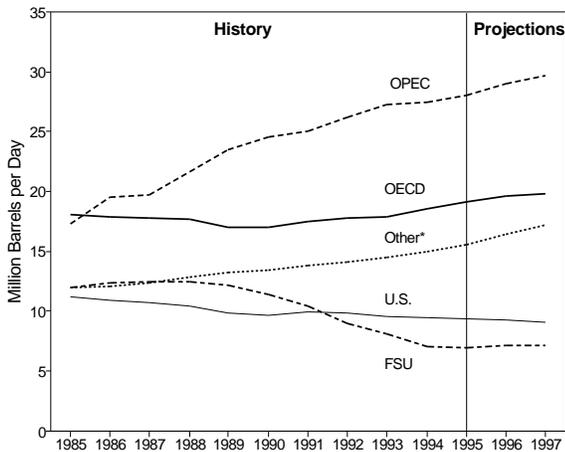
Figure 8. OPEC Oil Production and Capacity

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

group in Figure 5. Increments from this group are accelerating due to increases from China and Mexico in 1996 (Figure 7), also from Latin America, Africa, Other Asia, and some slight increases from the Middle East. Figure 6 shows growth from these regions since 1985 but with significant growth since 1990 following the Iraqi invasion of Kuwait. On average, the annual increases of more than one-half million barrels per day from non-OPEC are expected to continue. Privatization efforts are beginning to accelerate growth, particularly from Latin America, which can be hailed as the model of privatization and production-sharing arrangements. Together, the non-OECD, non-OPEC countries are expected to increase production by over one million barrels per day to 10.5 million barrels per day in 1997, up 5 million barrels per day since 1985 (Figure 6).

- Joint ventures in the FSU, although growing slowly due to legal problems and export pipeline constraints, are beginning to foster positive supply prospects.

- The most significant near-term increase in production from joint ventures (JV) in the Former Soviet Union is expected to come from the Tengizchevroil JV in Kazakstan. The Chevron-Mobil-Kazakstan JV plans to increase production from 90,000 barrels per day in March to 130,000 barrels per day by end-1996. Export pipeline capacity constraints will preclude further increases until a new 440,000 - 500,000 barrel per day pipeline is completed sometime in 1998.

- No major increases are expected from JV's in Russia and Azerbaijan. Russian JV production has increased to 428,000 barrels per day in April from an average 420,000 barrels per day in 1995, but continued uncertainty for JV's over export taxes, pipeline fees, and export allocations have dampened the possibilities for large increases in JV production. In Azerbaijan, large increases in production are expected from the Azerbaijan International Oil Consortium and other JV's, but not until the end of the century.

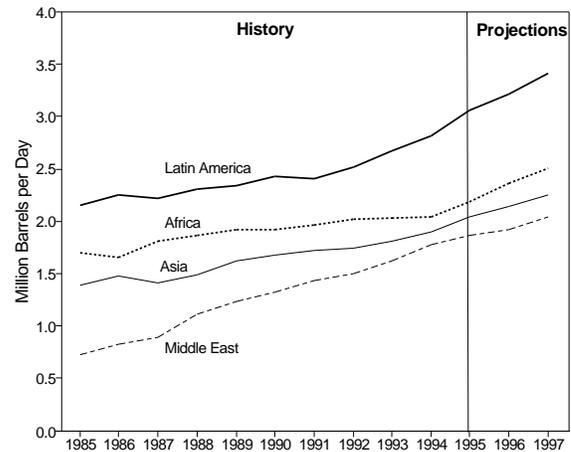# World Oil Stocks, Capacity, and Net Trade _____

Figure 9. OECD Commercial Oil Stocks
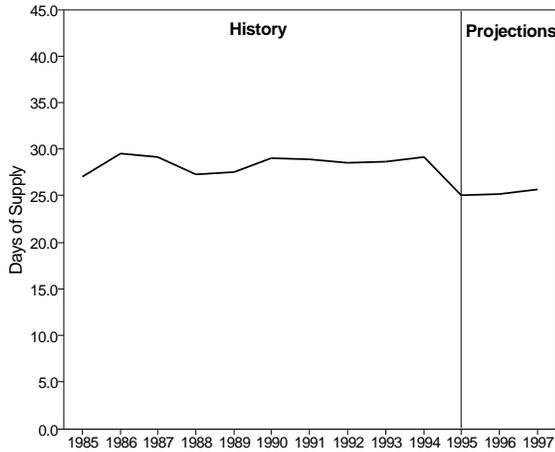
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.
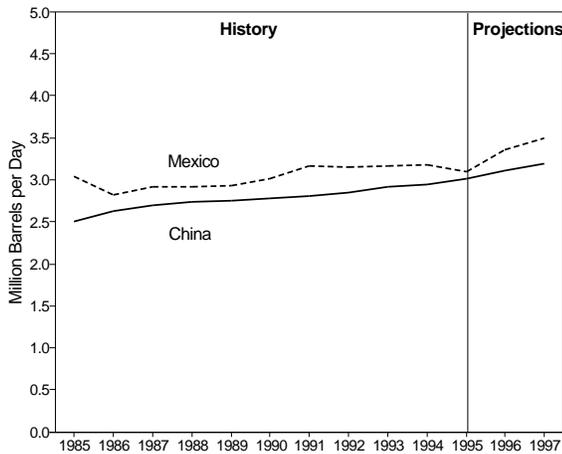
Figure 10. FSU Oil Output, Demand, and Net Exports
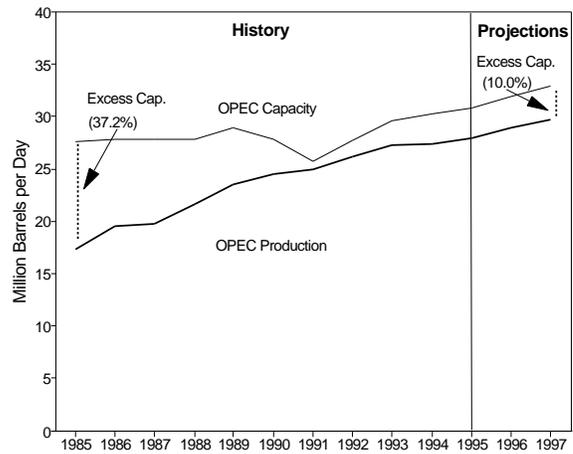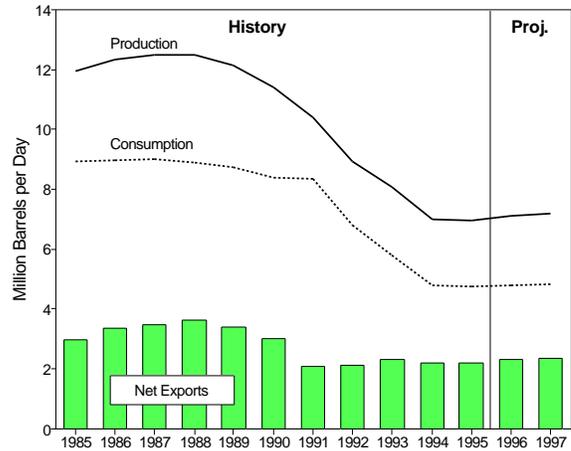

Mid World Oil Price Case

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

- Relative to demand, oil inventories reached their lowest levels in the past decade in the OECD countries during the last winter (Figure 9). There are several reasons for this. The most significant related to the "on-and-off" Iraqi oil sales discussions, which lead to expectations of low future prices and consequent reluctance to build inventories. Other significant reasons for low stocks at the beginning of the season may have been a desire to avoid a repeat of last year's oversupply during mild weather; low profitability in the refining sector (until recently) and the desire to minimize inventory storage costs; and the apparent reluctance of holders of excess production capacity to boost output during the cold spell. Probably a combination of these explanations was the cause of the price jump which occurred in the first quarter of 1996.

- With Iraqi oil sales, inventories should be rebuilt somewhat by next winter. Although U.S. crude inventories probably will not attain levels of two years ago, there should be less of a seasonal surge in inventory demand if Japan and Europe rebuild over the next several

months as expected. Figure 9 shows days' supply of commercial stocks within the OECD closing at levels higher than last year's at the end of 1996, but lower than that of two years ago. Given this situation, a "prolonged" winter in several regions could be accompanied by price hikes.

- The export of Iraqi oil for humanitarian reasons is assumed not to increase excess production capacity since Iraq is assumed to remain under the U.N. sanctions throughout 1997. Several OPEC members are expected to continue to expand capacity. Outside Iraq, over one-half million barrels of capacity expansions are expected in OPEC for both 1996 and 1997. Most of the expansion is expected in Saudi Arabia, Kuwait, and Venezuela. OPEC excess production capacity, excluding Iraq, is expected to remain at 1995 levels of 3.2 million barrels per day and to increase to 3.6 million barrels per day in 1997. Saudi Arabia controls most of the excess at 2 million barrels per day.

- For planning purposes, it is not apparent that excess production capacity will be made

available to the market in situations such as those experienced this past winter. Hence, the market may be impacted more than expected during supply disruptions. Excess capacity may not be a factor limiting price volatility.

- Exports of crude oil worldwide currently are averaging 30 million barrels per day. About 60 per cent comes from OPEC countries. Saudi Arabia is by far the world's largest exporter, with over 6 million barrels per day of crude exports.

- Net exports from the FSU are expected to remain near 1995 levels (Figure 10 and Table). As production begins to increase, consumption is also expected to increase. Exports are expected to rise from 2.2 million barrels per day in 1995 to 2.4 million barrels per day in 1997.

- Exports from the Persian Gulf region are expected to increase only slightly over the next year as regional consumption increases largely offset production increases. However, with North Sea production growth slowing next year, incremental supplies should reappear from the Persian Gulf area. In 1995, 18.4 million barrels per day were produced by the Persian Gulf countries, of which the United States imported 1.6 million barrels per day, Japan imported nearly 4.0 million barrels per day, and Western Europe imported almost 3 million barrels per day.[4]

U.S. Oil Demand

Figure 11. U.S. Petroleum Demand
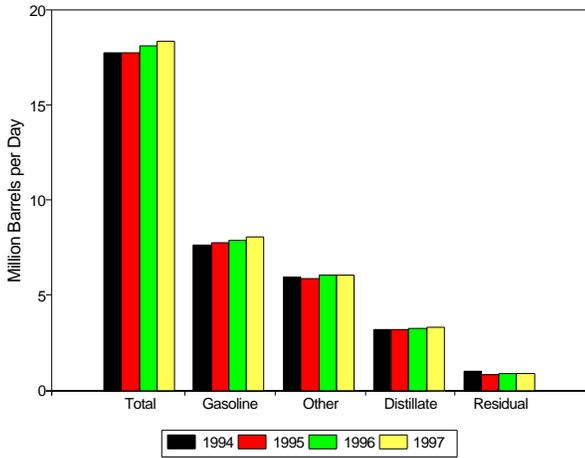
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 12. Quarterly Gasoline Demand

Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

- Petroleum demand is projected to increase by 380,000 barrels per day, or 2.1 percent, in 1996 and a further 250,000 barrels per day, or 1.4 percent, in 1997 (Figure 11 and Table 6). The harsh winter (compared to the mild winter of the previous year) contributed to the substantial 650,000 barrels-per-day first quarter increase in petroleum demand in 1996. Moderating economic growth and normal weather are expected to constrain demand growth in 1997.

- Current EIA statistics indicate that gasoline demand growth was relatively weak for the first quarter of 1996, a development attributable in part to weak travel demand amidst severe winter weather. Despite the slow start, gasoline demand is expected to exhibit 1.5- to 2.0-percent year-over-year growth for the rest of the year, with consumption rates consistently above 8 million barrels per day through the summer. Average annual growth may fall well below 2 percent for 1996 as a whole, but trend growth is still seen as close to 2.0 percent, and 1997 may well exceed that level if the winter driving conditions are normal.

- Jet fuel demand is expected to continue to grow steadily during the forecast at an average rate of 3.3 percent per year, while both travel and airline capacity growth are projected to grow by more than 5 percent.

- Distillate demand is projected to increase by an average 1.8 percent through 1997. Substantial increases in transportation demand, averaging 3.6 percent per year, dominate the distillate demand projection. But combined residential/commercial demand is projected to stagnate during the forecast period. Even though colder-than-normal weather in first quarter 1996 boosted heating oil consumption by 7 percent, the assumption of normal weather patterns is expected to constrain weather-related demand.

- The downward trend in residual fuel oil demand is projected to end with a modest recovery during the forecast period. Utility demand in 1996 is projected to average 300,000 barrels per day compared to 240,000 barrels per day in 1995, a result of both the harsh winter and the projected decline in the price of residual oil relative to natural gas.

Figure 13. U.S. Crude Oil Production
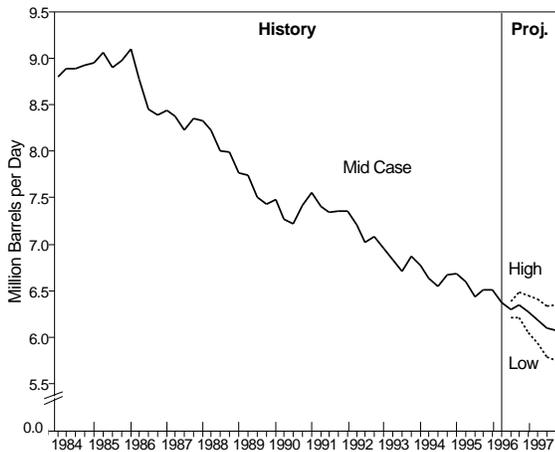
Sources: Third Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section.

Figure 14. Quarterly Total Net Petroleum Imports

Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

• At mid-case prices, total U.S. domestic crude oil production is expected to decline by 170,000 barrels per day, or 2.6 percent, in 1996, and by an additional 230,000 barrels per day, or 3.6 percent, in 1997 (Table 6 and Figure 13).

• Declining U.S. crude oil production and low world crude oil prices contributed to an average 7.9 million barrels per day of net crude oil and petroleum products imports in 1995. This amount was below the record 8.6 million barrels per day set in 1977. In 1997, total net imports are projected to reach levels exceeding 1977's record high.   Total net imports should equal 49.6 percent of total petroleum demand in 1997 in the base case (Figure 14). The net import share of demand could range between 48 and 52 percent in the high-to-low price ranges (Tables 5 and 7).

• Oil production in the lower 48 States is expected to drop by 70,000 barrels per day in 1996 and by 120,000 barrels per day in 1997. New oil production from the Federal Offshore is expected to account for about 6.8 percent of lower-48 oil production by the end of 1997 if scheduled production and development of new projects occurs. In Federal waters of the

Gulf of Mexico, Auger Field production is expected to increase to 70,000 barrels per day in mid-1996 due to installation of new production facilities. Mars Field production is expected to start in 1996 and peak at 100,000 barrels per day in 1998. The Ram-Powell Field is expected to start in the last quarter of 1997 and peak at 60,000 barrels per day beyond the forecast period.[5]

• Oil production in Alaska is expected to decline by 6.8 percent in 1996 and by another 8.0 percent in 1997.   Production from recent discoveries will partially offset the expected production decline from the giant Prudhoe Bay and other North Slope fields.[6]

• Crude oil production could be as high as 6.4 million barrels per day by the fourth quarter of 1997, given the high price case (Table 7), or as low as 5.7 million barrels per day under the low price scenario (Table 5).

• According to Baker Hughes, Inc., the rig count for 1995 averaged 724.   The rig count is expected to increase to an average of 776 over the forecast period.[7]

U.S. Energy Prices

Figure 15. U.S. Oil and Gas Prices
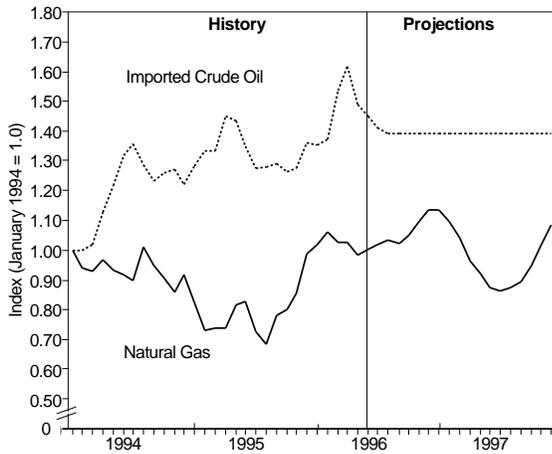
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.
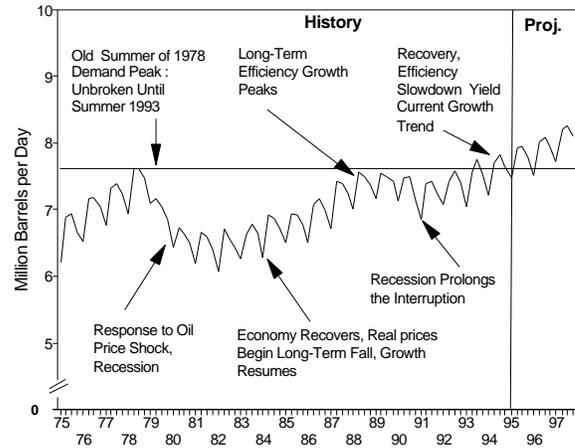
Figure 16. Petroleum Product Prices
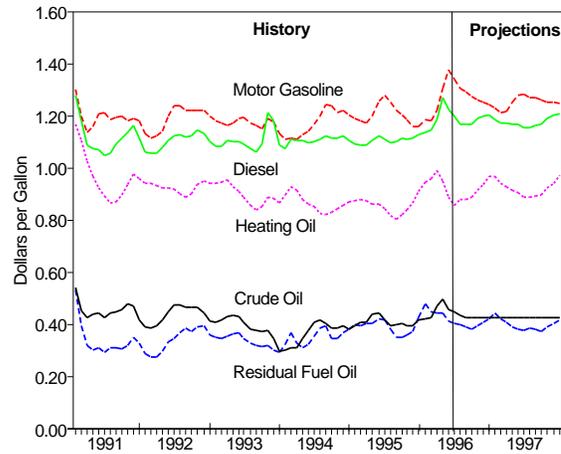
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

- The first quarter's cold weather, low world stocks, and high demand caused world oil prices to climb to nearly $21.00 per barrel in April. As worldwide production meets demand, world oil prices are expected to decline to $18.00 per barrel by mid-summer, then remain steady through 1997 (Figure 15). This projected price is based on the assumption that production increases from non-OPEC producers will keep a ceiling on prices (Table 4 and "Outlook Assumptions").

- Retail petroleum product prices are expected to record increases in 1996, thanks largely to the crude oil price spike earlier this year. Motor gasoline, diesel fuel oil, and residential heating oil prices should each gain about 6-8 cents per gallon in 1996 as higher crude oil prices in the first three quarters of the year are coupled with a recovery from very low margins in 1995 (Table 4 and Figure 16). In 1997, the prices for these fuels should dip slightly or stabilize as the average annual price of crude oil drops by about 50 cents per barrel.

- Retail motor gasoline prices (an average of all types, all services) increased 20 cents per

gallon from February to May of this year.[8] It should be noted that, in real terms (inflation adjusted), unleaded motor gasoline prices in February were near their lowest levels on record.[9]   Underlying the gasoline price increase has been the $3.50 per barrel rise in crude oil prices from January through April (about 8 cents per gallon). The normal spring driving season demand increase and lower motor gasoline stock levels added to the price increase. Moreover, in California, prices rose even more dramatically than in the rest of the nation as California implemented its own regulations requiring gasoline (California RFG) that was cleaner and more expensive to produce than Federal RFG. As the new rules went into effect in the spring, California was plagued with refinery problems which led to supply disruptions and price spikes.

- Retail gasoline prices peaked in mid-May and have been edging downward since the factors that caused the run up have been abating. Crude oil prices dropped by over $1.65 per barrel from April to May, while spot

Figure 17. Natural Gas Prices by Sector
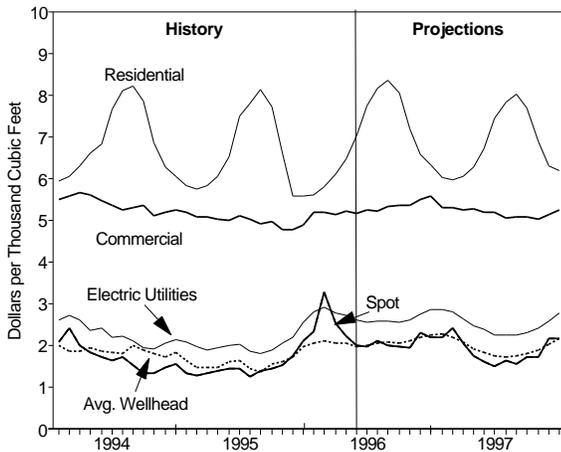
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 18. Fossil Fuel Prices to Electric Utilities
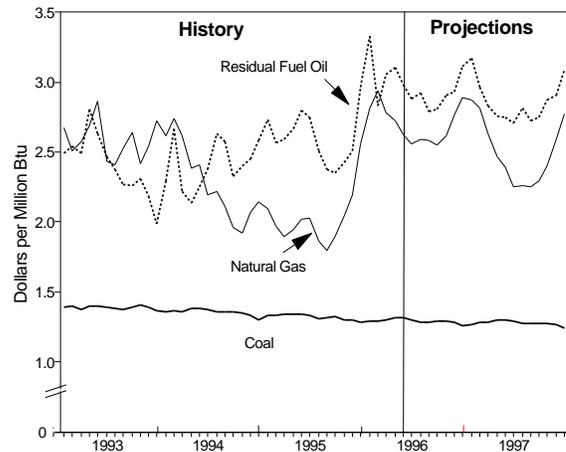
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

gasoline prices have also eased.[10]   And in California, spot prices for motor gasoline tumbled from $1.00 per gallon to $0.75 in the first 3 weeks of May.[11]

- Retail gasoline prices, which were about 12 cents per gallon above 1995 levels in May, are expected to be at least a dime below the spring peak by September. Crude oil and spot gasoline prices have been falling since April, and are expected to settle at levels that will push through some additional declines to pump prices over the rest of the summer. Despite the downward trend, a generally tighter oil market all around should maintain prices above 1995 levels for the rest of the year.   Assuming that crude oil prices are $18.00 per barrel in the 3rd quarter and plateau there for all of 1997, motor gasoline prices should fall by a penny or two in 1997.

- In 1996, the price of retail residual fuel oil should increase by about $1.25 per barrel following the crude oil price path. In 1997, the price is expected to fall as the price of crude oil does the same.

- Average natural gas spot wellhead prices swelled to record high levels last winter as cold weather resulted in some very rapid drawdowns in gas stocks, which were already low.   The average wellhead price, which includes long-term contracts as well as spot prices, also increased but at a considerably smaller rate. From December 1995 to February 1996, the spot price reported in *Natural Gas Week* increased from $2.07 per million Btu ($2.13 per thousand cubic feet) to $3.27 per million Btu ($3.38 per thousand cubic feet), while the composite wellhead price increased from $1.76 per million cubic feet to $2.05 in the same period.[12]

- The average wellhead price in 1996 is expected to increase by 31 percent over 1995 levels as inventories remain at historically low levels. (Table 4 and Figure 17)   Unseasonably hot weather in the spring and summer could cause high levels of utility consumption of gas that, in turn, will divert underground storage replenishment which normally occurs during the cooling season. The result is likely to be wellhead prices hovering above $2.00 per

thousand cubic feet throughout the cooling season. The prices are expected to rise again in the winter, averaging $2.18 per thousand cubic feet during the next heating season.

- In 1997, the average wellhead price is expected to decline by 13 cents per thousand cubic feet as normal winter weather, continued market efficiencies, and increased domestic production, offset rising demand. These changes in the wellhead price are expected to put some downward pressure on end-user prices, particularly for electric utilities and industrial customers (Figure 18).

- Natural gas prices to electric utilities, while rising to close the gap with residual fuel oil prices, are still projected to remain the cheaper fuel throughout the forecast.

- Coal prices to electric utilities fell in 1995 to their lowest level since 1979[13] and are expected to continue to decrease through 1997 (Table 4 and Figure 18). Continued gains in mining productivity have resulted in a downward trend for coal prices. The expected increases in prices that were to come about as a result of the Clean Air Act of 1995 never materialized as they were more than offset by productivity gains.

- Annual average residential electricity prices are projected to remain relatively flat through 1997, or, in real terms, fall by the amount of inflation. This is the result of moderate costs for 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 19. Total Petroleum Demand: Macro Cases
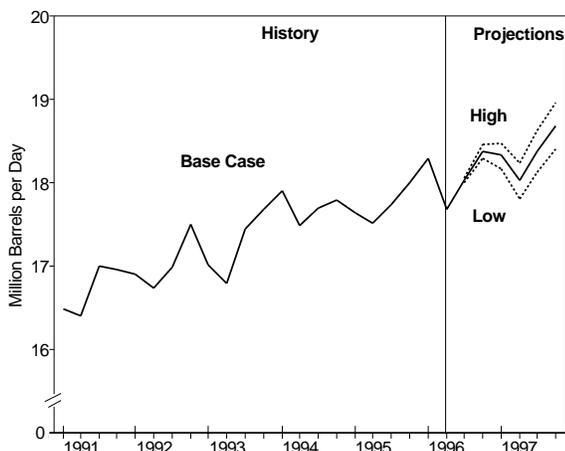
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 20. Total Petroleum Demand: Weather Cases
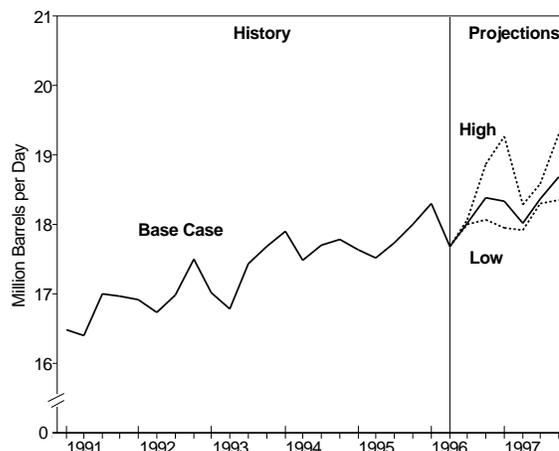
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 2.1 and 1.6 percent per year in 1996 and 1997. To enhance the usefulness of the mid-case forecast, ranges of possible outcomes for petroleum demand and supply, using alternative macroeconomic, price, and weather assumptions, are also derived (Tables 5 and 7). Plausible macroeconomic and weather-related petroleum demand cases are illustrated in Figures 19 and 20.

- The petroleum price sensitivity assumes that nonpetroleum prices remain constant. The weather sensitivities assume deviations above and below normal that correspond to one-half of the largest quarterly deviations from normal in heating and cooling degree-days over the last 15 years (see Appendix).

- A 1-percent increase in real GDP raises petroleum demand by about 112,000 barrels per day. The impact of shifts in economic growth varies depending upon distribution of incremental growth across energy-intensive

and non-energy-intensive sectors (Table 8).

- A $1-per-barrel increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces demand by about 43,000 barrels per day (Tables 8 and 9).

- A $1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 90,000 barrels per day.

- A 1-percent increase in heating degree-days increases demand by about 27,000 barrels per day. The impact of heating degree-day deviations from normal is not likely to be symmetrical. Extremely cold weather could result in indirect effects on fuel oil markets due to potential natural gas supply constraints that have no counterparts in the case of mild weather.

- A 1-percent increase in cooling degree-days increases petroleum demand by about 7,000 barrels per day. (See Appendix for sensitivity calculation methodology.)

U.S. Natural Gas Demand

Figure 21. U.S. Natural Gas Demand Trends
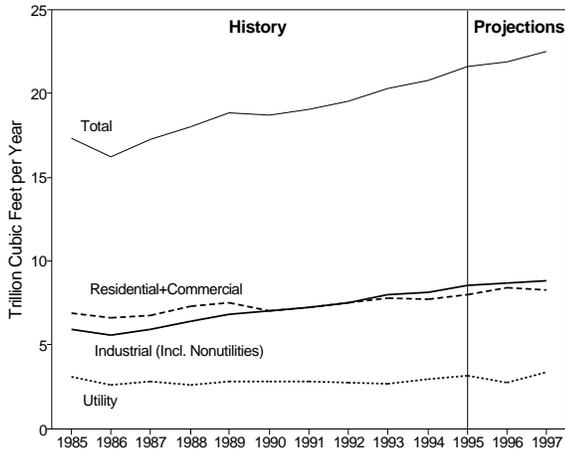
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 22. Natural Gas Demand for Power Generation

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

- Weather factors together with continued economic growth are expected to help raise total annual natural gas demand in 1996 and 1997 to its highest levels since 1973.[14]   In 1996, a high of 22.3 trillion cubic feet is expected, as demand grows by 3.2 percent (Figure 21 and Table 10). In 1997, natural gas demand is expected to rise by an additional 1.7 percent, to 22.7 trillion cubic feet.

- In 1996, due mainly to the unusually cold winter weather in the first quarter, residential demand is expected to be up by 6.5 percent for the year. Normal weather assumptions in 1997 result in a decline in residential gas demand from high 1996 levels.

- Natural gas prices are expected to remain above 1995 levels through 1996 and 1997, reflecting the lower level of inventories and slower rate of storage injections that have characterized the first 2 quarters of 1996. Expected growth in consumption, as well as the need for higher storage injections to refill inventories, should keep prices above $2.00 through first quarter 1997.

- Industrial gas demand in 1996 is expected to grow by 3.0 percent from 1995 levels due to higher economic growth and high first quarter demand. In 1997, industrial gas demand is expected to grow by 1.6 percent due to slower economic growth and normal weather assumptions.

- Growth in gas consumption for utility power generation is expected to slow in 1996 (Figure 22) from the relatively rapid (7.0 percent at electric utilities) rate of 1995 as a result of both slower electricity demand growth and relatively higher gas prices in key regions during the first quarter. In 1997, gas used for electricity generation should continue to grow along with electricity demand and as hydroelectric power sources fade as an incremental supply source (Tables 10 and 12).

- Commercial sector demand, which posted a healthy increase of 6.9 percent in 1995 despite a weak start due to mild weather, is expected to continue to rise in 1996. In 1997, growth is expected to be flat, as economic growth slows.

Figure 23. U.S. Dry Gas Production and Net Imports
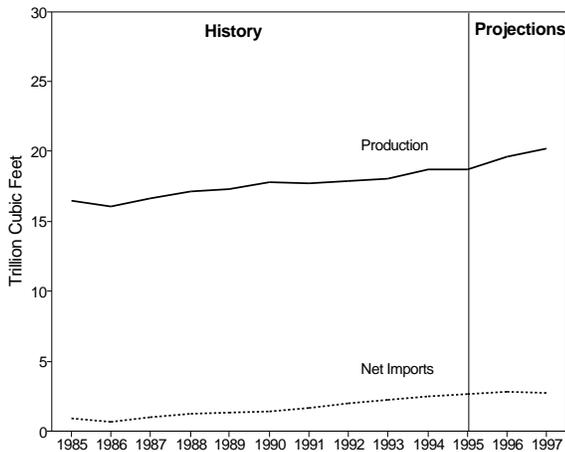
Mid World Oil Price Case

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

Figure 24. Total Gas in Underground Storage
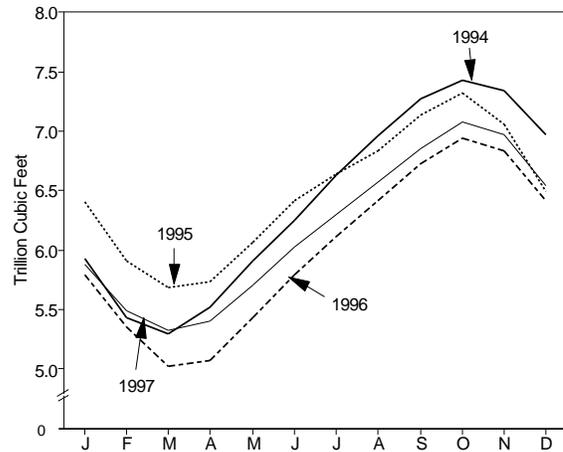
Mid World Oil Price Case

Sources: Third Quarter 1995 STIFS database. Details provided in Figure References Section.

- U.S. dry gas production is expected to rise through the forecast period, due to the expected growth in natural gas demand of over 1,000 billion cubic feet. Production has been increasing in Texas and the Gulf Coast as a result of increased drilling encouraged by higher wellhead prices.[15] Due to the need for gas storage refill this year, growth in U.S. dry gas production in 1996 is expected to be especially strong at 4.4 percent. In 1997, due to expected demand growth of 1.7 percent and lack of spare import pipeline capacity from Canada, domestic output is expected to rise further by 3.1 percent (Figure 23 and Table 10).

- Working gas in storage at the end of May was 1,133 billion cubic feet, almost 400 billion cubic feet less than the lowest level for May in the past 6 years.[16] Storage owners were slow to inject in April because of high gas prices and continued withdrawals due to lingering cold temperatures. The overall need is for 1,800 billion cubic feet to be injected into storage between June 1 and October 31 in order to meet the "full" storage level of 3,000 billion cubic feet by the beginning of the heating season. Working gas storage levels have been at record lows thus far this year and it is expected that they will not reach "normal" levels by the beginning of the heating season on November 1 (Figure 24).

- The low level of storage, coupled with only moderate rates of refill thus far and high temperatures in some regions of the country, continues to be a concern in the natural gas market.

- Higher natural gas prices and demand are encouraging increased drilling for gas. The Baker Hughes natural gas rig count for the month of May was 467 rigs.[17]

- Net natural gas imports from Canada are expected to continue to expand by 6.6 percent in 1996. In 1997, net imports will be flat. High load factors on export pipelines, averaging 87 percent in 1995,[18] will be a limiting factor until 1998, when 700 thousand cubic feet per day of increased export capacity is expected on the Northern Border pipeline.

U.S. Coal Demand and Supply

Figure 25. U.S. Coal Demand Trends
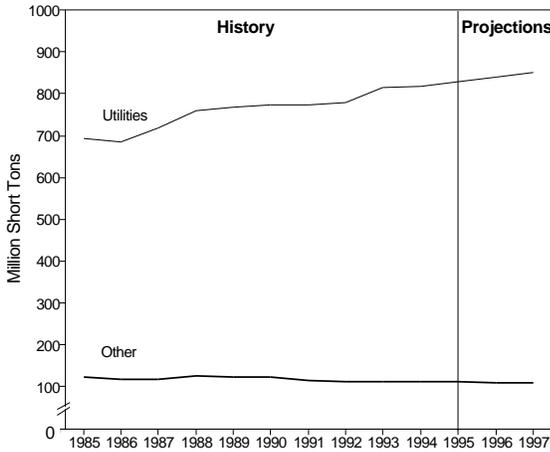
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 26. U.S. Coal Production Trends by Region
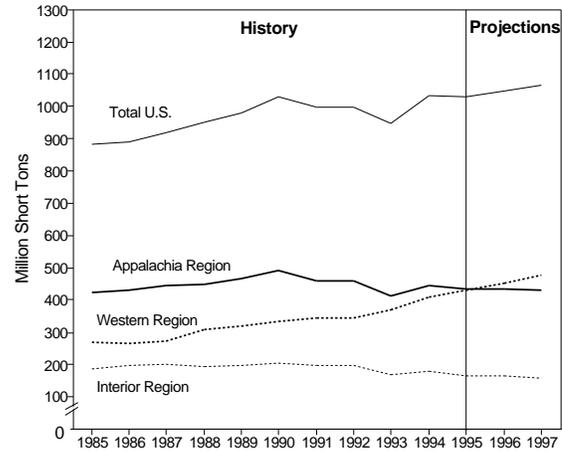
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternative Fuels. Details provided in Figure References Section.

- Electricity demand growth will continue to be the driving force behind increases in coal consumption. Total coal demand is expected to increase by 1.1 percent in 1996 and by 1.4 percent in 1997 (Figure 25 and Table 11).

- The colder than normal first quarter is expected to help boost coal consumption by utility and nonutility electricity generators by 1.5 percent in 1996 (Table 11). In 1997, electricity sector consumption of coal is expected to increase by an additional 1.6 percent as slower growth in electricity demand due to the assumptions of normal weather and slower economic growth are offset by declines in utility hydroelectric and petroleum-fired electricity generation.

- Demand growth for coal at coke plants is expected to be modest throughout the forecast as a result of coking plant capacity constraints. The limitations on coke production have led to increased reliance on imports of coke. A 5.1 percent increase in steel output in 1995 was accompanied by a 4.0 percent increase in coking coal demand, but net imports of coke

increased by 12.1 percent. The use of non-coke methods of steel production (steel recycling and electric-arc furnaces) by the iron and steel industry has increased. Electric-arc production grew by 10.0 percent in 1995, accounting for 39.5 percent of raw steel production.[19]

- Demand for coal by the retail and general industry sectors is projected at 76.1 million short tons in 1996, a 3.2 percent decrease from 1995 demand. Demand will grow by 0.7 percent in 1997.

- U.S. coal exports are expected to remain nearly flat in 1996, at 89 million short tons. Exports should grow in 1997, as worldwide demand improves (Table 11).

- Coal production is expected to grow by 2.0 percent in 1996 and by 1.4 percent in 1997, with annual output reaching 1,065 million short tons in 1997 (Figure 26). Production in the Western region will continue to rise, while production in the Interior and Appalachian regions will decline.[20]

Figure 27. U.S. Electricity Demand
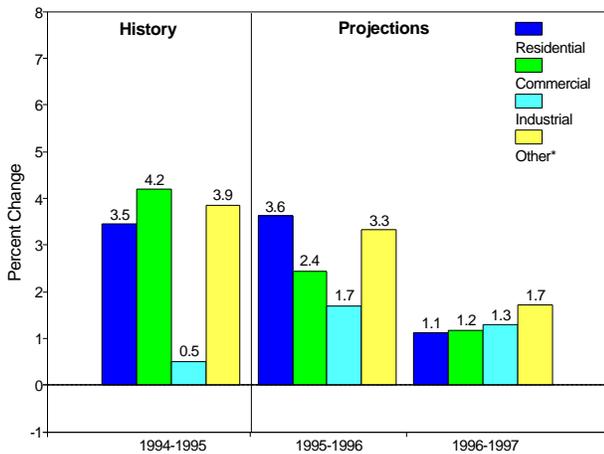
*Includes nonutility own use
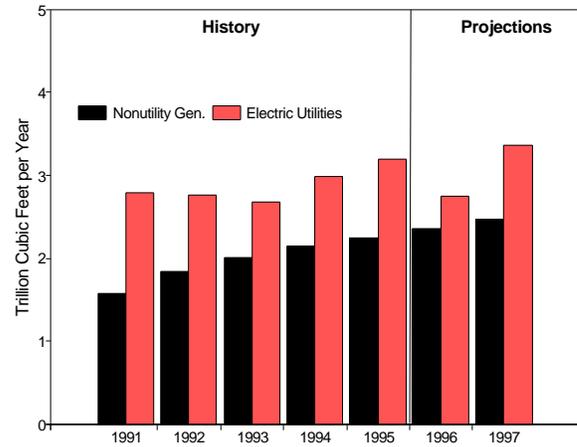Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 28. U.S. Electricity Production*
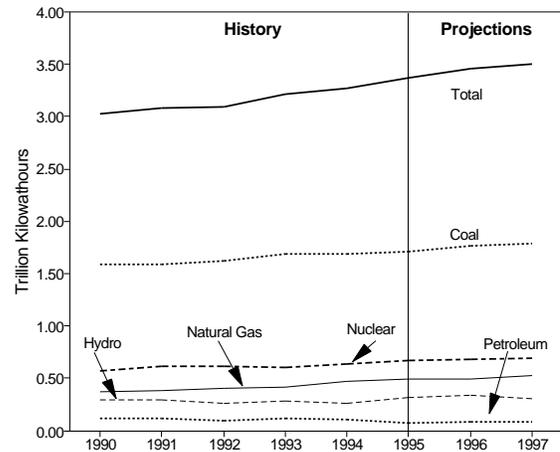
*Includes nonutilities
Mid World Oil Price Case
Sources: Third Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section.

- In 1996, total electricity demand is expected to continue to grow at close to the 2.6 percent seen in 1995.   This is due mainly to assumptions of continuing economic growth and the weather-related demand in the first half of the year. In 1997, electricity demand growth slows along with economic growth (Table 12).

- Residential demand growth for electricity in 1996 is projected at 3.6 percent, close to the 1995 level. Weather conditions so far this year imply higher first and second quarter demand compared to 1995. Commercial sector demand is projected to rise by 2.4 percent in 1996 and by 1.2 percent in 1997 due primarily to continuing expansion of employment (Figure 27).

- Industrial demand is projected to grow at 1.7 percent in 1996 and 1.3 percent in 1997, reflecting continuing growth in industrial output. U.S. utilities are expected to generate about 2.4 percent more electricity in 1996 and 0.8 percent more in 1997.   Nonutility generation is expected to increase at faster rates of 6.0 percent in 1996 and 4.2 percent in 1997 as a result of capacity additions.[21]

- Hydroelectric utility generation in 1996 is expected to exceed 1995 levels due to above-normal snowfall and rainfall, particularly in the Pacific Northwest.   In 1997 hydro generation is expected to be below 1996 levels as streamflow returns to more normal levels (Figure 28).

- Nuclear power generation is expected to rise in 1996, as Watts Bar 1 goes on-line and Browns Ferry 3 returns to service.[22]   This increase occurs even though 3 nuclear units in Connecticut (Millstone 1,2, and 3) were shut down in the spring of 1996 pending review of operating procedures by the U.S. Nuclear Regulatory Commission. The Millstone units are projected to be out of service for the rest of the year.   Replacement power will be generated with oil-fired powerplants previously on standby, four gas-fired turbines, and one diesel-fired turbine.   In addition, voltage reductions and customer appeals in the New England region may also be required during the summer.

- Net imports of electricity from Canada are expected to be lower in 1996 and 1997 than they were in 1995 and 1994.

U.S. Renewable Energy Demand _____

Figure 29. Renewable Energy Use for Electricity
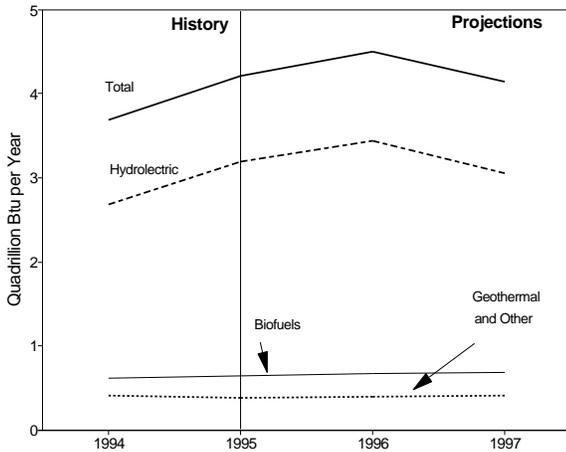
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 30. Renewable Energy Use by Sector
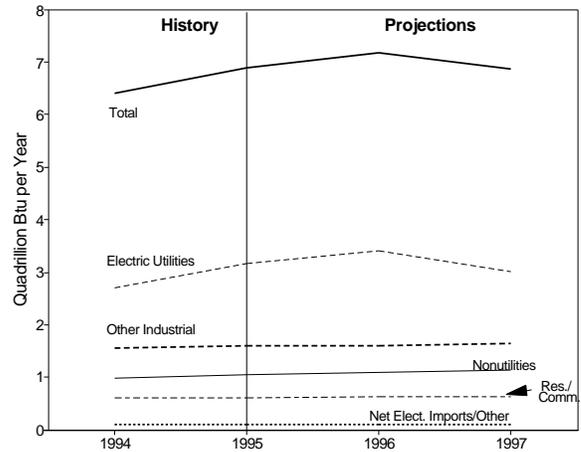
Mid World Oil Price Case
  Sources: Third Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section.

- Renewable energy use in the United States amounted to about 6.9 quadrillion Btu (quads), or about 7.6 percent of total domestic gross energy demand in 1995 (Table 13). In 1995, renewables demand growth increased by 7.5 percent due to an overall increase in hydroelectric power availability. In 1996, renewables growth is expected to increase by 4.2 percent, as hydroelectric power generation continues to grow.

- More than half of all renewable energy use measured by EIA is associated with the production of electricity. While the biggest component of electricity producers' use of renewables is hydroelectric power generated by electric utilities (Figure 29), a significant and growing portion of renewables use occurs at nonutility generating facilities.

- Hydropower generation by electric utilities is expected to increase in 1996 from 1995 levels because of above normal streamflow in the Pacific Northwest. In 1997, hydroelectric generation is expected to decline as streamflow returns to more normal levels.

- 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 hydropower availability is expected to decline in 1997, utility use of renewables will show a decline in 1997.

- Currently, aside from power generation, the most significant area of renewables use is in the industrial sector, accounting for 23 percent of the total in 1995 (Figure 30). This component is principally biofuels.

- Renewables use in the combined residential and commercial sector, at about 0.61 quad in 1995, accounts for about 9 percent of total domestic renewables demand. Most of this energy is wood used for home heating, with only a very small amount having to do with solar hot water heating.

Table 1. U.S. Macroeconomic and Weather Assumptions

	Macro Case	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	Year 1995	Year 1996	Year 1997
Macroeconomic [a]																
Real Gross Domestic Product	High							6925	6988	7049	7111	7155	7187		6901	7125
(billion chained 1992 dollars - SAAR) . . .	Mid	6702	6709	6768	6777	6824	6868	6909	6933	6951	6974	7008	7039	6739	6883	6993
	Low							6893	6877	6854	6837	6861	6891		6865	6861
	High							2.3	3.1	3.3	3.5	3.3	2.8		2.4	3.2
Percentage Change from Prior Year . . .	Mid	3.0	1.9	1.9	1.3	1.8	2.4	2.1	2.3	1.9	1.5	1.4	1.5	2.0	2.1	1.6
	Low							1.8	1.5	0.4	-0.5	-0.5	0.2		1.9	-0.1
Annualized Percent Change	High							3.3	3.6	3.5	3.5	2.5	1.8			
from Prior Quarter	Mid	0.6	0.5	3.5	0.5	2.8	2.6	2.4	1.4	1.1	1.3	1.9	1.8			
	Low							1.5	-0.9	-1.3	-1.0	1.4	1.8			
GDP Implicit Price Deflator	High							1.104	1.109	1.114	1.117	1.122	1.129		1.101	1.120
(Index, 1992=1.000)	Mid	1.067	1.073	1.079	1.085	1.092	1.098	1.105	1.112	1.119	1.124	1.130	1.137	1.076	1.102	1.127
	Low							1.106	1.115	1.124	1.131	1.138	1.145		1.103	1.134
	High							2.3	2.2	2.0	1.7	1.6	1.8		2.3	1.8
Percentage Change from Prior Year . . .	Mid	2.5	2.6	2.6	2.5	2.4	2.4	2.4	2.5	2.5	2.3	2.3	2.2	2.5	2.4	2.3
	Low							2.5	2.8	2.9	3.0	2.9	2.7		2.5	2.9
Real Disposable Personal Income	High							5078	5132	5208	5257	5295	5312		5069	5268
(billion chained 1992 Dollars - SAAR) . .	Mid	4896	4896	4950	4997	5037	5028	5066	5089	5133	5151	5181	5197	4935	5055	5165
	Low							5054	5046	5057	5044	5067	5082		5041	5062
	High							2.6	2.7	3.4	4.6	4.3	3.5		2.7	3.9
Percentage Change from Prior Year . . .	Mid	4.9	2.4	3.0	3.0	2.9	2.7	2.3	1.8	1.9	2.4	2.3	2.1	3.3	2.4	2.2
	Low							2.1	1.0	0.4	0.3	0.3	0.7		2.2	0.4
Manufacturing Production	High							1.296	1.322	1.347	1.372	1.388	1.397		1.286	1.376
(Index, 1987=1.000)	Mid	1.240	1.233	1.241	1.246	1.255	1.270	1.289	1.299	1.306	1.314	1.326	1.334	1.240	1.278	1.320
	Low							1.282	1.276	1.265	1.256	1.263	1.271		1.271	1.264
	High							4.4	6.2	7.4	8.0	7.1	5.7		3.7	7.0
Percentage Change from Prior Year . . .	Mid	6.3	3.6	3.0	1.4	1.2	3.0	3.8	4.3	4.1	3.5	2.8	2.7	3.6	3.1	3.3
	Low							3.3	2.5	0.9	-1.1	-1.5	-0.4		2.5	-0.5
OECD Economic Growth (percent) [b] . . .														2.4	2.4	2.6
Weather [c]																
Heating Degree-Days																
U.S.		2153	580	108	1721	2401	589	89	1636	2327	524	89	1636	4562	4714	4576
New England		3024	989	221	2362	3353	967	171	2269	3267	915	171	2269	6596	6760	6621
Middle Atlantic		2772	778	124	2152	3079	803	105	2026	2993	716	105	2026	5826	6014	5839
U.S. Gas-Weighted		2164	631	127	1785	2501	621	81	1686	2426	539	81	1686	4707	4889	4732
Cooling Degree-Days (U.S.)		32	322	864	61	19	362	758	72	30	334	758	72	1279	1211	1193

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world oil price cases (as shown in Table 5) and by various explicit economic assumptions, with the low world oil price case applied to the high macroeconomic case, and the high world oil price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[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: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, May 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, May 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0596.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic [a]															
Real Fixed Investment															
(billion chained 1992 dollars - SAAR)	970	966	981	991	1015	1028	1030	1027	1022	1018	1016	1018	977	1025	1019
Real Exchange Rate															
(index)	0.997	0.940	0.967	0.980	1.003	1.010	1.010	1.010	1.010	1.003	0.993	0.990	0.971	1.008	0.999
Business Inventory Change															
(billion chained 1992 dollars - SAAR)	8.6	11.3	16.4	11.2	17.9	1.9	1.8	5.7	4.9	3.6	2.3	1.6	11.9	6.8	3.1
Producer Price Index															
(index, 1980-1984=1.000)	1.234	1.246	1.252	1.258	1.261	1.274	1.274	1.273	1.273	1.273	1.276	1.283	1.247	1.271	1.276
Consumer Price Index															
(index, 1980-1984=1.000)	1.509	1.522	1.530	1.538	1.551	1.568	1.578	1.590	1.601	1.611	1.623	1.635	1.525	1.572	1.617
Petroleum Product Price Index															
(index, 1980-1984=1.000)	0.584	0.647	0.611	0.590	0.631	0.683	0.659	0.651	0.665	0.656	0.638	0.643	0.608	0.656	0.651
Non-Farm Employment															
(millions)	116.1	116.4	116.8	117.2	117.7	118.2	118.6	119.0	119.3	119.6	119.9	120.2	116.6	118.4	119.8
Commercial Employment															
(millions)	77.7	78.1	78.5	79.0	79.5	80.0	80.4	80.7	81.0	81.4	81.7	82.0	78.3	80.1	81.5
Total Industrial Production															
(index, 1987=1.000)	1.218	1.214	1.223	1.225	1.234	1.248	1.264	1.273	1.280	1.287	1.297	1.305	1.220	1.255	1.292
Housing Stock															
(millions)	109.2	109.6	109.9	110.3	110.6	111.0	111.4	111.7	112.0	112.4	112.7	113.0	109.8	111.2	112.5
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1987=1.000)	1.185	1.176	1.177	1.182	1.188	1.193	1.201	1.208	1.212	1.217	1.222	1.228	1.180	1.198	1.220
Vehicle Miles Traveled															
(million miles/day)	6142	6793	6946	6447	6165	6928	7109	6602	6385	7095	7281	6775	6584	6702	6886
Vehicle Fuel Efficiency															
(miles per gallon)	19.56	20.42	20.79	19.69	19.54	20.58	20.92	19.79	19.71	20.62	20.99	19.89	20.13	20.22	20.32
Real Vehicle Fuel Cost															
(cents per mile)	4.00	4.00	3.86	3.86	3.95	4.16	3.91	3.98	3.87	3.83	3.73	3.85	3.93	4.00	3.82
Air Travel Capacity															
(mill. available ton-miles/day)	371.1	380.1	397.0	384.4	379.8	400.7	418.3	408.0	403.8	421.4	439.0	428.6	383.2	401.8	423.3
Aircraft Utilization															
(mill. revenue ton-miles/day)	202.4	218.3	230.8	215.3	209.5	229.2	244.7	229.1	224.1	240.1	255.2	239.5	216.7	228.2	239.8
Aircraft Yield															
(cents per ton-mile)	13.33	13.57	13.11	13.55	13.98	13.54	12.63	13.29	13.72	13.20	12.39	13.20	13.39	13.36	13.13
Raw Steel Production															
(millions)	26.55	25.31	25.43	25.94	26.55	26.20	24.91	25.61	26.44	25.81	24.54	25.54	102.94	103.27	102.32

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world price cases (as shown in Table 4) and by various explicit economic assumptions, with low world oil price case applied to the high macroeconomic case, and high world price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, May 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, May 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0596.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Demand [a]															
OECD															
U.S. (50 States)	17.6	17.5	17.7	18.0	18.3	17.7	18.0	18.4	18.3	18.0	18.4	18.7	17.7	18.1	18.4
U.S. Territories	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3
Canada	1.7	1.7	1.8	1.8	1.9	1.7	1.8	1.8	1.9	1.7	1.9	1.9	1.8	1.8	1.8
Europe [b]	14.0	13.5	13.7	14.4	14.3	13.7	13.9	14.6	14.2	13.8	14.0	14.7	13.9	14.1	14.2
Japan	6.4	5.2	5.3	6.0	6.5	5.3	5.4	6.0	6.5	5.3	5.5	6.1	5.7	5.8	5.9
Australia and New Zealand	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total OECD	40.9	39.2	39.8	41.4	42.2	39.6	40.3	42.0	42.1	40.2	41.0	42.7	40.3	41.0	41.5
Non-OECD															
Former Soviet Union	5.1	4.5	4.5	4.9	5.2	4.5	4.5	4.9	5.2	4.6	4.6	5.0	4.7	4.8	4.8
Europe	1.5	1.3	1.3	1.4	1.6	1.4	1.4	1.5	1.6	1.4	1.4	1.5	1.4	1.4	1.5
China	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.6	3.7	3.7	3.7	3.8	3.3	3.5	3.7
Other Asia	8.0	7.8	7.6	8.5	8.5	8.3	8.1	9.1	9.1	8.8	8.6	9.6	8.0	8.5	9.0
Other Non-OECD	12.1	12.1	12.2	12.4	12.4	12.4	12.5	12.7	12.8	12.8	12.9	13.1	12.2	12.5	12.9
Total Non-OECD	30.0	29.0	28.9	30.6	31.2	30.1	30.0	31.8	32.4	31.3	31.2	33.1	29.6	30.8	32.0
Total World Demand	70.9	68.2	68.7	72.0	73.3	69.7	70.4	73.9	74.5	71.5	72.2	75.7	69.9	71.8	73.5
Supply [c]															
OECD															
U.S. (50 States)	9.5	9.4	9.3	9.4	9.4	9.2	9.2	9.3	9.1	9.1	9.0	9.0	9.4	9.3	9.1
Canada	2.4	2.4	2.4	2.5	2.4	2.5	2.5	2.6	2.5	2.6	2.6	2.6	2.4	2.5	2.6
North Sea [d]	5.8	5.4	5.7	6.3	6.3	6.3	6.5	6.7	6.7	6.7	6.7	7.1	5.8	6.4	6.8
Other OECD	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total OECD	19.2	18.8	18.9	19.6	19.5	19.5	19.7	20.1	19.9	19.8	19.8	20.2	19.1	19.7	19.9
Non-OECD															
OPEC	27.6	28.0	28.2	28.2	28.5	28.6	29.4	29.5	29.6	29.6	29.7	29.7	28.0	29.0	29.6
Former Soviet Union	6.9	7.0	7.0	6.9	7.2	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.0	7.1	7.2
China	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.3	3.0	3.1	3.2
Mexico	3.1	3.2	3.2	2.9	3.3	3.3	3.4	3.4	3.5	3.5	3.5	3.5	3.1	3.4	3.5
Other Non-OECD	9.3	9.3	9.6	9.6	9.7	9.9	10.1	10.2	10.3	10.4	10.7	10.8	9.5	9.9	10.5
Total Non-OECD	49.9	50.5	51.0	50.6	51.7	52.0	53.1	53.3	53.7	53.9	54.3	54.5	50.5	52.5	54.1
Total World Supply	69.2	69.3	69.9	70.2	71.2	71.5	72.8	73.4	73.6	73.7	74.1	74.7	69.6	72.2	74.0
Stock Changes and Statistical Discrepancy															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.6	-0.1	-0.1	0.6	0.9	-0.7	-0.4	0.2	0.4	-0.8	-0.3	0.4	0.2	0.0	-0.1
Other	1.2	-1.1	-1.1	1.2	1.3	-1.0	-2.0	0.3	0.5	-1.4	-1.6	0.6	0.0	-0.4	-0.5
Total Stock Withdrawals	1.7	-1.1	-1.2	1.8	2.1	-1.7	-2.4	0.5	0.9	-2.2	-1.9	1.0	0.3	-0.4	-0.5
Statistical Discrepancy	0.1	0.2	0.2	0.3	0.2	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
Closing Stocks (billion barrels) [e]	2.7	2.7	2.8	2.7	2.5	2.6	2.7	2.7	2.6	2.7	2.8	2.8	2.7	2.7	2.8
Non-OPEC Supply	41.6	41.3	41.7	42.0	42.7	42.9	43.4	43.9	44.0	44.1	44.4	45.0	41.7	43.2	44.4
Net Exports from Former Soviet Union	1.8	2.5	2.5	2.0	2.0	2.6	2.6	2.2	2.0	2.6	2.6	2.2	2.2	2.3	2.4

[a]Demand for petroleum by the OECD countries is synonymous with "petroleum product supplied" which is defined in the glossary of the EIA *Petroleum Supply Monthly,* DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption" which includes internal consumption, refinery fuel and loss, and bunkering.
[b]OECD Europe includes the former East Germany.
[c]Includes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.
[d]Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.
[e]Excludes stocks held in the Former CPEs.
OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.
OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
SPR: Strategic Petroleum Reserve
Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(96/05); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, May 1996.

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

	Price Case	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	Year 1995	Year 1996	Year 1997
Imported Crude Oil [a] (dollars per barrel)	Low							15.50	15.00	15.00	15.00	15.00	15.00		17.07	15.00
	Mid	17.01	18.20	16.59	16.78	18.38	19.60	18.08	18.00	18.00	18.00	18.00	18.00	17.15	18.52	18.00
	High							20.75	21.00	21.00	21.00	21.00	21.00		19.96	21.00
Natural Gas Wellhead (dollars per thousand cubic feet)	Low							1.83	1.89	1.79	1.47	1.42	1.57		1.94	1.56
	Mid	1.53	1.59	1.46	1.77	2.07	2.01	2.05	2.19	2.18	1.84	1.75	2.03	1.59	2.08	1.95
	High							2.32	2.55	2.54	2.30	2.21	2.36		2.25	2.36
Petroleum Products																
Gasoline Retail [b] (dollars per gallon)	Low							1.24	1.19	1.15	1.20	1.20	1.18		1.24	1.19
	Mid	1.18	1.24	1.23	1.17	1.20	1.34	1.29	1.25	1.22	1.27	1.27	1.25	1.21	1.27	1.25
	High							1.34	1.32	1.29	1.34	1.34	1.32		1.30	1.32
No. 2 Diesel Oil, Retail (dollars per gallon)	Low							1.11	1.13	1.11	1.10	1.10	1.14		1.16	1.11
	Mid	1.09	1.11	1.10	1.12	1.16	1.23	1.17	1.20	1.18	1.16	1.16	1.20	1.11	1.19	1.18
	High							1.23	1.26	1.24	1.23	1.23	1.27		1.22	1.24
No. 2 Heating Oil, Wholesale (dollars per gallon)	Low							0.49	0.51	0.48	0.46	0.49	0.52		0.55	0.49
	Mid	0.49	0.51	0.50	0.54	0.59	0.57	0.55	0.58	0.55	0.52	0.55	0.58	0.51	0.58	0.55
	High							0.62	0.65	0.62	0.59	0.62	0.65		0.61	0.62
No. 2 Heating Oil, Retail (dollars per gallon)	Low							0.83	0.88	0.88	0.84	0.83	0.89		0.92	0.87
	Mid	0.88	0.86	0.82	0.89	0.96	0.91	0.88	0.95	0.95	0.91	0.89	0.95	0.87	0.94	0.94
	High							0.94	1.02	1.01	0.97	0.96	1.02		0.97	1.00
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	Low							14.16	14.40	14.89	13.14	13.01	13.98		16.26	13.83
	Mid	16.83	17.45	15.15	16.37	19.25	17.67	16.49	17.19	17.89	16.12	16.00	17.01	16.46	17.69	16.83
	High							18.37	19.35	19.88	18.13	18.03	19.03		18.73	18.84
Electric Utility Fuels																
Coal (dollars per million Btu)	Low							1.22	1.19	1.20	1.23	1.21	1.21		1.24	1.21
	Mid	1.33	1.34	1.31	1.29	1.29	1.31	1.28	1.27	1.27	1.29	1.27	1.26	1.32	1.29	1.27
	High							1.34	1.35	1.37	1.39	1.37	1.37		1.33	1.37
Heavy Fuel Oil [d] (dollars per million Btu)	Low							2.47	2.54	2.53	2.27	2.28	2.47		2.75	2.39
	Mid	2.61	2.74	2.41	2.72	3.06	2.97	2.84	2.99	3.00	2.73	2.76	2.96	2.60	2.97	2.86
	High							3.14	3.34	3.31	3.05	3.08	3.29		3.13	3.18
Natural Gas (dollars per million Btu)	Low							2.37	2.47	2.42	2.03	1.97	2.17		2.52	2.11
	Mid	1.98	2.00	1.84	2.23	2.84	2.62	2.57	2.74	2.76	2.35	2.26	2.57	1.98	2.67	2.45
	High							2.80	3.05	3.07	2.74	2.65	2.86		2.83	2.80
Other Residential																
Natural Gas (dollars per thousand cubic feet)	Low							8.10	6.34	5.70	6.25	7.46	5.92		6.31	5.99
	Mid	5.80	6.47	7.87	5.73	5.82	6.85	8.19	6.55	6.02	6.63	7.84	6.33	6.05	6.37	6.34
	High							8.27	6.83	6.36	7.02	8.32	6.79		6.45	6.74
Electricity (cents per kilowatthour)	Low							8.57	7.96	7.55	8.13	8.36	7.89		8.22	7.98
	Mid	8.00	8.58	8.73	8.30	7.90	8.55	8.80	8.31	7.93	8.52	8.76	8.29	8.41	8.39	8.38
	High							9.10	8.70	8.38	8.98	9.25	8.78		8.60	8.85

[a] Cost of imported crude oil to U.S.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the second quarter of 1996. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/05).

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	6.69	6.60	6.44	6.51	6.52	6.37	6.22	6.21	6.06	5.94	5.80	5.75	6.56	6.33	5.89
Alaska	1.56	1.50	1.40	1.47	1.46	1.37	1.31	1.37	1.30	1.26	1.21	1.20	1.48	1.38	1.24
Lower 48	5.13	5.10	5.03	5.04	5.06	5.00	4.91	4.84	4.76	4.68	4.59	4.55	5.08	4.95	4.64
Net Imports (including SPR) [b]	6.73	7.32	7.49	7.00	6.90	7.57	7.93	7.65	7.65	8.43	8.58	8.23	7.14	7.52	8.22
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	0.03	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Other Stock Withdrawn or Added (-)	-0.02	0.13	0.24	0.03	0.04	-0.11	0.08	-0.08	-0.09	-0.07	0.08	-0.03	0.09	-0.02	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.10	0.18	0.20	0.28	0.20	0.48	0.28	0.27	0.26	0.28	0.28	0.27	0.19	0.31	0.27
Total Crude Oil Supply	13.49	14.23	14.36	13.81	13.67	14.34	14.49	14.04	13.87	14.57	14.73	14.22	13.97	14.13	14.35
Other Supply															
NGL Production	1.78	1.77	1.75	1.75	1.74	1.78	1.79	1.83	1.79	1.79	1.79	1.81	1.76	1.78	1.79
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.31	0.30	0.32	0.28	0.31	0.32	0.32	0.31	0.32	0.32	0.30	0.31	0.32
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	0.73	0.76	0.79	0.81	0.78	0.81	0.81	0.79	0.77	0.81	0.82	0.80	0.77	0.80	0.80
Net Product Imports [c]	0.73	0.66	0.89	0.72	0.96	1.12	1.24	1.23	1.23	1.44	1.29	1.28	0.75	1.14	1.31
Product Stock Withdrawn or Added (-) [d]	0.60	-0.21	-0.36	0.59	0.82	-0.65	-0.55	0.27	0.45	-0.75	-0.40	0.45	0.15	-0.03	-0.06
Total Supply	17.64	17.52	17.74	18.00	18.29	17.68	18.09	18.47	18.44	18.17	18.55	18.89	17.72	18.13	18.52
Demand															
Motor Gasoline	7.48	7.92	7.96	7.80	7.51	8.02	8.11	7.98	7.75	8.23	8.30	8.15	7.79	7.90	8.11
Jet Fuel	1.51	1.45	1.52	1.57	1.60	1.49	1.56	1.60	1.59	1.55	1.61	1.64	1.51	1.56	1.60
Distillate Fuel Oil	3.46	3.09	3.02	3.26	3.62	3.15	3.07	3.34	3.60	3.23	3.19	3.44	3.21	3.29	3.36
Residual Fuel Oil	0.89	0.82	0.81	0.89	0.96	0.76	0.85	1.00	1.10	0.89	0.88	1.02	0.85	0.89	0.97
Other Oils [e]	4.30	4.24	4.43	4.48	4.60	4.27	4.50	4.56	4.40	4.25	4.57	4.64	4.36	4.48	4.47
Total Demand	17.64	17.52	17.74	18.00	18.29	17.68	18.09	18.47	18.44	18.17	18.55	18.89	17.72	18.13	18.52
Total Petroleum Net Imports	7.47	7.98	8.37	7.72	7.86	8.69	9.17	8.88	8.88	9.86	9.87	9.52	7.89	8.65	9.54
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	339	328	306	303	300	310	303	310	318	324	317	320	303	310	320
Total Motor Gasoline	211	205	199	202	203	203	198	204	208	212	209	212	202	204	212
Finished Motor Gasoline	168	163	159	161	159	161	157	164	163	175	170	173	161	164	173
Blending Components	43	41	40	41	44	42	41	40	45	38	39	39	41	40	39
Jet Fuel	39	40	41	40	34	36	40	41	40	40	42	43	40	41	43
Distillate Fuel Oil	115	115	132	130	90	103	129	133	96	110	131	132	130	133	132
Residual Fuel Oil	38	36	40	37	32	33	36	39	36	39	39	39	37	39	39
Other Oils [g]	266	294	311	258	235	277	300	262	259	306	323	276	258	262	276
Total Stocks (excluding SPR)	1009	1017	1028	971	893	963	1007	989	956	1031	1061	1022	971	989	1022
Crude Oil in SPR	592	592	592	592	589	583	574	574	574	574	574	574	592	574	574
Total Stocks (including SPR)	1601	1609	1620	1563	1482	1546	1581	1564	1531	1605	1635	1597	1563	1564	1597

[a]Includes lease condensate.

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

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

[d]Includes an estimate of minor product stock change based on monthly data.

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

[f]Includes crude oil in transit to refineries.

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

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

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/05); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	6.69	6.60	6.44	6.51	6.52	6.37	6.31	6.36	6.28	6.19	6.10	6.08	6.56	6.39	6.16
Alaska	1.56	1.50	1.40	1.47	1.46	1.37	1.32	1.38	1.33	1.29	1.23	1.23	1.48	1.38	1.27
Lower 48	5.13	5.10	5.03	5.04	5.06	5.00	4.99	4.98	4.94	4.90	4.87	4.85	5.08	5.01	4.89
Net Imports (including SPR) [b]	6.73	7.32	7.49	7.00	6.90	7.57	7.82	7.45	7.37	8.10	8.19	7.81	7.14	7.44	7.87
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	0.03	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Other Stock Withdrawn or Added (-)	-0.02	0.13	0.24	0.03	0.04	-0.11	0.08	-0.08	-0.09	-0.07	0.08	-0.03	0.09	-0.02	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.10	0.18	0.20	0.28	0.20	0.48	0.27	0.27	0.26	0.28	0.28	0.27	0.19	0.31	0.27
Total Crude Oil Supply	13.49	14.23	14.36	13.81	13.67	14.34	14.47	13.99	13.81	14.49	14.63	14.11	13.97	14.12	14.26
Other Supply															
NGL Production	1.78	1.77	1.75	1.75	1.74	1.78	1.79	1.83	1.79	1.79	1.80	1.81	1.76	1.78	1.80
Other Hydrocarbon and Alcohol Inputs . . .	0.30	0.31	0.31	0.30	0.32	0.28	0.31	0.32	0.32	0.31	0.32	0.32	0.30	0.31	0.32
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	0.73	0.76	0.79	0.81	0.78	0.81	0.81	0.78	0.76	0.81	0.82	0.79	0.77	0.80	0.80
Net Product Imports [c]	0.73	0.66	0.89	0.72	0.96	1.12	1.20	1.18	1.18	1.37	1.21	1.18	0.75	1.11	1.24
Product Stock Withdrawn or Added (-) [d] . .	0.60	-0.21	-0.36	0.59	0.82	-0.65	-0.56	0.26	0.45	-0.75	-0.41	0.45	0.15	-0.03	-0.07
Total Supply	17.64	17.52	17.74	18.00	18.29	17.68	18.03	18.38	18.32	18.02	18.37	18.68	17.72	18.10	18.35
Demand															
Motor Gasoline	7.48	7.92	7.96	7.80	7.51	8.02	8.09	7.94	7.71	8.19	8.26	8.11	7.79	7.89	8.07
Jet Fuel	1.51	1.45	1.52	1.57	1.60	1.49	1.56	1.60	1.59	1.55	1.61	1.64	1.51	1.56	1.60
Distillate Fuel Oil	3.46	3.09	3.02	3.26	3.62	3.15	3.06	3.32	3.58	3.21	3.16	3.39	3.21	3.29	3.33
Residual Fuel Oil	0.89	0.82	0.81	0.89	0.96	0.76	0.81	0.96	1.05	0.83	0.80	0.94	0.85	0.87	0.90
Other Oils [e]	4.30	4.24	4.43	4.48	4.60	4.27	4.50	4.55	4.39	4.24	4.56	4.60	4.36	4.48	4.45
Total Demand	17.64	17.52	17.74	18.00	18.29	17.68	18.03	18.38	18.32	18.02	18.37	18.68	17.72	18.10	18.35
Total Petroleum Net Imports	7.47	7.98	8.37	7.72	7.86	8.69	9.02	8.64	8.55	9.48	9.40	8.99	7.89	8.55	9.11
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	339	328	306	303	300	310	303	310	318	324	317	320	303	310	320
Total Motor Gasoline	211	205	199	202	203	203	198	204	208	212	209	212	202	204	212
Finished Motor Gasoline	168	163	159	161	159	161	157	164	163	175	170	173	161	164	173
Blending Components	43	41	40	41	44	42	41	40	45	38	39	39	41	40	39
Jet Fuel	39	40	41	40	34	36	40	41	40	40	42	43	40	41	43
Distillate Fuel Oil	115	115	132	130	90	103	130	134	96	110	132	133	130	134	133
Residual Fuel Oil	38	36	40	37	32	33	36	39	36	39	39	39	37	39	39
Other Oils [g]	266	294	311	258	235	277	300	262	259	306	324	277	258	262	277
Total Stocks (excluding SPR)	1009	1017	1028	971	893	963	1007	990	957	1032	1062	1024	971	990	1024
Crude Oil in SPR	592	592	592	592	589	583	574	574	574	574	574	574	592	574	574
Total Stocks (including SPR)	1601	1609	1620	1563	1482	1546	1582	1564	1532	1606	1637	1599	1563	1564	1599

[a] Includes lease condensate.

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

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

[d] Includes an estimate of minor product stock change based on monthly data.

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

[f] Includes crude oil in transit to refineries.

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

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

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/05); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

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

	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	Year 1995	Year 1996	Year 1997
Supply															
Crude Oil Supply															
Domestic Production [a]	6.69	6.60	6.44	6.51	6.52	6.37	6.39	6.49	6.46	6.42	6.35	6.36	6.56	6.44	6.39
Alaska	1.56	1.50	1.40	1.47	1.46	1.37	1.35	1.41	1.36	1.31	1.26	1.25	1.48	1.40	1.29
Lower 48	5.13	5.10	5.03	5.04	5.06	5.00	5.04	5.08	5.10	5.11	5.09	5.10	5.08	5.04	5.10
Net Imports (including SPR) [b]	6.73	7.32	7.49	7.00	6.90	7.57	7.72	7.28	7.13	7.81	7.86	7.44	7.14	7.37	7.56
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	0.03	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Other Stock Withdrawn or Added (-)	-0.02	0.13	0.24	0.03	0.04	-0.11	0.08	-0.08	-0.09	-0.07	0.08	-0.03	0.09	-0.02	-0.03
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.10	0.18	0.20	0.28	0.20	0.48	0.27	0.27	0.26	0.27	0.28	0.27	0.19	0.31	0.27
Total Crude Oil Supply	13.49	14.23	14.36	13.81	13.67	14.34	14.46	13.95	13.75	14.42	14.55	14.03	13.97	14.10	14.19
Other Supply															
NGL Production	1.78	1.77	1.75	1.75	1.74	1.78	1.79	1.83	1.79	1.79	1.80	1.81	1.76	1.79	1.80
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.31	0.30	0.32	0.28	0.31	0.32	0.32	0.31	0.32	0.32	0.30	0.31	0.32
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	0.73	0.76	0.79	0.81	0.78	0.81	0.81	0.78	0.76	0.80	0.81	0.79	0.77	0.79	0.79
Net Product Imports [c]	0.73	0.66	0.89	0.72	0.96	1.12	1.16	1.14	1.13	1.31	1.13	1.13	0.75	1.09	1.18
Product Stock Withdrawn or Added (-) [d]	0.60	-0.21	-0.36	0.59	0.82	-0.65	-0.56	0.26	0.45	-0.75	-0.41	0.44	0.15	-0.04	-0.07
Total Supply	17.64	17.52	17.74	18.00	18.29	17.68	17.97	18.28	18.21	17.89	18.21	18.53	17.72	18.06	18.21
Demand															
Motor Gasoline	7.48	7.92	7.96	7.80	7.51	8.02	8.07	7.91	7.68	8.16	8.22	8.06	7.79	7.88	8.03
Jet Fuel	1.51	1.45	1.52	1.57	1.60	1.49	1.56	1.60	1.58	1.55	1.60	1.64	1.51	1.56	1.59
Distillate Fuel Oil	3.46	3.09	3.02	3.26	3.62	3.15	3.06	3.31	3.56	3.18	3.13	3.36	3.21	3.28	3.31
Residual Fuel Oil	0.89	0.82	0.81	0.89	0.96	0.76	0.78	0.92	1.00	0.77	0.72	0.87	0.85	0.86	0.84
Other Oils [e]	4.30	4.24	4.43	4.48	4.60	4.27	4.50	4.55	4.38	4.24	4.55	4.59	4.36	4.48	4.44
Total Demand	17.64	17.52	17.74	18.00	18.29	17.68	17.97	18.28	18.21	17.89	18.21	18.53	17.72	18.06	18.21
Total Petroleum Net Imports	7.47	7.98	8.37	7.72	7.86	8.69	8.88	8.42	8.26	9.12	8.99	8.57	7.89	8.46	8.74
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	339	328	306	303	300	310	303	310	318	324	317	320	303	310	320
Total Motor Gasoline	211	205	199	202	203	203	198	204	208	212	209	212	202	204	212
Finished Motor Gasoline	168	163	159	161	159	161	157	164	163	175	170	173	161	164	173
Blending Components	43	41	40	41	44	42	41	40	45	38	39	39	41	40	39
Jet Fuel	39	40	41	40	34	36	40	41	40	40	42	43	40	41	43
Distillate Fuel Oil	115	115	132	130	90	103	130	135	97	111	133	134	130	135	134
Residual Fuel Oil	38	36	40	37	32	33	36	39	36	39	39	39	37	39	39
Other Oils [g]	266	294	311	258	235	277	300	262	259	307	325	278	258	262	278
Total Stocks (excluding SPR)	1009	1017	1028	971	893	963	1008	991	958	1033	1064	1026	971	991	1026
Crude Oil in SPR	592	592	592	592	589	583	574	574	574	574	574	574	592	574	574
Total Stocks (including SPR)	1601	1609	1620	1563	1482	1546	1582	1565	1532	1607	1638	1600	1563	1565	1600

[a] Includes lease condensate.

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

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

[d] Includes an estimate of minor product stock change based on monthly data.

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

[f] Includes crude oil in transit to refineries.

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

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

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/05); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 8.   U.S. Petroleum Demand Sensitivities

	1996 Two Quarters[a]	1997 Four Quarters[a]
Economic Activity		
Gross Domestic Product (billion 1987 dollars)	6,885 - 6,957	6,861 - 7,125
Resulting Change in Petroleum Demand (million barrels per day)[b]	0.10	0.45
Energy Prices		
Imported Crude Oil (nominal dollars per barrel)[c]	$15.26 - $20.87	$15.00 - $21.00
Resulting Change in Petroleum Demand (million barrels per day)[b]		
Due to Changes in the Crude Oil Price	-0.15	-0.30
Weather		
Heating Degree-Days (average per day)[d]	16.39 - 22.06	20.28 - 24.00
Resulting Change in Petroleum Demand (million barrels per day)	0.39	0.57
Cooling Degree-Days (average per day)[d]	6.12 - 9.10	5.57 - 6.58
Resulting Change in Petroleum Demand (million barrels per day)[b]	0.04	0.17

[a]In the weather case, calculations apply to certain quarters only, as follows: for heating degree-days in 1996 the value for the fourth quarter is used; for 1997 the average of first and fourth quarters is used; for cooling degree-days in 1996 the value for the third quarter is used; for 1997 the average of the second and third quarters is used.
[b]Ranges of petroleum product supplied associated with varying each determinant (or determinants), holding other things equal.
[c]Cost of imported crude oil to U.S. refiners.
[d]Heating and cooling degree-days are U.S. 1990 population-weighted.
Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division, Short-Term Integrated Forecasting System.

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

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.36	5.76	0.60	0.17	0.44
Lower 48 States	5.11	4.55	0.55	0.14	0.41
Alaska	1.25	1.20	0.05	0.03	0.03

Note: Components provided are for the fourth quarter 1997; totals are from Tables 5 and 7. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Total Dry Gas Production [a]	4.66	4.71	4.67	4.71	4.69	4.95	4.89	5.04	5.09	5.01	5.04	5.04	18.75	19.57	20.18
Net Imports	0.69	0.59	0.64	0.68	0.71	0.66	0.67	0.73	0.69	0.66	0.67	0.74	2.60	2.77	2.76
Supplemental Gaseous Fuels	0.04	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.13	0.12	0.12
Total New Supply	5.39	5.33	5.34	5.42	5.44	5.64	5.59	5.80	5.82	5.69	5.74	5.80	21.48	22.46	23.05
Underground Working Gas Storage															
Opening	6.97	5.69	6.42	7.14	6.49	5.03	5.79	6.72	6.41	5.33	6.03	6.85	6.97	6.49	6.41
Closing	5.69	6.42	7.14	6.49	5.03	5.79	6.72	6.41	5.33	6.03	6.85	6.54	6.49	6.41	6.54
Net Withdrawals	1.28	-0.73	-0.72	0.64	1.46	-0.76	-0.93	0.31	1.08	-0.69	-0.82	0.31	0.47	0.08	-0.13
Total Supply [a]	6.66	4.60	4.62	6.07	6.90	4.88	4.65	6.11	6.89	5.00	4.92	6.11	21.95	22.54	22.92
Balancing Item [b]	0.05	0.16	-0.15	-0.36	0.34	0.04	-0.22	-0.37	0.40	-0.03	-0.33	-0.25	-0.31	-0.21	-0.21
Total Primary Supply [a]	6.71	4.76	4.46	5.71	7.25	4.91	4.44	5.74	7.29	4.97	4.59	5.87	21.64	22.33	22.71
Demand															
Lease and Plant Fuel	0.31	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.33	0.32	0.32	0.33	1.23	1.27	1.31
Pipeline Use	0.22	0.16	0.15	0.19	0.25	0.18	0.16	0.20	0.22	0.16	0.16	0.20	0.71	0.79	0.75
Residential	2.17	0.84	0.38	1.50	2.50	0.92	0.38	1.40	2.43	0.87	0.38	1.42	4.88	5.20	5.10
Commercial	1.19	0.58	0.42	0.91	1.35	0.64	0.43	0.85	1.33	0.61	0.43	0.86	3.10	3.26	3.24
Industrial (Incl. Cogenerators)	2.17	2.04	1.97	2.15	2.31	2.08	2.00	2.19	2.30	2.13	2.06	2.24	8.33	8.58	8.72
Cogenerators [c]	0.49	0.54	0.52	0.50	0.52	0.57	0.55	0.53	0.54	0.60	0.58	0.55	2.06	2.16	2.26
Electricity Production															
Electric Utilities	0.61	0.78	1.19	0.61	0.46	0.74	1.10	0.72	0.62	0.82	1.17	0.77	3.20	3.02	3.39
Nonutilities (Excl. Cogen.)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.19	0.20	0.21
Total Demand	6.71	4.76	4.46	5.71	7.25	4.91	4.44	5.74	7.29	4.97	4.59	5.87	21.64	22.33	22.71

[a]Excludes nonhydrocarbon gases removed.

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

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

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Natural Gas Monthly*, DOE/EIA-0130(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Production	266.2	248.6	257.1	257.8	260.6	260.0	265.5	263.7	264.8	264.5	268.2	267.5	1029.7	1049.8	1065.0
Appalachia	113.2	106.1	107.0	108.3	107.6	109.2	108.8	108.3	106.1	108.3	107.6	107.5	434.7	433.8	429.5
Interior	42.1	40.0	42.1	42.0	39.7	40.3	41.3	40.9	38.9	39.0	39.7	39.5	166.2	162.3	157.1
Western	110.9	102.6	108.0	107.4	113.3	110.6	115.3	114.3	119.8	117.3	120.8	120.5	428.9	453.4	478.4
Primary Stock Levels [a]															
Opening	33.2	42.5	42.1	36.2	34.4	36.8	34.5	32.5	32.5	35.0	35.0	33.0	33.2	34.4	32.5
Closing	42.5	42.1	36.2	34.4	36.8	34.5	32.5	32.5	35.0	35.0	33.0	32.0	34.4	32.5	32.0
Net Withdrawals	-9.2	0.4	5.9	1.7	-2.4	2.3	2.0	(S)	-2.5	(S)	2.0	1.0	-1.2	1.9	0.5
Imports	1.8	1.6	1.7	2.1	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	7.2	7.2	7.5
Exports	19.0	23.2	22.2	24.2	20.7	22.7	23.0	22.9	22.3	23.0	23.3	23.2	88.5	89.4	91.9
Total Net Domestic Supply	239.8	227.4	242.6	237.4	239.2	241.4	246.3	242.7	241.8	243.4	248.8	247.2	947.2	969.6	981.2
Secondary Stock Levels [b]															
Opening	136.1	143.9	151.6	131.6	134.5	124.7	143.6	133.4	134.9	133.1	145.9	133.4	136.1	134.5	134.9
Closing	143.9	151.6	131.6	134.5	124.7	143.6	133.4	134.9	133.1	145.9	133.4	133.2	134.5	134.9	133.2
Net Withdrawals	-7.8	-7.7	20.0	-2.8	9.8	-18.9	10.2	-1.5	1.8	-12.9	12.5	0.2	1.7	-0.4	1.7
Total Supply	232.0	219.7	262.6	234.6	249.0	222.5	256.5	241.2	243.7	230.5	261.3	247.4	948.8	969.2	982.9
Demand															
Coke Plants	8.1	8.3	8.3	8.3	8.6	8.3	8.3	8.2	8.3	8.2	8.2	8.1	33.0	33.3	32.8
Electricity Production															
Electric Utilities	198.8	191.1	232.0	207.1	214.8	191.3	225.1	208.6	209.6	199.2	229.5	213.2	829.0	839.8	851.5
Nonutilities (Excl. Cogen.) [c]	4.5	4.5	4.5	4.5	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.5	18.0	20.0	22.0
Retail and General Industry [d]	20.7	18.0	19.0	20.9	20.6	17.9	18.2	19.4	20.2	17.6	18.1	20.7	78.6	76.1	76.7
Total Demand	232.1	221.9	263.9	240.7	249.0	222.5	256.5	241.2	243.7	230.5	261.3	247.4	958.6	969.2	982.9
Discrepancy [e]	-0.1	-2.2	-1.3	-6.2	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	-9.8	(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). Quarterly estimates and projections are based on annual data for coal-fired generation at nonutilities reported on Form EIA-867. Data for 1994 and 1995 are estimates.

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

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

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

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); and *Quarterly Coal Report*, DOE/EIA-0121(95/3Q); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

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

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Net Utility Generation															
Coal	397.8	382.9	460.3	411.9	427.5	397.2	451.2	419.4	427.0	401.6	460.3	429.0	1652.9	1695.2	1717.9
Petroleum	14.3	12.1	20.4	14.1	22.2	14.8	19.9	16.2	19.6	16.8	20.9	16.9	60.8	73.1	74.2
Natural Gas	59.6	75.1	113.6	58.9	44.4	70.3	104.6	69.0	59.4	78.3	111.8	73.4	307.3	288.2	322.9
Nuclear	167.1	160.1	179.4	166.8	174.4	161.2	182.9	167.9	176.9	159.4	185.9	167.9	673.4	686.4	690.1
Hydroelectric	74.7	78.4	67.7	72.8	90.0	88.2	70.8	66.6	75.6	76.1	62.9	62.7	293.7	315.6	277.3
Geothermal and Other [a]	1.4	1.2	1.7	2.2	1.5	1.6	1.8	1.8	1.8	1.7	1.8	1.8	6.4	6.8	7.0
Subtotal	714.9	709.8	843.1	726.7	760.0	733.2	831.2	741.0	760.4	733.9	843.6	751.6	2994.5	3065.3	3089.4
Nonutility Generation [b]															
Coal	14.7	16.2	15.7	15.0	15.6	17.3	16.6	15.9	16.3	18.0	17.3	16.6	61.5	65.4	68.2
Petroleum	3.7	4.1	3.9	3.7	4.0	4.5	4.3	4.1	4.4	4.9	4.7	4.5	15.4	16.9	18.4
Natural Gas	45.2	50.0	48.2	46.0	48.2	53.3	51.4	49.1	50.3	55.7	53.7	51.3	189.4	201.9	211.1
Other Gaseous Fuels [c]	3.0	3.3	3.2	3.0	3.0	3.3	3.2	3.0	3.0	3.3	3.2	3.1	12.5	12.5	12.6
Hydroelectric	3.2	3.6	3.5	3.3	3.5	3.9	3.7	3.6	3.7	4.1	4.0	3.8	13.6	14.7	15.5
Geothermal and Other [d]	19.1	21.1	20.4	19.5	19.9	22.0	21.3	20.3	20.4	22.6	21.8	20.8	80.1	83.5	85.7
Subtotal	88.8	98.3	94.8	90.5	94.2	104.2	100.5	96.0	98.1	108.6	104.7	100.0	372.5	394.9	411.4
Total Generation	803.7	808.2	937.9	817.2	854.2	837.5	931.7	836.9	858.5	842.5	948.3	851.6	3367.0	3460.3	3500.8
Net Imports [e]	8.3	9.8	11.4	7.5	7.2	9.8	11.3	7.4	7.1	9.5	11.1	7.2	37.0	35.8	34.9
Total Supply	812.0	818.0	949.3	824.7	861.4	847.3	943.0	844.3	865.6	852.0	959.3	858.8	3404.1	3496.0	3535.7
Losses and Unaccounted for [f]	44.9	71.4	64.3	58.4	50.6	71.7	64.8	63.6	49.6	71.8	66.0	64.6	238.9	250.7	251.9
Demand															
Electric Utility Sales															
Residential	263.0	223.0	313.1	244.2	290.5	241.0	299.9	249.6	291.1	239.3	306.7	255.8	1043.3	1081.0	1093.0
Commercial	199.0	204.3	242.8	208.6	209.9	212.2	242.9	210.5	211.9	213.4	246.8	213.7	854.7	875.6	885.9
Industrial	244.1	254.7	263.1	251.2	247.7	256.4	268.7	257.5	249.7	260.7	272.3	260.9	1013.1	1030.3	1043.6
Other	23.8	23.3	26.1	24.3	24.6	23.9	26.1	24.3	24.5	23.8	26.0	24.2	97.5	98.9	98.6
Subtotal	729.8	705.3	845.2	728.3	772.7	733.5	837.5	742.0	777.2	737.3	852.0	754.6	3008.6	3085.7	3121.0
Nonutility Gener. for Own Use [b]	37.3	41.3	39.8	38.0	38.1	42.1	40.6	38.8	38.8	42.9	41.4	39.5	156.5	159.6	162.7
Total Demand	767.2	746.6	885.0	766.3	810.7	775.6	878.2	780.8	816.0	780.2	893.4	794.1	3165.1	3245.3	3283.7
Memo:															
Nonutility Sales to															
Electric Utilities [b]	51.5	57.0	55.0	52.5	56.1	62.1	59.9	57.2	59.3	65.7	63.3	60.4	216.0	235.3	248.7

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

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

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

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

[e]Data for 1994 and 1995 are estimates.

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

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

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

	Year				Annual Percentage Change		
	1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Electric Utilities							
Hydroelectric Power [a]	2.536	3.056	3.285	2.886	20.5	7.5	-12.1
Geothermal, Solar and Wind Energy [b]	0.145	0.099	0.103	0.108	-31.7	4.0	4.9
Biofuels [c]	0.020	0.017	0.019	0.019	-15.0	11.8	0.0
Total	2.702	3.173	3.407	3.014	17.4	7.4	-11.5
Nonutility Power Generators							
Hydroelectric Power [a]	0.136	0.140	0.151	0.160	2.9	7.9	6.0
Geothermal, Solar and Wind Energy [b]	0.256	0.275	0.290	0.301	7.4	5.5	3.8
Biofuels [c]	0.590	0.625	0.650	0.665	5.9	4.0	2.3
Total	0.982	1.040	1.091	1.126	5.9	4.9	3.2
Total Power Generation	3.684	4.212	4.498	4.139	14.3	6.8	-8.0
Other Sectors							
Residential and Commercial [d]	0.610	0.607	0.622	0.623	-0.5	2.5	0.2
Industrial [e]	1.561	1.587	1.594	1.653	1.7	0.4	3.7
Transportation [f]	0.088	0.095	0.092	0.095	8.0	-3.2	3.3
Total	2.259	2.289	2.308	2.371	1.3	0.8	2.7
Net Imported Electricity [g]	0.459	0.381	0.368	0.358	-17.0	-3.4	-2.7
Total Renewable Energy Demand	6.402	6.882	7.174	6.869	7.5	4.2	-4.3

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

(S) Less than 500 billion Btu.

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

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

Sources: Historical data: 1995: Estimates derived from Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration; Projections: Renewables growth in sectors other than electric utilities taken from Energy Information Administration, *Annual Energy Outlook 1996* database and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Real Gross Domestic Product (GDP) (billion chained 1992 dollars) [a]	4810	5138	5330	5490	5648	5863	6060	6139	6079	6244	6384	6604	6739	*6883*	*6993*
Imported Crude Oil Price [b] (nominal dollars per barrel)	29.30	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.15	*18.52*	*18.00*
Petroleum Supply															
Crude Oil Production [c] (million barrels per day)	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	*6.39*	*6.16*
Total Petroleum Net Imports (including SPR) (million barrels per day)	4.31	4.71	4.29	5.43	5.91	6.59	7.20	7.16	6.63	6.93	7.60	8.05	7.89	*8.55*	*9.11*
Energy Demand															
World Petroleum (million barrels per day)	59.0	59.9	60.6	62.2	63.4	65.2	66.0	66.2	66.8	66.6	66.6	68.6	69.9	*71.8*	*73.5*
U.S. Petroleum (million barrels per day)	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	*18.10*	*18.35*
Natural Gas (trillion cubic feet)	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.64	*22.33*	*22.71*
Coal (million short tons)	737	791	818	804	837	884	891	897	894	902	938	945	959	*969*	*983*
Electricity (billion kilowatthours) Utility Sales [d]	2151	2286	2324	2369	2457	2578	2647	2713	2762	2763	2861	2935	3009	*3086*	*3121*
Nonutility Own Use [e]	NA	NA	NA	NA	NA	NA	108	113	122	132	138	150	156	*160*	*163*
Total	NA	NA	NA	NA	NA	NA	2755	2826	2884	2895	2999	3085	3165	*3245*	*3284*
Total Energy Demand [f] (quadrillion Btu)	70.5	74.1	74.0	74.3	76.9	80.2	81.3	81.3	80.9	81.9	83.6	85.0	87.3	*89.3*	*90.1*
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	14.66	14.43	13.88	13.53	13.61	13.68	13.42	13.24	13.31	13.11	13.10	12.87	12.95	*12.98*	*12.88*
Adjusted Total Energy Demand [f] (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	84.1	84.0	85.2	86.9	88.5	90.8	*92.9*	*93.7*
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	NA	NA	NA	NA	NA	NA	NA	13.70	13.81	13.64	13.61	13.40	13.47	*13.49*	*13.40*

[a]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

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

[c]Includes lease condensate.

[d]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.

[e]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 1995 are estimates.

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

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Petroleum Supply Monthly*, DOE/EIA-0109(96/05); *Petroleum Supply Annual 1996*, DOE/EIA-0340(96)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); and *Quarterly Coal Report*, DOE/EIA-0121(95/3Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0596.

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Macroeconomic [a]															
Real Gross Domestic Product (billion chained 1992 dollars)	4810	5138	5330	5490	5648	5863	6060	6139	6079	6244	6384	6604	6739	*6883*	*6993*
GDP Implicit Price Deflator (Index, 1992=1.000)	0.732	0.759	0.786	0.806	0.831	0.861	0.897	0.936	0.973	1.000	1.026	1.049	1.076	*1.102*	*1.127*
Real Disposable Personal Income (billion chained 1992 Dollars)	3580	3842	3959	4087	4154	4318	4404	4485	4486	4614	4666	4776	4935	*5055*	*5165*
Manufacturing Production (Index, 1987=1.000)	0.809	0.893	0.916	0.943	1.000	1.047	1.064	1.061	1.038	1.083	1.125	1.197	1.240	*1.278*	*1.320*
Real Fixed Investment (billion chained 1992 dollars)	654	762	799	805	799	818	832	806	741	783	836	921	977	*1025*	*1019*
Real Exchange Rate (index)	NA	NA	NA	NA	NA	NA	NA	1.000	1.012	1.015	1.063	1.041	0.971	*1.008*	*0.999*
Business Inventory Change (billion chained 1992 dollars)	-0.1	28.9	-4.5	-4.2	5.1	9.5	19.2	6.6	-6.1	-9.3	5.5	8.4	11.9	*6.8*	*3.1*
Producer Price Index (index, 1980-1984=1.000)	1.013	1.037	1.032	1.002	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.247	*1.271*	*1.276*
Consumer Price Index (index, 1980-1984=1.000)	0.996	1.039	1.076	1.097	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	*1.572*	*1.617*
Petroleum Product Price Index (index, 1980-1984=1.000)	0.899	0.874	0.832	0.532	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.608	*0.656*	*0.651*
Non-Farm Employment (millions)	90.1	94.4	97.4	99.3	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.0	116.6	*118.4*	*119.8*
Commercial Employment (millions)	54.9	58.0	60.8	62.9	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.0	78.3	*80.1*	*81.5*
Total Industrial Production (index, 1987=1.000)	0.849	0.928	0.944	0.953	1.000	1.045	1.061	1.061	1.042	1.078	1.116	1.181	1.220	*1.255*	*1.292*
Housing Stock (millions)	92.4	94.5	96.3	98.0	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.8	*111.2*	*112.5*
Weather [b]															
Heating Degree-Days															
U.S.	4627	4514	4642	4295	4334	4653	4726	4016	4200	4441	4700	4483	4562	*4714*	*4576*
New England	6305	6442	6571	6517	6546	6715	6887	5848	5960	6844	6728	6672	6596	*6760*	*6621*
Middle Atlantic	5733	5777	5660	5665	5699	6088	6134	4998	5177	5964	5948	5934	5826	*6014*	*5839*
U.S. Gas-Weighted	4810	4704	4856	4442	4391	4779	4856	4139	4337	4458	4754	4659	4707	*4889*	*4732*
Cooling Degree-Days (U.S.)	1260	1214	1194	1249	1269	1283	1156	1260	1331	1040	1218	1220	1279	*1211*	*1193*

[a]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[b]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: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, May 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*, Federal Reserve System, *Statistical Release G.17(419)*, May 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0596.

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Demand [a]															
OECD															
U.S. (50 States)	15.5	15.8	15.8	16.3	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	*18.1*	*18.4*
Europe [b]	12.1	12.1	12.0	12.5	12.6	12.7	12.8	12.6	13.4	13.6	13.5	13.6	13.9	*14.1*	*14.2*
Japan	4.4	4.6	4.4	4.4	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	*5.8*	*5.9*
Other OECD	2.4	2.5	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	*3.1*	*3.1*
Total OECD	34.4	34.9	34.7	35.7	36.3	37.5	37.9	37.5	38.1	38.8	38.9	39.9	40.3	*41.0*	*41.5*
Non-OECD															
Former Soviet Union	9.0	8.9	9.0	9.0	9.0	8.9	8.7	8.4	8.4	6.8	5.8	4.8	4.7	*4.8*	*4.8*
Europe	1.8	1.8	2.2	2.2	2.2	2.2	2.1	2.0	1.3	1.3	1.2	1.4	1.4	*1.4*	*1.5*
China	1.7	1.7	1.9	2.0	2.1	2.3	2.4	2.3	2.5	2.7	3.1	3.1	3.3	*3.5*	*3.7*
Other Asia	3.5	3.7	3.7	3.9	4.1	4.4	4.9	5.3	5.7	6.1	6.4	7.4	8.0	*8.5*	*9.0*
Other Non-OECD	8.7	8.9	9.1	9.5	9.7	10.0	10.4	10.7	10.8	10.9	11.2	12.0	12.2	*12.5*	*12.9*
Total Non-OECD	24.7	25.1	25.9	26.5	27.1	27.7	28.5	28.7	28.6	27.8	27.7	28.7	29.6	*30.8*	*32.0*
Total World Demand	59.0	59.9	60.6	62.2	63.4	65.2	66.4	66.2	66.8	66.6	66.6	68.6	69.9	*71.8*	*73.5*
Supply [c]															
OECD															
U.S. (50 States)	10.8	11.1	11.2	10.9	10.6	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	*9.3*	*9.1*
Canada	1.7	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	*2.5*	*2.6*
North Sea [d]	3.1	3.4	3.6	3.8	3.8	3.8	3.7	3.9	4.0	4.3	4.6	5.4	5.8	*6.4*	*6.8*
Other OECD	1.2	1.3	1.4	1.3	1.4	1.4	1.3	1.5	1.5	1.5	1.3	1.5	1.5	*1.5*	*1.5*
Total OECD	16.8	17.6	18.0	17.9	17.8	17.7	17.0	17.0	17.5	17.8	17.8	18.6	19.1	*19.7*	*19.9*
Non-OECD															
OPEC	18.5	18.5	17.3	19.5	19.7	21.6	23.5	24.5	25.0	26.2	27.3	27.4	28.0	*29.0*	*29.6*
Former Soviet Union	12.3	12.2	11.9	12.3	12.5	12.5	12.1	11.4	10.4	8.9	8.1	7.0	7.0	*7.1*	*7.2*
China	2.1	2.3	2.5	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	*3.1*	*3.2*
Mexico	3.0	3.1	3.0	2.8	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.1	*3.4*	*3.5*
Other Non-OECD	5.4	10.3	6.4	6.7	6.8	7.2	7.5	7.7	7.8	8.1	8.4	8.8	9.5	*9.9*	*10.5*
Total Non-OECD	41.3	42.0	41.2	43.9	44.6	47.0	48.9	49.4	49.2	49.2	49.8	49.4	50.5	*52.5*	*54.1*
Total World Supply	58.1	59.6	59.3	61.8	62.4	64.7	65.9	66.4	66.7	66.9	67.6	68.0	69.6	*72.2*	*74.0*
Total Stock Withdrawals	0.4	-0.2	0.3	-0.9	-0.1	-0.4	-0.2	-0.2	0.1	-0.3	-1.0	0.6	0.3	*-0.4*	*-0.5*
Statistical Discrepancy	0.3	0.4	0.5	0.9	0.7	0.6	0.4	0.3	0.2	0.3	0.1	0.3	0.2	*0.3*	*0.3*
Closing Stocks (bilion barrels [e]	2.7	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*	*2.8*
Net Exports from Former Soviet Union .	3.4	3.3	3.0	3.4	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.2	2.2	*2.3*	*2.4*

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

[b]OECD Europe includes the former East Germany.

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

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

[e]Excludes stocks held in the Former CPEs.

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

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

SPR: Strategic Petroleum Reserve

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

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

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(95/05); and *International Energy Annual 1995*, DOE/EIA-0219(95); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, May 1996.

Table A4. Annual Average U.S. Energy Prices

(Nominal Dollars)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Imported Crude Oil [a] (dollars per barrel)	29.30	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.15	*18.52*	*18.00*
Natural Gas Wellhead (dollars per thousand cubic feet)	2.59	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.87	1.59	*2.08*	*1.95*
Petroleum Product															
Gasoline Retail [b] (dollars per gallon)	1.22	1.20	1.20	0.93	0.96	0.96	1.06	1.22	1.20	1.19	1.17	1.17	1.21	*1.27*	*1.25*
No. 2 Diesel Oil, Retail (dollars per gallon)	1.13	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.11	*1.19*	*1.18*
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.81	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	*0.58*	*0.55*
No. 2 Heating Oil, Retail (dollars per gallon)	NA	1.09	1.05	0.84	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.87	*0.94*	*0.94*
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	27.33	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.46	*17.69*	*16.83*
Electric Utility Fuel															
Coal (dollars per million Btu)	1.65	1.66	1.65	1.58	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	*1.29*	*1.27*
Heavy Fuel Oil [d] (dollars per million Btu)	4.57	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	*2.97*	*2.86*
Natural Gas (dollars per million Btu)	3.47	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	*2.67*	*2.45*
Other Residential															
Natural Gas (dollars per thousand cubic feet)	6.04	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.05	*6.37*	*6.34*
Electricity (cents per kilowatthour)	7.2	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	*8.4*	*8.4*

[a] Cost of imported crude oil to U.S.
[b] Average for all grades and services.
[c] Average for all sulfur contents.
[d] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the third quarter of 1996. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/05).

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	*6.39*	*6.16*
Alaska	1.71	1.72	1.83	1.87	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.48	*1.38*	*1.27*
Lower 48	6.97	7.16	7.15	6.81	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.08	*5.01*	*4.89*
Net Imports (including SPR) [b]	3.16	3.24	3.00	4.02	4.52	4.95	5.70	5.79	5.67	5.99	6.67	6.96	7.14	*7.44*	*7.87*
Other SPR Supply	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	*0.00*	*0.00*
Stock Draw (Including SPR)	-0.22	-0.20	-0.05	-0.08	-0.12	0.00	-0.09	0.02	-0.01	0.01	-0.06	-0.02	0.09	*-0.02*	*-0.03*
Product Supplied and Losses	-0.07	-0.07	-0.06	-0.05	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	*-0.01*	*-0.01*
Unaccounted-for Crude Oil	0.11	0.18	0.15	0.14	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	*0.31*	*0.27*
Total Crude Oil Supply	11.69	12.04	12.00	12.72	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	*14.12*	*14.26*
Other Supply															
NGL Production	1.56	1.63	1.61	1.55	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	*1.78*	*1.80*
Other Hydrocarbon and Alcohol Inputs	0.08	0.08	0.11	0.11	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	*0.31*	*0.32*
Crude Oil Product Supplied	0.07	0.06	0.06	0.05	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	*0.01*	*0.01*
Processing Gain	0.49	0.55	0.56	0.62	0.64	0.66	0.66	0.70	0.71	0.77	0.76	0.77	0.77	*0.80*	*0.80*
Net Product Imports [c]	1.15	1.47	1.29	1.41	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.75	*1.11*	*1.24*
Product Stock Withdrawn or Added (-) [d]	0.15	-0.08	0.15	-0.12	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	*-0.03*	*-0.07*
Total Supply	15.18	15.76	15.78	16.33	16.72	17.33	17.37	17.05	16.76	17.10	17.25	17.72	17.72	*18.10*	*18.35*
Demand															
Motor Gasoline [e]	6.58	6.69	6.78	6.94	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	*7.89*	*8.07*
Jet Fuel	1.05	1.18	1.22	1.31	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	*1.56*	*1.60*
Distillate Fuel Oil	2.69	2.84	2.87	2.91	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.21	*3.29*	*3.33*
Residual Fuel Oil	1.42	1.37	1.20	1.42	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	*0.87*	*0.90*
Other Oils [e,f]	3.53	3.68	3.71	3.75	3.90	4.03	3.95	3.95	3.95	3.99	4.20	4.17	4.41	*4.36*	*4.45*
Total Demand [e]	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	*18.10*	*18.35*
Total Petroleum Net Imports	4.31	4.71	4.29	5.43	5.91	6.59	7.20	7.16	6.63	6.93	7.60	8.05	7.89	*8.55*	*9.11*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [g]	344	345	321	331	349	330	341	323	325	318	335	337	303	*310*	*320*
Total Motor Gasoline	222	243	223	233	226	228	213	220	219	216	226	215	202	*204*	*212*
Jet Fuel	39	42	40	50	50	44	41	52	49	43	40	47	40	*41*	*43*
Distillate Fuel Oil	140	161	144	155	134	124	106	132	144	141	141	145	130	*134*	*133*
Residual Fuel Oil	49	53	50	47	47	45	44	49	50	43	44	42	37	*39*	*39*
Other Oils [h]	281	261	247	265	260	267	257	261	267	263	273	275	258	*262*	*277*

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] Includes an estimate of minor product stock changes based on monthly data.
[e] For years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, Short-Term Energy Outlook, EIA/DOE-0202(93/3Q), for details on this adjustment.
[f] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[g] Includes crude oil in transit to refineries.
[h] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.
SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/05); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Total Dry Gas Production [a]	16.09	17.47	16.45	16.06	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.75	18.75	*19.57*	*20.18*
Net Imports	0.86	0.79	0.89	0.69	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.60	*2.77*	*2.76*
Supplemental Gaseous Fuels	0.13	0.11	0.13	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.13	*0.12*	*0.12*
Total New Supply	17.09	18.36	17.47	16.86	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.32	21.48	*22.46*	*23.05*
Underground Working Gas Storage															
Opening	6.88	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	*6.49*	*6.41*
Closing	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.49	*6.41*	*6.54*
Net Withdrawals	0.44	-0.26	0.26	-0.12	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.47	*0.08*	*-0.13*
Total Supply [a]	17.53	18.10	17.73	16.74	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.00	21.95	*22.54*	*22.92*
Balancing Item [b]	-0.69	-0.15	-0.45	-0.52	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.25	-0.31	*-0.21*	*-0.21*
Total Primary Supply [a]	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.64	*22.33*	*22.71*
Demand															
Lease and Plant Fuel	0.98	1.08	0.97	0.92	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.16	1.23	*1.27*	*1.31*
Pipeline Use	0.49	0.53	0.50	0.49	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.71	*0.79*	*0.75*
Residential	4.38	4.56	4.43	4.31	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.88	*5.20*	*5.10*
Commercial	2.43	2.52	2.43	2.32	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.10	*3.26*	*3.24*
Industrial (Incl. Nonutilities)	5.64	6.15	5.90	5.58	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.18	8.52	*8.78*	*8.93*
Cogenerators [c]	NA	NA	NA	NA	NA	NA	1.12	1.30	1.41	1.67	1.80	1.98	2.06	*2.16*	*2.26*
Other Nonutil. Gen. [c]	NA	NA	NA	NA	NA	NA	0.06	0.09	0.16	0.18	0.22	0.17	0.19	*0.20*	*0.21*
Electric Utilities	2.91	3.11	3.04	2.60	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.20	*3.02*	*3.39*
Total Demand	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.64	*22.33*	*22.71*

[a]Excludes nonhydrocarbon gases removed.

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

[c]Nonutility gas consumption data and projections provided by the office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Natural Gas Monthly*, DOE/EIA-0130(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); Form EIA-867, "Annual Nonutility Power Producer Report."

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

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Production	782.1	895.9	883.6	890.3	918.8	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1029.7	1049.8	1065.0
Appalachia	382.7	444.1	424.7	428.3	443.1	449.3	464.8	489.0	457.8	456.6	409.7	445.4	434.7	433.8	429.5
Interior	173.5	198.3	188.8	196.6	201.8	193.2	198.1	205.8	195.4	195.7	167.2	179.9	166.2	162.3	157.1
Western	225.8	253.5	270.1	265.3	273.9	307.8	317.9	334.3	342.8	345.3	368.5	408.3	428.9	453.4	478.4
Primary Stock Levels [a]															
Opening	36.8	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	32.5
Closing	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	32.5	32.0
Net Withdrawals	2.9	-0.2	1.0	1.0	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	1.9	0.5
Imports	1.3	1.3	2.0	2.2	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.2	7.5
Exports	77.8	81.5	92.7	85.5	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	89.4	91.9
Total Net Domestic Supply	708.4	815.6	793.9	808.0	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	947.2	969.6	981.2
Secondary Stock Levels [b]															
Opening	195.3	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.5	134.9
Closing	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.5	134.9	133.2
Net Withdrawals	26.6	-28.6	27.0	-5.0	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.7	-0.4	1.7
Total Supply	735.0	787.0	820.8	803.1	834.4	882.3	896.5	899.4	891.4	901.8	930.2	946.1	948.8	969.2	982.9
Demand															
Coke Plants	37.0	44.0	41.1	35.9	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	33.0	33.3	32.8
Electricity Production															
Electric Utilities	625.2	664.4	693.8	685.1	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.0	839.8	851.5
Nonutilities (Excl. Cogen.)	NA	NA	NA	NA	NA	NA	0.9	1.6	6.0	10.0	12.3	15.1	18.0	20.0	22.0
Retail and General Industry [c]	74.4	82.9	83.2	83.3	82.1	83.4	82.3	83.1	81.5	80.2	81.1	81.2	78.6	76.1	76.7
Total Demand [d]	736.7	791.3	818.0	804.2	836.9	883.6	890.6	897.1	893.6	902.4	938.3	945.3	958.6	969.2	982.9
Discrepancy [e]	-1.6	-4.3	2.8	-1.2	-2.5	-1.3	5.9	2.3	-2.3	-0.6	-8.1	0.8	-9.8	S	S

[a]Primary stocks are held at the mines, preparation plants, and distribution points.
[b]Secondary stocks are held by users.
[c]Synfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.
[d]Total excludes any shipments to independent power producers not calculated in Retail and General Industry for years prior to 1993.
[e]Historical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference, plus any shipment to independent power producers not captured in Retail and General Industry.
(S) indicates amounts of less than 50,000 tons.
Notes: Rows and columns may not add due to independent rounding.   Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); and *Quarterly Coal Report*, DOE/EIA-0121(95/3Q), and Form EIA-867, "Annual Nonutility Power Producer Report."

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

(Billion Kilowatthours)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Net Utility Generation															
Coal	1259.4	1341.7	1402.1	1385.8	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1652.9	1695.2	1717.9
Petroleum	144.5	119.8	100.2	136.6	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.8	73.1	74.2
Natural Gas	274.1	297.4	291.9	248.5	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	307.3	288.2	322.9
Nuclear	293.7	327.6	383.7	414.0	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	686.4	690.1
Hydroelectric	332.1	321.2	281.1	290.8	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	315.6	277.3
Geothermal and Other [a]	6.5	8.6	10.7	11.5	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.4	6.8	7.0
Subtotal	2310.3	2416.3	2469.8	2487.3	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3065.3	3089.4
Nonutility Generation [b]	NA	NA	NA	NA	NA	NA	191.3	221.8	253.7	296.0	325.2	354.9	372.5	394.9	411.4
Total Generation	NA	NA	NA	NA	NA	NA	2975.6	3030.0	3078.7	3093.2	3207.8	3265.6	3367.0	3460.3	3500.8
Net Imports	35.3	39.7	40.9	35.9	46.3	31.8	11.0	2.0	22.3	28.3	28.4	44.6	37.0	35.8	34.9
Total Supply	NA	NA	NA	NA	NA	NA	2986.6	3032.0	3101.0	3121.6	3236.2	3310.3	3404.1	3496.0	3535.7
Losses and Unaccounted for [c]	NA	NA	NA	NA	NA	NA	231.4	206.1	217.1	226.6	236.9	225.5	238.9	250.7	251.9
Demand															
Electric Utility Sales															
Residential	750.9	780.1	793.9	819.1	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1008.5	1043.3	1081.0	1093.0
Commercial	543.8	582.6	606.0	630.5	660.4	699.1	725.9	751.0	765.7	761.3	794.6	820.3	854.7	875.6	885.9
Industrial	776.0	837.8	836.8	830.5	858.2	896.5	925.7	945.5	946.6	972.7	977.2	1008.0	1013.1	1030.3	1043.6
Other	80.2	85.2	87.3	88.6	88.2	89.6	89.8	92.0	94.3	93.4	94.9	97.8	97.5	98.9	98.6
Subtotal	2151.0	2285.8	2324.0	2368.8	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3008.6	3085.7	3121.0
Nonutility Own Use [b]	NA	NA	NA	NA	NA	NA	108.4	113.4	121.9	131.6	137.8	150.2	156.5	159.6	162.7
Total Demand	NA	NA	NA	NA	NA	NA	2755.2	2825.9	2883.9	2895.0	2999.3	3084.8	3165.1	3245.3	3283.7
Memo:															
Nonutility Sales															
to Electric Utilities [d]	13.0	18.0	26.0	39.9	50.0	68.0	83.0	108.5	131.9	164.4	187.4	204.7	216.0	235.3	248.7

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

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

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

[d]Historical data for nonutility sales to electric utilities is from the Energy Information Administration, *Annual Energy Review*, DOE/EIA-0389, Table 8.1, for 1982 to 1988; from Form EIA-867 for 1989 to 1993.

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

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/06); Form EIA-867 ("Annual Nonutility Power Producer Report"), Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Text References and Notes

International Oil Demand

[1]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.

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

International Oil Supply

[3]OPEC numbers still include estimates for Gabon even though Gabon recently withdrew from OPEC. Gabon produced nearly 350 thousand barrels per day in 1995.

World Oil Stocks and Net Trade

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

U.S. Oil Supply

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

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

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

U.S. Energy Prices

[8]Bureau of Labor Statistics, Consumer Price Index - Urban Gasoline Prices, June 12, 1996.

[9]Energy Information Administration, *Historical Monthly Energy Review*, DOE/EIA-0035(73-92); *Annual Energy Review 1995*, DOE/EIA-0384(95), Bureau of Labor Statistics, Consumer Price Index-Urban, All Commodities.

[10]Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208(96-19), June 7, 1996, Table 13.

[11]Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208(96-19), June 7, 1996, Table 13.

[12]*Natural Gas Week*, April 29, 1996, p. 6. Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130(96-05), May 1996, Table 4.

[13]Energy Information Administration, *Monthly Energy Review*, DOE/EIA--0035(96/02), Table 9.10.

U.S. Natural Gas Demand

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

U.S. Natural Gas Supply

[15]*Natural Gas Week*, May 20, 1996, p. 20.

[16]Energy Information Administration, Office of Oil and Gas.

[17]*Natural Gas Week*, June 3, 1996, p. 13.

[18]*Canadian Gas Exports in the U.S. Market: 1995 Evaluation & Outlook*, March 1996, Natural Resources Canada, Natural Gas Division, p. 10.

U.S. Coal Demand and Supply

[19]Total raw steel production was 102.9 million short tons in 1995. Coal-based steel production was 62.3 million short tons and electric-arc production was 40.6 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.
[22]Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

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

1. **History:** Import cost: Compiled from monthly data for the refiner acquisition cost of imported crude oil used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; West Texas Intermediate spot price, *Oil and Gas Journal* Database, February 6, 1995. **Projections:** Third quarter 1996 STIFS database, BBB, BLB, and BHB cases; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

2. **History:** Manufacturing Production: Federal Reserve System, Statistical Release G 17; GDP: U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.* **Projections:** DRI/McGraw-Hill Forecast CONTROL0596, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.

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

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

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

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

Figure References

Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

7. **History:** Compiled from annual data used in publication of Energy Information Administration, *International 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.

8. **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.

9. **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.

10. **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.

11. **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:** Third quarter 1996 STIFS database, case "BBB."

12. **History:** Gasoline Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4, for historical series, adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Third quarter 1996 STIFS database, case "BBB."

13. **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:** Third quarter 1996 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.

14. **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:** Third quarter 1996 STIFS database, case "BBB."

15. **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:** Third quarter 1996 STIFS database.

16. **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:** Third quarter 1996 STIFS database.

17. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, December 26, 1995, p. 6. **Projections:** Third quarter 1996 STIFS database, case "BBB."

18. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** Third quarter 1996 STIFS database, case "BBB."

19. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Third quarter 1996 STIFS database, cases "BBB," "BBS," and "BBL."

20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Third quarter 1996 STIFS database, cases "BBB," "HBB," and "LBB."

21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Third quarter 1996 database, case "BBB."

22. **History:** Nonutility Generators, 1989-1993: Energy Information Administration, Form EIA-867 (1993); other volumes compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Nonutility Generators: Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: Third quarter 1996 STIFS database, case "BBB."

23. **History:** Production and net imports of natural gas compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131/2, Table 2, for historical series; for recent production data, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Third quarter 1996 STIFS database, case "BBB."

24. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy

Figure References

Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Third quarter 1996 STIFS database, case "BBB."

25. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report,* DOE/EIA-0121, Table 45. **Projections:** Third quarter 1996 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."

26. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report,* DOE/EIA-0121, Table 1. **Projections:** Third quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

27. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly,* DOE/EIA-0226, Table 51. **Projections:** Third quarter 1996 STIFS database, case "BBB."

28. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly ,* DOE/EIA-0226, Table 3, and Form EIA-759. **Projections:** Third quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.

29. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Third quarter 1996 STIFS database, and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Third quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

30. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; and Third quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Third quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Computation of Petroleum
Demand Sensitivities

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

A key relationship between petroleum demand and economic activity is shown in Table 8. Gross domestic product (GDP) is varied from low to high for each of the 2 projection years, and the resulting change in petroleum demand is calculated. For each of the 2 years, the percentage difference in GDP is computed as the difference between the low and high case levels shown in Table 8, divided by the midpoint of this range. Thus, the percentage difference in GDP for 1996 is as follows: (6957 - 6885) / ((6957 + 6885) / 2), or 1.0 percent. For each period, the petroleum demand difference (in million barrels per day) is divided by the percentage difference in GDP. For 1996, the average petroleum demand difference is 103,000 barrels per day; thus, a 1-percent change in GDP corresponds to a change in demand of

(103,000 / 1.0), or 103,000 barrels per day. For 1997, a 3.8-percent change in GDP corresponds to a change in demand of 446,000 barrels per day; thus, a 1-percent change in GDP corresponds to a demand change of 117,000 barrels per day. The average of the 1996 and 1997 results (weighting the 1996 results by 184 days and the 1997 results by 365 days) is 112,000 barrels per day per 1 percent difference in GDP. Table 8 also shows the differences in petroleum demand due to changes in energy prices caused by varying the world crude oil price. The change in petroleum demand (in million barrels per day) is divided by the change in the crude oil price (in dollars per barrel), and the result is averaged over the two projection years to get an estimate of the change in petroleum demand per dollar of change in the crude oil price.

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