Short-Term Energy Outlook

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Preface

The Energy Information Administration (EIA) prepares the *Short-Term Energy Outlook* (energy supply, demand, and price projections) monthly for distribution on the internet at: www.eia.doe.gov/steo.   In addition, printed versions of the report are available twice annually to subscribers in April and October.

The forecast period for this issue of the *Outlook* extends from April 2000 through December 2001. Data values for the first quarter 2000, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in EIA's *Weekly Petroleum Status Report*) or are calculated from model simulations that use the latest exogenous information available (for example, electricity sales and generation are simulated by using actual weather data). The historical energy data, compiled in the April 2000 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.   One exception to this is that recent petroleum demand and supply data displayed in this report reflect the incorporation of resubmissions of the data as reported in EIA's *Petroleum Supply Monthly*, Table C1.

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

Contents

The Outlook

Quarterly and Annual History and Projections, 1999-2001

Annual History and Base Case Projections for Selected Indicators, 1987-2001

Figures

Highlights

Gasoline Supply/Demand Balance to be Tight This Summer

Retail gasoline prices (regular grade) are expected to average $1.46 per gallon, 25 percent higher than last summer's average of $1.17 per gallon. Prices are expected to reach a peak of $1.52 per gallon in April and decline steadily to $1.39 per gallon by September due to the impact of increases in worldwide crude oil production. Gasoline demand this summer is projected to average 8.72 million barrels per day, up 130,000 barrels per day, or 1.5 percent, from last summer. While that represents a new summer season record, this year's expected growth is well below the average seen in the previous 5 years. Motor gasoline stocks are currently low by historical standards. Total beginning-of-season (April 1) stocks are sharply below last year's levels and are near the low end of the normal range.

Crude Oil Prices to Begin Ebbing by Mid-Year

World oil prices should begin a gradual decline as increased oil production from OPEC enters the world oil market. Based on our assessment of world oil supply and demand, the average cost per barrel of crude oil imported into the U.S. and delivered to U.S. refiners (the benchmark price used in this forecast) is expected to decline from an estimate of $26.75 per barrel in February and March 2000 to about $25 per barrel by June 2000 and to $23.50 per barrel by the end of 2000. The price is expected to continue to decline to about $21.50 by the end of 2001.

Demand for Natural Gas Continues to Increase

Natural gas demand is expected to increase by 3.5 percent and 4.1 percent, respectively, to 22.17 trillion cubic feet in 2000 and 23.08 trillion cubic feet in 2001. These increases follow the less than 1 percent growth seen in 1999, when oil prices remained reasonably competitive with gas used in electric power and industrial production, and when strong nuclear power and hydroelectric power increases backed out gas use in the electric power industry.

Summer Electricity Demand to be at about Last Summer's Level

Assuming normal weather for the remainder of the forecast, the outlook for total electricity demand in 2000 is growth of 2.0 percent. In 2001, electricity demand is expected to grow by an additional 2.1 percent. This is on track with average electricity growth between 1990 and 1998, which was about 2.0 percent per year.

Table HL1. U. S. Energy Supply and Demand

	Year				Annual Percentage Change		
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001
Real Gross Domestic Product (GDP) (billion chained 1996 dollars)	**8516**	**8867**	*9219*	*9514*	**4.1**	*4.0*	*3.2*
Imported Crude Oil Price [a] (nominal dollars per barrel).........................	**12.08**	**17.22**	*24.97*	*22.02*	**42.5**	*45.0*	*-11.8*
Petroleum Supply (million barrels per day) Crude Oil Production [b]	**6.25**	**5.93**	*5.78*	*5.79*	**-5.1**	*-2.5*	*0.2*
Total Petroleum Net Imports (including SPR)	**9.76**	**9.81**	*10.52*	*10.94*	**0.5**	*7.2*	*4.0*
Energy Demand							
World Petroleum (million barrels per day)..............................	**73.6**	**74.7**	*75.9*	*77.8*	**1.5**	*1.6*	*2.5*
Petroleum (million barrels per day)..............................	**18.92**	**19.47**	*19.58*	*20.06*	**2.9**	*0.6*	*2.5*
Natural Gas (trillion cubic feet)	**21.26**	**21.42**	*22.17*	*23.08*	**0.8**	*3.5*	*4.1*
Coal [c] (million short tons)	**1039**	**1041**	*1069*	*1099*	**0.2**	*2.7*	*2.8*
Electricity (billion kilowatthours)							
Utility Sales [d]	**3240**	**3265**	*3322*	*3390*	**0.8**	*1.7*	*2.0*
Nonutility Own Use [e]	**156**	**169**	*179*	*183*	**8.3**	*5.9*	*2.2*
Total	**3396**	**3434**	*3501*	*3572*	**1.1**	*2.0*	*2.0*
Total Energy Demand [f] (quadrillion Btu)..	**94.4**	**96.1**	*97.7*	*99.9*	**1.8**	*1.7*	*2.3*
Total Energy Demand per Dollar of GDP (thousand Btu per 1996 Dollar)	**11.09**	**10.84**	*10.60*	*10.50*	**-2.3**	*-2.2*	*-0.9*
Renewable Energy as Percent of Total [g] ...	**7.0**	**6.9**	*6.8*	*6.6*			

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

[b] Includes lease condensate.

[c] Total Demand includes estimated Independent Power Producer (IPP) coal consumption.

[d] Total annual electric utility sales for historical periods are initially 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." Final annual totals are taken from compilations from Form EIA -861, ":Annual Electric Utility Report."

[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 1999 are estimates.

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

[g] Renewable energy includes minor components of non-marketed renewable energy, which is renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy. The Energy Information Administration does not estimate or project total consumption of non-marketed renewable energy.

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Latest data available from Bureau of Economic Analysis and Energy Information Administration; latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Quarterly Coal Report*, DOE/EIA-0121; *International Petroleum Statistics Report* DOE/EIA-0520; *Weekly Petroleum Status Report,* DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0300.

Summer 2000 Motor Gasoline Outlook

Summary

For the upcoming summer season (April to September), motor gasoline markets are projected to exhibit an extraordinarily tight supply/demand balance.

- **Retail gasoline prices** (regular grade) are expected to average $1.46 per gallon, 25 percent higher than last summer's average of $1.17 per gallon. That projection also exceeds the previous (current-dollar) record summer average of $1.35 recorded in 1981. Nominal prices are expected to reach a peak of $1.52 per gallon in April—a new record--and decline steadily to $1.39 per gallon by September due to the impact of increases in world-wide crude oil production. These projections presume no disruptions of refinery motor gasoline production.

- The record price projected for April, after adjusting for inflation, is approximately 40 percent below the peak reached in March 1981. Subsequent adjustment for fuel efficiency increases since then results in about a 60-percent cost reduction over the same period.

- **Demand** is projected to average 8.72 million barrels per day, up 130,000 barrels per day, or 1.5 percent, from last summer. Even though that represents a new summer season record, that growth is well below the average of previous summers.

- **Motor gasoline stocks** are currently low and are projected to remain relatively low throughout the driving season. Total beginning-of-season (April 1) stocks are sharply below last year's levels and are near the low end of the normal range. The average projected finished motor gasoline stock draw this summer is 23,000 barrels per day, less than half that of the previous summer.

- **Total domestic output** (refinery and field production) is projected to average 8.40 million barrels per day during the summer months, up almost 190,000 barrels per day from last summer. Refineries will be expected to meet not only the 130,000 barrels-per-day increase in demand but also to accommodate the reduced availability from stocks and net imports. As a result, refinery utilization rates for the summer are projected to average 96.8 percent, up from 94.3 percent last summer.

- **Net imports** of finished motor gasoline are projected to average 295,000 barrels per day, down from 327,000 barrels per day last summer. This reflects the projected lower availability of supplies from Europe and uncertainties about foreign refiners' ability to meet Phase II reformulated gasoline specifications.

Table MG1 summarizes the base-case summer motor gasoline market-related projections and compares those projections with last summer.

Table MG1. U.S. Motor Gasoline Summer Outlook: Mid World Oil Price Case

	1999			2000			Change (%)		
	Q2	Q3	Summer	Q2	Q3	Summer	Q2	Q3	Summer
Prices (cents per gallon)									
Imported Crude Oil Price [a]	36.8	46.7	41.8	60.2	58.5	59.3	63.7	25.2	42.1
Wholesale Gasoline Price [b]	61.7	72.6	67.2	94.2	87.3	90.7	52.7	20.1	35.0
Retail Gasoline Price [c]	112.5	121.2	116.9	150.1	141.8	145.9	33.4	17.0	24.9
Stocks, Incl. Blending Components (million barrels)									
Beginning...	216	215		198	196				
Ending..	215	204		196	189				
Demand/Supply (million barrels per day)									
Total Demand.....................................	8.591	8.590	8.590	8.707	8.728	8.717	1.4	1.6	1.5
Total Output [d]	8.235	8.189	8.212	8.435	8.363	8.399	2.4	2.1	2.3
Net Finished Stock Withdrawal...........	-0.027	0.129	0.052	-0.026	0.072	0.023			
Net Imports	0.383	0.271	0.327	0.297	0.293	0.295	-22.3	8.0	-9.6
Refinery Utilization (percent)..............	93.8	94.8	94.3	96.1	97.4	96.8			
Market Indicators									
Real GDP (billion 1996 dollars)...........	8779	8901	8840	9191	9244	9218	4.7	3.9	4.3
Real Income (billion 1996 dollars).......	6339	6385	6362	6596	6653	6625	4.1	4.2	4.1
Industrial Output Index (1992=1.000) .	1.361	1.377	1.369	1.415	1.414	1.415	3.9	2.7	3.3
Miles Traveled (million miles per day).	7556	7706	7631	7627	7817	7722	0.9	1.4	1.2
Average MPG (miles per gallon).........	20.9	21.4	21.2	20.9	21.3	21.1	-0.4	-0.2	-0.3

[a]Cost of imported crude oil to U.S.
[b]Price of gasoline sold by refiners to resellers.
[c]Average pump price for regular gasoline.
[d]Refinery output plus motor gasoline field production, including fuel ethanol blended into gasoline and new supply of oxygenates and other hydrocarbons for gasoline production.
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: latest data available from: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109; *Monthly Energy Review*, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System; National Oceanic and Atmospheric Administration. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0299.

Prices

The U.S. retail price of regular gasoline reached an estimated average of $1.52 per gallon in March 2000, about 53 cents per gallon above the same month in 1999. February's average was also 23 cents per gallon above the average seen in January 2000. Increases of this magnitude are highly unusual. The last such episode was associated with the onset of the Gulf War (August 1990). The high nominal gasoline prices being experienced now follow from two important (and related) results of production cutbacks by major producing countries since 1998: dwindling world petroleum inventories and sharply higher crude oil prices. Crude oil prices began a steep upturn on world markets in March of 1999 and continued to climb through the winter just ended. Since then, the cost paid by U.S. refiners for crude oil rose almost $15 per barrel (35 cents per gallon). Meanwhile, U.S. inventories of crude oil and finished products fell sharply. As of April 1, crude oil and motor gasoline inventories were at very low levels in the context of what is considered "normal" for this time of year. Expected demand growth this year, while small by historical standards, is expected to keep stock levels lean, even with anticipated increases in refinery output.

Figure MG1. Retail Gasoline Price Cases*
(Base Case and 95 Percent Confidence Range)
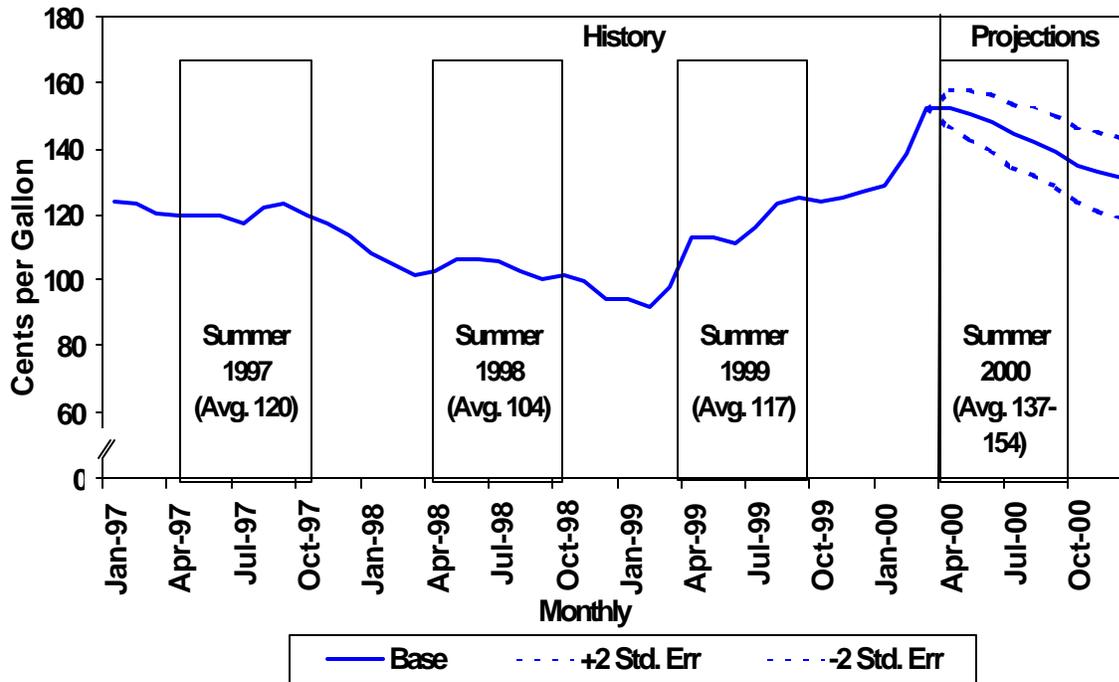
* Regular gasoline, self-serve cash.

Retail gasoline prices (regular grade) this summer are expected to average $1.46 per gallon, 25 percent higher than last summer's average of $1.17 per gallon. That projection also exceeds the previous (current-dollar) record summer average of $1.35 recorded in 1981. The peak monthly average price this summer (April) is expected to be $1.52 per gallon, the same as seen in March. Prices are then expected to decline to $1.39 by the end of summer, given the implications of the recently concluded agreement by OPEC members to increase production.

Despite that agreement, uncertainty about world petroleum supply and demand patterns over the next few quarters remains. The impact of that uncertainty engenders a broad range of plausible paths for crude oil and petroleum product prices over time. The range of potential outcomes constitute approximately 2 standard errors on either side of the base case projection are illustrated for the average pump price for regular gasoline in Figure MG1. (The range is based on the normal error distributions associated with the Short-Term Integrated Forecasting System model.) The probability of prices ranging above (or below) these curves is, for any month, approximately 5 percent. An interesting result of this kind of analysis is the conclusion that, even in the currently bullish atmosphere relating to gasoline, the approximate probability of the average pump price for regular gasoline exceeding $1.57 per gallon in any month this summer is about 3 percent or less. This calculation, however, reflects underlying uncertainties in crude oil markets but assumes that no significant refinery disruptions occur.

Figure MG2. U.S. and California Retail Regular Gasoline Prices
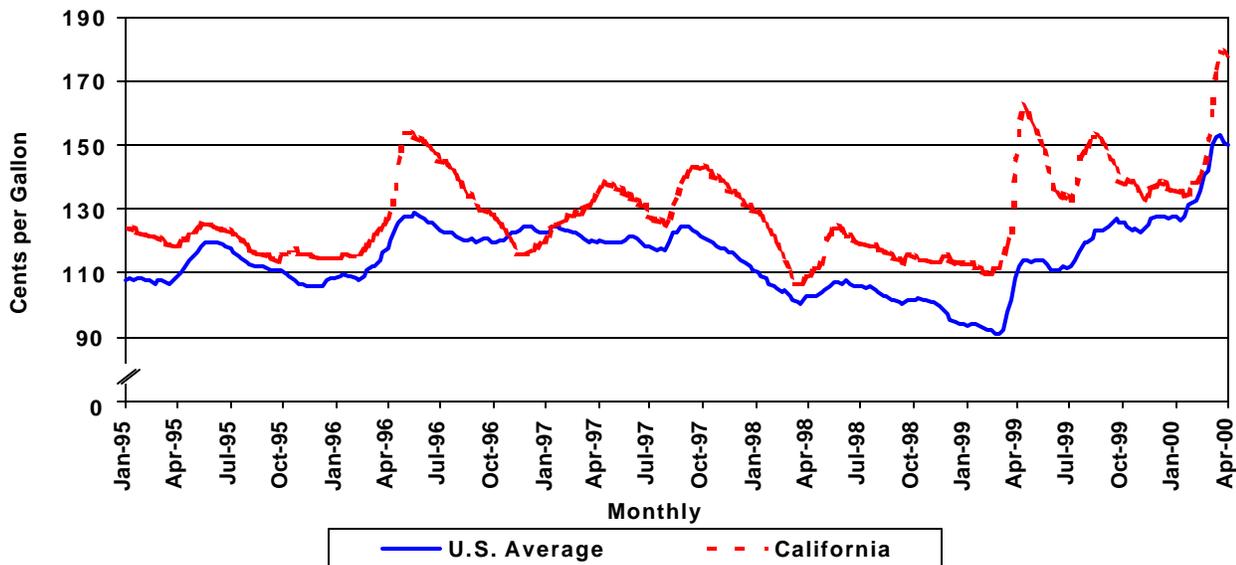
In addition to the general uncertainty concerning the gasoline market projections for this summer, other qualifications to the U.S. forecast that are of interest include regional variations in price due to such factors as tax differences, environmental requirements and unique market circumstances. Based on 5 years of history, gasoline prices between Petroleum Administration for Defense Districts (PADDs) typically vary by 10 to 20 cents per gallon. State gasoline taxes (excise and sales taxes) alone yield interstate price differences of as high as 27 cents per gallon. California presents a particularly interesting comparison to the average U.S. gasoline price situation because of the strict environmental standards, the above-average tax rate and the relative isolation of West Coast markets.

The California gasoline market is subject to much greater swings in price than the rest of the country, a feature that is clearly illustrated in Figure MG2. Last year, West Coast refinery outages in February and March hurt the short-term supply situation in California and started a sharp runup in wholesale and retail prices there. That problem reverberated to elsewhere in the United States, but the overwhelming impact was localized. This year, California gave maximum expression to the effects of a tight domestic gasoline market as spot prices for reformulated gasoline wholesale reached $1.35 per gallon on March 10, 80 cents per gallon above the same time last year. Retail gasoline prices in California in late March reached $1.79 cents per gallon, 26 cents per gallon above the national average for the same period. The California price staged a 45 cents-per-gallon runup from mid January, outpacing the average for the United States by 21 cents per gallon. As the strong upturn in West Coast wholesale gasoline prices that lies behind the pump price surge in California has been largely reversed, pump prices there have started to come down. As of early April, however, California retail prices were still about 27 cents per gallon above the national average.

Figure MG3. Retail Gasoline Price* Components
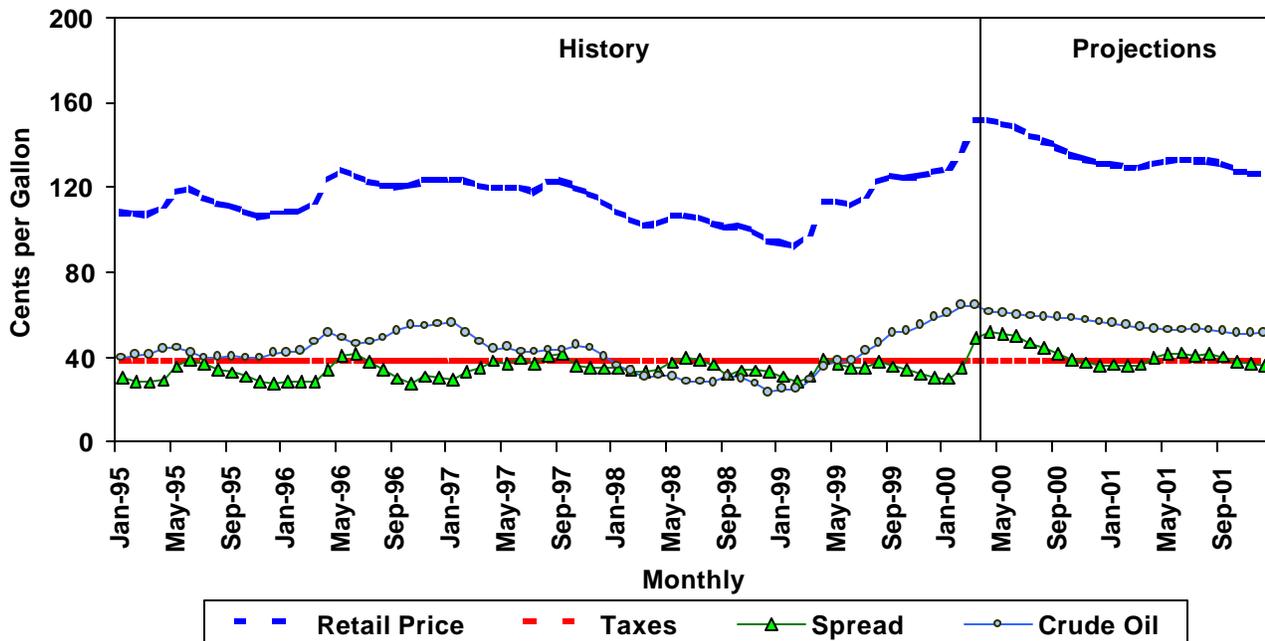
* Retail Price: regular gasoline, self-serve cash.   Crude: average imported cost to U.S. refiners.

Some perspective on the causes of average summer gasoline price movements is provided in Figure MG3. The dramatic increase in crude oil costs that has occurred since last summer and which is expected to dominate the price changes anticipated for summer 2000, makes the importance of previous year-to-year variations in price pale in comparison, certainly since the early 1990's. In addition, the spread between crude costs and ex-tax prices has grown to above-normal levels this year, adding to the total increase in pump prices. Mostly, these increased spreads represent premiums on relatively scarce short-term supplies (that is, low stocks) and higher costs for imported volumes. Increased spreads are typically transitory and are expected to dissipate during the summer along with the expanded crude oil availability expected from OPEC producers.

This summer promises to present a very stark contrast to the sharply depressed gasoline prices of just two summers ago. Far from the record low real (inflation-adjusted) prices of summer 1998, we expect to see a summer-2000 average price which marks a 15-year high in real terms.. This summer's average retail price for regular gasoline, in inflation-adjusted terms, would be 42 percent below the historical peak reached during the summer of 1981. That summer, gasoline prices averaged $2.52 per gallon in present-day dollars. Nevertheless, the increase in real gasoline expenditures expected to be generated by higher gasoline costs this summer ranks as one of the sharpest ever. We estimate that the average household in the United States, which typically logs about 12,000 miles during the summer months (April through September), would see a $160-$170 increase (25 percent) in summer gasoline expenditures if the conditions included in the base case forecast hold. A return to more normal price and

expenditure levels is envisioned for summer 2001 as continued expansion of OPEC and non-OPEC oil output eases oil market pressures.

Figure MG4. U.S. Total Motor Gasoline Stocks

*See glossary for definition
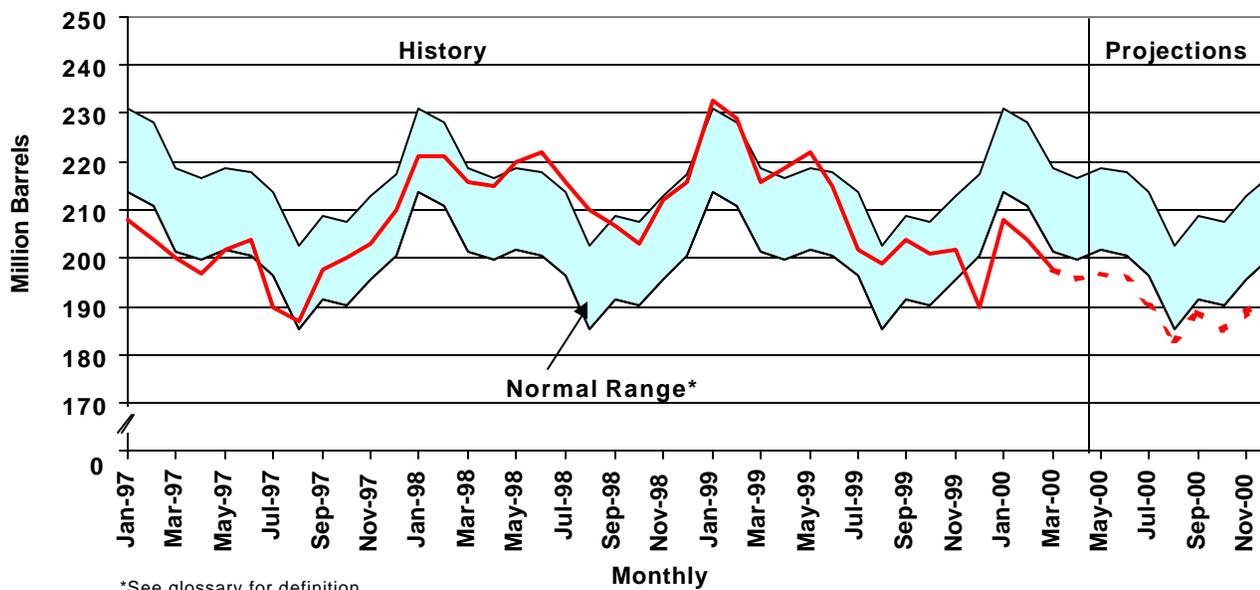
A decline from ample levels of gasoline stocks has occurred since last summer, as shown in Figure MG4. In June 1999, total motor gasoline stocks stood at 215 million barrels, or 6 million barrels above the middle of the normal range. This situation deteriorated as the year went on, particularly during the late-fall and mid-winter periods, such that at the outset of the summer 2000 driving season (April 1) stocks were sharply below last year's level and well below the midpoint of the normal range. Total gasoline stocks are projected to remain relatively low throughout the driving season.

Under normal conditions, while U.S. refiners need to ramp up refinery output of gasoline significantly during the summer in order to meet demand, a key component of uninterrupted gasoline supply is sufficient stocks to bridge the gap between peak demand and output volumes plus available imports. This year, a much-narrowed safety margin in terms of available stocks is facing the domestic gasoline market, which increases the susceptibility of the market to price shocks. Below-normal stock levels, particularly during the time of year when highway travel begins to increase toward the summer peak, implies a reduced portion of incremental seasonal gasoline demand that can be met from inventories, setting the stage for increased reliance on domestic refinery output or imports. Typically, unplanned refinery outages in the United States exert little influence on prices unless the outages are particularly significant or prolonged. This summer, however, the low stock levels might result in larger-than-normal gasoline price fluctuations if domestic production capability falters.

Figure MG5. U.S. Regional Gasoline Stocks
(Beginning of Season - March 31, 2000)
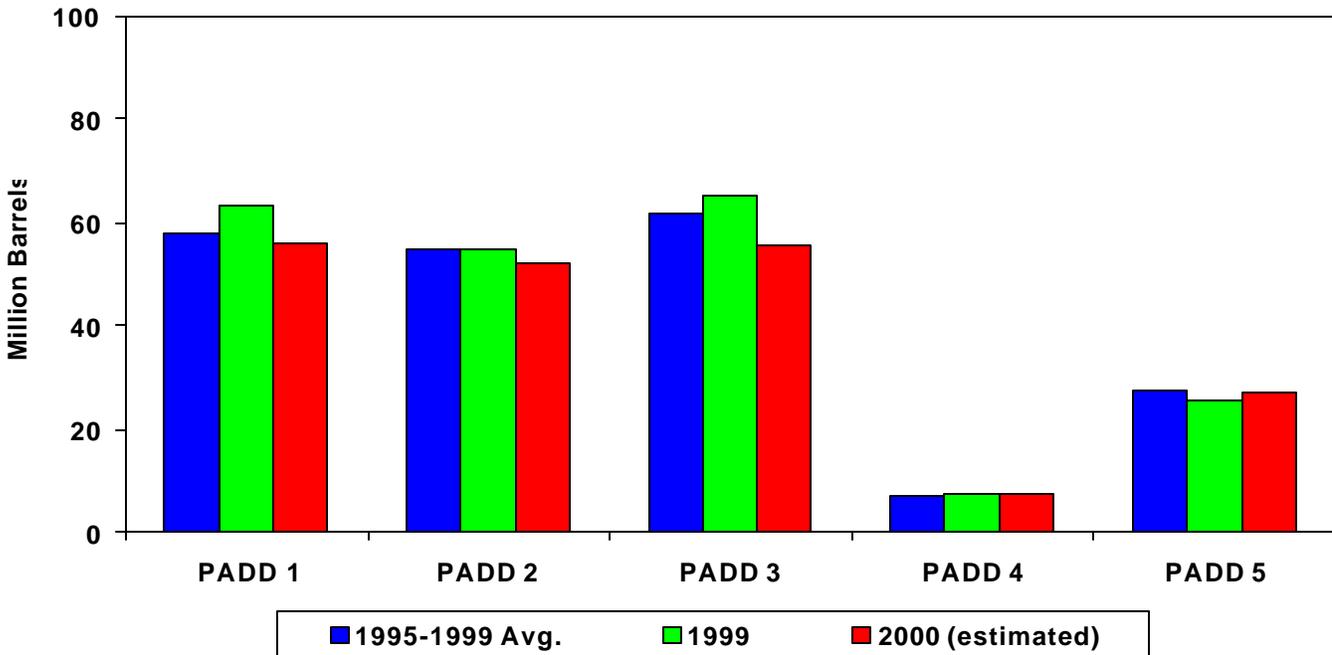
As noted above, total beginning-of-season stocks (including blending components) were estimated to be well below average for this time of year. Indeed, gasoline stock levels are currently not very far from record seasonal lows.

Some regional differences are worth noting (Figure MG5). Much of the shortfall in inventories relative to normal or average levels appears on the Gulf Coast (PADD 3). Below average levels are seen in PADD 1 (East Coast) and PADD 2 (Midwest) as well. Current stock levels on the West Coast (PADD 5), while perhaps not unusually high, are not out of line with recent norms for this time of year.

So far this year, as we have seen, the region with the strongest reaction to the tight gasoline market has been the West Coast (particularly California) with disproportionately high increases in pump prices since mid-January. However, since stocks are particularly low in other areas, the potential for unusually sharp seasonal runups in price somewhere other than the West Coast seems evident.

Since most gasoline imports come into the East Coast, and since the East Coast and the domestic region from which incremental supplies would normal come are currently holding below-normal stocks, it seems clear that the availability of imports is an issue which is of particular interest this summer for those concerned about potential additional short-term increases in gasoline prices.

Figure MG6. Summer Motor Gasoline Market Indicators
(Percent Change from Year Ago)
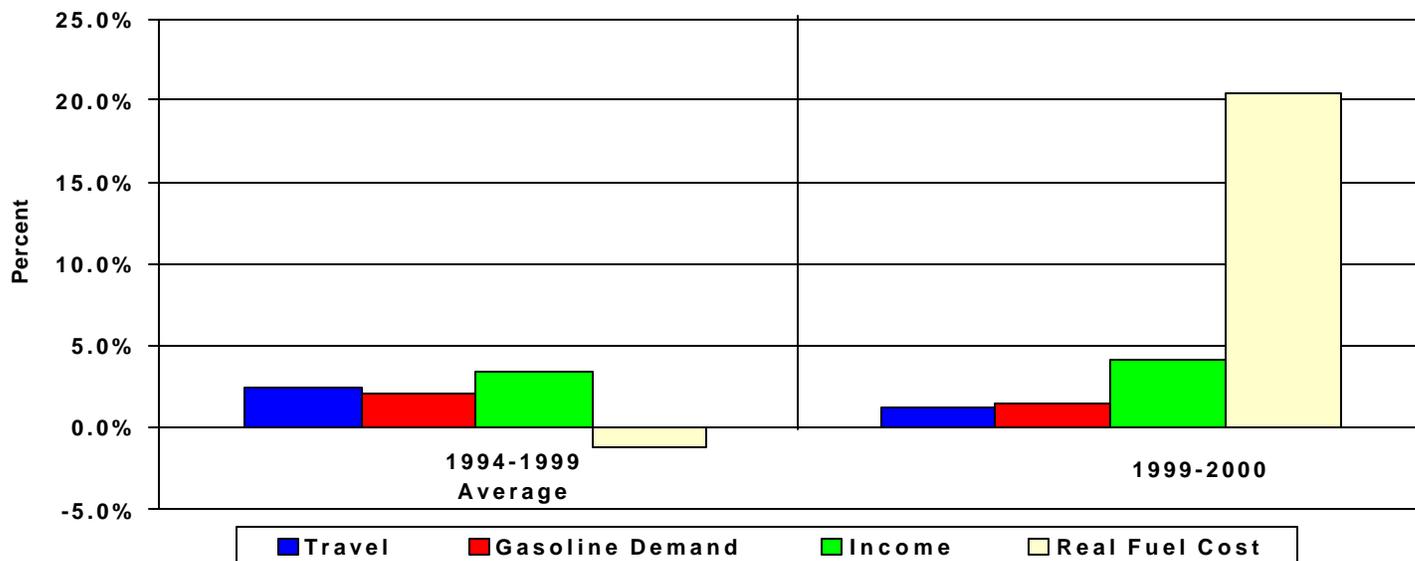
Although it is widely understood that the short-run responsiveness of gasoline demand to increases in real fuel prices is quite low, the current runup in prices will not be without effect relative to consumer demand. Figure MG6 indicates that gasoline demand growth as well as highway travel growth this summer should be below the averages seen over the previous 5 years. Although travel demand growth has apparently been slowing somewhat in recent years anyway (due perhaps to a slowing of the rate of growth in the driving population), we do expect that the high prices expected for this summer will exacerbate the slowdown in demand growth, at least temporarily. This will probably not keep summer gasoline demand from reaching record levels once again. However, we expect demand to increase by about 1.5 percent this summer compared to the 1994-1999 average of 2.0 percent.

The significant growth in real fuel costs evident in Figure MG6 (more than 23 percent above last summer) continues the reversal, begun last year, of the cumulative 7-year real decline of 25 percent that began in 1992. From 1991 to 1998, real fuel costs declined an average of 4 percent per year. For the summer of 2000, we expect per-mile fuel cost to reach a level, in inflation-adjusted terms, that has not been seen since 1990.

Still, with the economy flourishing, and with unemployment and overall (i.e. nonenergy-related) inflation still low, continued travel increases are to be expected. The 1.2-percent growth expected for highway travel this summer would yield an average daily rate of highway travel (all vehicles) of about 7.7 billion miles this summer.

Figure MG7. Summer Gasoline Supply by Source
(Change from Year Ago)
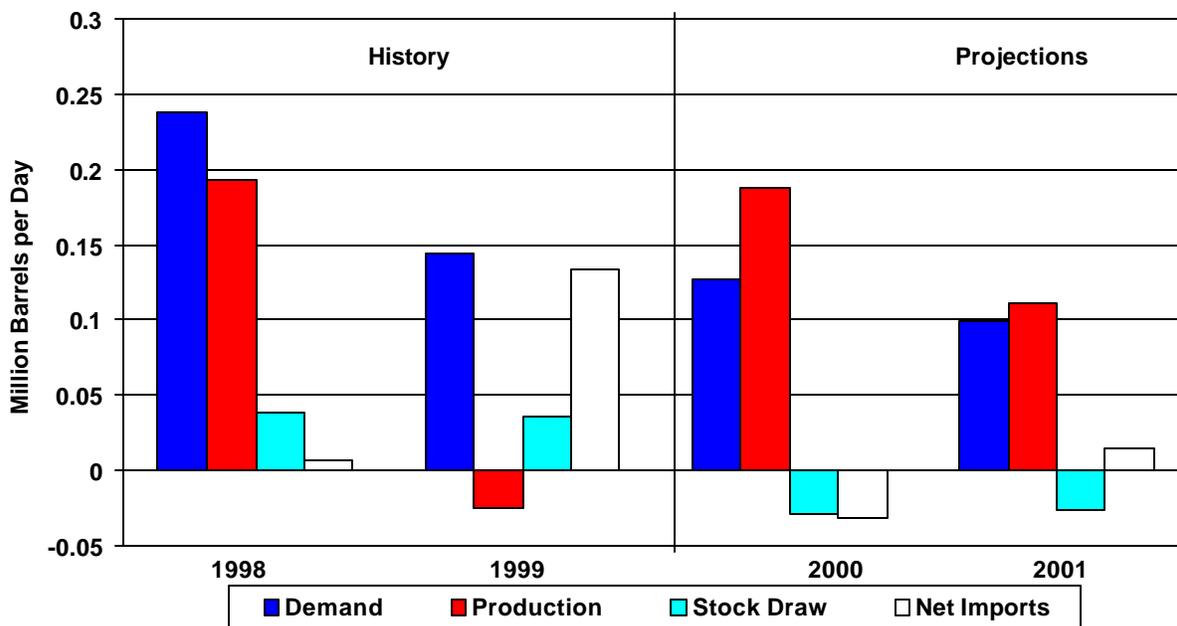
Last summer, virtually all of the increase in U.S. gasoline demand above the summer 1998 level was met by increases in net imports. Very little in the way of increased refinery production was needed (or desired), reflecting the general state of oversupply in the U.S. gasoline market at that time (Figure MG7). This year, however, low gasoline inventories in the United States and abroad will limit the near-term supplies from domestic or foreign stockpiles that can be depended on during the peak demand season.

EIA projects that U.S. refineries will have to increase output of gasoline this summer by more than the expected increase in gasoline demand because of the expected decline in available net imports or inventories. Some of the increased production will undoubtedly have to come at the expense of other products, particularly distillate fuel, which may affect heating oil supplies this fall.

Mostly, however, this situation should result in sharply increased U.S. demand for additional crude oil for processing this summer, implying continued pressure on U.S. crude oil inventories and significantly expanded requirements for crude oil imports. The extent to which this development tends to support higher oil prices depends on the amount of additional oil that actually begins to flow into the market as a result of the March 27 OPEC ministerial meeting. In any case, U.S. refiners are expected to have an edge over foreign refiners in terms of efficiency in meeting short-term gasoline supply needs. This seems particularly likely inasmuch as there is substantial room (capacity) for output expansion in the United States.

Figure MG8. Trans-Atlantic Gasoline Price Differentials
(New York Harbor less Rotterdam)
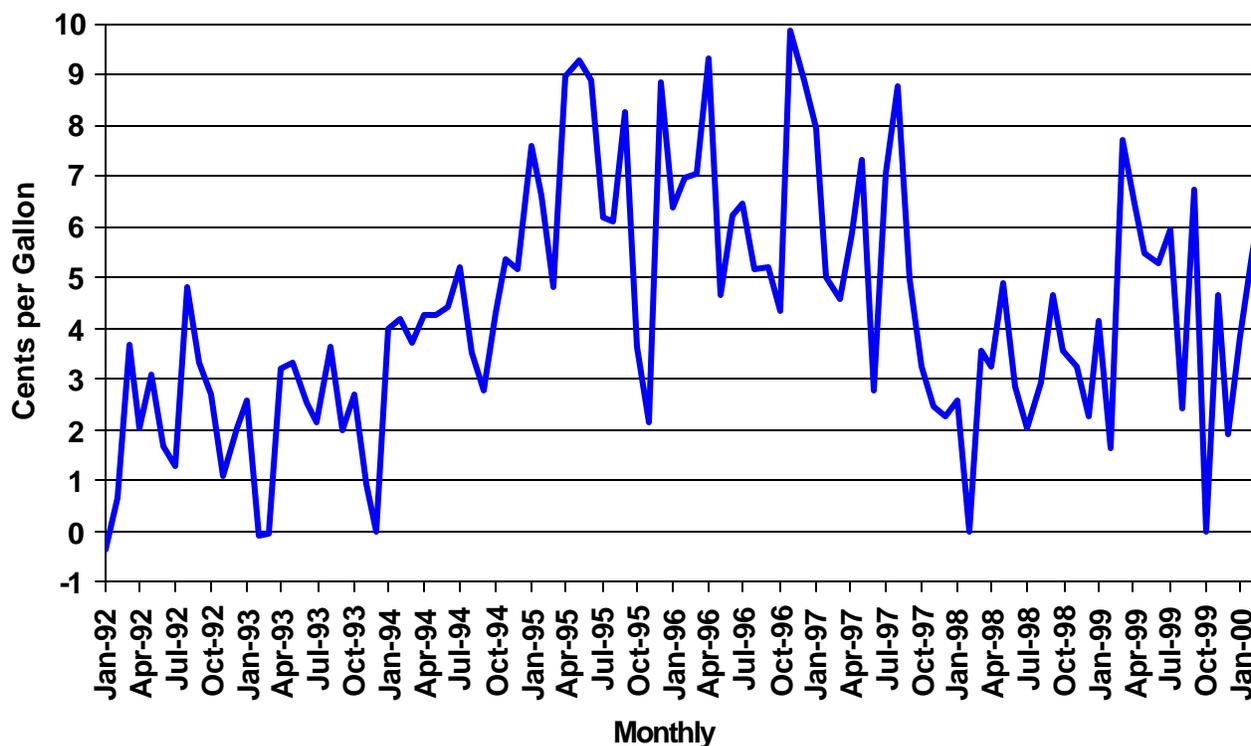
Gasoline imports are an important source of supply for the East Coast of the United States, accounting for about 15 to 20 percent of peak summer demand in that region, on average, over the last few years. Over the last three years, almost all imports of gasoline into the United States were destined for the East Coast, specifically the region identified by EIA as Petroleum Administration for Defense District (PADD) 1. Although the majority of these imports come from Canada, Venezuela and the Caribbean, Western Europe is an important source of incremental or swing gasoline supply in the United States. Trans-Atlantic gasoline price differentials provide some indication of the attractiveness of the U.S. market to European refiners (Figure MG8). When U.S. prices exceed European prices adequately to cover transportation cost, they indicate an increased likelihood that moving product across the Atlantic (or diverting supplies otherwise destined for Western Europe) is advantageous. While transportation costs vary, they average 4 cents per gallon. The price differential increased in 1999, particularly in late winter and early spring. A surge in imports accompanied the increase that lasted from April until June. About 60 percent of that surge came from Europe. The differential moved up again in early 2000 primarily due to the impacts of the distillate fuel shortage on U.S. gasoline supplies and prices. We estimate that first quarter 2000 net imports were about even with Q1 1999 levels. It is possible that, if European gasoline supplies prove to be more ample than we are assuming, differentials will rise this summer and some additional imports will substitute for increased U.S. refinery output.

Figure MG9. Motor Gasoline Net Imports
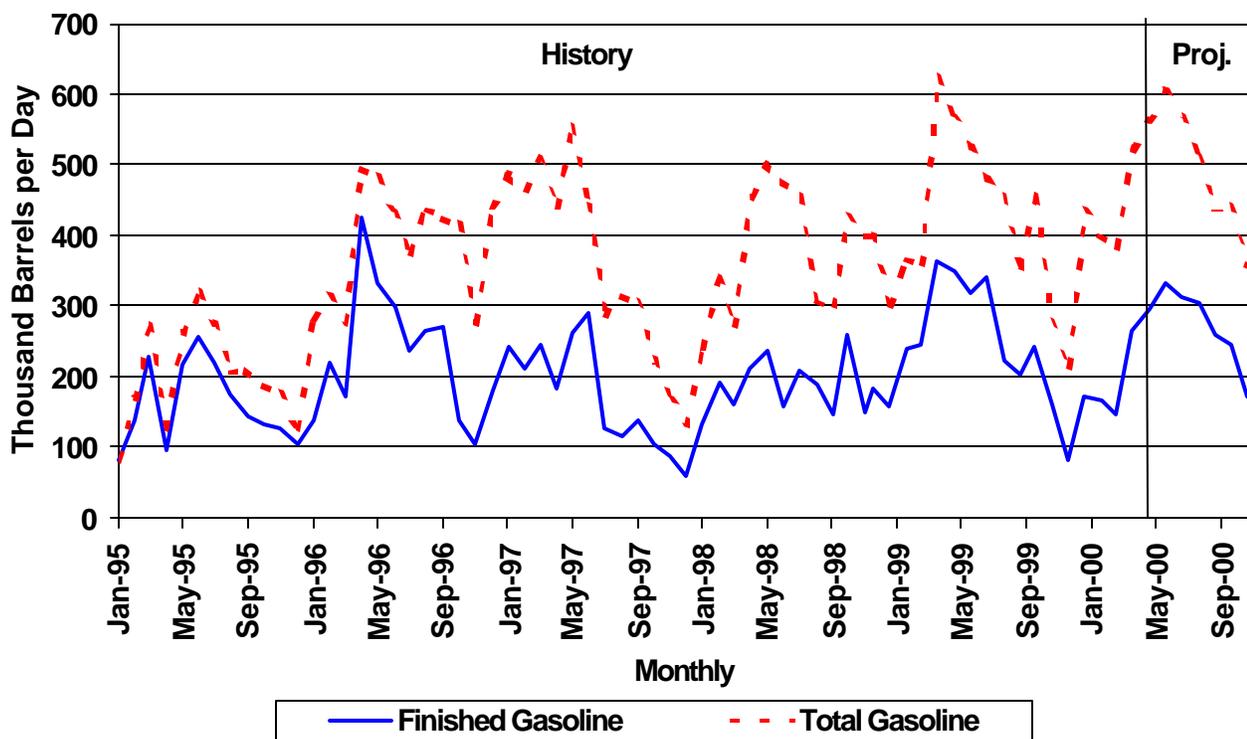
Although imports of finished gasoline have declined in recent years, those of blending components required to meet environmental specifications increased from 1995, when the RFG program was implemented, to 1998. Imports of blending components remained high in 1999. During that time, net imports of blendstocks occasionally exceeded that of finished motor gasoline, boosting total net imports to as much as 500,000 barrels per day. Some of the increase in finished motor gasoline production in the United States was related to the additional quantities of imported blending components, especially during the summer months (Figure MG9). It is likely that some of the increase in "refinery output" this summer will actually stem from increased blendstock imports, blurring somewhat the distinction between refinery production increases and imports growth.

For the summer of 2000, the dominant response to current market conditions will be for U.S. refiners to maximize gasoline output to meet demand. Until the loosening effects of increased OPEC output work their way through the world oil market, U.S. suppliers will try to avoid producing any more product than will be needed to meet extra demand on a current (month-by-month or even week-by-week) basis this year. Producing to build stocks now will be done at high cost and will exacerbate the potential negative effects (on product margins and profits) of declining prices later this year as OPEC output expands.

Figure MG10. U.S. Refinery Capacity and Throughput
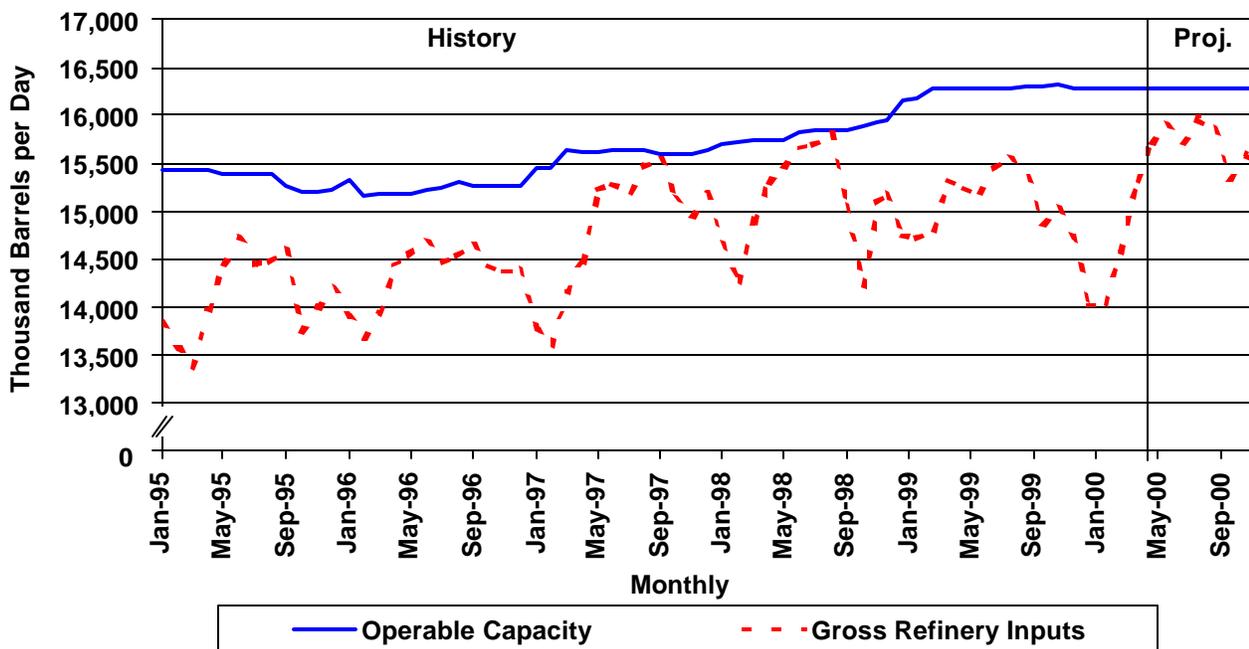
The increasing tightness in world oil markets that started to develop last year, and which continued through early 2000, generated a dramatic falloff in peak U.S. refinery utilization which culminated in a 9-year low for monthly utilization being recorded this past January (Figure MG10) of 86.2 percent. The United States will need to see significantly higher gasoline output this summer in order to meet increased demand without relying on inventory withdrawals. Currently, high gasoline spreads (the difference between gasoline prices and oil input costs) would seem to provide sufficient incentive for increased output. Whether the currently high gasoline prices will also attract significant additional gasoline imports remains to be seen.

Total domestic output (refinery and field production) is projected to average 8.40 million barrels per day during the summer months, up about 190,000 barrels per day from last summer. This reflects the expectation that refineries will be expected to meet not only the increase in demand but also compensate for reduced availability from stocks and net imports. As a result, refinery utilization rates for the summer are projected to average 96.8 percent, up from 94.3 percent last summer.

About a third of gasoline sold in the U.S. must meet Phase II reformulated specifications. This gasoline must be in place at distribution terminals by May 1 and at retail outlets by June 1. While the supply of reformulated gasoline from domestic refiners, blenders, and imports should be sufficient, low gasoline inventories raise the risk of localized shortages. The new requirements for reformulated gasoline may slow the response time for delivery of emergency supplies and reduce the availability of imported gasoline.

The Outlook

Outlook Assumptions

Figure 1. U.S. Monthly Crude Oil Prices
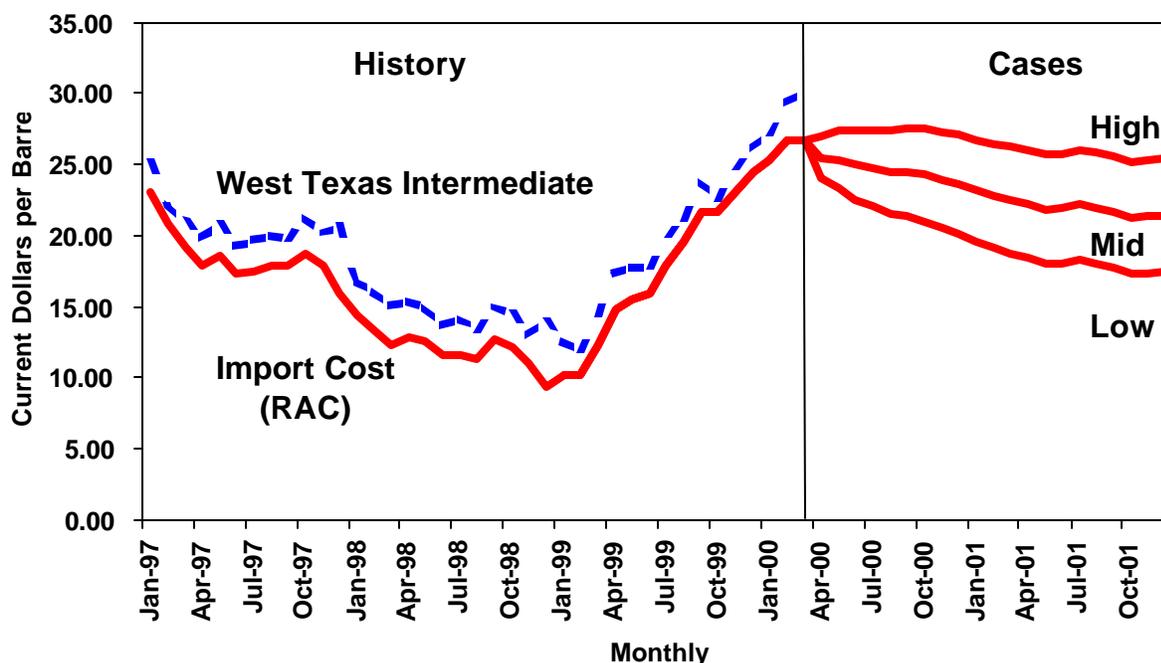
World Oil Prices

Our forecast this month is that world oil prices should begin a gradual decline as increased oil production from the Organization of Petroleum Exporting Countries (OPEC) enters the world oil market. Based on our assessment of world oil supply and demand, the average cost per barrel of crude oil imported into the United States and delivered to U.S. refiners (the benchmark price used in this forecast) is expected to decline from an estimate of $26.75 per barrel in February and March 2000 to about $25 per barrel by June 2000 and $23.50 per barrel by the end of 2000 (Figure 1). In 2001, the price is expected to continue to decline to about $21.50 by the end of the year. (Note: for comparison purposes, the price of West Texas Intermediate crude oil is generally about $2 per barrel higher than our benchmark price, the price of Brent crude oil is generally about $0.50 - $1.00 per barrel higher, and the OPEC basket price is generally within about $0.50 per barrel in either direction.)

Our normal uncertainty range around this forecast is that the world oil price could be between $20 and $27 per barrel by the end of this year and between $17.50 and $25.50 per barrel by the end of 2001. Of course, this price forecast is based on our assumptions regarding world oil supply and demand, which are detailed later in this report.

Figure 2. U.S. Macroeconomic Indicators
(Percent Change from Year Ago)
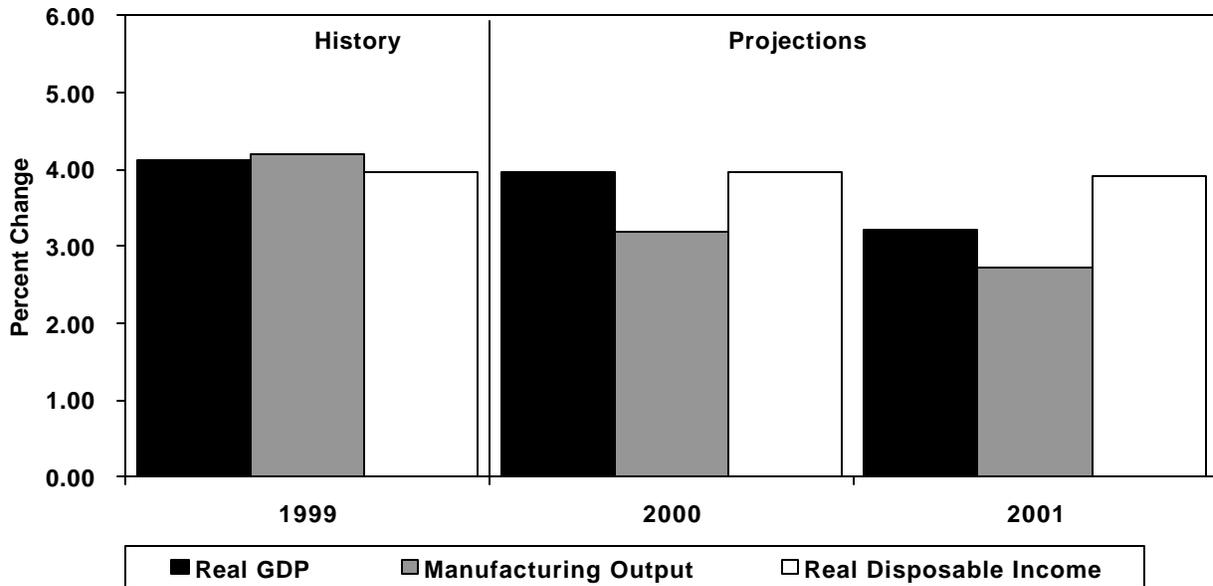
Economic Outlook

In 2000 and in 2001, GDP is expected to continue to grow at the rates of 4.0 percent and 3.2 percent respectively, compared with 4.1 percent growth in 1999. Personal disposable income is assumed to be up by about 4.0 percent in both 2000 and in 2001, which is the same as the 1999 rate of growth (Figure 2 and Table 1).

Inflation (consumer price index: see Table 2) should rise somewhat over the next two years. Consumer price inflation is expected to be 2.8 percent in 2000, up somewhat from the 2.2 percent seen in 1999 and rise again by another 1.9 percent in 2001. Manufacturing production is expected to grow by 3.2 percent in 2000 compared with 4.2 percent growth in 1999 (Table 1). In 2001, manufacturing production is assumed to increase by an additional 2.7 percent. Total employment will increase slowly over the forecast period.

Weather Assumptions

Weather patterns (expressed as heating and cooling degree-days in Table 1) are assumed to follow historical norms during the remainder of 2000 and in 2001. This would imply that, for this summer, cooling degree-days would be 5 percent below summer 1999 levels.

U. S. Energy Prices

Figure 3. Petroleum Product Prices
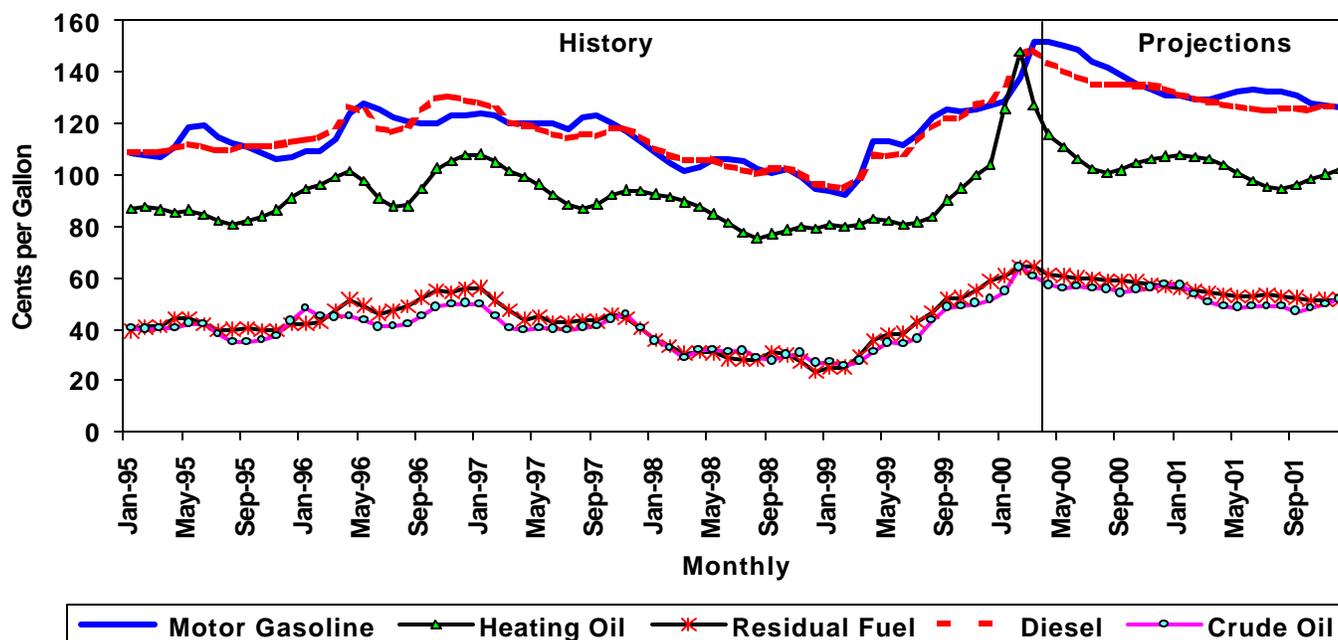
Average crude oil prices for the first half of this year are likely to be about double the price compared to the same period a year ago. These higher crude oil prices mean higher petroleum product prices, with annual gains averaging 25-30 cents per gallon (Table 4). Next year, though, crude oil prices are projected to fall, meaning lower petroleum product prices.

Motor Gasoline. In March, regular unleaded, self-service retail motor gasoline prices hit their highest level ever, *in nominal terms,* averaging above $1.50 per gallon*.* However, in *real terms* (adjusted for inflation) the projected price was 15 percent lower than the price spike experienced during the Persian Gulf War in late 1990 and 42 percent lower than the all-time highest price of March 1981. Recently both crude oil prices and spot prices for motor gasoline have been easing. If this trend continues, we may have already seen the bulk of this driving season's price gains occurring 1-2 months earlier than previously anticipated. We expect retail gasoline prices to average about $1.45-$1.50 per gallon during the summer driving season, then decline (Figure 3). For much of the nation, the pump price increases have been fairly similar, increasing by about 25-30 cents per gallon since the beginning of the year in most regions. However, in California, the pump price has jumped by about 40 cents per gallon. California State law requires a cleaner, costlier type of gasoline (California Air Resources Board, or CARB, gasoline), and the local supply situation for CARB gasoline is tight.

Figure 4. Fossil Fuel Prices to Electric Utilities
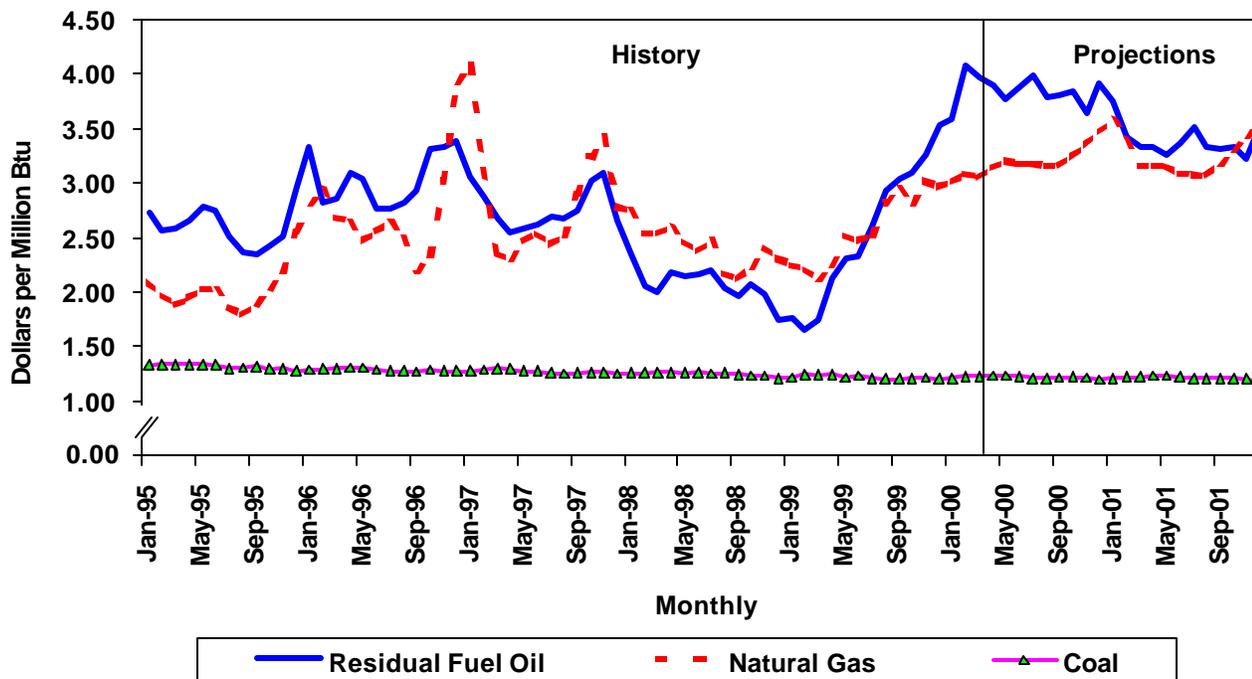
Diesel Fuel Oil. Diesel fuel oil prices have also increased greatly this year. On a national level, the price is expected to peak in early spring (Figure 3). Yet, in the Northeast, the average retail price has fallen substantially from the record highs of mid-February, when the market for diesel was greatly affected by the strained heating oil situation. Diesel prices for the rest of the country should tend to mirror the seasonal motor gasoline price path.

Heating Oil. This past winter was a very costly one for heating oil customers, particularly during the first quarter of the year. Cold weather, rising crude oil costs and, at times, precariously low supplies propelled prices to record heights. Residential heating oil prices averaged $1.34 per gallon in the first quarter, 54 cents per gallon more than year-ago (Figure 3 and Table 4). This spring, heating fuel prices should fall as seasonal demand eases.

Natural Gas. We see wellhead gas price increases through the summer and into next winter as gas demand growth in the industrial and electric utility sectors is projected to outstrip production gains (Tables 4 and 8).

Electric Utility Fuels. Natural gas is projected to maintain its price advantage over residual fuel oil as a fuel input for electric utility generation throughout the forecast period (Figure 4 and Table 4). However, the advantage for gas is expected to narrow toward the end of the year as gas prices climb during the heating season.

International Oil Supply

Figure 5. Assumed OPEC Quarterly Compliance to Production Cuts
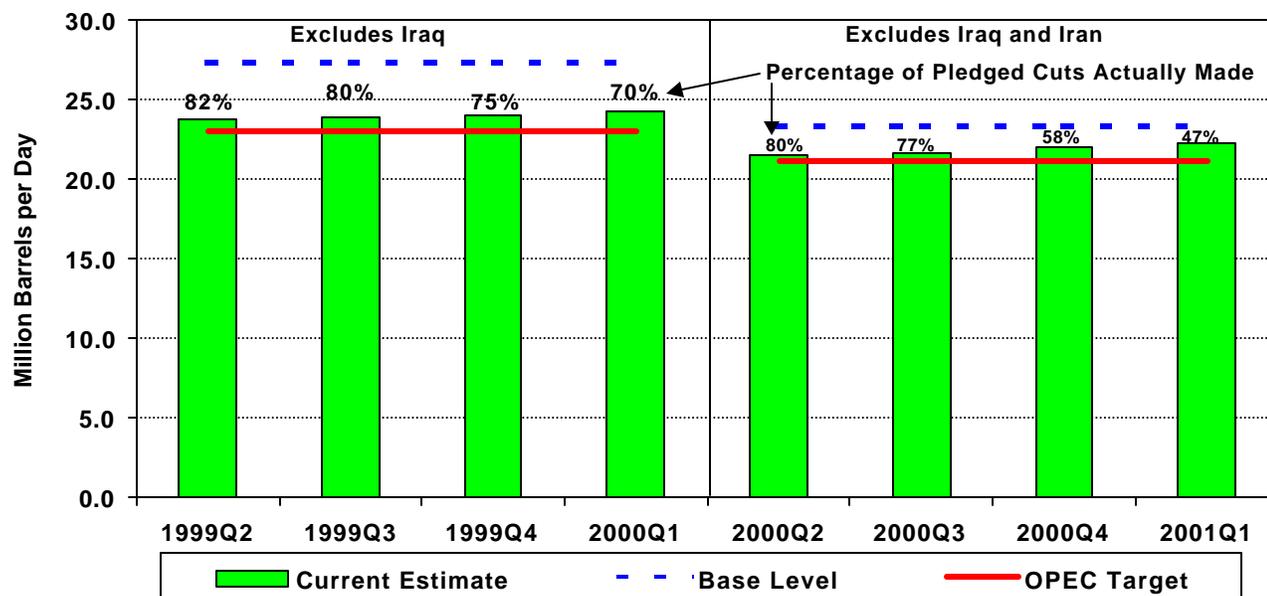
This forecast assumes that OPEC 9 (Organization of Petroleum Exporting Countries excluding Iraq and Iran) crude oil production will be 21.5 million barrels per day in the second quarter, 0.7 million barrels per day above first quarter production levels. This is nearly 0.5 million barrels per day above their production target of 21.07 million barrels per day (Figure 5). If Iran is included (OPEC 10), the increase in the second quarter is expected to be 0.9 million barrels per day. The forecast then assumes another 0.1 million barrels per day increase in OPEC 9 (and OPEC 10) crude oil production in the third quarter and an additional 0.4 million barrel per day increase in the fourth quarter of 2000 (a 0.5 million barrel per day increase for OPEC 10).   Continued increases are expected throughout 2001.

Iraqi crude oil production is assumed to average about 2.3 million barrels per day in the first quarter of 2000 and increase through the remainder of the year to average about 3.0 million barrels per day in the fourth quarter of 2000. This is not as much as the Iraqis have said they will be producing by the end of the year, but it is our best assumption of what we think Iraq will be actually producing. Iraqi oil production is assumed to increase even more in 2001. Our projections of Iraqi crude oil production are merely an assumption and do not reflect any official U.S. Government view on the future of Iraqi oil exports.

Non-OPEC production is expected to increase by 0.8 million barrels per day in 2000 and by another 1.0 million barrels per day in 2001, primarily from the North Sea, Mexico, South America and Africa (Table 3).

International Oil Demand

Figure 6. Annual World Oil Demand

(Changes from Previous Year)
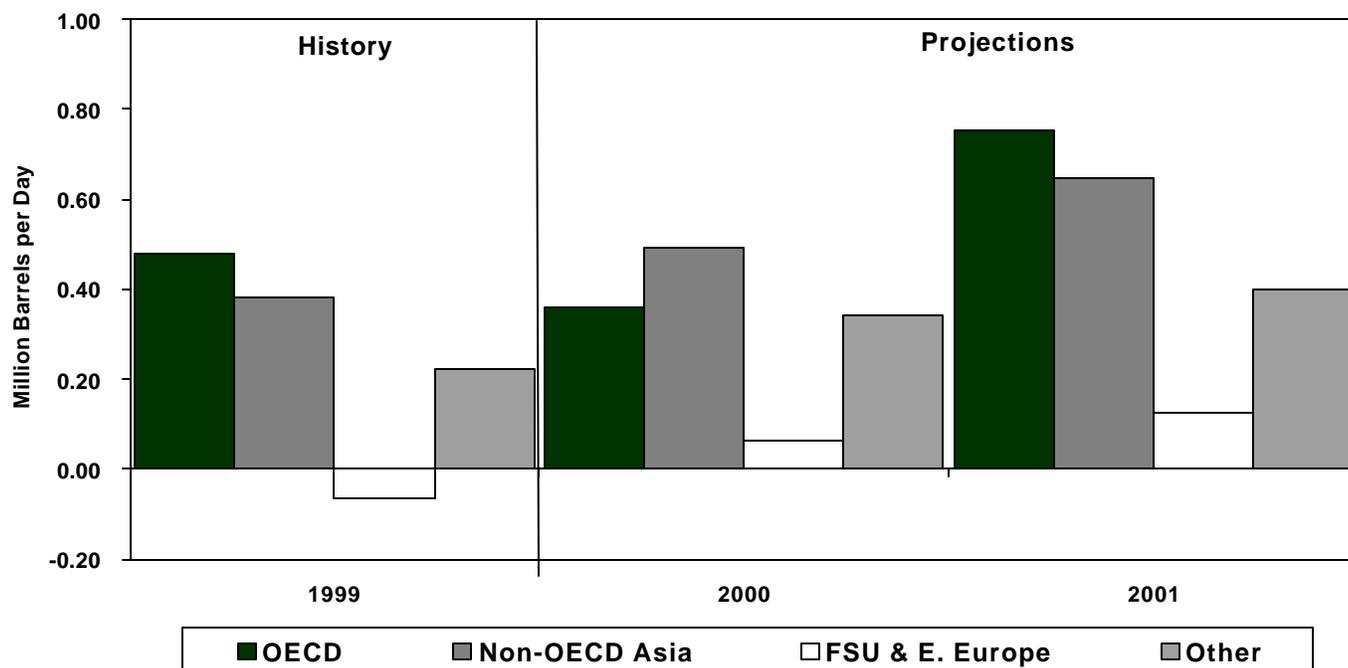
This month's forecast assumes a growth in world oil demand in 2000 of 1.3 million barrels per day (about 1.7 percent), to average nearly 76 million barrels per day (Table 3). In 1999, world oil demand grew by 1.0 million barrels per day (1.4 percent). World oil demand growth in 1999 and 2000 is expected to be much less than the 1.5 - 2.0 million barrels per day growth that was seen in the 1995-1997 period. The U.S., which accounted for more than half of the growth in world oil demand in 1998 and 1999, is expected to supply about 9 percent of world oil demand growth in 2000 and about 25 percent in 2001. As Asia continues to recover from the economic crisis of 1997-1998, it is expected to once again become an important engine for world oil demand growth. However, overall demand growth in 2000 is expected to be slowed by high oil prices, even for a relatively inelastic commodity such as oil. By 2001, oil demand is expected to grow substantially, increasing by nearly 1.9 million barrels per day to nearly 78 million barrels per day.

In 1999, world oil demand growth was mainly due to growth in OECD countries, particularly the U.S. In 2000, non-OECD Asia is expected to once again be the predominant region for oil demand growth, although growing much less than before the economic crisis as it may take some time before many Asian economies fully recover. By 2001, not only is non-OECD oil demand expected to grow even more, but OECD oil demand growth is expected to be strong as well (Figure 6).

World Oil Stocks, Capacity and Net Trade

Figure 7. Total OECD Oil Stocks*
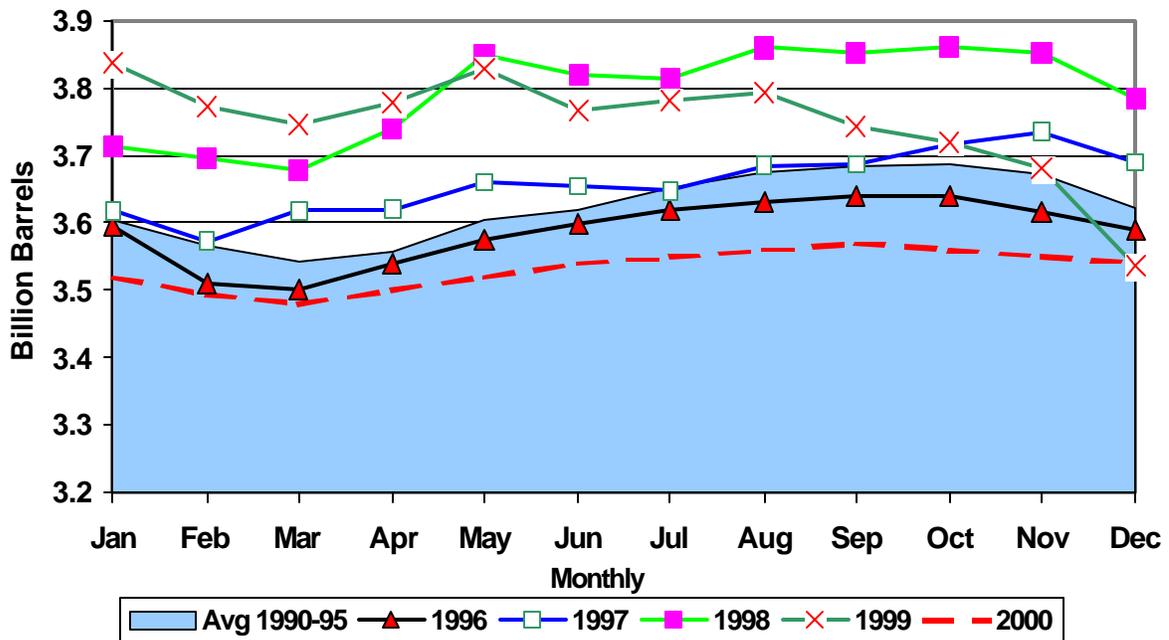
*Total includes commercial and government stocks.

While EIA does not attempt to estimate oil inventory levels on a global basis, we can discern the direction oil inventories are headed from our world oil supply and demand estimates. Following a 1 million barrel per day implied draw on world inventories in 1999 (based on world oil consumption averaging 74.7 million barrels per day while world oil supply averaged 73.7 million barrels per day), oil inventories are expected to be drawn down by an additional 0.3 million barrels per day in 2000. This leaves global oil inventories in a particularly precarious position. The additional draw in 2000 is a result of our world oil demand, OPEC production, and non-OPEC production estimates discussed above. In 2001, we expect a 0.3 million barrel per day build in world oil inventories, as supply exceeds demand once again.

However, OECD stock levels, which we do estimate, are expected to remain well below 1996 levels throughout 2000 (Figure 7). The difference between normal OECD oil inventories and 2000 levels is expected to widen after the first quarter, even if OPEC 9 crude oil production increases by 0.7 million barrels per day in the second quarter of 2000 (an increase of 0.9 million barrels per day for OPEC 10) as assumed in our forecast. This is because the assumed increase in production is insufficient to build inventories during the second and third quarters relative to the normal pattern. This would lead to extremely low inventories by the end of the year, leaving almost no flexibility in the world oil

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system to react to a cutoff in oil supplies somewhere or an extreme cold snap during next winter.

U.S. Oil Demand

Figure 8. Annual Petroleum Demand by Product
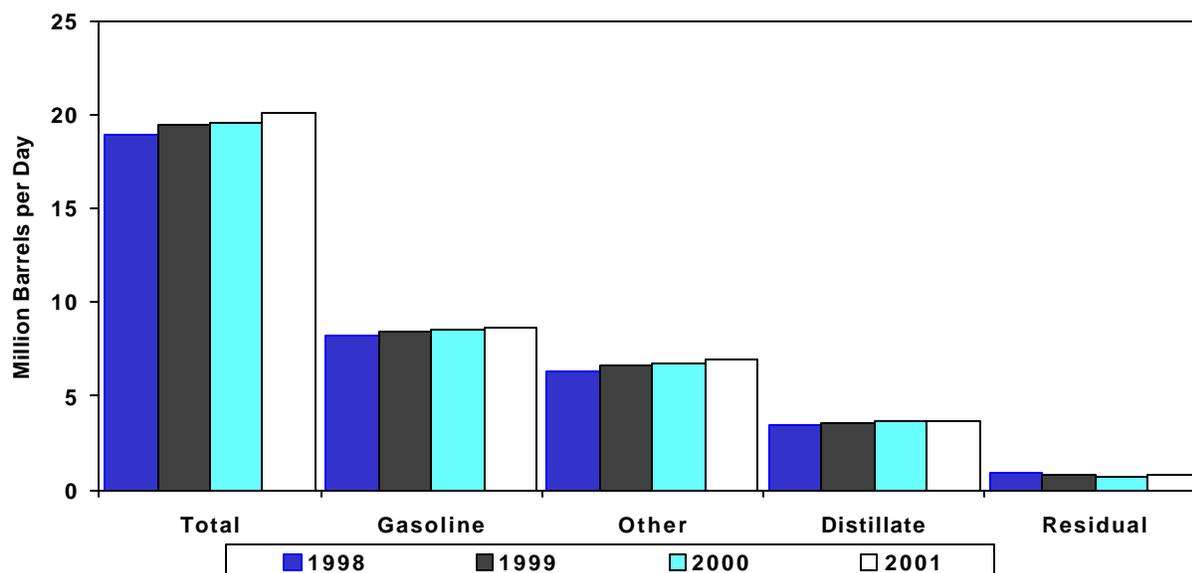
Petroleum demand during the 2000-2001 forecast interval is expected to increase by an annual average of 280,000 barrels per day, or 1.5 percent, substantially less than the 430,000 barrels-per day, or 2.3 percent, of the preceding two years. Contributing to the moderation in oil demand growth (Figure 8) are: higher prices, milder-than-normal weather, and moderation in economic growth in 2001. Higher oil prices, in fact, are expected to reduce residual fuel oil demand during the forecast interval, reversing an overall increase in the previous 2 years.

Higher fuel prices and mild weather, in fact, are projected to constrain 2000 growth to only 110,000 barrels per day, or 0.6 percent. Transportation-related demand is projected to increase 1.5 percent. Despite a cold snap in late January of this year and a serious heating oil price runup, space-heating demand for petroleum products is projected to rise less than 1 percent as a result of the first-quarter weather that was, on the whole, relatively mild.   Following a 5-percent decline in 1999, residual fuel oil demand is projected to decline a further 17 percent as a result of price-related fuel switching in the electric utility and industrial sectors.

In 2001, a presumed return to normal weather and a retreat of oil prices from their peaks of the previous year is projected to boost total petroleum demand by 470,000 barrels per day, or 2.5 percent. Transportation demand is projected to rise by 1.8 percent, reflecting a slight increase from price-restrained growth in 2000.

U.S. Oil Supply

Figure 9. U.S. Crude Oil Production
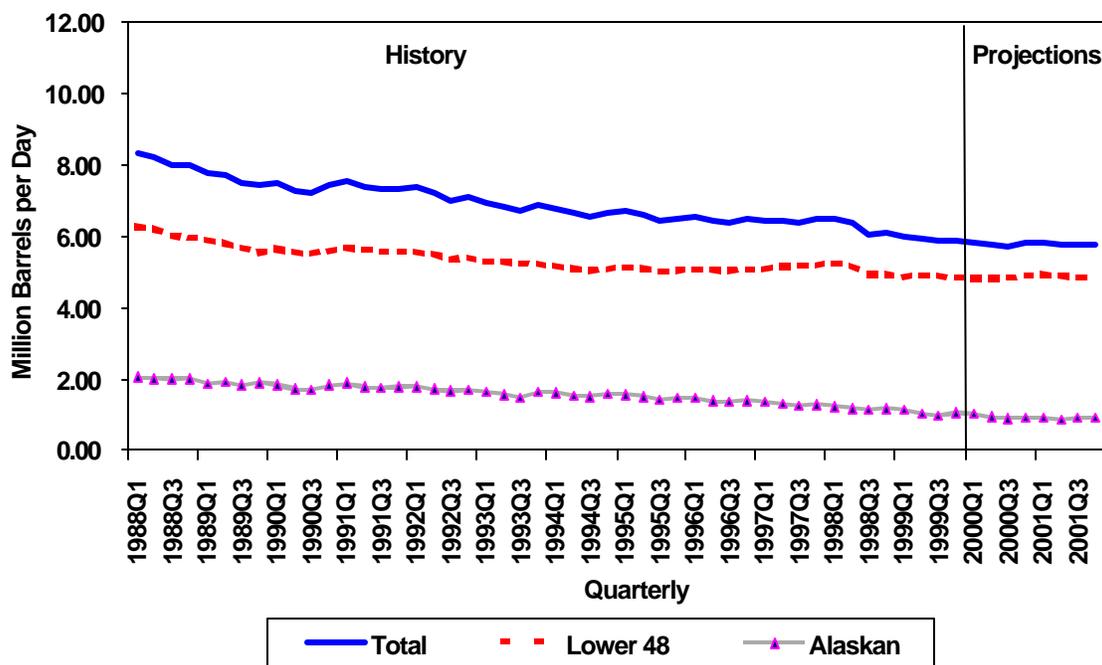
Even though crude oil prices rebounded dramatically in 1999, crude oil production did not. Domestic crude oil production declined throughout 1999, with the average for the year falling by 330,000 barrels per day, or 5.1 percent, from the 1998 average. However, a much smaller decline of 150,000 barrels per day (2.5 percent) is expected in 2000, followed by a small recovery of about 10,000 barrels per day in 2001 (Figure 9).

Lower-48 States oil production is expected to decline by 40,000 barrels per day in 2000, followed by an increase of about the same amount in 2001. Oil production from the Ram-Powell, Auger, Ursa, Mars, Troika, Baldpate, and Diana-Hoover Federal Offshore fields is expected to account for about 11.7 percent of the lower-48 oil production by the 4th quarter of 2001. Shell's Auger platform was cut back to about 70,000 barrels per day in the fourth quarter of 1999. After additional gas treatment facilities are installed, production should increase. Shell has started production in 1999 in their Ursa field, which will peak in the year 2000 at 147,000 barrels per day of condensate. Exxon's Diana and Hoover fields should start production in mid 2000 at a rate of 30,000 barrels per day, increasing to 100,000 barrels per day in early 2001.

Alaska is expected to account for 15.4 percent of the total U.S. oil production in 2001. Alaskan oil production is expected to decline by 9.4 percent in 2000 and by 4.7 percent in 2001.

U.S. Natural Gas Demand

Figure 10. Annual Changes in Natural Gas Demand by Sector
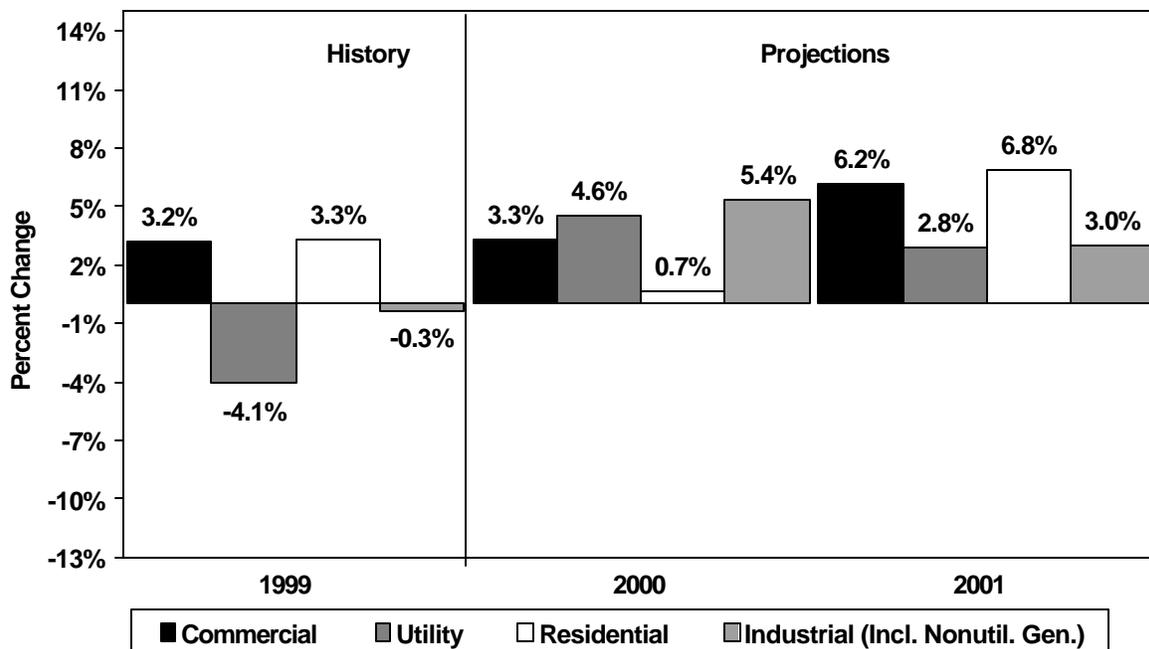
Natural gas demand is expected to increase by 3.5 percent and 4.1 percent, respectively, to 22.17 trillion cubic feet in 2000 and 23.08 trillion cubic feet in 2001 (Table 8). These increases follow the less than 1 percent growth seen in 1999, when oil prices remained reasonably competitive with gas in electric power and industrial production, and when strong nuclear power and hydroelectric power increases backed out gas use in electric power output.

The increase in natural gas demand is expected to be across all sectors in both 2000 and 2001 (Figure 10). Continued economic growth, the assumption of normal weather for the forecast period and the relatively lower cost of natural gas vis-à-vis oil are the reasons. Industrial sector demand for natural gas is expected to rise by 5.4 percent in 2000 and by another 3.0 percent in 2001. Sharply higher oil prices this summer should engender switching to natural gas in the utility sector, an expectation that has helped support above normal summer gas forward prices this year. The anticipated switching would actually return third quarter gas consumption for power generation back to about where it was in the very hot third quarter of 1998. Additionally, a falloff from recent highs in nuclear power and hydroelectric output is expected to being forth more natural gas use for electricity generation this year and next.

U.S. Natural Gas Supply

Figure 11. Natural Gas in Storage (Difference from Previous 5-Year Average)
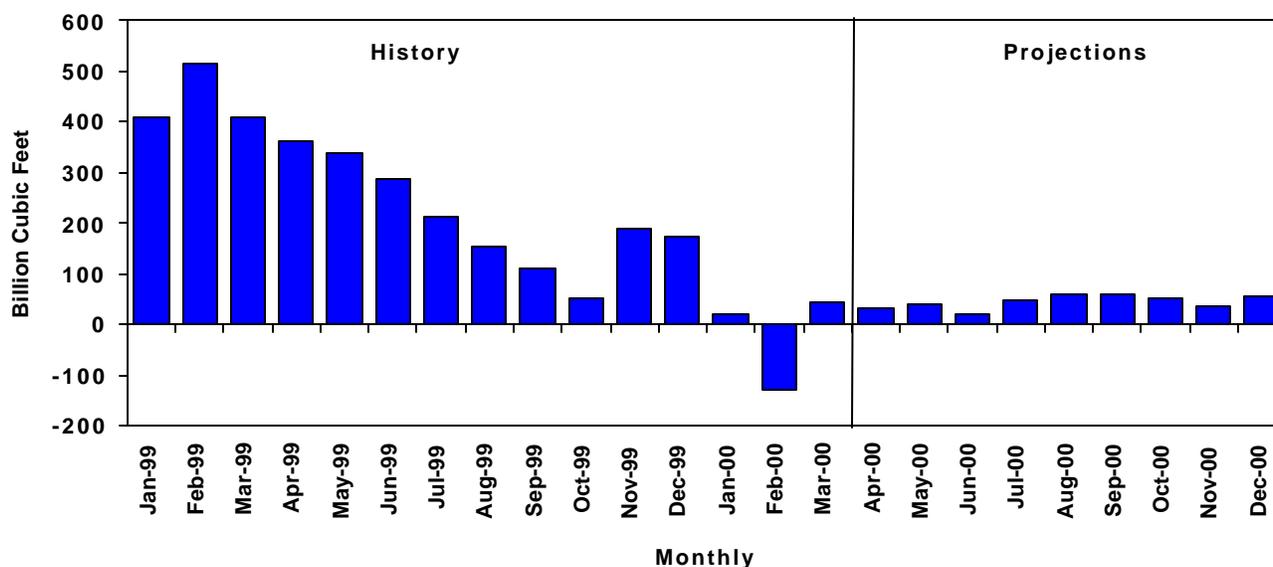
Gas storage levels at the end of March 2000 are estimated to be much lower than they were last year (Figure 11). The estimated end-February level fell below normal for the first time in over a year. Although we are about at average levels now, increased demand this year is expected to compete with normal storage injection requirements, contributing to higher-than-normal natural gas spot prices during the Spring and Summer.

Dry natural gas production is expected to increase only slowly in 2000 and 2001. Natural gas production increases are not meeting demand increases. In 1999, natural gas demand was up by 0.8 percent, or almost 1 percent, while production was virtually flat. In 2000, gas demand is expected to be up by 3.5 percent, while production is expected to increase by less than 1 percent. In 2001 natural gas demand is projected to increase by 4.1 percent while production rises by only 0.3 percent.

Natural gas net imports for 2000 and 2001 are expected to rise by 8.0 percent and by 3.0 percent, respectively. Additional pipeline import capacity from Canada, as well as increasing demand for natural gas, are the reasons. The Alliance pipeline is on track for an October 2000 startup. Up to 1.3 billion cubic feet per day of gas will eventually flow to a facility near Chicago. The Maritimes & Northeast Pipeline began operations at the start of 2000. The pipeline is expected to transport up to 450 million cubic feet per day by the fall to New England markets, reaching full capacity of 530 million cubic feet per day once lateral pipelines in Nova Scotia and New Brunswick are completed. However, the

ability of Canadian producers to fill the new pipelines will depend on storage and drilling levels in Canada.

U.S. Coal Demand and Supply

Figure 12. Annual Change in U.S. Coal Demand
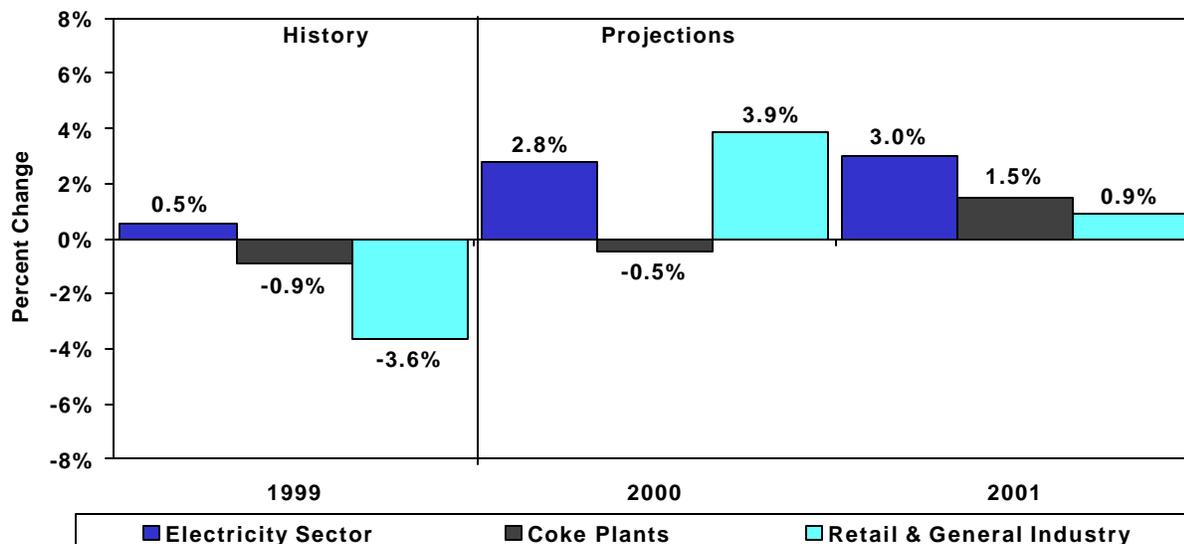
Total coal demand is expected to increase by about 2.8 percent in both 2000 and 2001, compared to 0.2 percent growth in 1999 (Table 9 and Figure 12). Electric utility coal demand is expected to rise in 2000 by 1.3 percent and by 3.1 percent in 2001. The rise in electric utility coal consumption is an effect of the relatively higher oil and gas prices (in 2000) and declines in hydroelectric and nuclear-fired electricity generation (both years).

Coal carbonized (consumed) by coke plants is expected to fall by 0.5 percent in 2000 to 27.8 million short tons. Demand for coal at coke plants is expected to remain near 28 million short tons throughout the forecast period because existing coke plants are already operating at or near capacity and most new steel production relies on non-coke methods (recycling and electric arc furnaces). Demand for coal by the retail and general industry sectors is projected at 73.0 million short tons in 2000, a 3.9 percent increase over 1999 demand. In 2001, demand is expected to increase by nearly 1.0 percent from the 2000 level.

U.S. coal exports are expected to remain weak over the forecast period. Although moderate growth is forecast for coal exports (2.9 percent in 2000 and 0.5 percent in 2001), exports will remain nearly 20 million short tons below 1998 levels. Exports are projected to be 60.2 million short tons in 2000 and 60.5 million short tons in 2001.

Coal production is expected to grow by 1.7 percent to 1,112.6 million short tons in 2000. This follows the decline coal production experienced in 1999 (2.1

percent), which was primarily due to lower electric utility demand. Production is projected to increase by 1.5 percent in 2001 (1,129.4 million short tons).

U.S. Electricity Demand and Supply

Figure 13. Annual Changes in U. S. Electricity Demand
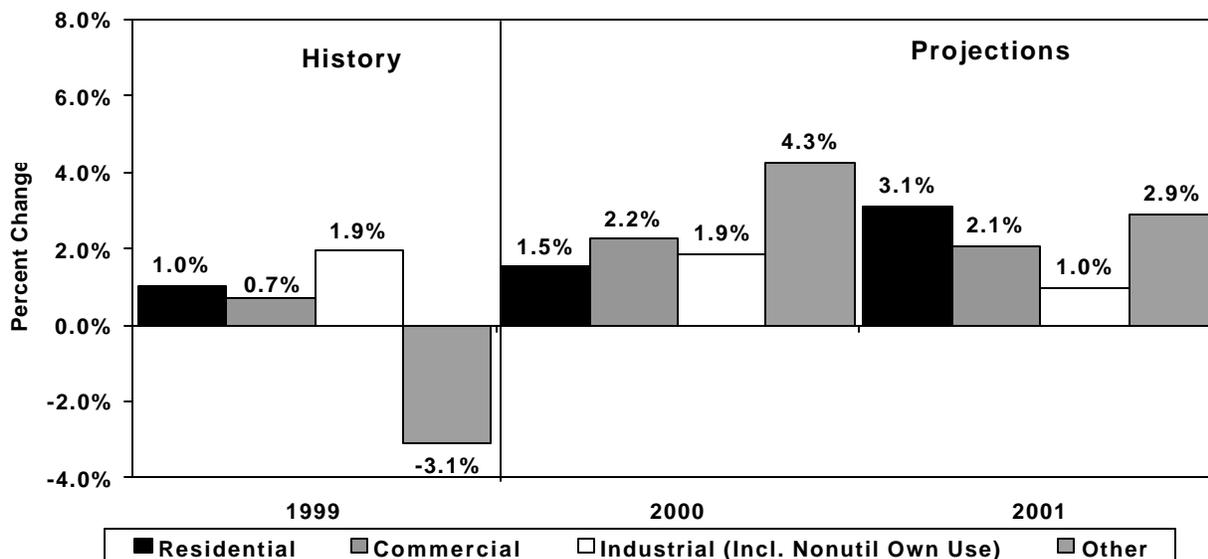
Assuming normal weather for the remainder of the forecast, the outlook for total electricity demand in 2000 is growth of 2.0 percent. In 2001, electricity demand is expected to grow by an additional 2.0 percent. This is on track with average electricity growth between 1990 and 1998, which was about 2.0 percent per year.

Cooling degree-days this summer are assumed to be 5 percent lower than those of last summer. Thus, summer (April through September) demand for electricity in 2000 is forecast to be up by only 0.6 percent compared with last summer, as the weather factors (normal cooling demand) to some extent offset economic factors (continued economic growth) at that time.

Demand for electricity is seen as growing across all sectors in both 2000 and 2001, (Figure 13 and Table 10).   Industrial electricity demand growth in both 2000 and 2001 is expected to average about 1 percent annually.

The fuel mix at electric utilities has changed significantly from what it was in 1999. In particular, gas- and coal-fired electricity generation is expected to increase significantly from 1999 levels in both 2000 and 2001, while nuclear and hydro powered generation decrease. Nuclear decreases because of the planned outages of many plants. Hydroelectric generation decreases because, despite the assumption of normal precipitation, there is always a lag in recovery from previous high or low precipitation years.   Oil-fired generation is expected to continue to fall significantly in 2000, even more than it did in 1999, due to the increases in world petroleum prices.   But oil-fired generation is expected to

rebound in 2001, as oil prices begin to come down while gas prices continue to rise.

Summary of Important Terms

PETROLEUM PRICES

Refiner acquisition cost of crude oil (RAC): The average monthly cost of crude oil to U.S. refiners, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs. Typically, the imported RAC is about $1.50 per barrel below the monthly average spot price of West Texas Intermediate (WTI) crude oil and is within about $0.20 per barrel of the average monthly spot price of Brent crude oil. Unless otherwise stated, the imported RAC is what is referred to in this report as the "world oil price" or "average crude oil price."

Retail motor gasoline prices: The average pump prices for gasoline reported in the *Short-term Energy Outlook* are derived from the Energy Information Administration (EIA) form EIA-878, "Motor Gasoline Price Survey." The two series are: 1) average retail price of regular motor gasoline, self-service; 2) average retail price for all grades of motor gasoline, self-service. Both price series are for cash transactions. The historical values for these prices are reported on Table 16 of EIA's *Weekly Petroleum Status Report.*

Wholesale motor gasoline price: The monthly average price to refiners of motor gasoline (all types) sold to resellers; it is reported monthly on Table 4 of EIA's *Petroleum Marketing Monthly.*

Retail heating oil price: The cost of Number 2 distillate fuel oil to residences (less taxes). The retail heating oil price referred to in this report is from Table 18 of EIA's *Petroleum Marketing Monthly.*

PETROLEUM DEMAND and SUPPLY

Petroleum Demand (consumption/petroleum products supplied): For each product (gasoline, distillate, etc.), the amount supplied is calculated by summing production, imports, and net withdrawals from primary stocks and subtracting exports. Thus, petroleum demand is represented by the "disappearance" of product from the primary supply system. This demand definition coincides exactly with the term "product supplied" as used in EIA's *Petroleum Supply Monthly.*

Petroleum Stocks, primary: Stocks of crude oil or petroleum products held in storage at (or in) leases, refineries, natural gas processing plants, pipelines, tank farms, and bulk terminals. Crude oil that is in transit from Alaska or that is stored on Federal leases or in the Strategic Petroleum Reserve is included. These are the only stocks included in this report when petroleum inventories or

inventory changes are discussed. Excluded are stocks of foreign origin that are stored in bonded warehouses.

Charts in this report displaying inventory levels of crude oil or petroleum products that provide the reader with actual inventory data compared to an "average" or "normal" range are constructed as follows: the actual stock levels are the actual reported end-of-month levels; the ranges are based on the most recent 3-year period running from January through December or from July through June. The ranges also reflect seasonal variation for the past 7 years. The seasonal factors, which determine the shape of the upper and lower curves, are estimated with a seasonal adjustment technique developed at the Bureau of Census (Census X–11). The seasonal factors are assumed to be stable (i.e., the same seasonal factor is used for each January during the 7-year period) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported inventory levels). The intent of deseasonalization is to remove only annual variation from the data. Thus, deseasonalized series would contain the same trends, cyclical components, and irregularities as the original data. The seasonal factors are updated annually in October, using the 7 most recent years' final monthly data. The seasonal factors are used to deseasonalize data from the most recent 3-year period (January-December or July-June) in order to determine a deseasonalized average band. The average of the deseasonalized 36-month series is the midpoint of the band, and two standard deviations of the series (adjusting first for extreme points) is its width. When the seasonal factors are added back in (the upper curve is the midpoint plus one standard deviation plus the seasonal factor, and the lower curve is the midpoint minus one standard deviation plus the seasonal factor), the "average range" shown on the graphs reflects the actual data. The ranges are updated every 6 months in April and October.

NATURAL GAS

Natural gas wellhead price: The wellhead price of natural gas, which is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Minerals Management Service, Department of the Interior. The price includes all costs prior to shipment from the lease, including gathering and compression costs, in addition to State production, severance, and similar charges.

Natural gas spot price: A transaction price for natural gas concluded "on the spot," that is, on a one-time prompt (immediate) basis, as opposed to a longer-term contract price obligating the seller to deliver the product at an agreed price over an extended period of time.

MACROECONOMIC

Gross Domestic Product (GDP): The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier may be either U.S. residents or residents of foreign countries. Nominal GDP refers to current dollar value; real GDP refers to GDP corrected for inflation.

GDP Implicit Price Deflator: A byproduct of the price deflation of gross domestic product (GDP). It is derived as the ratio of current- to constant-dollar GDP. It is a weighted average of the detailed price indexes used in the deflation of GDP, but these indexes are combined, using weights that reflect the composition of GDP in each period. Thus, changes in the implicit price deflator reflect not only changes in prices but also changes in the composition of GDP. Corresponding current- and constant-dollar series are published by the U.S. Bureau of Economic Analysis, National Income and Product Accounts. The current base year for the deflator is 1996.

Manufacturing Production Index: A measure of nondurable and durable manufacturing production expressed as a percentage of output in a reference period (currently 1992). Data are published by the Federal Reserve System in the *Federal Reserve Bulletin*.

Employment: Employment data refer to persons on establishment payrolls who received pay for any part of the pay period including the 12th of the month (or the last day of the calendar month for government employees). The data exclude proprietors, the self-employed, unpaid volunteer or family workers, farm workers, and domestic workers. Salaried officers of corporations are included. Employment statistics are published by the U.S. Bureau of Labor Statistics in the Employment and Earnings report.

Consumer Price Index: A measure of the average change in prices paid by urban consumers for a fixed market basket of goods and services. The consumer price index is based on the prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor and dentist's fees, and other goods and services that people buy for day-to-day living. All taxes directly associated with the purchase and use of items are included in the index. The consumer price index is published by the U.S. Bureau of Labor Statistics in the *Monthly Labor Review*.

Degree-days, cooling (CDD): For one day, the number of degrees that the average temperature for that day is above 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period. As covered in this report, cooling degree-days in a period represent the sum of daily degree-day calculations over the period. Thus, national cooling degree-days for a month represent the weighted average of the daily cooling degree-days for the States, summed across all days in the month. The weights used are population shares unless otherwise noted.

Degree-days, heating (HDD): For one day, the number of degrees that the average temperature is below 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period. As covered in this report, heating degree-days in a period represent the sum of daily degree-day calculations over the period. Thus, national heating degree-days for a month represent the weighted-average of the daily heating degree-days for the States, summed across all days in the month. The weights used are population shares unless otherwise noted.

British thermal unit (Btu): The quantity of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit. In this report, Btu-equivalent energy values are calculated by multiplying estimated thermal content coefficients per physical unit for various products by the respective quantities. These are then aggregated across products to obtain, for example, total energy demand or supply variables.

TOTAL ENERGY

Total energy demand: The sum of fossil fuel consumed by the five sectors (residential, commercial, industrial, transportation, and electric utility), plus hydroelectric power, nuclear electric power, net imports of coal coke, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy. Includes estimates for renewable energy sources used in the residential, commercial, and industrial sectors.

GEOGRAPHICAL

Other Asia includes: Afghanistan, American Samoa, Bangladesh, Bhutan, Brunei, Burma, Cambodia, Cook Islands, Fiji, French Polynesia, Hong Kong (prior to July 1, 1997), India, Indonesia, Kiribati, North Korea, South Korea, Laos, Macau, Malaysia, Maldives, Mongolia, Nauru, Nepal, New Caledonia, Niue, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, U.S. Pacific Islands, Vanuatu, Vietnam, Wake Island, Western Samoa.

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.

The Appalachian region States are: Alabama, Georgia, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

The Interior region States are: 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.

Table HL1. U. S. Energy Supply and Demand

	Year				Annual Percentage Change		
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001
Real Gross Domestic Product (GDP)							
(billion chained 1996 dollars)	**8516**	**8867**	*9219*	*9514*	**4.1**	*4.0*	*3.2*
Imported Crude Oil Price [a]							
(nominal dollars per barrel)........................	**12.08**	**17.22**	*24.97*	*22.02*	**42.5**	*45.0*	*-11.8*
Petroleum Supply (million barrels per day)							
Crude Oil Production [b]	**6.25**	**5.93**	*5.78*	*5.79*	**-5.1**	*-2.5*	*0.2*
Total Petroleum Net Imports							
(including SPR)	**9.76**	**9.81**	*10.52*	*10.94*	**0.5**	*7.2*	*4.0*
Energy Demand							
World Petroleum							
(million barrels per day)..............................	**73.6**	**74.7**	*75.9*	*77.8*	**1.5**	*1.6*	*2.5*
Petroleum							
(million barrels per day)..............................	**18.92**	**19.47**	*19.58*	*20.06*	**2.9**	*0.6*	*2.5*
Natural Gas							
(trillion cubic feet)	**21.26**	**21.42**	*22.17*	*23.08*	**0.8**	*3.5*	*4.1*
Coal [c]							
(million short tons)	**1039**	**1041**	*1069*	*1099*	**0.2**	*2.7*	*2.8*
Electricity (billion kilowatthours)							
Utility Sales [d]	**3240**	**3265**	*3322*	*3390*	**0.8**	*1.7*	*2.0*
Nonutility Own Use [e]	**156**	**169**	*179*	*183*	**8.3**	*5.9*	*2.2*
Total	**3396**	**3434**	*3501*	*3572*	**1.1**	*2.0*	*2.0*
Total Energy Demand [f]							
(quadrillion Btu)...	**94.4**	**96.1**	*97.7*	*99.9*	**1.8**	*1.7*	*2.3*
Total Energy Demand per Dollar of GDP							
(thousand Btu per 1996 Dollar)	**11.09**	**10.84**	*10.60*	*10.50*	**-2.3**	*-2.2*	*-0.9*
Renewable Energy as Percent of Total [g] ...	**7.0**	**6.9**	*6.8*	*6.6*			

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

[b] Includes lease condensate.

[c] Total Demand includes estimated Independent Power Producer (IPP) coal consumption.

[d] Total annual electric utility sales for historical periods are initially 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." Final annual totals are taken from compilations from Form EIA -861, ":Annual Electric Utility Report."

[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 1999 are estimates.

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

[g] Renewable energy includes minor components of non-marketed renewable energy, which is renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy. The Energy Information Administration does not estimate or project total consumption of non-marketed renewable energy.

SPR: Strategic Petroleum Reserve.

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

Sources: Historical data: Latest data available from Bureau of Economic Analysis and Energy Information Administration; latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Quarterly Coal Report*, DOE/EIA-0121; *International Petroleum Statistics Report* DOE/EIA-0520; *Weekly Petroleum Status Report,* DOE/EIA-0208. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0300.

Table 1. U.S. Macroeconomic and Weather Assumptions

	1999 1st	2nd	3rd	4th	2000 1st	2nd	3rd	4th	2001 1st	2nd	3rd	4th	Year 1999	2000	2001
Macroeconomic [a]															
Real Gross Domestic Product (billion chained 1996 dollars - SAAR)	8738	8779	8901	9051	9133	9191	9244	9306	9393	9472	9555	9637	8867	9219	9514
Percentage Change from Prior Year	3.9	3.8	4.3	4.5	4.5	4.7	3.9	2.8	2.8	3.1	3.4	3.6	4.1	4.0	3.2
Annualized Percent Change from Prior Quarter	3.6	1.9	5.6	6.8	3.6	2.6	2.3	2.7	3.7	3.4	3.5	3.4			
GDP Implicit Price Deflator (Index, 1996=1.000)	1.038	1.041	1.044	1.049	1.056	1.059	1.063	1.067	1.072	1.075	1.079	1.084	1.043	1.061	1.077
Percentage Change from Prior Year	1.3	1.4	1.3	1.6	1.7	1.7	1.8	1.7	1.5	1.4	1.5	1.6	1.4	1.7	1.5
Real Disposable Personal Income (billion chained 1996 Dollars - SAAR)	6289	6339	6385	6455	6528	6596	6653	6702	6779	6846	6919	6974	6367	6620	6880
Percentage Change from Prior Year	4.3	4.1	3.7	3.7	3.8	4.1	4.2	3.8	3.8	3.8	4.0	4.1	4.0	4.0	3.9
Manufacturing Production (Index, 1992=1.000)	1.392	1.409	1.425	1.448	1.463	1.463	1.462	1.466	1.476	1.493	1.513	1.532	1.418	1.464	1.504
Percentage Change from Prior Year	3.5	4.1	4.4	4.7	5.1	3.9	2.6	1.2	0.9	2.1	3.5	4.5	4.2	3.2	2.7
OECD Economic Growth (percent) [b]													2.6	2.7	2.7
Weather [c]															
Heating Degree-Days U.S.	2153	489	79	1456	2014	522	85	1622	2235	522	85	1622	4177	4244	4464
New England	3040	784	86	2097	3038	894	167	2240	3179	893	167	2239	6007	6339	6478
Middle Atlantic	2816	628	68	1822	2692	709	104	2004	2897	708	104	2004	5334	5509	5712
U.S. Gas-Weighted	2275	517	84	1533	2066	546	95	1714	2348	545	96	1714	4409	4422	4703
Cooling Degree-Days (U.S.)	35	353	831	58	35	344	783	75	31	345	783	75	1277	1236	1234

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

[b]OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

[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.

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*. Projections of OECD growth are based on WEFA Group, "World Economic Outlook," Volume 1. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0300.

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

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Macroeconomic [a]															
Real Fixed Investment															
(billion chained 1996 dollars-SAAR)	**1556**	**1581**	**1607**	**1616**	*1673*	*1700*	*1710*	*1724*	*1749*	*1772*	*1788*	*1810*	**1590**	*1702*	*1780*
Real Exchange Rate															
(index)	**1.134**	**1.170**	**1.163**	**1.145**	*1.169*	*1.153*	*1.159*	*1.156*	*1.136*	*1.111*	*1.090*	*1.071*	**1.153**	*1.159*	*1.102*
Business Inventory Change															
(billion chained 1996 dollars-SAAR)	**0.0**	**-8.3**	**1.7**	**10.2**	*11.7*	*11.3*	*9.8*	*6.7*	*7.0*	*9.7*	*14.3*	*18.9*	**0.9**	*9.9*	*12.5*
Producer Price Index															
(index, 1982=1.000)	**1.228**	**1.245**	**1.268**	**1.278**	*1.299*	*1.304*	*1.304*	*1.304*	*1.308*	*1.306*	*1.308*	*1.311*	**1.255**	*1.303*	*1.308*
Consumer Price Index															
(index, 1982-1984=1.000)....................	**1.649**	**1.662**	**1.672**	**1.684**	*1.699*	*1.711*	*1.719*	*1.725*	*1.734*	*1.740*	*1.750*	*1.760*	**1.667**	*1.714*	*1.746*
Petroleum Product Price Index															
(index, 1982=1.000)	**0.446**	**0.591**	**0.682**	**0.719**	*0.858*	*0.834*	*0.786*	*0.753*	*0.765*	*0.734*	*0.718*	*0.694*	**0.610**	*0.808*	*0.728*
Non-Farm Employment															
(millions)	**127.7**	**128.2**	**128.9**	**129.6**	*130.3*	*131.0*	*131.5*	*131.8*	*132.3*	*132.7*	*133.3*	*133.8*	**128.6**	*131.2*	*133.0*
Commercial Employment															
(millions)	**88.5**	**89.2**	**89.8**	**90.4**	*91.0*	*91.5*	*92.1*	*92.7*	*93.3*	*93.8*	*94.3*	*94.9*	**89.5**	*91.8*	*94.1*
Total Industrial Production															
(index, 1992=1.000)	**1.346**	**1.361**	**1.377**	**1.396**	*1.412*	*1.415*	*1.414*	*1.418*	*1.428*	*1.442*	*1.459*	*1.475*	**1.370**	*1.415*	*1.451*
Housing Stock															
(millions)	**115.4**	**115.8**	**116.0**	**116.1**	*116.5*	*116.8*	*117.1*	*117.5*	*117.8*	*118.1*	*118.4*	*118.7*	**115.8**	*117.0*	*118.3*
Miscellaneous															
Gas Weighted Industrial Production															
(index, 1992=1.000)	**1.179**	**1.176**	**1.186**	**1.210**	*1.212*	*1.214*	*1.207*	*1.206*	*1.211*	*1.221*	*1.232*	*1.241*	**1.188**	*1.210*	*1.226*
Vehicle Miles Traveled [b]															
(million miles/day)...............................	**6725**	**7556**	**7706**	**7358**	*6927*	*7627*	*7817*	*7363*	*7048*	*7765*	*7938*	*7523*	**7339**	*7434*	*7571*
Vehicle Fuel Efficiency															
(index, 1999=1.000)	**0.990**	**0.993**	**1.010**	**1.007**	*1.016*	*0.989*	*1.008*	*0.997*	*0.993*	*0.998*	*1.010*	*1.008*	**1.000**	*1.002*	*1.002*
Real Vehicle Fuel Cost															
(cents per mile).................................	**2.98**	**3.35**	**3.51**	**3.76**	*4.08*	*4.30*	*3.96*	*3.91*	*3.82*	*3.70*	*3.62*	*3.61*	**3.40**	*4.06*	*3.69*
Air Travel Capacity															
(mill. available ton-miles/day)..............	**431.0**	**452.4**	**467.2**	**466.6**	*465.5*	*468.5*	*483.7*	*472.7*	*484.9*	*484.1*	*500.1*	*489.6*	**454.4**	*472.6*	*489.7*
Aircraft Utilization															
(mill. revenue ton-miles/day)...............	**242.2**	**263.4**	**276.3**	**260.6**	*259.9*	*277.0*	*289.6*	*273.8*	*267.2*	*283.7*	*298.8*	*285.1*	**260.7**	*275.1*	*283.8*
Airline Ticket Price Index															
(index, 1982-1984=1.000)....................	**2.130**	**2.186**	**2.180**	**2.254**	*2.251*	*2.284*	*2.299*	*2.330*	*2.369*	*2.376*	*2.380*	*2.405*	**2.188**	*2.291*	*2.383*
Raw Steel Production															
(millions tons)	**25.11**	**25.97**	**26.26**	**26.28**	*26.23*	*26.35*	*26.25*	*26.62*	*26.88*	*27.20*	*27.07*	*27.47*	**103.63**	*105.45*	*108.61*

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case.
[b]Includes all highway travel.
SAAR: Seasonally-adjusted annualized rate.
Note: Historical data are printed in bold; forecasts are in italics.
Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release* G.17(419); U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0300.

Table 3. International Petroleum Supply and Demand: Mid World Oil Price Case

(Million Barrels per Day, Except OECD Commercial Stocks)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Demand [a]															
OECD															
U.S. (50 States)	19.2	19.2	19.7	19.8	18.9	19.5	19.8	20.1	20.0	19.8	20.1	20.4	19.5	19.6	20.1
U.S. Territories	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3
Canada	1.9	1.8	1.9	1.9	1.9	1.8	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	2.0
Europe	15.3	13.8	14.1	15.2	15.0	14.1	14.6	15.3	15.2	14.2	14.8	15.5	14.6	14.7	14.9
Japan	6.2	5.0	5.2	5.7	6.2	5.1	5.3	5.7	6.2	5.1	5.3	5.7	5.5	5.6	5.6
Australia and New Zealand	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.0
Total OECD	43.8	41.1	42.3	44.0	43.3	41.7	43.0	44.5	44.7	42.3	43.6	45.0	42.8	43.1	43.9
Non-OECD															
Former Soviet Union	3.8	3.5	3.6	3.7	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.6	3.7	3.7
Europe	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.7
China	4.4	4.3	4.3	4.3	4.6	4.5	4.5	4.5	4.8	4.8	4.7	4.8	4.3	4.5	4.8
Other Asia	8.8	8.9	8.7	9.0	9.2	9.2	8.9	9.3	9.6	9.6	9.3	9.7	8.9	9.1	9.6
Other Non-OECD	13.3	13.6	13.6	13.6	13.6	13.9	14.0	13.9	14.0	14.3	14.4	14.3	13.5	13.9	14.3
Total Non-OECD	31.9	31.8	31.7	32.2	32.8	32.8	32.6	33.0	33.9	34.0	33.7	34.2	31.9	32.8	34.0
Total World Demand	75.7	72.9	73.9	76.2	76.1	74.6	75.6	77.4	78.6	76.4	77.3	79.2	74.7	75.9	77.8
Supply [b]															
OECD															
U.S. (50 States)	8.9	9.0	9.0	9.2	9.0	8.9	8.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Canada	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.6	2.7	2.7
North Sea [c]	6.3	6.0	6.2	6.7	6.7	6.5	6.6	6.8	6.9	6.7	7.0	7.2	6.3	6.7	6.9
Other OECD	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.5	1.6	1.6
Total OECD	19.3	19.0	19.3	20.1	20.0	19.7	19.8	20.2	20.2	20.0	20.3	20.6	19.5	19.9	20.3
Non-OECD															
OPEC	30.3	28.9	29.2	28.7	29.1	30.4	30.6	31.3	31.6	31.7	32.0	32.3	29.3	30.4	31.9
Former Soviet Union	7.2	7.3	7.4	7.5	7.4	7.3	7.3	7.4	7.4	7.3	7.4	7.4	7.4	7.4	7.4
China	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.3
Mexico	3.6	3.4	3.3	3.3	3.3	3.4	3.6	3.6	3.7	3.7	3.7	3.8	3.4	3.5	3.7
Other Non-OECD	11.1	11.0	11.0	11.1	11.2	11.3	11.3	11.4	11.5	11.6	11.7	11.8	11.0	11.3	11.6
Total Non-OECD	55.4	53.7	54.2	53.7	54.1	55.5	56.1	57.0	57.5	57.5	58.0	58.5	54.2	55.7	57.9
Total World Supply	74.8	72.7	73.5	73.8	74.1	75.2	76.0	77.2	77.7	77.6	78.4	79.1	73.7	75.6	78.2
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.3	-0.2	0.3	1.3	0.2	-0.7	-0.3	0.4	0.1	-0.6	-0.3	0.5	0.4	-0.1	-0.1
Other	0.6	0.3	0.1	1.0	1.8	0.0	-0.1	-0.1	0.8	-0.6	-0.8	-0.4	0.5	0.4	-0.3
Total Stock Withdrawals	0.9	0.1	0.4	2.4	1.9	-0.6	-0.4	0.2	0.9	-1.2	-1.1	0.1	1.0	0.3	-0.3
OECD Comm. Stocks, End (bill. bbls.)	2.8	2.8	2.8	2.6	2.5	2.6	2.6	2.6	2.5	2.6	2.7	2.6	2.6	2.6	2.6
Non-OPEC Supply	44.4	43.9	44.3	45.1	45.0	44.9	45.3	45.9	46.1	45.8	46.4	46.8	44.4	45.3	46.3
Net Exports from Former Soviet Union	3.4	3.8	3.9	3.7	3.6	3.7	3.7	3.8	3.6	3.6	3.7	3.7	3.7	3.7	3.7

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

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

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

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

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

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

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

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Imported Crude Oil [a]															
(dollars per barrel)..................................	**10.92**	**15.44**	**19.62**	**23.05**	_26.29_	_25.29_	_24.56_	_23.93_	_22.84_	_21.99_	_21.93_	_21.34_	**17.22**	_24.97_	_22.02_
Natural Gas Wellhead															
(dollars per thousand cubic feet)...........	**1.74**	**2.00**	**2.28**	**2.36**	_2.31_	_2.58_	_2.60_	_2.74_	_2.64_	_2.51_	_2.51_	_2.79_	**2.10**	_2.56_	_2.61_
Petroleum Products															
Gasoline Retail [b] (dollars per gallon)															
All Grades..	**0.99**	**1.17**	**1.25**	**1.30**	_1.44_	_1.53_	_1.45_	_1.37_	_1.34_	_1.36_	_1.35_	_1.30_	**1.18**	_1.45_	_1.34_
Regular Unleaded	**0.95**	**1.13**	**1.21**	**1.26**	_1.40_	_1.50_	_1.42_	_1.33_	_1.30_	_1.32_	_1.32_	_1.27_	**1.14**	_1.41_	_1.30_
No. 2 Diesel Oil, Retail															
(dollars per gallon).................................	**0.97**	**1.08**	**1.18**	**1.26**	_1.44_	_1.41_	_1.35_	_1.34_	_1.30_	_1.27_	_1.25_	_1.26_	**1.12**	_1.38_	_1.27_
No. 2 Heating Oil, Wholesale															
(dollars per gallon).................................	**0.36**	**0.44**	**0.56**	**0.65**	_0.87_	_0.73_	_0.71_	_0.72_	_0.69_	_0.64_	_0.64_	_0.65_	**0.51**	_0.76_	_0.66_
No. 2 Heating Oil, Retail															
(dollars per gallon).................................	**0.80**	**0.83**	**0.84**	**1.01**	_1.34_	_1.12_	_1.02_	_1.06_	_1.07_	_1.02_	_0.95_	_1.01_	**0.87**	_1.19_	_1.03_
No. 6 Residual Fuel Oil, Retail [c]															
(dollars per barrel).................................	**11.28**	**14.02**	**17.97**	**21.06**	_25.01_	_23.78_	_23.14_	_23.67_	_22.71_	_20.48_	_20.27_	_20.95_	**15.86**	_23.89_	_21.16_
Electric Utility Fuels															
Coal															
(dollars per million Btu)	**1.24**	**1.23**	**1.21**	**1.21**	_1.22_	_1.23_	_1.21_	_1.21_	_1.22_	_1.23_	_1.21_	_1.20_	**1.22**	_1.22_	_1.21_
Heavy Fuel Oil [d]															
(dollars per million Btu)	**1.72**	**2.26**	**2.82**	**3.25**	_3.84_	_3.86_	_3.87_	_3.81_	_3.51_	_3.33_	_3.40_	_3.38_	**2.38**	_3.84_	_3.41_
Natural Gas															
(dollars per million Btu)	**2.19**	**2.42**	**2.73**	**2.92**	_3.05_	_3.18_	_3.17_	_3.34_	_3.37_	_3.13_	_3.10_	_3.42_	**2.59**	_3.19_	_3.21_
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)..........	**6.06**	**6.84**	**8.55**	**7.12**	_6.64_	_7.47_	_9.01_	_7.32_	_7.12_	_7.76_	_9.09_	_7.40_	**6.68**	_7.16_	_7.45_
Electricity															
(cents per kilowatthour)........................	**7.79**	**8.28**	**8.43**	**8.14**	_7.71_	_8.07_	_8.32_	_7.85_	_7.44_	_8.04_	_8.29_	_7.82_	**8.17**	_8.00_	_7.91_

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] Average self-service cash prices.
[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 fourth quarter of 1999. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
   Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: _Petroleum Marketing Monthly_, DOE/EIA-0380; _Natural Gas Monthly_, DOE/EIA-0130; _Monthly Energy Review_, DOE/EIA-0035; _Electric Power Monthly_, DOE/EIA-0226.

Table 5. U.S. Petroleum Supply and Demand: Mid World Oil Price Case

(Million Barrels per Day, Except Closing Stocks)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Crude Oil Supply															
Domestic Production [a]	6.00	5.95	5.87	5.89	5.83	5.75	5.71	5.82	5.84	5.77	5.76	5.77	5.93	5.78	5.79
Alaska	1.13	1.04	0.98	1.05	1.02	0.93	0.89	0.92	0.91	0.87	0.91	0.91	1.05	0.94	0.90
Lower 48	4.86	4.91	4.89	4.84	4.82	4.82	4.82	4.90	4.93	4.90	4.85	4.86	4.88	4.84	4.88
Net Imports (including SPR) [b]	8.41	8.88	8.84	8.19	8.02	9.67	9.74	9.42	9.16	9.74	9.71	9.40	8.58	9.21	9.50
Other SPR Supply	0.00	0.00	0.07	0.10	0.03	0.04	0.07	0.07	0.00	0.00	0.00	0.00	0.04	0.05	0.00
SPR Stock Withdrawn or Added (-)	-0.01	-0.03	-0.01	0.09	-0.02	-0.09	-0.14	-0.14	0.00	0.00	0.00	0.00	0.01	-0.10	0.00
Other Stock Withdrawn or Added (-)	-0.23	0.15	0.30	0.21	-0.13	-0.04	0.18	0.05	-0.19	-0.04	0.19	0.02	0.11	0.02	-0.01
Product Supplied and Losses	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
Unaccounted-for Crude Oil	0.26	0.04	0.21	0.23	0.40	0.22	0.22	0.21	0.21	0.22	0.22	0.22	0.19	0.26	0.22
Total Crude Oil Supply	14.42	15.01	15.22	14.57	14.09	15.47	15.65	15.29	15.02	15.69	15.89	15.40	14.80	15.13	15.50
Other Supply															
NGL Production	1.72	1.81	1.89	1.94	1.93	1.88	1.89	1.91	1.92	1.93	1.92	1.93	1.84	1.90	1.93
Other Hydrocarbon and Alcohol Inputs	0.37	0.37	0.38	0.39	0.37	0.36	0.36	0.38	0.37	0.36	0.36	0.38	0.38	0.37	0.37
Crude Oil Product Supplied	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
Processing Gain	0.86	0.86	0.89	0.97	0.91	0.93	0.91	0.90	0.86	0.91	0.92	0.90	0.90	0.91	0.90
Net Product Imports [c]	1.32	1.44	1.28	0.88	1.27	1.36	1.38	1.20	1.46	1.50	1.44	1.33	1.23	1.30	1.43
Product Stock Withdrawn or Added (-) [c]	0.54	-0.33	0.04	1.04	0.31	-0.54	-0.35	0.46	0.32	-0.60	-0.45	0.44	0.32	-0.03	-0.07
Total Supply	19.23	19.16	19.69	19.79	18.88	19.46	19.83	20.15	19.96	19.79	20.09	20.39	19.47	19.58	20.06
Demand															
Motor Gasoline	7.95	8.59	8.59	8.54	7.98	8.71	8.73	8.63	8.31	8.78	8.85	8.72	8.42	8.51	8.67
Jet Fuel	1.69	1.61	1.68	1.70	1.61	1.70	1.77	1.79	1.78	1.72	1.77	1.79	1.67	1.72	1.77
Distillate Fuel Oil	3.71	3.36	3.40	3.74	3.75	3.56	3.48	3.72	3.91	3.58	3.52	3.78	3.55	3.63	3.70
Residual Fuel Oil	0.98	0.79	0.84	0.77	0.70	0.59	0.71	0.79	0.88	0.74	0.74	0.81	0.84	0.70	0.79
Other Oils [d]	4.90	4.80	5.18	5.04	4.84	4.91	5.15	5.22	5.08	4.98	5.20	5.29	4.98	5.03	5.14
Total Demand	19.23	19.16	19.69	19.79	18.89	19.46	19.83	20.15	19.96	19.79	20.09	20.39	19.47	19.58	20.06
Total Petroleum Net Imports	9.72	10.32	10.12	9.07	9.28	11.03	11.11	10.62	10.62	11.24	11.16	10.73	9.81	10.52	10.94
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	345	331	304	284	296	300	283	278	295	299	282	280	284	278	280
Total Motor Gasoline	216	215	204	190	198	196	189	192	198	198	195	200	190	192	200
Finished Motor Gasoline	169	171	159	152	153	156	149	152	153	158	154	159	152	152	159
Blending Components	48	43	44	39	45	40	40	40	45	41	41	41	39	40	41
Jet Fuel	42	47	49	40	41	43	45	43	41	43	45	43	40	43	43
Distillate Fuel Oil	125	132	144	124	98	112	130	130	101	113	132	132	124	130	132
Residual Fuel Oil	40	43	41	36	34	36	38	39	36	37	39	41	36	39	41
Other Oils [e]	280	298	293	244	235	270	287	241	241	280	302	257	244	241	257
Total Stocks (excluding SPR)	1048	1065	1033	919	903	955	971	924	912	971	995	953	919	924	953
Crude Oil in SPR	572	575	575	567	569	577	590	603	603	603	603	603	567	603	603
Total Stocks (including SPR)	1620	1640	1609	1486	1472	1533	1561	1527	1516	1574	1598	1556	1486	1527	1556

[a] Includes lease condensate.

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

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

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

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding, with the following exception: recent petroleum demand and supply data displayed here reflect the incorporation of resubmissions of the data as reported in EIA's *Petroleum Supply Monthly*, TableC1. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

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

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

Demand Sector	+1% GDP	+ 10% Prices		+ 10% Weather [e]	
		Crude Oil [c]	N.Gas Wellhead [d]	Fall/Winter [f]	Spring/Summer [f]
Petroleum					
Total....................................	0.6%	-0.3%	0.1%	1.1%	0.1%
Motor Gasoline	0.1%	-0.3%	0.0%	0.0%	0.0%
Distillate Fuel...........................	0.8%	-0.2%	0.0%	2.7%	0.1%
Residual Fuel..........................	1.6%	-3.4%	2.6%	2.0%	2.7%
Natural Gas					
Total....................................	1.1%	0.3%	-0.4%	4.4%	1.0%
Residential..............................	0.1%	0.0%	0.0%	8.2%	0.0%
Commercial..............................	0.9%	0.0%	0.0%	7.3%	0.0%
Industrial.................................	1.7%	0.2%	-0.5%	1.3%	0.0%
Electric Utility	1.8%	1.6%	-1.5%	1.0%	4.0%
Coal					
Total....................................	0.7%	0.0%	0.0%	1.7%	1.7%
Electric Utility	0.6%	0.0%	0.0%	1.9%	1.9%
Electricity					
Total....................................	0.6%	0.0%	0.0%	1.5%	1.7%
Residential..............................	0.1%	0.0%	0.0%	3.2%	3.6%
Commercial..............................	0.9%	0.0%	0.0%	1.0%	1.4%
Industrial.................................	0.8%	0.0%	0.0%	0.3%	0.2%

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

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

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.24	5.31	0.93	0.08	0.85
Lower 48 States..	5.31	4.41	0.90	0.07	0.83
Alaska..	0.93	0.90	0.03	0.02	0.02

Note: Components provided are for the fourth quarter 2001. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

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

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Total Dry Gas Production	4.68	4.67	4.66	4.70	4.74	4.71	4.72	4.72	4.72	4.73	4.75	4.75	**18.71**	*18.89*	*18.94*
Net Imports	0.83	0.79	0.87	0.89	0.93	0.88	0.93	0.93	0.93	0.94	0.95	0.95	**3.39**	*3.67*	*3.77*
Supplemental Gaseous Fuels	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	**0.10**	*0.12*	*0.13*
Total New Supply	5.54	5.49	5.56	5.62	5.70	5.61	5.68	5.68	5.68	5.71	5.72	5.73	**22.21**	*22.67*	*22.84*
Total Underground Storage															
Opening	7.04	5.79	6.50	7.24	6.88	5.52	6.29	7.19	6.75	5.42	6.26	7.16	**7.04**	*6.88*	*6.75*
Closing	5.79	6.50	7.24	6.88	5.52	6.29	7.19	6.75	5.42	6.26	7.16	6.72	**6.88**	*6.75*	*6.72*
Net Withdrawals	1.25	-0.71	-0.74	0.36	1.36	-0.76	-0.90	0.44	1.33	-0.84	-0.90	0.44	**0.16**	*0.13*	*0.03*
Total Supply	6.79	4.78	4.81	5.99	7.06	4.85	4.77	6.12	7.01	4.87	4.82	6.17	**22.37**	*22.81*	*22.87*
Balancing Item [a]	0.00	-0.05	-0.27	-0.62	-0.24	-0.01	-0.09	-0.29	0.32	0.19	-0.04	-0.27	**-0.95**	*-0.64*	*0.20*
Total Primary Supply	6.79	4.72	4.54	5.36	6.82	4.84	4.68	5.83	7.32	5.06	4.78	5.91	**21.42**	*22.17*	*23.08*
Demand															
Lease and Plant Fuel	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	**1.23**	*1.23*	*1.23*
Pipeline Use	0.20	0.14	0.14	0.16	0.20	0.14	0.14	0.17	0.21	0.15	0.14	0.18	**0.64**	*0.65*	*0.67*
Residential	2.24	0.81	0.38	1.24	2.15	0.80	0.36	1.40	2.41	0.84	0.36	1.41	**4.67**	*4.70*	*5.02*
Commercial	1.26	0.58	0.43	0.82	1.27	0.60	0.43	0.90	1.40	0.63	0.44	0.92	**3.09**	*3.20*	*3.39*
Industrial (Incl. Nonutility Use)	2.24	2.03	2.13	2.25	2.34	2.16	2.22	2.40	2.42	2.24	2.28	2.46	**8.66**	*9.12*	*9.40*
Electric Utilities	*0.54*	*0.85*	*1.15*	0.59	0.55	0.84	1.23	0.65	0.57	0.91	1.25	0.63	**3.13**	*3.27*	*3.36*
Total Demand	6.79	4.72	4.54	5.36	6.82	4.84	4.68	5.83	7.32	5.06	4.78	5.91	**21.42**	*22.17*	*23.08*

[a]The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.
Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

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

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

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Production	283.5	264.0	273.9	272.6	281.2	269.4	276.6	285.3	283.7	284.7	277.5	283.5	1094.0	1112.6	1129.4
Appalachia	114.8	103.4	103.0	102.1	112.0	103.4	101.5	104.6	111.2	107.0	99.6	101.7	423.3	421.5	419.4
Interior	40.4	40.8	42.4	38.9	38.4	40.2	41.1	38.9	37.1	40.8	39.5	36.8	162.5	158.5	154.3
Western..	128.3	119.8	128.5	131.6	130.8	125.9	134.0	141.9	135.5	136.9	138.4	144.9	508.2	532.6	555.7
Primary Stock Levels [a]															
Opening...	36.5	42.4	41.5	35.1	36.4	41.3	41.9	35.5	36.4	41.3	41.9	35.5	36.5	36.4	36.4
Closing..	42.4	41.5	35.1	36.4	41.3	41.9	35.5	36.4	41.3	41.9	35.5	34.6	36.4	36.4	34.6
Net Withdrawals............................	-5.8	0.8	6.5	-1.3	-4.9	-0.6	6.4	-0.9	-4.9	-0.6	6.4	0.9	0.1	(S)	1.7
Imports...	2.2	2.1	2.4	2.4	2.5	2.5	2.5	2.6	2.9	2.9	2.9	2.9	9.1	10.2	11.6
Exports	13.0	14.4	16.1	15.0	14.8	15.0	15.2	15.2	14.9	15.1	15.3	15.2	58.5	60.2	60.5
Total Net Domestic Supply.............	267.0	252.5	266.6	258.6	264.1	256.4	270.3	271.9	266.8	271.9	271.4	272.0	1044.7	1062.6	1082.2
Secondary Stock Levels [b]															
Opening...	129.4	144.1	152.9	139.8	143.9	149.0	158.0	143.5	149.4	145.2	157.5	141.7	129.4	143.9	149.4
Closing..	144.1	152.9	139.8	143.9	149.0	158.0	143.5	149.4	145.2	157.5	141.7	144.4	143.9	149.4	144.4
Net Withdrawals............................	-14.7	-8.7	13.1	-4.1	-5.1	-9.0	14.5	-5.8	4.1	-12.3	15.8	-2.7	-14.5	-5.4	5.0
Waste Coal Supplied to IPPs [c]	2.1	2.2	2.5	2.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	9.6	12.2	12.2
Total Supply...	254.4	246.0	282.2	257.3	262.1	250.4	287.8	269.1	274.0	262.7	290.3	272.4	1039.8	1069.4	1099.4
Demand															
Coke Plants..	6.8	7.1	7.0	7.0	7.1	6.9	6.9	7.0	7.2	7.0	7.0	7.1	27.9	27.8	28.2
Electricity Production															
Electric Utilities..................................	217.3	214.7	247.9	216.8	222.0	211.5	248.1	226.9	232.4	223.8	250.7	229.9	896.6	908.5	936.8
Nonutilities (Excl. Cogen.) [d]	8.3	10.2	12.3	15.2	14.9	14.6	15.4	15.3	15.5	14.6	15.4	15.3	45.9	60.1	60.7
Retail and General Industry................	18.6	17.1	16.9	17.6	18.2	17.4	17.5	19.9	19.0	17.3	17.3	20.1	70.3	73.0	73.7
Total Demand [e]	251.0	249.1	284.1	256.6	262.1	250.4	287.8	269.1	274.0	262.7	290.3	272.4	1040.8	1069.5	1099.4
Discrepancy [f]	3.4	-3.2	-1.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0

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

[b] Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

[c] Estimated independent power producers' (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

[d] Estimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 1999 and projections for 2000 and 2001 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1998 and 1999, and (2) annual coal-fired generation at nonutilities from Form EIA-867 (Annual Nonutility Power Producer Report).

[e] Total Demand includes estimated IPP consumption.

[f] The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

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

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

Table 10. U.S. Electricity Supply and Demand: Mid World Oil Price Case

(Billion Kilowatt-hours)

	1999				2000				2001				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1999	2000	2001
Supply															
Net Utility Generation															
Coal	431.7	426.5	489.0	426.3	440.9	419.3	490.1	447.6	459.8	443.0	493.3	452.0	1773.5	1798.0	1848.1
Petroleum	26.9	23.0	27.8	12.0	16.8	8.8	19.2	18.5	23.8	18.8	22.0	21.2	89.7	63.3	85.7
Natural Gas	52.0	81.3	107.7	56.4	52.7	80.3	117.4	61.8	54.5	86.8	119.7	60.1	297.3	312.2	321.1
Nuclear	181.2	166.1	195.0	182.6	188.4	184.5	184.3	166.1	180.8	164.1	192.7	173.7	725.0	723.3	711.2
Hydroelectric	83.4	79.8	69.8	60.7	75.4	78.6	65.4	61.9	72.8	74.5	62.0	61.1	293.7	281.3	270.4
Geothermal and Other [a]	1.6	1.0	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	3.6	2.2	2.2
Subtotal	776.8	777.7	889.9	738.6	774.8	772.0	877.0	756.5	792.3	787.6	890.3	768.6	3182.9	3180.4	3238.8
Nonutility Generation [b]															
Coal	20.6	24.7	33.6	35.4	30.4	29.5	31.8	32.9	30.9	30.0	32.3	33.4	114.3	124.6	126.6
Petroleum	6.5	7.2	7.4	4.5	7.8	7.5	8.1	9.1	7.7	7.5	8.1	9.1	25.6	32.5	32.5
Natural Gas	52.0	57.1	73.4	65.9	53.2	63.8	80.8	70.2	56.0	67.2	85.2	74.0	248.4	267.9	282.4
Other Gaseous Fuels [c]	1.9	2.1	2.7	2.4	2.0	1.9	2.0	2.3	2.0	1.9	2.1	2.3	9.1	8.1	8.2
Nuclear	0.0	0.0	0.8	2.1	3.1	3.1	3.1	2.8	3.0	2.7	3.2	2.9	2.9	12.0	11.8
Hydroelectric	3.4	3.4	2.4	2.6	2.7	2.8	2.7	3.2	2.8	2.8	2.8	3.2	11.9	11.4	11.7
Geothermal and Other [d]	18.7	20.1	21.0	19.5	20.6	19.7	21.8	24.4	20.9	20.0	22.1	24.7	79.4	86.5	87.7
Subtotal	103.2	114.7	141.3	132.3	119.8	128.2	150.3	144.8	123.3	132.2	155.8	149.6	491.5	543.1	561.0
Total Generation	879.9	892.4	1031.2	870.9	894.6	900.2	1027.4	901.3	915.6	919.8	1046.1	918.2	3674.5	3723.4	3799.7
Net Imports [e]	2.0	7.6	11.5	8.2	6.7	7.6	9.0	7.2	6.2	7.7	10.5	7.0	29.3	30.5	31.4
Total Supply	881.9	900.0	1042.7	879.2	901.3	907.8	1036.4	908.5	921.8	927.5	1056.6	925.2	3703.8	3753.9	3831.1
Losses and Unaccounted for [f]	62.0	85.9	65.2	56.2	50.2	78.4	63.4	61.2	51.6	80.0	64.7	62.4	269.3	253.2	258.7
Demand															
Electric Utility Sales															
Residential	286.0	249.2	349.5	254.8	292.8	256.2	340.1	267.7	306.2	265.3	348.3	273.0	1139.5	1156.8	1192.8
Commercial	226.0	236.5	277.6	235.1	236.3	239.8	279.6	241.4	241.3	245.3	285.2	245.9	975.2	997.1	1017.8
Industrial	248.5	264.6	274.6	262.7	256.9	266.2	275.9	264.7	256.2	267.9	278.8	268.4	1050.4	1063.6	1071.3
Other	23.9	24.4	27.3	24.7	25.8	25.1	27.9	25.8	26.2	25.8	28.8	26.7	100.3	104.6	107.6
Subtotal	784.4	774.6	928.9	777.4	811.8	787.2	923.5	799.6	830.0	804.4	941.1	814.1	3265.4	3322.1	3389.6
Nonutility Own Use [g]	35.5	39.5	48.6	45.5	39.4	42.2	49.5	47.6	40.2	43.1	50.8	48.8	169.1	178.6	182.9
Total Demand	819.9	814.1	977.6	822.9	851.2	829.4	972.9	847.3	870.2	847.5	991.9	862.9	3434.5	3500.7	3572.4
Memo:															
Nonutility Sales to Electric Utilities [b]	67.7	75.2	92.7	86.8	80.4	86.0	100.9	97.2	83.1	89.1	105.0	100.8	322.4	364.4	378.1

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

[b] Electricity(net Generation) from nonutility sources, including cogenerators and small power producers.

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

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

[e] Data for 1999 are estimates.

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

[g] 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 1999 are estimates.

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

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

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

	Year				Annual Percentage Change		
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001
Electric Utilities							
Hydroelectric Power [a]	**3.178**	**3.067**	*2.937*	*2.823*	**-3.5**	*-4.2*	*-3.9*
Geothermal, Solar and Wind Energy [b]	**0.109**	**0.036**	*0.004*	*0.004*	**-67.0**	*-88.9*	*0.0*
Biofuels [c]	**0.021**	**0.020**	*0.021*	*0.021*	**-4.8**	*5.0*	*0.0*
Total	**3.307**	**3.122**	*2.962*	*2.847*	**-5.6**	*-5.1*	*-3.9*
Nonutility Power Generators							
Hydroelectric Power [a]	**0.149**	**0.122**	*0.118*	*0.120*	**-18.1**	*-3.3*	*1.7*
Geothermal, Solar and Wind Energy [b]	**0.240**	**0.303**	*0.430*	*0.436*	**26.3**	*41.9*	*1.4*
Biofuels [c]	**0.523**	**0.649**	*0.653*	*0.663*	**24.1**	*0.6*	*1.5*
Total...	**0.912**	**1.074**	*1.201*	*1.219*	**17.8**	*11.8*	*1.5*
Total Power Generation	**4.219**	**4.196**	*4.163*	*4.067*	**-0.5**	*-0.8*	*-2.3*
Other Sectors [d]							
Residential and Commercial [e]	**0.568**	**0.574**	*0.583*	*0.583*	**1.1**	*1.6*	*0.0*
Industrial [f]	**1.515**	**1.542**	*1.569*	*1.569*	**1.8**	*1.8*	*0.0*
Transportation [g]	**0.095**	**0.101**	*0.098*	*0.100*	**6.3**	*-3.0*	*2.0*
Total...	**2.178**	**2.217**	*2.251*	*2.253*	**1.8**	*1.5*	*0.1*
Net Imported Electricity [h]	**0.224**	**0.237**	*0.247*	*0.254*	**5.8**	*4.2*	*2.8*
Total Renewable Energy Demand..............	**6.621**	**6.650**	*6.661*	*6.573*	**0.4**	*0.2*	*-1.3*

[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] Renewable energy includes minor components of non-marketed renewable energy, which is renewable energy that is neither bought nor sold, either directly or indirectly as inputs to marketed energy. The Energy Information Administration does not estimate or project total consumption of non-marketed renewable energy.

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

[f] onsists primarily of biofuels for use other than in electricity cogeneration.

[g] Ethanol blended into gasoline.

[h] Represents 78.6 percent of total electricity net imports, which is the proportion of total 1994 net imported electricity (0.459 quadrillion Btu) attributable to renewable sources (0.361 quadrillion Btu).

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

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

	Year														
	1987	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Real Gross Domestic Product (GDP)															
(billion chained 1996 dollars).....................	**6093**	**6349**	**6569**	**6684**	**6669**	**6891**	**7054**	**7338**	**7537**	**7813**	**8165**	**8516**	**8867**	*9219*	*9514*
Imported Crude Oil Price [a]															
(nominal dollars per barrel)	**18.13**	**14.57**	**18.08**	**21.75**	**18.70**	**18.20**	**16.14**	**15.52**	**17.14**	**20.61**	**18.50**	**12.08**	**17.22**	*24.97*	*22.02*
Petroleum Supply															
Crude Oil Production [b]															
(million barrels per day)	**8.35**	**8.14**	**7.61**	**7.36**	**7.42**	**7.17**	**6.85**	**6.66**	**6.56**	**6.46**	**6.45**	**6.25**	**5.93**	*5.78*	*5.79*
Total Petroleum Net Imports (including SPR)															
(million barrels per day)	**5.91**	**6.59**	**7.20**	**7.16**	**6.63**	**6.94**	**7.62**	**8.05**	**7.89**	**8.50**	**9.16**	**9.76**	**9.81**	*10.52*	*10.94*
Energy Demand															
World Petroleum															
(million barrels per day)	**63.1**	**64.9**	**65.9**	**66.0**	**66.6**	**66.8**	**67.0**	**68.3**	**69.9**	**71.4**	**73.1**	**73.6**	**74.7**	*75.9*	*77.8*
U.S. Petroleum															
(million barrels per day)	**16.72**	**17.34**	**17.37**	**17.04**	**16.77**	**17.10**	**17.24**	**17.72**	**17.72**	**18.31**	**18.62**	**18.92**	**19.47**	*19.58*	*20.06*
Natural Gas															
(trillion cubic feet)	**17.21**	**18.03**	**18.80**	**18.72**	**19.03**	**19.54**	**20.28**	**20.71**	**21.58**	**21.96**	**21.95**	**21.26**	**21.42**	*22.17*	*23.08*
Coal															
(million short tons)..	**830**	**877**	**891**	**897**	**898**	**907**	**943**	**950**	**962**	**1006**	**1029**	**1039**	**1041**	*1069*	*1099*
Electricity (billion kilowatthours)															
Utility Sales [c]	**2457**	**2578**	**2647**	**2713**	**2762**	**2763**	**2861**	**2935**	**3013**	**3098**	**3140**	**3240**	**3265**	*3322*	*3390*
Nonutility Own Use [d]	**NA**	**NA**	**91**	**113**	**119**	**122**	**127**	**138**	**145**	**145**	**148**	**156**	**169**	*179*	*183*
Total	**NA**	**NA**	**2738**	**2826**	**2881**	**2885**	**2988**	**3073**	**3159**	**3243**	**3288**	**3396**	**3434**	*3501*	*3572*
Total Energy Demand [e]															
(quadrillion Btu)	**NA**	**NA**	**84.2**	**84.2**	**84.5**	**85.6**	**87.4**	**89.2**	**90.9**	**93.9**	**94.2**	**94.4**	**96.1**	*97.7*	*99.9*
Total Energy Demand per Dollar of GDP															
(thousand Btu per 1992 Dollar)....................	**NA**	**NA**	**12.82**	**12.60**	**12.67**	**12.42**	**12.39**	**12.16**	**12.07**	**12.02**	**11.54**	**11.09**	**10.84**	*10.60*	*10.50*

[a]Refers to the imported cost of crude oil to U.S. refiners.

[b]Includes lease condensate.

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

[d]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1999 are estimates.

[e]"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, *Annual Energy Review*, 1997, DOE/EIA-0384(97) (AER), Table 1.1. Prior to 1990, some components of renewable energy consumption, particularly relating to consumption at nonutility electric generating facilities, were not available. For those years, a less comprehensive measure of total energy demand can be found in EIA's *AER*. 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*.

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

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

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Macroeconomic															
Real Gross Domestic Product (billion chained 1996 dollars)	6093	6349	6569	6684	6669	6891	7054	7338	7537	7813	8165	8516	8867	*9219*	*9514*
GDP Implicit Price Deflator (Index, 1996=1.000)	0.779	0.805	0.835	0.868	0.897	0.917	0.942	0.961	0.982	1.000	1.017	1.029	1.043	*1.061*	*1.077*
Real Disposable Personal Income (billion chained 1996 Dollars)	4563	4766	4885	4991	5026	5200	5254	5388	5533	5678	5885	6125	6367	*6620*	*6880*
Manufacturing Production (Index, 1992=1.000)	0.928	0.971	0.990	0.985	0.962	1.000	1.037	1.100	1.159	1.213	1.298	1.361	1.418	*1.464*	*1.504*
Real Fixed Investment (billion chained 1996 dollars)	856	887	911	895	833	887	958	1046	1109	1213	1316	1472	1590	*1702*	*1780*
Real Exchange Rate (Index, 1990=1.000)	NA	NA	NA	0.999	1.007	1.013	1.057	1.034	0.961	1.017	1.104	1.152	1.153	*1.159*	*1.102*
Business Inventory Change (billion chained 1996 dollars)	8.4	16.9	14.2	8.9	-6.8	-4.7	3.6	12.1	14.1	10.1	22.1	25.1	0.9	*9.9*	*12.5*
Producer Price Index (index, 1982=1.000)	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.248	1.277	1.276	1.244	1.255	*1.303*	*1.308*
Consumer Price Index (index, 1982-1984=1.000)	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	1.570	1.606	1.631	1.667	*1.714*	*1.746*
Petroleum Product Price Index (index, 1982=1.000)	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.608	0.701	0.680	0.513	0.610	*0.808*	*0.728*
Non-Farm Employment (millions)	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.1	117.2	119.6	122.7	125.8	128.6	*131.2*	*133.0*
Commercial Employment (millions)	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.1	78.8	81.1	83.9	86.6	89.5	*91.8*	*94.1*
Total Industrial Production (index, 1992=1.000)	0.932	0.974	0.991	0.989	0.970	1.000	1.034	1.091	1.144	1.195	1.270	1.324	1.370	*1.415*	*1.451*
Housing Stock (millions)	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.6	111.0	112.5	114.3	115.8	*117.0*	*118.3*
Weather [a]															
Heating Degree-Days															
U.S.	4334	4653	4726	4016	4200	4441	4700	4483	4531	4713	4542	3951	4177	*4244*	*4464*
New England	6546	6715	6887	5848	5960	6844	6728	6672	6559	6679	6662	5680	6007	*6339*	*6478*
Middle Atlantic	5699	6088	6134	4998	5177	5964	5948	5934	5831	5986	5809	4812	5334	*5509*	*5712*
U.S. Gas-Weighted	4391	4804	4856	4139	4337	4458	4754	4659	4707	4980	4802	4185	4409	*4422*	*4703*
Cooling Degree-Days (U.S.)	1269	1283	1156	1260	1331	1040	1218	1220	1293	1180	1156	1410	1277	*1236*	*1234*

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

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release* G.17(419); U.S. Department of Transportation; American Iron and Steel Institute. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0300.

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

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Demand [a]															
OECD															
U.S. (50 States)	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	18.3	18.6	18.9	19.5	19.6	20.1
Europe [b]	12.3	12.4	12.5	12.6	13.4	13.6	13.5	13.6	14.1	14.3	14.4	14.7	14.6	14.7	14.9
Japan	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.9	5.7	5.5	5.5	5.6	5.6
Other OECD	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.1	3.2	3.3	3.3
Total OECD	36.0	37.1	37.6	37.5	38.1	38.8	39.0	39.9	40.6	41.4	41.8	42.3	42.8	43.1	43.9
Non-OECD															
Former Soviet Union	9.0	8.9	8.7	8.4	8.3	6.8	5.6	4.8	4.6	4.0	3.9	3.8	3.6	3.7	3.7
Europe	2.2	2.2	2.1	1.9	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7
China	2.1	2.3	2.4	2.3	2.5	2.7	3.0	3.2	3.4	3.6	3.9	4.1	4.3	4.5	4.8
Other Asia	4.1	4.4	4.9	5.3	5.7	6.2	6.8	7.3	7.9	8.5	9.0	8.7	8.9	9.1	9.6
Other Non-OECD	9.7	10.0	10.3	10.5	10.6	11.0	11.4	11.8	12.1	12.4	13.0	13.3	13.5	13.9	14.3
Total Non-OECD	27.1	27.7	28.3	28.5	28.5	28.0	28.0	28.4	29.3	30.0	31.3	31.3	31.9	32.8	34.0
Total World Demand	63.1	64.9	66.0	66.0	66.6	66.8	67.0	68.3	69.9	71.4	73.1	73.6	74.7	75.9	77.8
Supply [c]															
OECD															
U.S. (50 States)	10.7	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.4	9.5	9.3	9.0	9.0	9.0
Canada	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.6	2.7	2.7
North Sea [d]	3.8	3.8	3.7	3.9	4.1	4.5	4.8	5.5	5.9	6.3	6.2	6.2	6.3	6.7	6.9
Other OECD	1.4	1.5	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.5	1.6	1.6
Total OECD	17.9	17.8	17.1	17.1	17.5	17.9	18.0	18.7	19.2	19.7	19.9	19.7	19.5	19.9	20.3
Non-OECD															
OPEC	19.6	21.5	23.3	24.5	24.6	25.8	26.6	27.0	27.6	28.3	29.9	30.4	29.3	30.4	31.9
Former Soviet Union	12.5	12.5	12.1	11.4	10.4	8.9	8.0	7.3	7.1	7.1	7.1	7.2	7.4	7.4	7.4
China	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	3.1	3.2	3.2	3.2	3.2	3.3
Mexico	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.1	3.3	3.4	3.5	3.4	3.5	3.7
Other Non-OECD	6.9	11.7	7.7	8.0	8.1	8.4	8.7	9.2	9.9	10.2	10.5	10.8	11.0	11.3	11.6
Total Non-OECD	44.6	47.0	48.9	49.7	49.1	49.1	49.4	49.6	50.7	52.0	54.2	55.2	54.2	55.7	57.9
Total World Supply	62.5	64.8	65.9	66.8	66.7	67.0	67.4	68.3	69.9	71.8	74.1	74.9	73.7	75.6	78.2
Total Stock Withdrawals	0.6	0.1	0.0	-0.8	-0.1	-0.2	-0.4	0.0	0.0	-0.4	-1.0	-1.3	1.0	0.3	-0.3
OECD Comm. Stocks, End (bill. bbls.)	2.7	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.7	2.8	2.6	2.6	2.6
Net Exports from Former Soviet Union	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.4	2.6	3.0	3.3	3.5	3.7	3.7	3.7

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

[b] OECD Europe includes the former East Germany.

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

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

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The Czech Republic, Hungary, Mexico, Poland, and South Korea are all members of OECD, but are not yet included in our OECD estimates.

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

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

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

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imported Crude Oil [a]															
(dollars per barrel)	14.00	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.14	20.61	18.50	12.08	17.22	*24.97*	*22.02*
Natural Gas Wellhead															
(dollars per thousand cubic feet)	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.85	1.55	2.17	2.32	1.95	2.10	*2.56*	*2.61*
Petroleum Products															
Gasoline Retail [b] (dollars per gallon)															
All Grades	0.91	0.92	1.02	1.17	1.15	1.14	1.13	1.13	1.16	1.25	1.24	1.07	1.18	*1.45*	*1.34*
Regular Unleaded..................................	0.91	0.91	0.99	1.13	1.10	1.09	1.07	1.08	1.11	1.20	1.20	1.03	1.14	*1.41*	*1.30*
No. 2 Diesel Oil, Retail															
(dollars per gallon)...................................	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.10	1.22	1.19	1.04	1.12	*1.38*	*1.27*
No. 2 Heating Oil, Wholesale															
(dollars per gallon)...................................	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	0.64	0.59	0.42	0.51	*0.76*	*0.66*
No. 2 Heating Oil, Retail															
(dollars per gallon)...................................	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.89	0.87	0.99	0.99	0.85	0.87	*1.19*	*1.03*
No. 6 Residual Fuel Oil, Retail [c]															
(dollars per barrel)	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.49	19.01	17.82	12.83	15.86	*23.89*	*21.16*
Electric Utility Fuels															
Coal															
(dollars per million Btu)..............................	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.27	1.25	1.22	*1.22*	*1.21*
Heavy Fuel Oil [d]															
(dollars per million Btu)..............................	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	3.01	2.79	2.07	2.38	*3.84*	*3.41*
Natural Gas															
(dollars per million Btu)..............................	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	2.64	2.76	2.38	2.59	*3.19*	*3.21*
Other Residential															
Natural Gas															
(dollars per thousand cubic feet)	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.06	6.35	6.95	6.83	6.68	*7.16*	*7.45*
Electricity															
(cents per kilowatthour)	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.4	8.3	8.2	*8.0*	*7.9*

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

Table A5. Annual U.S. Petroleum Supply and Demand

(Million Barrels per Day, Except Closing Stocks)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Crude Oil Supply															
Domestic Production [a]	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.56	6.46	6.45	6.25	5.93	*5.78*	*5.79*
Alaska	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.48	1.39	1.30	1.17	1.05	*0.94*	*0.90*
Lower 48	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.08	5.07	5.16	5.08	4.88	*4.84*	*4.88*
Net Imports (including SPR) [b]	4.52	4.95	5.70	5.79	5.67	5.99	6.69	6.96	7.14	7.40	8.12	8.60	8.58	*9.21*	*9.50*
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	0.04	*0.05*	*0.00*
Stock Draw (Including SPR)	-0.12	0.00	-0.09	0.02	-0.01	0.01	-0.06	-0.02	0.09	0.05	-0.06	-0.05	0.11	*-0.04*	*-0.01*
Product Supplied and Losses	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	*0.00*	*0.00*
Unaccounted-for Crude Oil	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.19	0.22	0.14	0.11	0.19	*0.26*	*0.22*
Total Crude Oil Supply	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.19	14.66	14.89	14.80	*15.13*	*15.50*
Other Supply															
NGL Production	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.83	1.82	1.76	1.84	*1.90*	*1.93*
Other Hydrocarbon and Alcohol Inputs	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.31	0.34	0.38	0.38	*0.37*	*0.37*
Crude Oil Product Supplied	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	*0.00*	*0.00*
Processing Gain	0.64	0.66	0.66	0.68	0.71	0.77	0.77	0.77	0.77	0.84	0.85	0.89	0.90	*0.91*	*0.90*
Net Product Imports [c]	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.75	1.10	1.04	1.17	1.23	*1.30*	*1.43*
Product Stock Withdrawn	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	0.03	-0.09	-0.17	0.32	*-0.03*	*-0.07*
Total Supply	16.72	17.33	17.37	17.04	16.76	17.10	17.26	17.72	17.72	18.31	18.62	18.92	19.47	*19.58*	*20.06*
Demand															
Motor Gasoline [d]	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.89	8.02	8.25	8.42	*8.51*	*8.67*
Jet Fuel	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.58	1.60	1.62	1.67	*1.72*	*1.77*
Distillate Fuel Oil	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.21	3.37	3.44	3.46	3.55	*3.63*	*3.70*
Residual Fuel Oil	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.85	0.80	0.89	0.84	*0.70*	*0.79*
Other Oils [e]	3.90	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.36	4.63	4.77	4.69	4.98	*5.03*	*5.14*
Total Demand	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.72	18.31	18.62	18.92	19.47	*19.58*	*20.06*
Total Petroleum Net Imports	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.89	8.50	9.16	9.76	9.81	*10.52*	*10.94*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR)	349	330	341	323	325	318	335	337	303	284	305	324	284	*278*	*280*
Total Motor Gasoline	226	228	213	220	219	216	226	215	202	195	210	216	190	*192*	*200*
Jet Fuel	50	44	41	52	49	43	40	47	40	40	44	45	40	*43*	*43*
Distillate Fuel Oil	134	124	106	132	144	141	141	145	130	127	138	156	124	*130*	*132*
Residual Fuel Oil	47	45	44	49	50	43	44	42	37	46	40	45	36	*39*	*41*
Other Oils [f]	260	267	257	261	267	263	273	275	258	250	259	291	244	*241*	*257*

[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] For years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, *Short-Term Energy Outlook*, EIA/DOE-0202(93/3Q), for details on this adjustment.
[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[f] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.
SPR: Strategic Petroleum Reserve. NGL: Natural Gas Liquids
Notes: Minor discrepancies with other EIA published historical data are due to rounding, with the following exception: recent petroleum demand and supply data displayed here reflect the incorporation of resubmissions of the data as reported in EIA's *Petroleum Supply Monthly*, TableC1. Historical data are printed in bold; forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.
Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109, and *Weekly Petroleum Status Report*, DOE/EIA-0208.

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

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Total Dry Gas Production........................	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.85	18.90	18.71	18.71	*18.89*	*18.94*
Net Imports	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.69	2.78	2.84	2.99	3.39	*3.67*	*3.77*
Supplemental Gaseous Fuels	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	*0.12*	*0.13*
Total New Supply..................................	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.39	21.40	21.75	21.84	21.80	22.21	*22.67*	*22.84*
Total Underground Storage															
Opening...	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.52	7.04	*6.88*	*6.75*
Closing..	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.50	6.51	6.52	7.04	6.88	*6.75*	*6.72*
Net Withdrawals	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.46	-0.01	-0.01	-0.52	0.16	*0.13*	*0.03*
Total Supply	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.08	21.86	21.74	21.84	21.28	22.37	*22.81*	*22.87*
Balancing Item [a]	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.37	-0.28	0.23	0.12	-0.02	-0.95	*-0.64*	*0.20*
Total Primary Supply	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.42	*22.17*	*23.08*
Demand															
Lease and Plant Fuel.................................	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.12	1.22	1.25	1.20	1.16	1.23	*1.23*	*1.23*
Pipeline Use..	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.70	0.71	0.75	0.64	0.64	*0.65*	*0.67*
Residential..	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.85	5.24	4.98	4.52	4.67	*4.70*	*5.02*
Commercial...	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.03	3.16	3.21	3.00	3.09	*3.20*	*3.39*
Industrial (Incl. Nonutilities)......................	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.17	8.58	8.87	8.83	8.69	8.66	*9.12*	*9.40*
Electric Utilities..	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.20	2.73	2.97	3.26	3.13	*3.27*	*3.36*
Total Demand	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.71	21.58	21.96	21.95	21.26	21.42	*22.17*	*23.08*

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

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

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

Table A7. Annual U.S. Coal Supply and Demand

(Million Short Tons)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Production....................................	918.8	950.3	980.7	1029.	996.0	997.5	945.4	1033.5	1033.0	1063.9	1089.9	1117.5	1094.0	*1112.6*	*1129.4*
Appalachia.................................	NA	NA	464.8	489.0	457.8	456.6	409.7	445.4	434.9	451.9	467.8	460.4	423.3	*421.5*	*419.4*
Interior......................................	NA	NA	198.1	205.8	195.4	195.7	167.2	179.9	168.5	172.8	170.9	168.4	162.5	*158.5*	*154.3*
Western	NA	NA	317.9	334.3	342.8	345.3	368.5	408.3	429.6	439.1	451.3	488.8	508.2	*532.6*	*555.7*
Primary Stock Levels [a]															
Opening......................................	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	*36.4*	*36.4*
Closing	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	34.4	28.6	34.0	36.5	36.4	*36.4*	*34.6*
Net Withdrawals	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	-1.2	5.8	-5.3	-2.6	0.1	*S*	*1.7*
Imports	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.1	7.5	8.7	9.1	*10.2*	*11.6*
Exports	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.5	83.5	78.0	58.5	*60.2*	*60.5*
Total Net Domestic Supply	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	950.4	986.3	1008.5	1045.7	1044.7	*1062.6*	*1082.2*
Secondary Stock Levels [b]															
Opening......................................	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	*143.9*	*149.4*
Closing	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.6	123.0	106.4	129.4	143.9	*149.4*	*144.4*
Net Withdrawals	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.5	11.7	16.6	-23.0	-14.5	*-5.4*	*5.0*
Waste Coal Supplied to IPPs [c]	0.0	0.0	0.0	0.0	0.0	6.0	6.4	7.9	8.5	8.8	8.1	8.6	9.6	*12.2*	*12.2*
Total Supply	834.4	882.3	896.5	899.4	891.4	907.8	936.5	954.0	960.4	1006.7	1033.2	1031.2	1039.8	*1069.4*	*1099.4*
Demand															
Coke Plants	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	33.0	31.7	30.2	28.2	27.9	*27.8*	*28.2*
Electricity Production															
Electric Utilities	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.0	874.7	900.4	910.9	896.6	*908.5*	*936.8*
Nonutilities (Excl. Cogen.) [d]	NA	NA	0.9	1.6	10.2	14.6	17.1	19.5	20.8	22.2	21.6	26.9	45.9	*60.1*	*60.7*
Retail and General Industry......................	75.2	76.3	82.3	83.1	81.5	80.2	81.1	81.2	78.9	76.9	77.1	73.0	70.3	*73.0*	*73.7*
Total Demand [e]	830.0	876.5	890.6	897.1	897.8	907.0	943.1	949.7	961.7	1005.6	1029.2	1039.0	1040.8	*1069.5*	*1099.4*
Discrepancy [f]	4.4	5.8	5.9	2.4	-6.4	0.8	-6.6	4.3	-1.3	1.2	4.0	-7.8	*-1.0*	*0.0*	*0.0*

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

[b] Secondary stocks are held by users. It includes an estimate of stocks held at utility plants sold to nonutility generators.

[c] Estimated independent power producers (IPPs) consumption of waste coal. This item includes waste coal and coal slurry reprocessed into briquettes.

[d] Estimates of coal consumption by IPPs, supplied by the Office of Coal, Nuclear, Electric, and Alternate Fuels, Energy Information Administration (EIA). Quarterly coal consumption estimates for 1999 and projections for 2000 and 2001 are based on (1) estimated consumption by utility power plants sold to nonutility generators during 1999, and (2) annual coal-fired generation at nonutilities from Form EIA-867 (Annual Nonutility Power Producer Report).

[e] Total Demand includes estimated IPP consumption.

[f] The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period. Prior to 1994, discrepancy may include some waste coal supplied to IPPs that has not been specifically identified.

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

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

Table A8. Annual U.S. Electricity Supply and Demand
(Billion Kilowatt-hours)

	Year														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Supply															
Net Utility Generation															
Coal...................................	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1652.9	1737.5	1787.8	1807.5	1773.5	1798.0	1848.1
Petroleum	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.8	67.3	77.8	110.2	89.7	63.3	85.7
Natural Gas...........................	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	307.3	262.7	283.6	309.2	297.3	312.2	321.1
Nuclear.................................	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	674.7	628.6	673.7	725.0	723.3	711.2
Hydroelectric.........................	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	328.0	337.2	304.4	293.7	281.3	270.4
Geothermal and Other [a]	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.4	7.2	7.5	7.2	3.6	2.2	2.2
Subtotal............................	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.5	3077.4	3122.5	3212.2	3182.9	3180.4	3238.8
Nonutility Generation [b]	NA	NA	184.0	228.3	257.4	286.2	314.4	343.1	363.3	369.6	371.7	405.7	491.5	543.1	561.0
Total Generation....................................	NA	NA	2968.3	3036.4	3082.4	3083.4	3196.9	3253.8	3357.8	3447.0	3494.2	3617.9	3674.5	3723.4	3799.7
Net Imports [c]	46.3	31.8	11.0	2.3	19.6	25.4	27.8	44.8	39.2	38.0	36.6	27.6	29.3	30.5	31.4
Total Supply	NA	NA	2979.3	3038.7	3102.0	3108.8	3224.7	3298.6	3397.1	3485.0	3530.8	3645.5	3703.8	3753.9	3831.1
Losses and Unaccounted for [d]	NA	NA	241.3	213.1	221.0	223.6	236.3	225.7	238.4	242.3	242.9	249.4	269.3	253.2	258.7
Demand															
Electric Utility Sales															
Residential...........................	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1008.5	1042.5	1082.5	1075.8	1127.7	1139.5	1156.8	1192.8
Commercial...........................	660.4	699.1	725.9	751.0	765.7	761.3	794.6	820.3	862.7	887.4	928.4	968.5	975.2	997.1	1017.8
Industrial..............................	858.2	896.5	925.7	945.5	946.6	972.7	977.2	1008.0	1012.7	1030.4	1032.7	1040.0	1050.4	1063.6	1071.3
Other...................................	88.2	89.6	89.8	92.0	94.3	93.4	94.9	97.8	95.4	97.5	102.9	103.5	100.3	104.6	107.6
Subtotal............................	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2934.6	3013.3	3097.8	3139.8	3239.8	3265.4	3322.1	3389.6
Nonutility Own Use [e]	NA	NA	91.1	113.0	119.1	121.8	126.9	138.4	145.4	144.9	148.2	156.2	169.1	178.6	182.9
Total Demand......................................	NA	NA	2737.9	2825.6	2881.1	2885.1	2988.4	3073.0	3158.7	3242.7	3287.9	3396.0	3434.5	3500.7	3572.4
Memo:															
Nonutility Sales															
to Electric Utilities	NA	NA	92.9	115.2	138.3	164.4	187.5	204.7	217.9	224.6	223.5	249.5	322.4	364.4	378.1

[a] Other includes generation from wind, wood, waste, and solar sources.
[b] Net generation.
[c] Data for 1999 are estimates.
[d] Balancing item, mainly transmission and distribution losses.
[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 1999 are estimates.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: Energy Information Administration: latest data available from EIA databases supporting the following report: *Electric Power Monthly*, DOE/EIA-0226 and Electric Power Annual,DOE/EIA-0348.

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