



EIA Energy Information Administration

Short-Term Energy Outlook

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September 1997 (Released September 8, 1997)

Energy Information Administration

What's New This Month

Here are the highlights of the changes to the forecast that we have made for the month of September, 1997 (all results refer to the mid world oil price case unless otherwise specified):

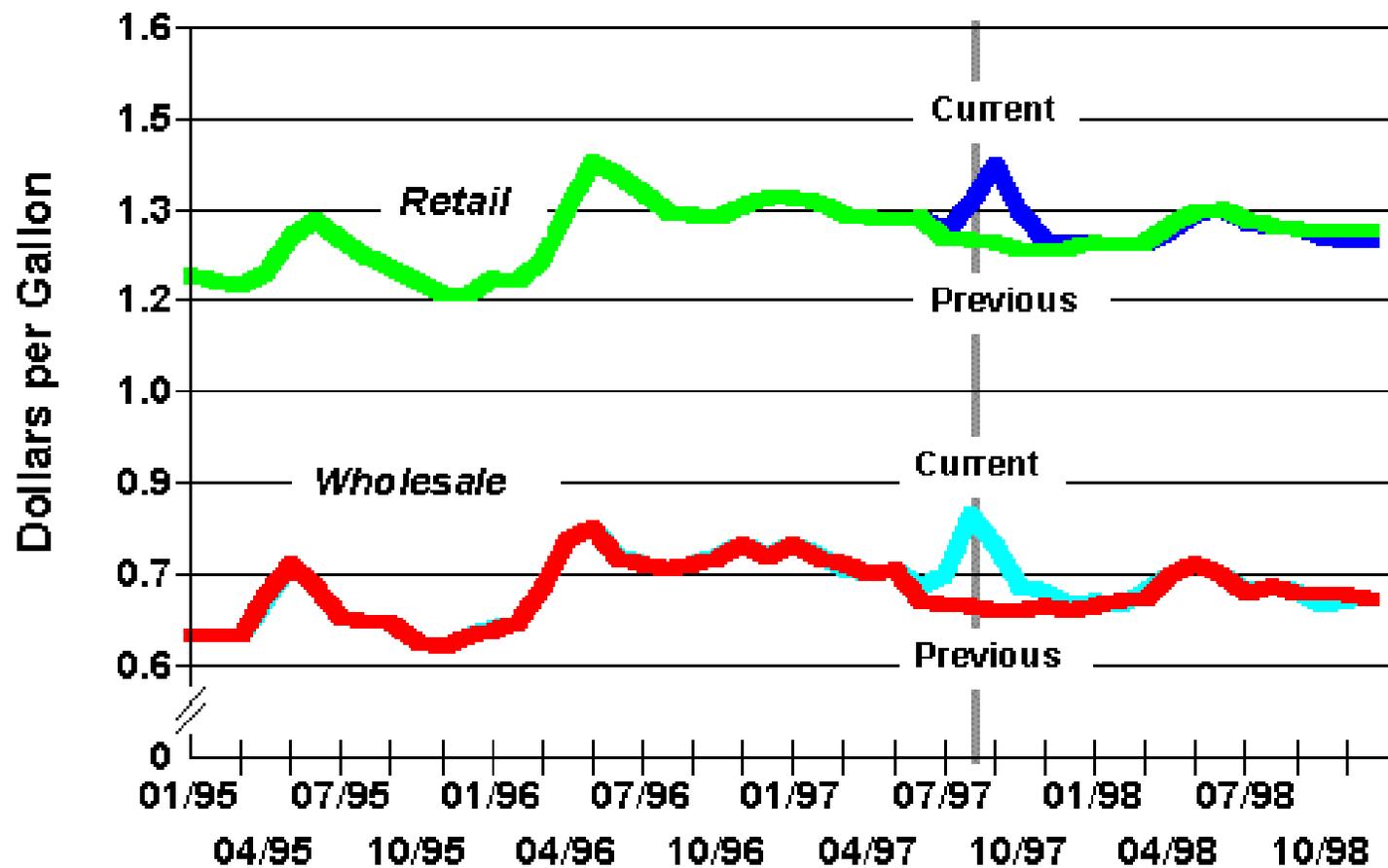
Prices

Petroleum. Despite the continuation of a relatively flat course for crude oil this summer, U.S. gasoline prices took a sharp turn upward since last month's report. However, the factors that have led to this situation (refinery problems, high demand) should abate sufficiently to reduce prices close to more normal levels soon, if not within the month of September. However, the accumulated increases in wholesale prices in August will likely be felt broadly at the retail level in September ([Figures U1](#) and [U2](#)).

With respect to crude oil prices, while August prices proved to be somewhat more robust than we projected last month ([Figure U3](#)), no significant changes in our overall mid-case outlook or in the overall world oil balance for the next 5 quarters is envisioned. We are assuming in the base case that Iraq exports crude oil according to the original terms of the resolution in place for the ninety-day period beginning September 6. If new terms are negotiated that allow Iraq to recapture much of the lost revenue caused by the export delays this summer, a weaker short-term price situation would develop, the features of which would depend on the ultimate terms of any updated agreement through the U.N. Security Council.

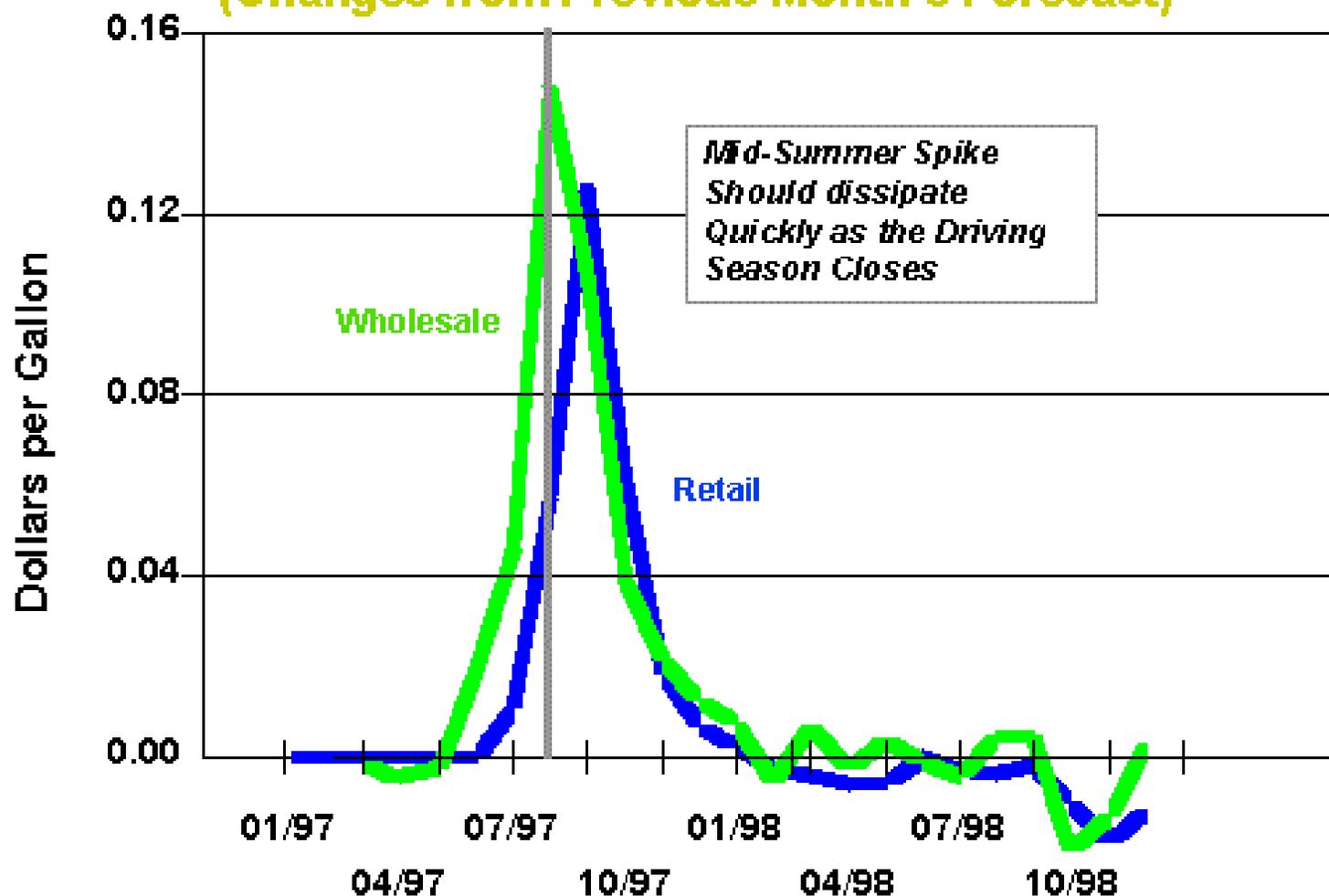
The atypical recent pattern in motor gasoline prices included an average gain of more than 10 cents per gallon from the July 4 holiday through Labor Day (see EIA's [Weekly Petroleum Status Report](#) for weekly price information). World crude oil price gains accounted for only about 2 cents of the increase. Strained gasoline supply conditions coupled with very strong summer demand (particularly evident in July) may ultimately send pump prices this month to levels not seen since May of last year and, before that, the Gulf War in 1990. Our current estimate for the average pump price in August of this year (all grades, all service) is \$1.31 per gallon. While this is only 1 cent per gallon above that seen in August 1996, it is the first time since last March that monthly average prices have not declined. Furthermore, August crude oil prices were about 5 cents per gallon below year-ago levels. However, a much more significant increase over last year's price is in store for September, if the apparent wholesale gasoline price increases seen in August work through the system in the usual fashion over the next few weeks. We could see an unusual instance of average monthly retail prices peaking in September, if our overall average hits \$1.37 per gallon (up 8 cents from last September) as expected. Normally, motor gasoline prices have tended to peak in the Spring, as refiners rapidly increase gasoline production in preparation for the driving season. This year, though, gasoline prices fell steadily from January through July, mostly the result of falling crude oil prices. However, in late July and in August, spot prices for motor gasoline began to soar in response to tight supplies. Some of the market tightness could be attributed to several major domestic refinery shut-downs as well as a decrease in gasoline imports from one year ago. In addition, gasoline demand this summer has been considerably

Figure U1. Average Monthly Gasoline Prices



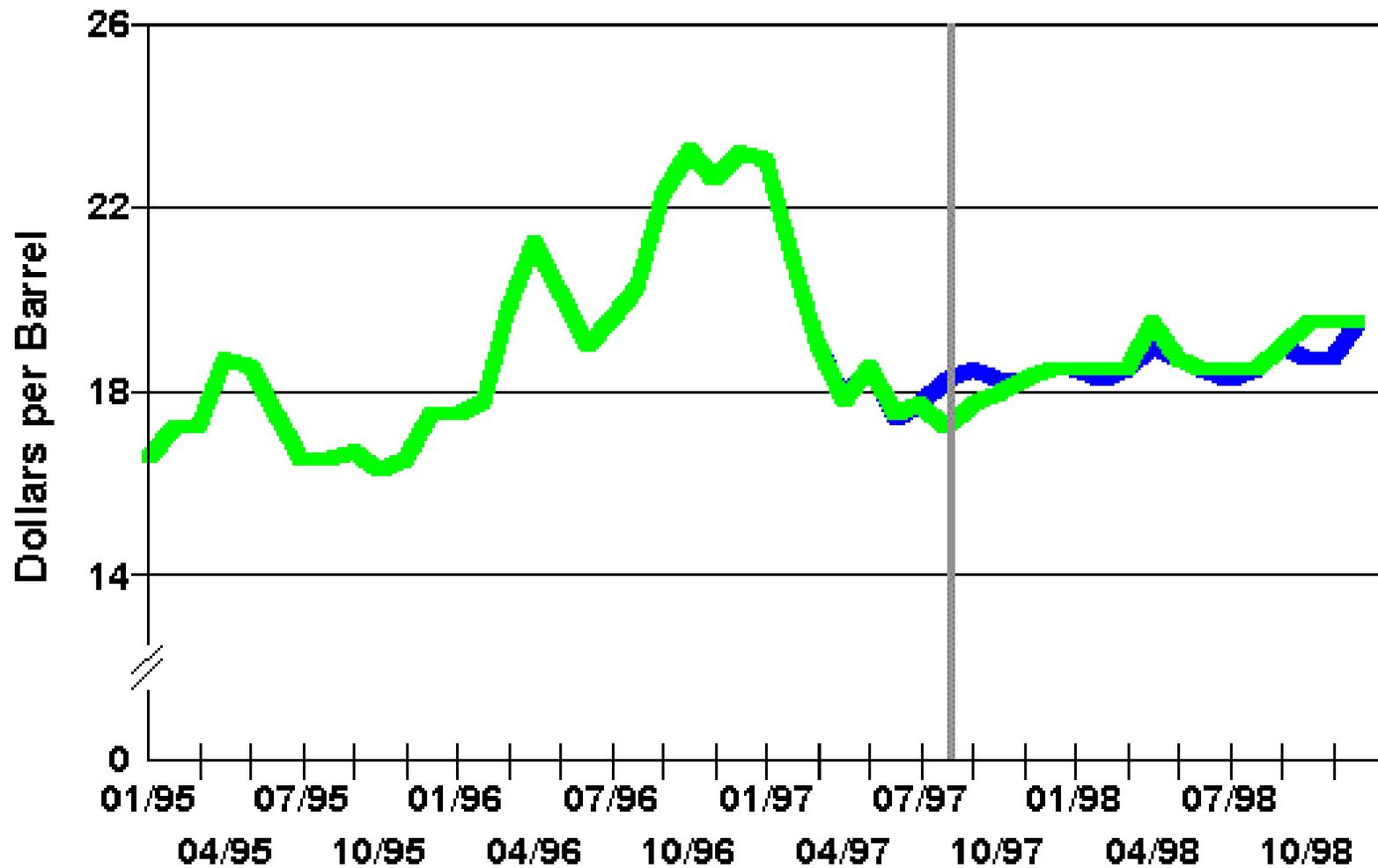
Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U2. Gasoline Price Update: (Changes from Previous Month's Forecast)



Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U3. World Oil Prices*



* Refiners' Acquisition Cost of Imported Oil

Source: Energy Information Administration, Short-Term Energy Model, September 1997

higher than last year due to highway travel growth and continued sluggishness in average efficiency improvements.

Pump prices should start easing sometime after Labor Day, an endpoint of the driving season. Demand for motor gasoline is projected to drop by over 400 thousand barrels per day from August to September. In addition, it is assumed that most of the refinery problems will have been resolved. Spot prices for motor gasoline have already begun to ease in many regions of the country (except California), so corresponding retail price drops should follow within several weeks.

It is important to note that the gasoline market situation remains relatively tight, as the inventory situation has deteriorated since last spring (Figure U4). Any further disruptions in supplies such as refinery or import troubles would keep pump prices high. Furthermore, there is also the potential for refinery output shortfalls if unusually cold weather in either the winter or fall results in the need for producing more distillate fuels for heating at the expense of producing gasoline. If this occurs, gasoline prices could stay relatively high through the winter.

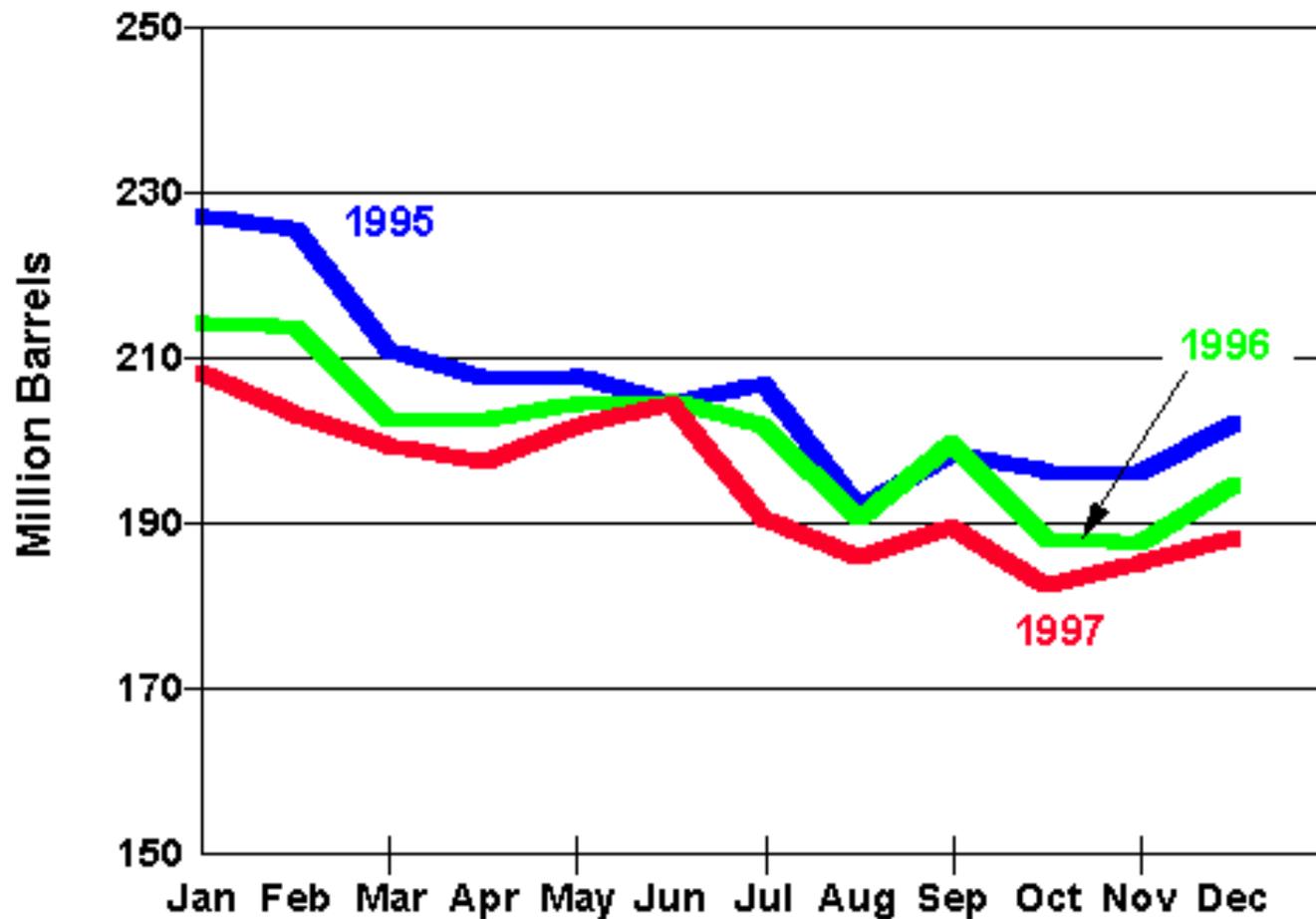
The situation is different in California, because that State requires a cleaner, more expensive type of gasoline (California RFG). Several refineries, inside and outside of California, that produce the California RFG have been down, tightening supplies and putting continued upward pressure on prices. These prices should also back down once the production problems are corrected.

Assuming moderate crude oil prices throughout the forecast, motor gasoline prices should continue to decline for the remainder of the year. Assuming no major supply disruptions, average prices in 1998 are projected to fall a few cents per gallon below the expected annual average for 1997.

Natural Gas. Current and expected near-term natural gas spot prices have moved up sharply since last month's report (Figure U5). More evidence of relatively weak performance in domestic gas production and a somewhat lower-than-expected track for gas inventories have contributed to this development. Given the recent estimates for dry gas production in the United States, we have lowered our base case outlook for gas production throughout the forecast (Figure U6). The change results in approximately a 300-billion-cubic-foot (1.6-percent) reduction from previous expectations in domestic gas output next year. Gas storage watchers generally concluded that net injections into underground storage have not been running at completely comfortable levels in recent weeks, and the likelihood that storage may fall to or perhaps below year-ago levels before the heating season begins in earnest has increased. This month we have reduced expected storage levels through the rest of the year (Figure U7). Still, we see the likely gas balance as allowing for underground storage to remain at or above last year's level for the rest of the year, but just barely (Figure U8).

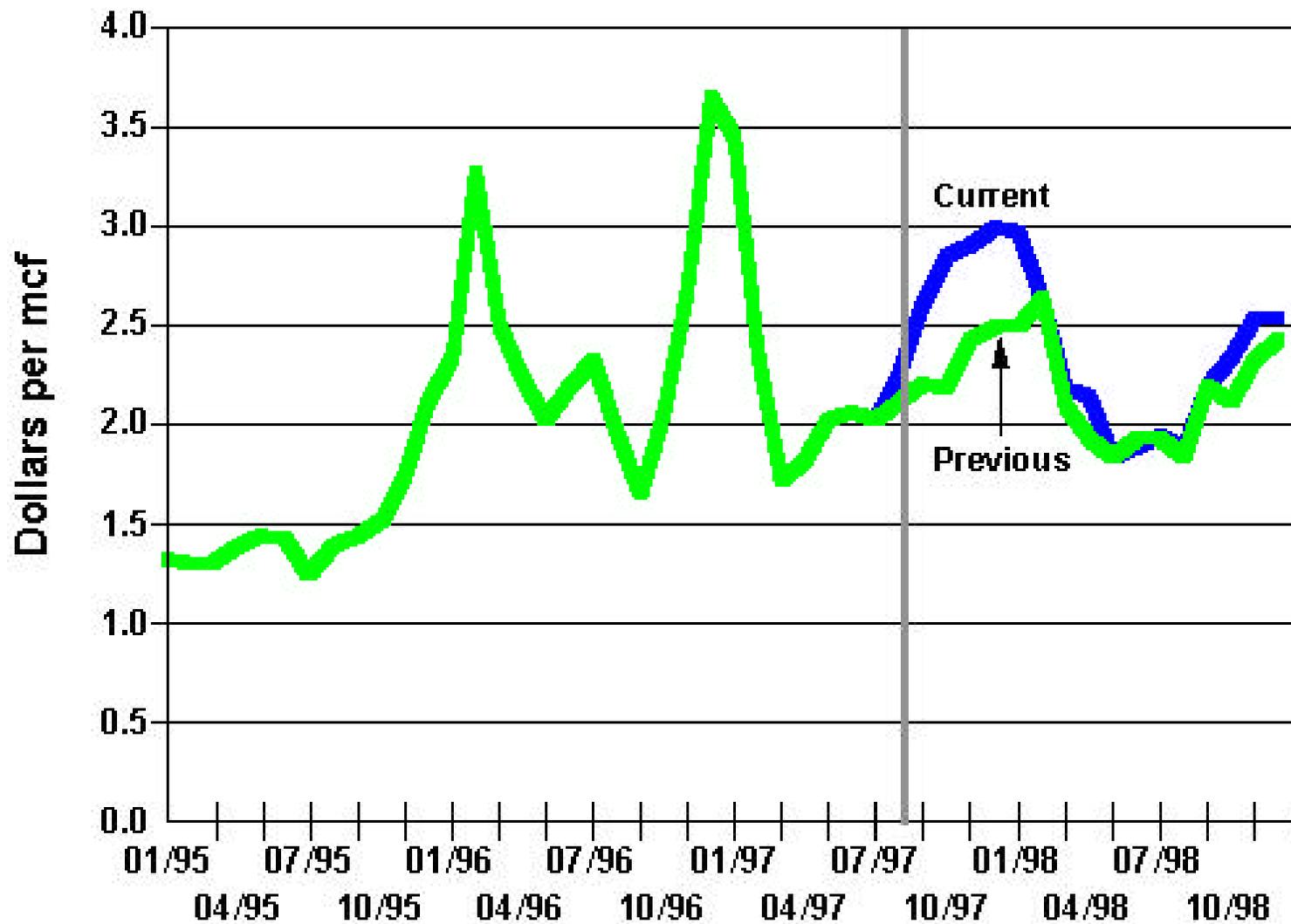
Since early August, futures prices for natural gas at the Henry Hub have risen more than 60 cents per thousand cubic feet for the months of December and January. Near month contracts have risen even more, as concern over inventory levels grows. About

Figure U4. Total Gasoline Stocks



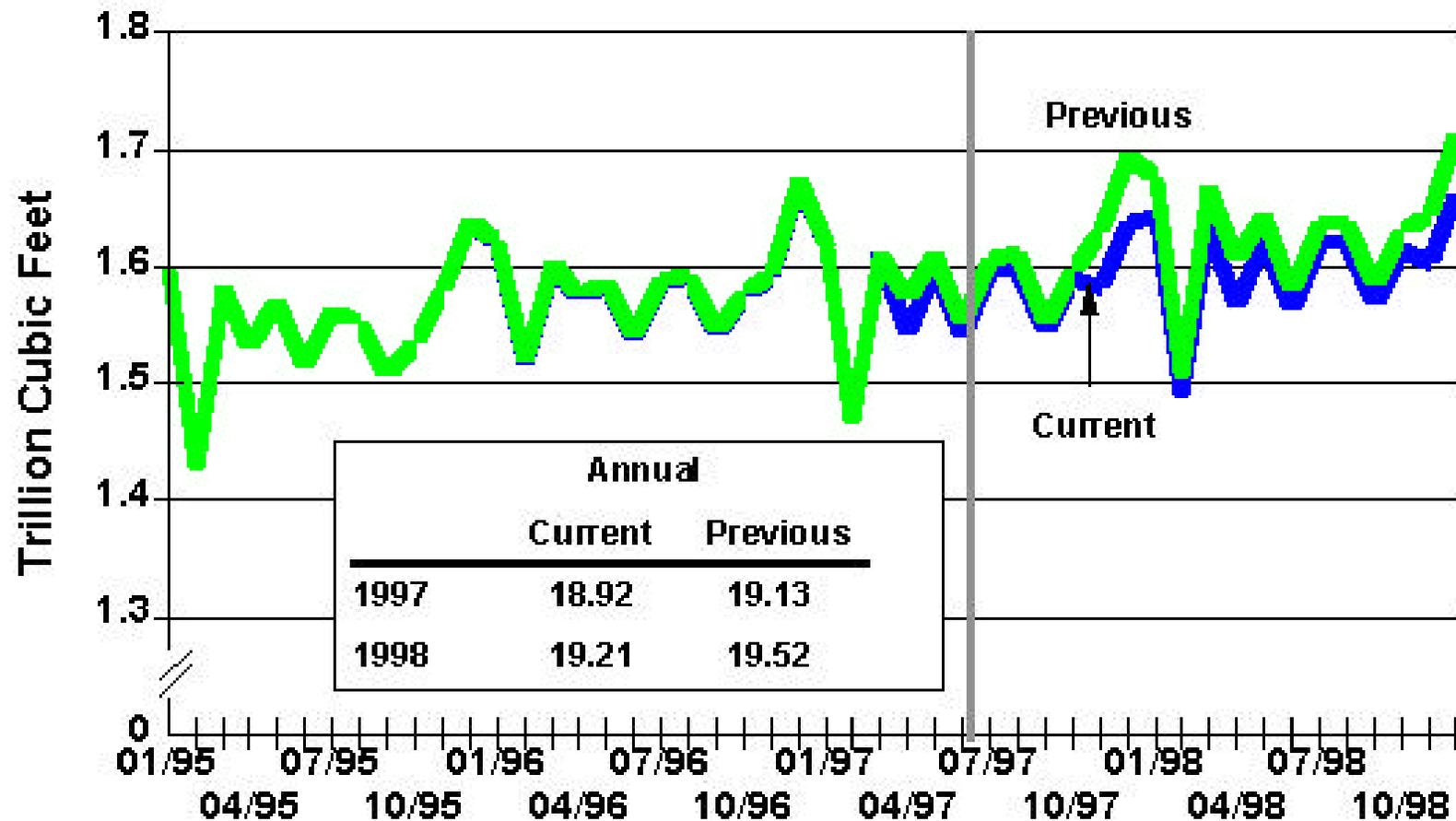
Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U5. Average Natural Gas Spot Prices



Source: Energy Information Administration, Short-Term Energy Model, September 1997

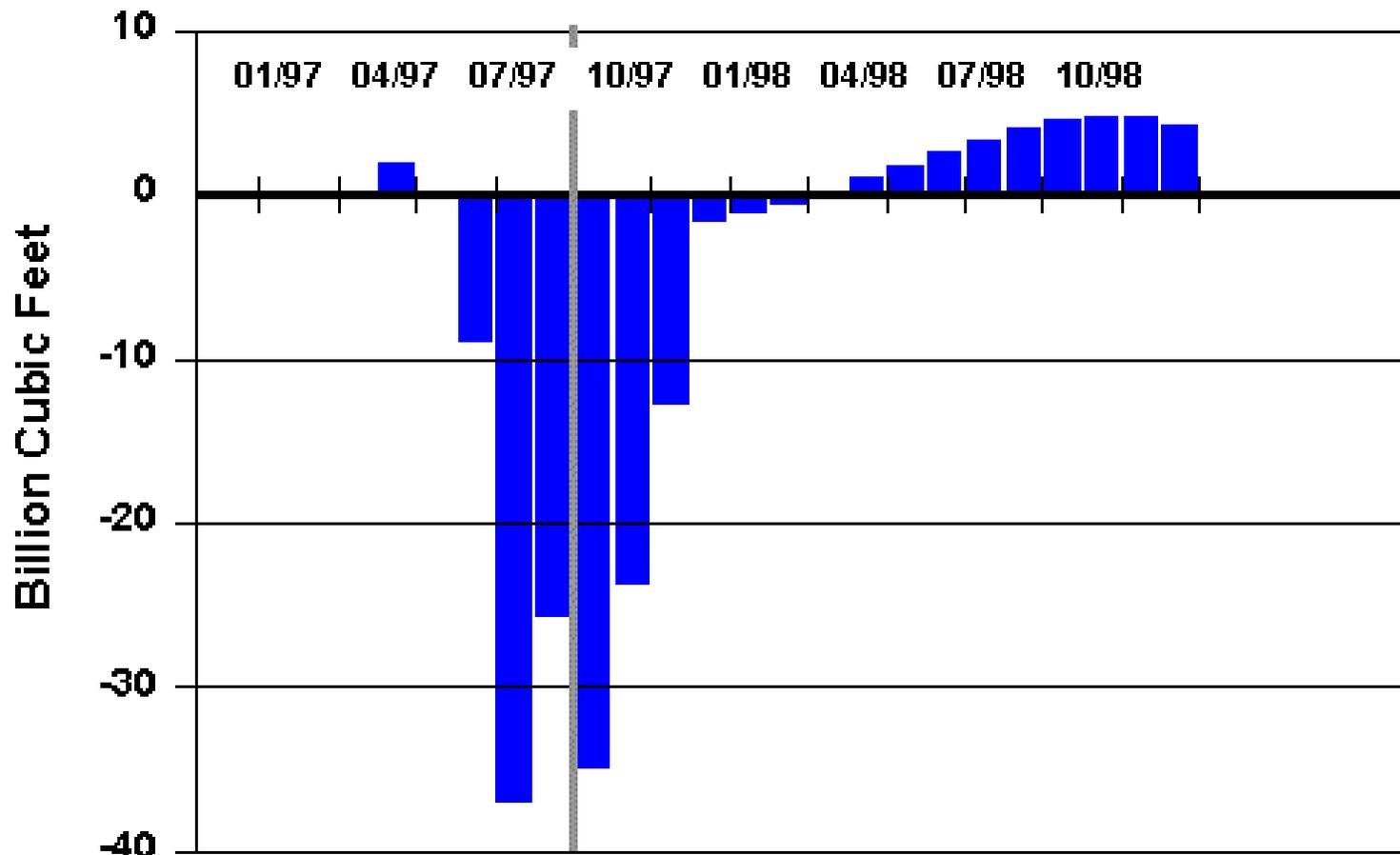
Figure U6. Dry Gas Production



Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U7. Gas Storage Update*

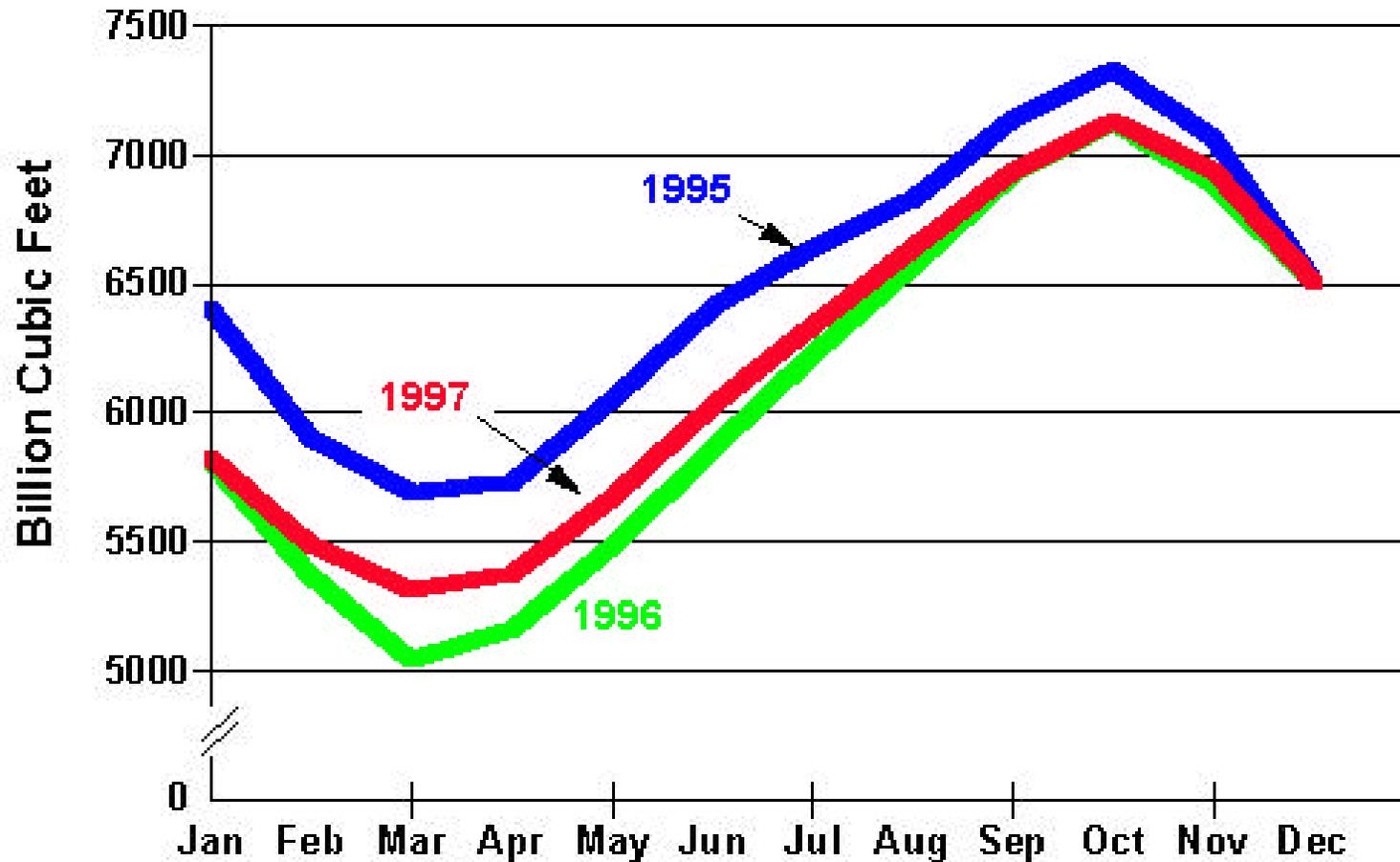
(Change from Previous Month's Forecast)



*Note: Storage information estimated through August 1997 based in part on American Gas Association storage data

Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U8. Total Gas In Underground Storage



Source: Energy Information Administration, Short-Term Energy Model, September 1997

this time last year, natural gas wellhead prices were under \$2.00 per thousand cubic feet. Then, considerably colder-than-normal weather last October lowered underground storage levels, which caused a leap in prices that continued through January 1997. Ironically, the average weather for December through February, the coldest months of the year, was warmer than normal. But because inventories *entered* the heating season at low levels, prices responded dramatically. Given the existing conditions, it looks like prices could be headed in the same direction as last winter. Both production and underground storage levels are each up by less than 0.5 percent from one year ago in the third quarter.

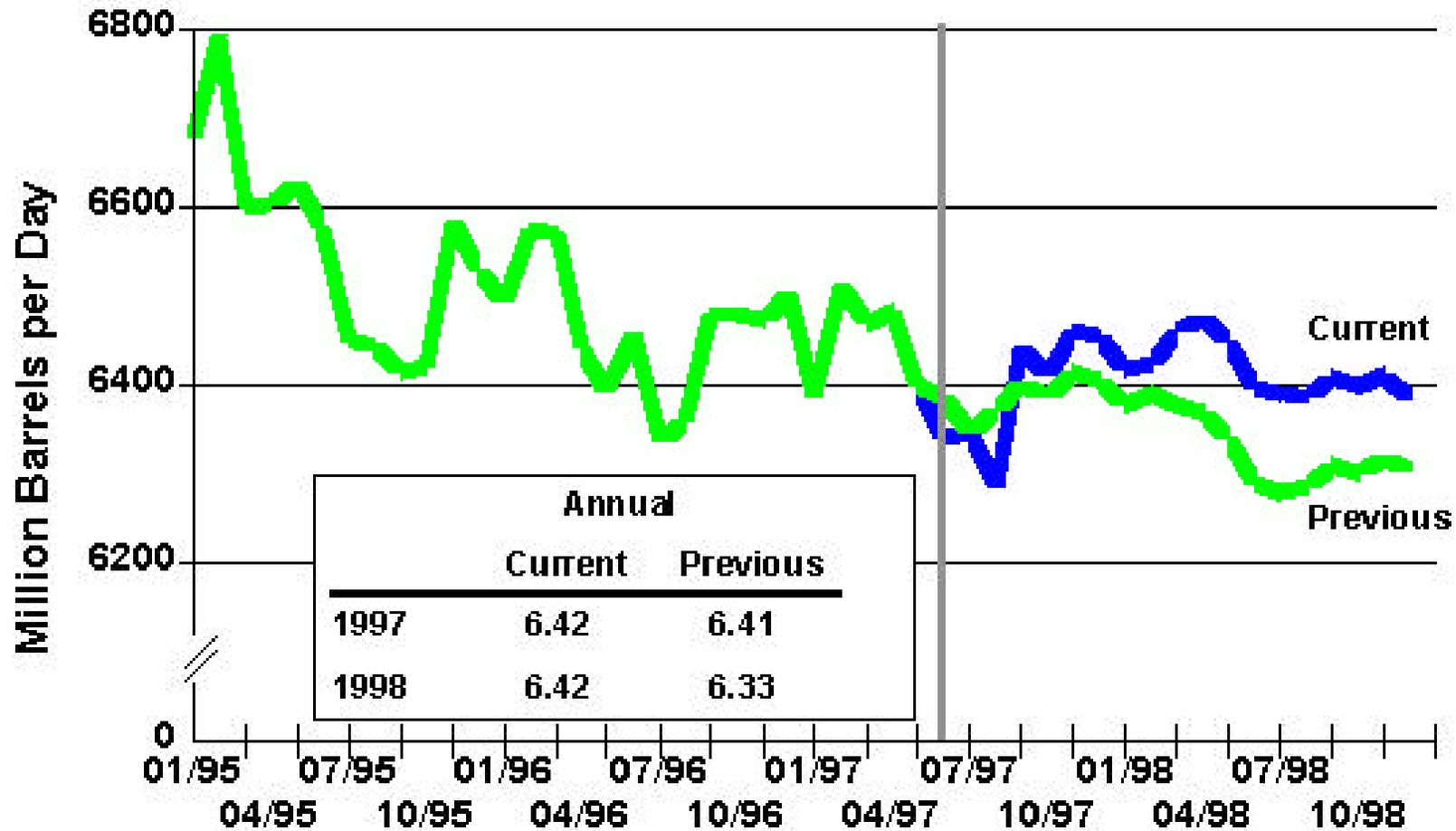
Thus, as the heating season begins, a significant potential for price volatility looms. Last year, prices didn't start their rapid ascent until October; while this year, they began their upward bound one month earlier. Still, assuming a normal winter, *and* a normal fall, natural gas prices at the wellhead are projected to be slightly less than last winter's prices, averaging just under \$2.60 per thousand cubic feet for the fourth and first quarters. Weather, as always, will be the key factor in determining the price. If October and November are unusually warm there will be more confidence in the market about adequate inventory levels. Then the price situation is likely to reverse itself quickly, resulting in a sharp drop in the wellhead price for the next several months. Conversely, in the unlikely event of both a much-colder-than normal fall *and* winter, the current price projections presented in Table 4 would be too low. Because inventories are currently tight, the weather over the next several weeks will be the major factor in determining the price through the winter.

Oil Demand and Supply

Despite some of the strong mid-summer figures for gasoline demand, we have conceded that that somewhat less growth in gasoline demand (for the year as a whole) than previously projected is likely. The expected higher near-term gasoline prices contribute to this. Also, much of the very high demand figures for July have been offset by weak numbers for August, yielding an expected demand level for the third quarter of 8.21 million barrels per day, just under two percent above year-ago levels. Continued demand growth at this rate for the fourth quarter would yield an overall annual increase of 1.5 percent increase in gasoline demand for 1997, compared to 1.9 percent projected last month. Because of lower nuclear power availability and also higher natural gas prices, increased fuel oil demand in the electric utility and industrial sectors will offset any downward adjustments from gasoline. Overall, our oil demand projections are not very different from last month, but the oil production and import situation may be improving a little bit.

Revisions to our domestic crude oil production outlook this month suggest better-than-expected overall domestic results for this year and in 1998. The probability of maintaining production levels next year has increased (Figure U9). Although average domestic oil production is expected to decrease by 53,000 barrels per day or 0.8 percent in 1997, to a level of 6.42 million barrels of oil per day, there is now no decline expected in U.S. oil production in 1998. If this expectation is realized, it will be the first time annual U.S. oil production has not decreased in the aggregate since 1991, when the U.S.

Figure U9. U.S. Crude Oil Production



Source: Energy Information Administration, Short-Term Energy Model, September 1997

bolstered domestic production subsequent to the Gulf War.

Lower-48 States oil production is expected to increase by 43,000 barrels per day (bpd) to a rate of 5.12 million bpd in 1997 and increase to 5.21 in 1998. These increases are mainly due to production from new Federal Offshore fields. Included is a 30,000 bpd increase in the Auger production due to facilities improvement (debottlenecking). The Ram-Powell production begins in September 1997, with an accompanying increase of 60,000 bpd in early 98. British Petroleum has purchased Marathon's Troika sub-sea project and will accelerate production to an adjoining platform in November 1997. This production will add 80,000 bpd to offshore production in early 1998.

Oil production from the Mars, Ram-Powell, Auger, Troika and Santa Ynez Federal Offshore fields is expected to account for about 8.73 per cent of the lower-48 oil production by the 4th quarter of 1998.

Alaska is expected to account for 20.23 percent of the total U.S. oil production in 1997. Its oil production is expected to decrease by 6.90 percent in 1997 and again by 6.90 percent in 1998.

Natural Gas Supply and Demand

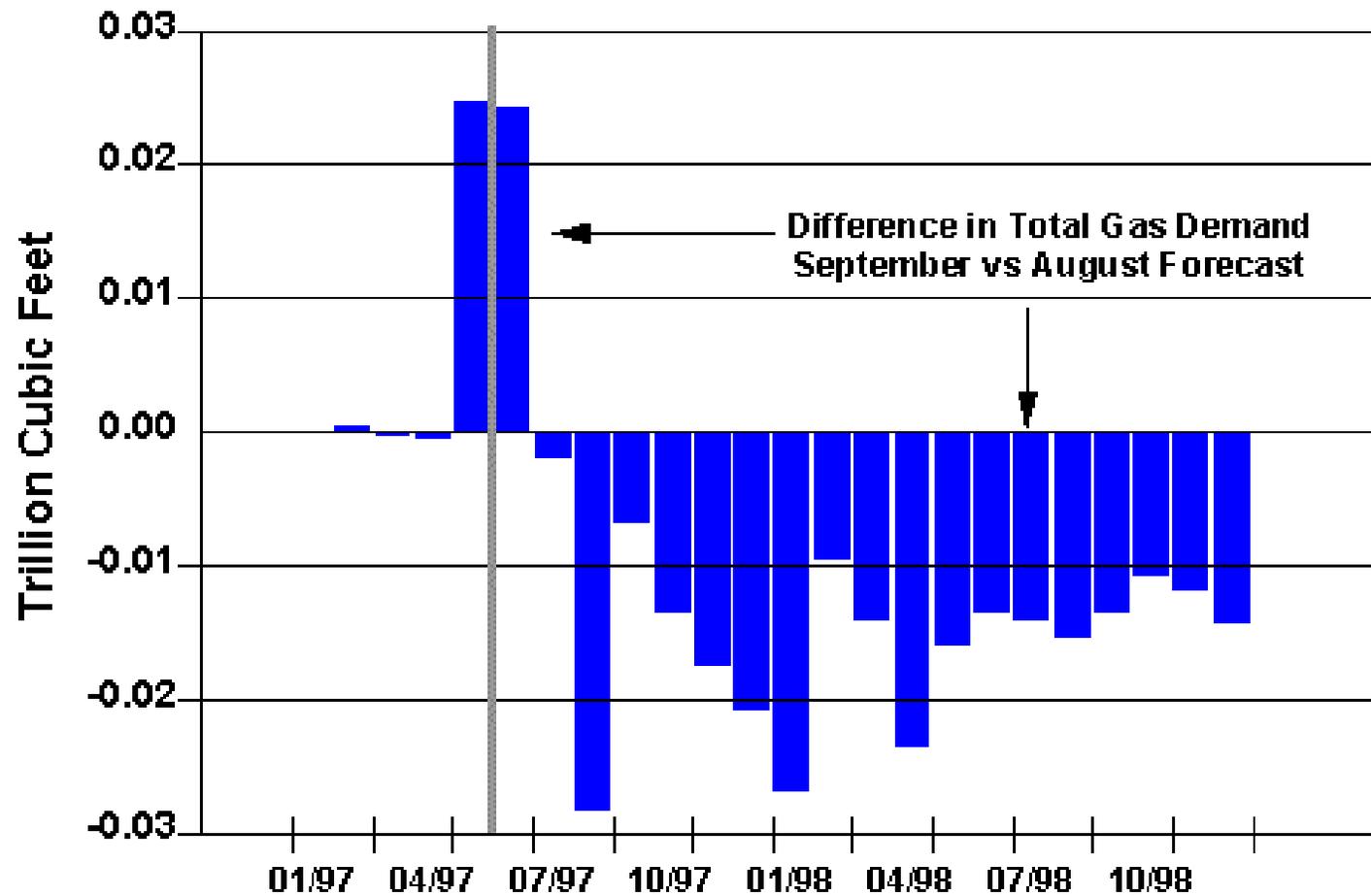
Continued meager advances in U.S. dry gas production this year despite increases in drilling has led to expectations of lower production in the remainder of the forecast period ([Figure U6](#)). Since 1996, U.S. gas producers are spending more on domestic exploration and development but replacing less of their production. Lower domestic production of natural gas, along with capacity limitations on gas import levels, and current perceptions that gas storage levels may not exceed the levels of last year at the beginning of the heating season have contributed to the recent runup in natural gas wellhead prices.

In line with lowered expectations of natural gas supply, natural gas demand (specifically in both the electric utility and industrial sectors) from second quarter 1997 through 1998 is also expected to be lower than previously estimated ([Figure U10](#)). This development follows upon a shift in relative fuel prices, as illustrated in [Figure U11](#). In the utility sector, slightly lower overall electricity demand is also a factor.

Electricity Demand and Supply

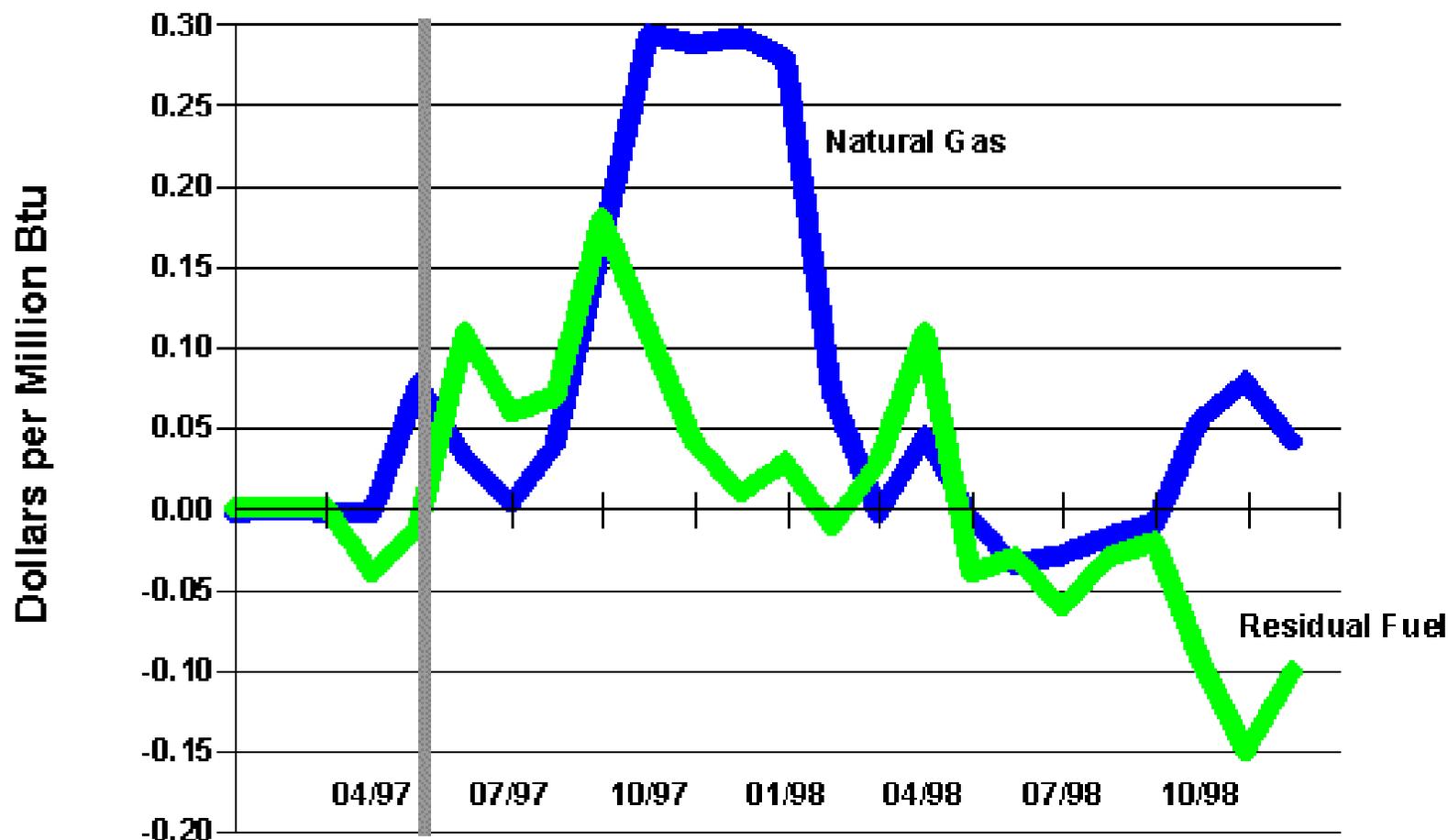
Despite some torrid days, the overall assessment of the summer now ending is that it was a bust, weather-wise. Cooling degree-days (assuming a normal September) will have been 7.2- percent below normal for the combined second and third quarters of 1997 (6.9 percent below the same period last year). This follows on a sharp reduction in heating demand last winter (see [Figure U12](#)). Total projected electricity demand growth for 1997 has been revised somewhat and is expected to be only 0.4 percent from 1996 levels ([Figure U13](#)). The rise in industrial demand for electricity and the associated increase in non utility own use is almost counterbalanced by the lower residential demand. Electricity demand growth in 1998, however, is expected to rise by 3.3 percent. This is largely due to the increase in residential demand in the first 3 quarters of 1998,

Figure U10. Gas Demand Update



Source: Energy Information Administration, Short-Term Energy Model, September 1997

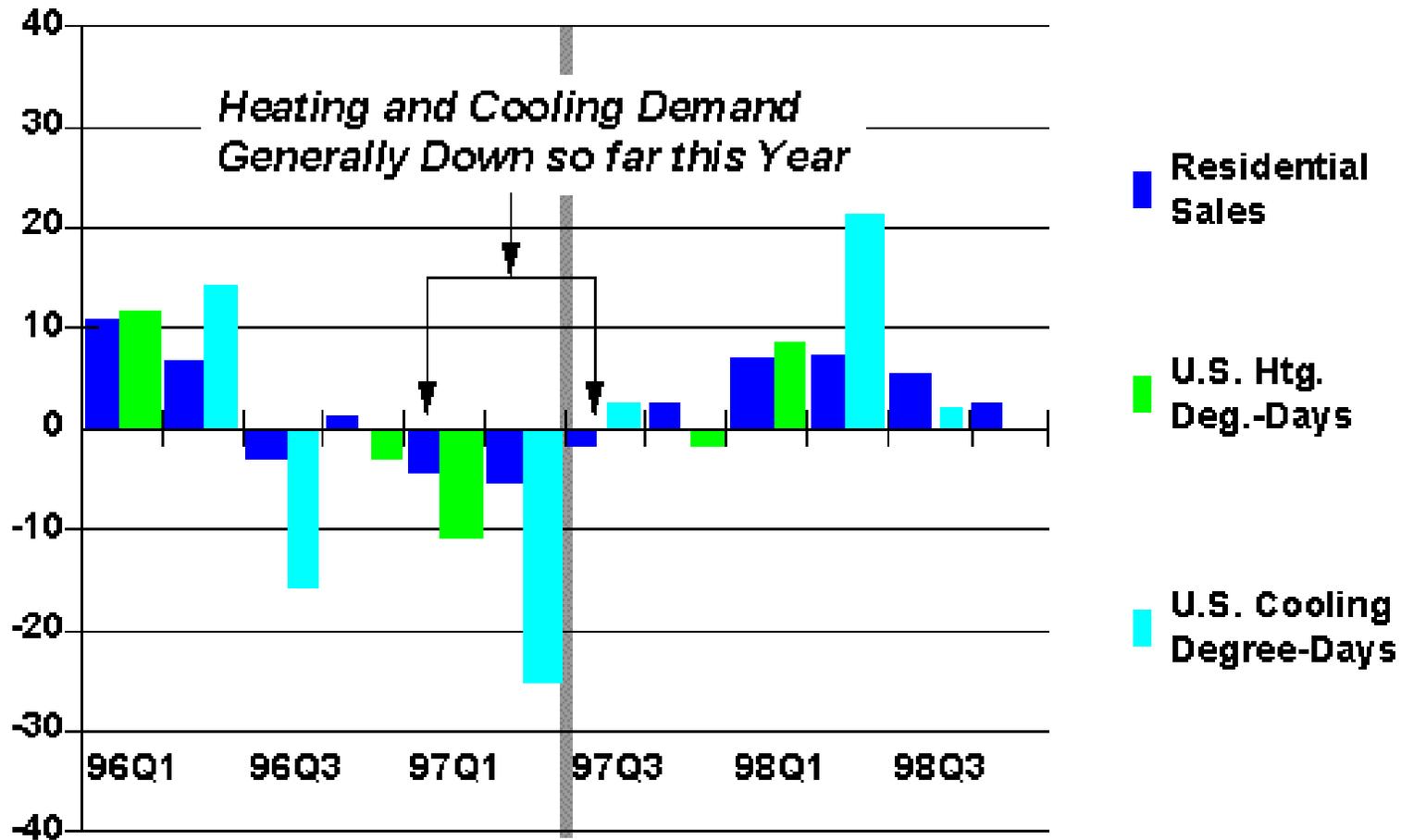
Figure U11. Relative Fuel Price Movements (Change from Previous Month's Forecast)



Based on delivered prices to electric utilities

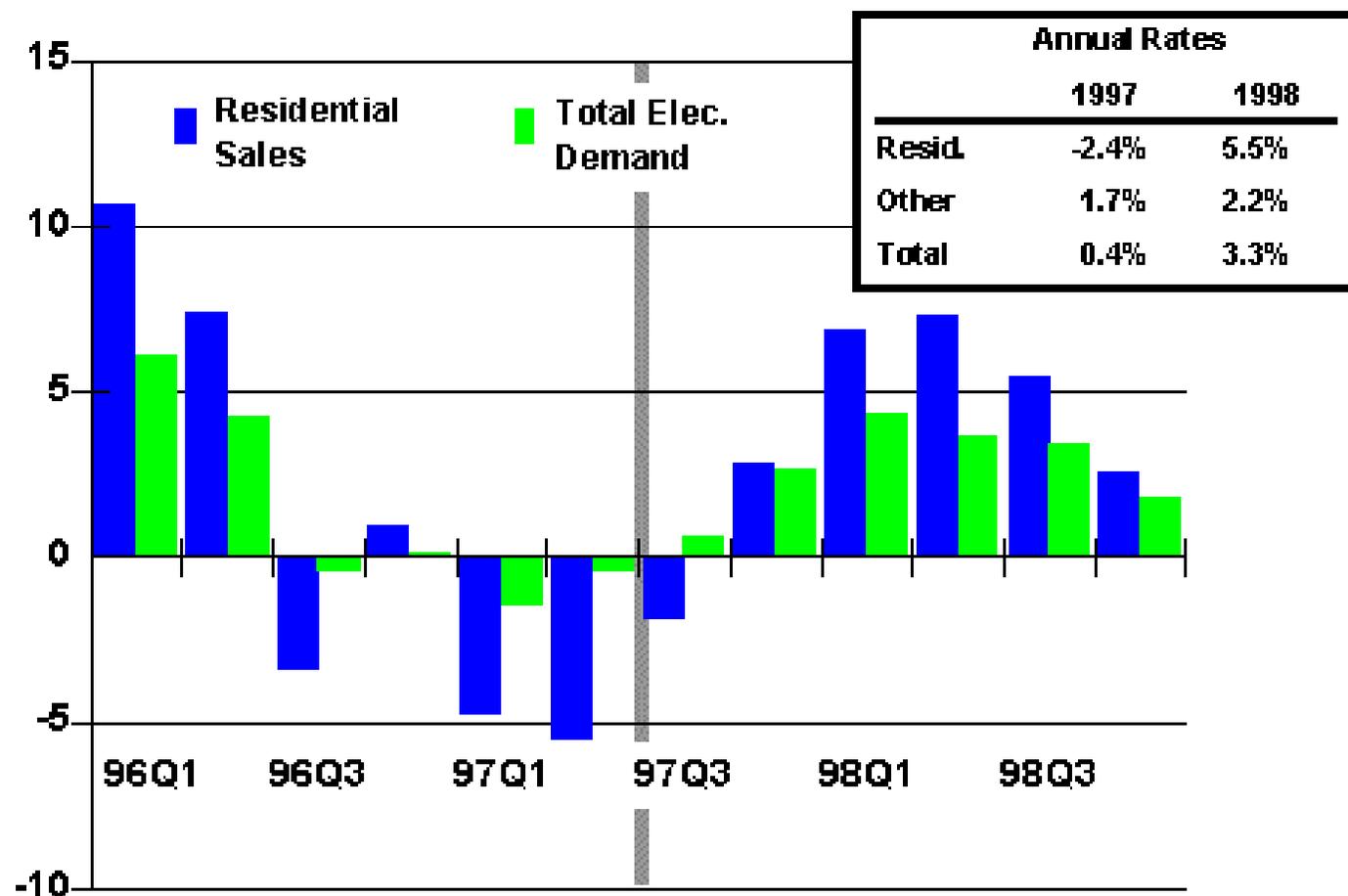
Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U12. Electricity/Degree-Day Analysis
(Percent Change from Previous Year)



Source: Energy Information Administration, Short-Term Energy Model, September 1997

**Figure U13. Electricity Demand Growth
(Percent Change from Previous Year)**



Source: Energy Information Administration, Short-Term Energy Model, September 1997

when normal weather would cause noticeably greater heating degree-days (8.6 percent higher) and cooling degree-days (7.3 percent higher) than this year. Continued growth in industrial demand is also a factor.

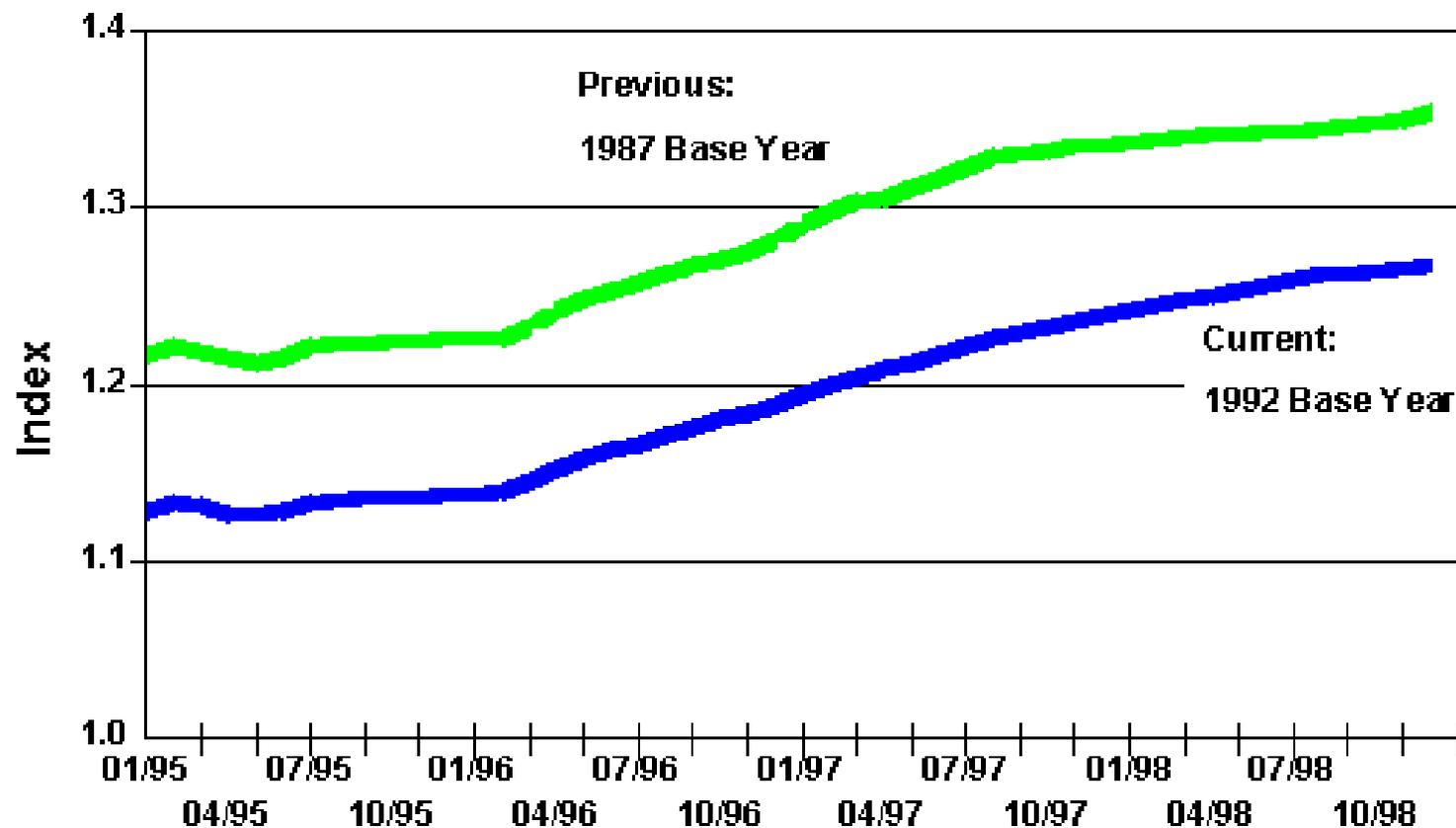
Nuclear generation in 1997 has also been revised downward from the previous forecast, to an annual level 7.9 percent below that in 1996, due to the outages of 13 nuclear plants. Of these 13 plants, 6 are scheduled to be back up and running by the end of 1997 or the beginning of 1998. As a result, nuclear generation is forecast to increase by 6.6 percent in 1998. Coal and natural gas demand for electricity generation are projected to increase in 1997 as these fuels fill in for the deficiency in nuclear generation. However, natural gas use for electricity generation is expected to be lower than previously forecast due to tighter supply. Hydroelectric generation for all of 1997 is expected to be at about the same level as last year, but it is expected to be down by 14 percent in 1998 due to the assumption of normal rain and snow fall in the Pacific Northwest.

Macro Notes

For this outlook, we include the new-basis revised industrial production indexes from the Federal Reserve Board ([Figure U14](#)). This is in keeping with the output of the DRI/McGraw-Hill U.S. economic forecasts, which we use as the basis for our macroeconomic inputs. The basis year for the indexes was changed from 1987 to 1992 (see the article on the [Historical Revision and Recent Developments](#) on the FRB web site). All equations using the new-basis data were re-estimated.

Real GDP growth is expected to be somewhat slower this year than indicated last month ([Figure U15](#)), although this does not include the latest revisions to the second quarter data. However, because of upward revisions to the 1996 data and because growth in 1998 is expected to be slightly higher than previously projected, cumulatively output *levels* have been moved up slightly throughout the forecast.

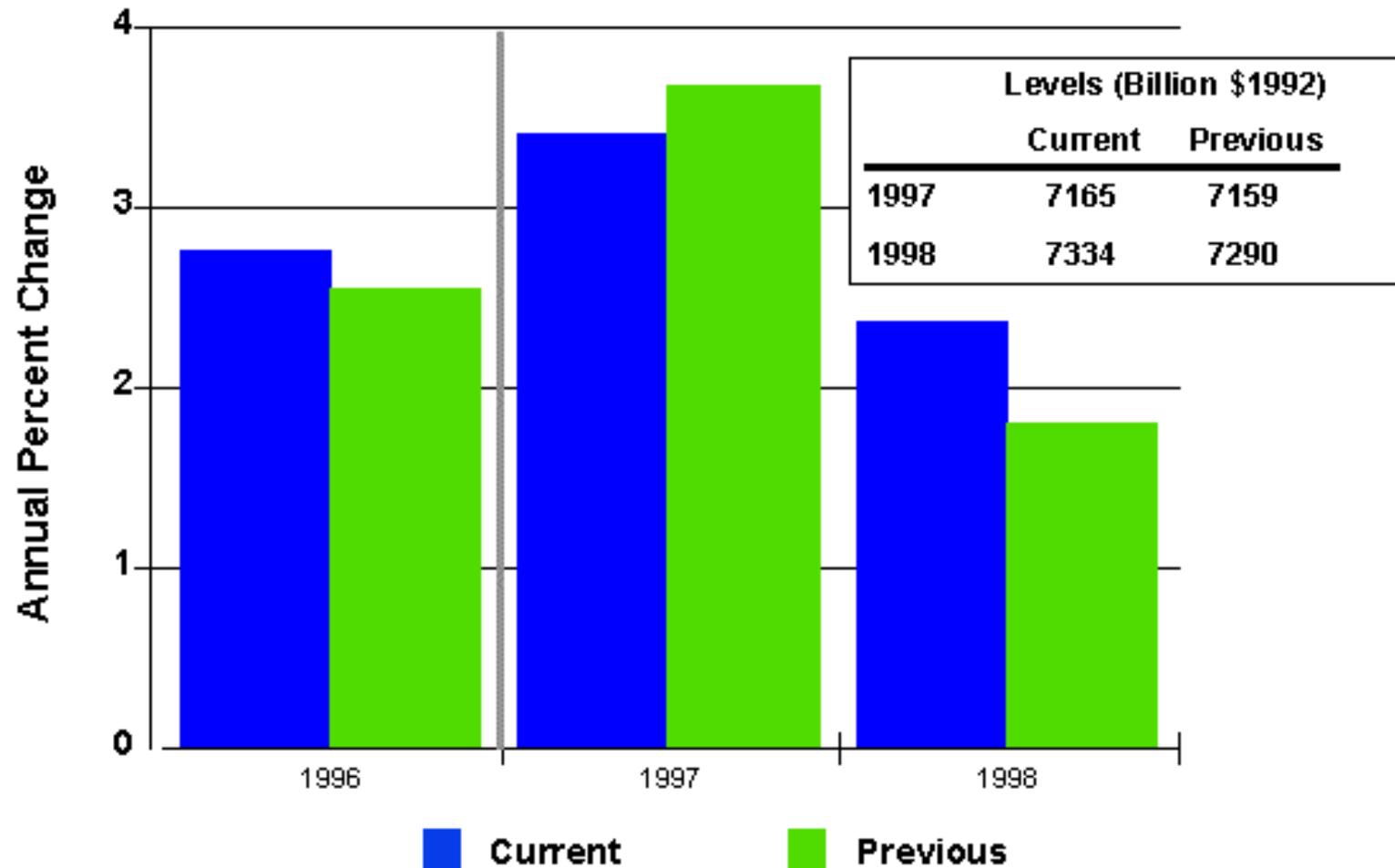
Figure U14. Production Index* Rebasing (Manufacturing Production)



*Refers to Federal Reserve Board Index of Industrial Output

Source: Energy Information Administration, Short-Term Energy Model, September 1997

Figure U15. Real GDP Growth



Source: Energy Information Administration, Short-Term Energy Model, September 1997

Table U1. U.S. Macroeconomic and Weather Assumptions- September 1997

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Macroeconomic ^a															
Real Gross Domestic Product (billion chained 1992 dollars - SAAR)	6826	6926	6944	7017	7102	<i>7140</i>	<i>7182</i>	<i>7234</i>	<i>7285</i>	<i>7316</i>	<i>7344</i>	<i>7390</i>	6928	<i>7165</i>	<i>7334</i>
Percentage Change from Prior Year	1.8	3.2	2.7	3.3	4.0	<i>3.1</i>	<i>3.4</i>	<i>3.1</i>	<i>2.6</i>	<i>2.5</i>	<i>2.3</i>	<i>2.1</i>	2.8	<i>3.4</i>	<i>2.4</i>
Annualized Percent Change from Prior Quarter.....	1.8	5.8	1.0	4.2	4.8	<i>2.1</i>	<i>2.4</i>	<i>2.9</i>	<i>2.8</i>	<i>1.7</i>	<i>1.5</i>	<i>2.5</i>			
GDP Implicit Price Deflator (Index, 1992=1.000)	1.093	1.099	1.106	1.111	1.118	<i>1.122</i>	<i>1.127</i>	<i>1.134</i>	<i>1.141</i>	<i>1.147</i>	<i>1.154</i>	<i>1.161</i>	1.102	<i>1.125</i>	<i>1.151</i>
Percentage Change from Prior Year	2.2	2.2	2.4	2.3	2.2	<i>2.1</i>	<i>1.9</i>	<i>2.1</i>	<i>2.1</i>	<i>2.3</i>	<i>2.4</i>	<i>2.4</i>	2.3	<i>2.1</i>	<i>2.3</i>
Real Disposable Personal Income (billion chained 1992 Dollars - SAAR)	5048	5061	5095	5104	5161	<i>5200</i>	<i>5239</i>	<i>5266</i>	<i>5328</i>	<i>5362</i>	<i>5388</i>	<i>5430</i>	5077	<i>5216</i>	<i>5377</i>
Percentage Change from Prior Year	2.2	2.4	2.4	2.0	2.2	<i>2.7</i>	<i>2.8</i>	<i>3.2</i>	<i>3.2</i>	<i>3.1</i>	<i>2.9</i>	<i>3.1</i>	2.3	<i>2.7</i>	<i>3.1</i>
Manufacturing Production (Index, 1992=1.000)	1.141	1.158	1.172	1.184	1.200	<i>1.213</i>	<i>1.225</i>	<i>1.236</i>	<i>1.245</i>	<i>1.253</i>	<i>1.261</i>	<i>1.266</i>	1.164	<i>1.219</i>	<i>1.256</i>
Percentage Change from Prior Year	0.9	2.7	3.3	4.2	5.2	<i>4.8</i>	<i>4.6</i>	<i>4.3</i>	<i>3.8</i>	<i>3.3</i>	<i>2.9</i>	<i>2.5</i>	2.8	<i>4.7</i>	<i>3.1</i>
OECD Economic Growth (percent) ^b													2.5	<i>2.7</i>	<i>2.5</i>
Weather ^c															
Heating Degree-Days															
U.S.....	2406	552	89	1666	2143	<i>669</i>	<i>101</i>	<i>1636</i>	<i>2327</i>	<i>524</i>	<i>89</i>	<i>1636</i>	4713	<i>4549</i>	<i>4576</i>
New England	3361	933	151	2234	3119	<i>1078</i>	<i>203</i>	<i>2269</i>	<i>3267</i>	<i>915</i>	<i>171</i>	<i>2269</i>	6679	<i>6669</i>	<i>6621</i>
Middle Atlantic.....	3120	750	87	2029	2814	<i>887</i>	<i>120</i>	<i>2026</i>	<i>2993</i>	<i>716</i>	<i>105</i>	<i>2026</i>	5986	<i>5847</i>	<i>5839</i>
U.S. Gas-Weighted.....	2501	636	135	1768	2275	<i>711</i>	<i>97</i>	<i>1686</i>	<i>2426</i>	<i>539</i>	<i>81</i>	<i>1686</i>	5040	<i>4769</i>	<i>4732</i>
Cooling Degree-Days (U.S.).....	21	368	725	66	29	<i>275</i>	<i>743</i>	<i>72</i>	<i>30</i>	<i>334</i>	<i>758</i>	<i>72</i>	1180	<i>1119</i>	<i>1193</i>

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

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

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

SAAR: Seasonally-adjusted annualized rate.

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

Sources: Historical data: latest data available from: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, National Oceanic and Atmospheric Administration; Federal Reserve System, *Statistical Release G.17(419)*. Projections of OECD growth are based on WEFA Group, "World Economic Outlook," Volume 1. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0897.

Table U2. U.S. Energy Indicators: Mid World Oil Price Case- September 1997

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Macroeconomic ^a															
Real Fixed Investment (billion chained 1992 dollars-SAAR)	1002	1036	1061	1069	1079	<i>1111</i>	<i>1127</i>	<i>1146</i>	<i>1167</i>	<i>1181</i>	<i>1187</i>	<i>1196</i>	1042	<i>1116</i>	<i>1183</i>
Real Exchange Rate (index).....	0.998	1.013	1.017	1.030	1.085	<i>1.096</i>	<i>1.108</i>	<i>1.117</i>	<i>1.116</i>	<i>1.110</i>	<i>1.105</i>	<i>1.152</i>	1.015	<i>1.102</i>	<i>1.121</i>
Business Inventory Change (billion chained 1992 dollars-SAAR)	12.5	0.6	14.3	12.3	20.9	<i>27.6</i>	<i>22.9</i>	<i>13.5</i>	<i>6.5</i>	<i>1.7</i>	<i>0.2</i>	<i>-0.6</i>	9.9	<i>21.2</i>	<i>2.0</i>
Producer Price Index (index, 1980-1984=1.000)	1.263	1.275	1.282	1.288	1.286	<i>1.268</i>	<i>1.269</i>	<i>1.276</i>	<i>1.281</i>	<i>1.286</i>	<i>1.290</i>	<i>1.295</i>	1.277	<i>1.275</i>	<i>1.288</i>
Consumer Price Index (index, 1980-1984=1.000)	1.551	1.564	1.575	1.588	1.597	<i>1.601</i>	<i>1.609</i>	<i>1.620</i>	<i>1.630</i>	<i>1.640</i>	<i>1.651</i>	<i>1.662</i>	1.570	<i>1.607</i>	<i>1.646</i>
Petroleum Product Price Index (index, 1980-1984=1.000)	0.632	0.727	0.702	0.744	0.722	<i>0.675</i>	<i>0.672</i>	<i>0.654</i>	<i>0.665</i>	<i>0.646</i>	<i>0.645</i>	<i>0.657</i>	0.701	<i>0.681</i>	<i>0.653</i>
Non-Farm Employment (millions)	118.5	119.3	119.9	120.5	121.1	<i>121.9</i>	<i>122.6</i>	<i>123.2</i>	<i>123.9</i>	<i>124.4</i>	<i>124.9</i>	<i>125.3</i>	119.5	<i>122.2</i>	<i>124.6</i>
Commercial Employment (millions)	80.1	80.8	81.4	81.9	82.6	<i>83.2</i>	<i>83.7</i>	<i>84.3</i>	<i>84.9</i>	<i>85.4</i>	<i>85.7</i>	<i>86.1</i>	81.0	<i>83.4</i>	<i>85.5</i>
Total Industrial Production (index, 1992=1.000).....	1.131	1.148	1.157	1.170	1.183	<i>1.196</i>	<i>1.207</i>	<i>1.215</i>	<i>1.225</i>	<i>1.232</i>	<i>1.241</i>	<i>1.247</i>	1.152	<i>1.200</i>	<i>1.236</i>
Housing Stock (millions)	110.6	111.0	111.4	111.8	112.1	<i>112.5</i>	<i>112.9</i>	<i>113.3</i>	<i>113.6</i>	<i>114.0</i>	<i>114.4</i>	<i>114.7</i>	111.2	<i>112.7</i>	<i>114.2</i>
Miscellaneous															
Gas Weighted Industrial Production (index, 1992=1.000).....	1.077	1.087	1.102	1.119	1.125	<i>1.138</i>	<i>1.140</i>	<i>1.140</i>	<i>1.140</i>	<i>1.143</i>	<i>1.147</i>	<i>1.153</i>	1.096	<i>1.136</i>	<i>1.146</i>
Vehicle Miles Traveled ^b (million miles/day).....	6181	7014	7142	6639	6442	<i>7075</i>	<i>7308</i>	<i>6811</i>	<i>6622</i>	<i>7357</i>	<i>7520</i>	<i>7038</i>	6745	<i>6911</i>	<i>7136</i>
Vehicle Fuel Efficiency (index, 1995=1.000).....	0.961	1.028	1.040	0.983	0.997	<i>1.019</i>	<i>1.045</i>	<i>0.989</i>	<i>1.006</i>	<i>1.041</i>	<i>1.057</i>	<i>1.000</i>	1.004	<i>1.013</i>	<i>1.026</i>
Real Vehicle Fuel Cost (cents per mile).....	3.96	4.13	3.94	4.13	4.07	<i>3.89</i>	<i>3.85</i>	<i>3.89</i>	<i>3.74</i>	<i>3.72</i>	<i>3.60</i>	<i>3.71</i>	4.04	<i>3.93</i>	<i>3.69</i>
Air Travel Capacity (mill. available ton-miles/day)	382.0	400.1	413.9	402.6	401.0	<i>422.1</i>	<i>441.9</i>	<i>434.4</i>	<i>431.8</i>	<i>448.4</i>	<i>466.4</i>	<i>456.3</i>	399.7	<i>425.0</i>	<i>450.8</i>
Aircraft Utilization (mill. revenue ton-miles/day)	213.0	233.4	244.8	232.0	230.0	<i>245.8</i>	<i>260.7</i>	<i>246.2</i>	<i>241.6</i>	<i>257.6</i>	<i>273.3</i>	<i>257.3</i>	230.8	<i>245.8</i>	<i>257.5</i>
Aircraft Yield (cents per ton-mile).....	14.10	13.98	13.19	13.36	14.16	<i>13.70</i>	<i>12.91</i>	<i>13.78</i>	<i>14.65</i>	<i>14.28</i>	<i>13.42</i>	<i>14.21</i>	13.66	<i>13.64</i>	<i>14.14</i>
Raw Steel Production (millions tons).....	26.55	26.05	25.62	25.67	26.18	<i>26.89</i>	<i>26.13</i>	<i>27.79</i>	<i>28.13</i>	<i>27.99</i>	<i>27.39</i>	<i>28.13</i>	103.89	<i>106.99</i>	<i>111.64</i>

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

^bIncludes 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 CONTROL0897.

Table U3. International Petroleum Supply and Demand: Mid World Oil Price Case-September 1997
(Million Barrels per Day, Except Closing Stocks)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Demand^a															
OECD															
U.S. (50 States).....	18.4	18.0	18.2	18.7	18.2	18.5	18.8	19.0	18.8	18.6	18.9	19.2	18.3	18.6	18.9
U.S. Territories.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Canada.....	1.8	1.7	1.8	1.8	1.8	1.7	1.8	1.9	1.9	1.7	1.9	1.9	1.8	1.8	1.8
Europe.....	14.5	13.7	14.3	14.6	14.2	13.9	14.6	14.9	14.4	14.1	14.8	15.1	14.3	14.4	14.6
Japan.....	6.4	5.2	5.4	6.0	6.4	5.3	5.4	6.1	6.5	5.4	5.6	6.2	5.8	5.8	5.9
Australia and New Zealand.....	1.0	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.0	1.0	0.9	1.0	0.9	0.9	1.0
Total OECD.....	42.3	39.7	40.7	42.3	41.8	40.6	41.7	43.0	42.7	41.1	42.2	43.6	41.3	41.8	42.4
Non-OECD															
Former Soviet Union.....	4.8	4.3	4.3	4.7	4.8	4.3	4.3	4.7	4.8	4.4	4.4	4.8	4.5	4.5	4.6
Europe.....	1.4	1.3	1.3	1.4	1.5	1.3	1.3	1.4	1.5	1.3	1.3	1.4	1.3	1.4	1.4
China.....	3.5	3.6	3.6	3.7	3.8	3.8	3.8	3.9	4.0	4.1	4.1	4.1	3.6	3.8	4.1
Other Asia.....	8.6	8.3	7.9	9.1	9.2	8.9	8.5	9.7	9.8	9.6	9.1	10.4	8.5	9.1	9.7
Other Non-OECD.....	12.5	12.8	12.5	12.8	12.9	13.3	13.0	13.3	13.4	13.7	13.4	13.7	12.7	13.1	13.6
Total Non-OECD.....	30.7	30.3	29.6	31.5	32.1	31.7	31.0	33.0	33.6	33.1	32.3	34.5	30.5	31.9	33.4
Total World Demand.....	73.0	70.0	70.3	73.8	74.0	72.2	72.6	76.0	76.3	74.2	74.5	78.1	71.8	73.7	75.8
Supply^b															
OECD															
U.S. (50 States).....	9.4	9.4	9.4	9.6	9.4	9.4	9.3	9.5	9.4	9.5	9.4	9.5	9.4	9.4	9.4
Canada.....	2.4	2.4	2.5	2.6	2.6	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.5	2.6	2.7
North Sea ^c	6.2	6.1	6.1	6.5	6.5	6.1	6.5	6.8	6.9	6.7	7.0	7.2	6.2	6.4	6.9
Other OECD.....	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6
Total OECD.....	19.6	19.5	19.6	20.2	20.1	19.6	20.0	20.5	20.6	20.5	20.8	21.0	19.7	20.0	20.7
Non-OECD															
OPEC.....	28.1	28.1	28.3	28.7	29.5	29.7	29.3	29.7	29.8	29.9	30.0	30.1	28.3	29.5	29.9
Former Soviet Union.....	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.3	7.3	7.3	7.4	7.4	7.1	7.2	7.3
China.....	3.1	3.1	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.1	3.3	3.3
Mexico.....	3.3	3.4	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.3	3.4	3.5
Other Non-OECD.....	10.1	10.2	10.2	10.4	10.5	10.6	10.7	10.8	11.0	11.1	11.2	11.3	10.2	10.6	11.2
Total Non-OECD.....	51.7	51.8	52.0	52.6	53.6	54.1	53.9	54.5	54.8	55.1	55.4	55.7	52.0	54.0	55.2
Total World Supply.....	71.3	71.3	71.6	72.8	73.7	73.7	73.9	75.0	75.4	75.6	76.2	76.7	71.7	74.1	76.0
Stock Changes															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR).....	0.9	-0.7	-0.1	0.5	-0.1	-0.7	0.2	0.4	0.3	-0.7	-0.3	0.5	0.2	-0.0	-0.1
Other.....	0.9	-0.7	-1.2	0.6	0.3	-0.7	-1.4	0.5	0.6	-0.7	-1.3	0.9	-0.1	-0.3	-0.1
Total Stock Withdrawals.....	1.8	-1.4	-1.2	1.0	0.2	-1.4	-1.2	0.9	0.9	-1.4	-1.6	1.4	0.1	-0.4	-0.2
Closing Stocks, OECD only (billion barrels).....	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.7	2.8	2.8	2.7	2.7	2.8	2.7
Non-OPEC Supply.....	43.2	43.3	43.3	44.1	44.2	44.0	44.6	45.3	45.6	45.7	46.1	46.6	43.5	44.5	46.0
Net Exports from Former Soviet Union.....	2.4	2.8	2.8	2.4	2.3	2.9	2.9	2.5	2.4	2.9	3.0	2.6	2.6	2.7	2.7

^aDemand 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.

^bIncludes 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.

^cIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

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

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

SPR: Strategic Petroleum Reserve

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

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

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

Table U4. U. S. Energy Prices- September 1997
(Nominal Dollars)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Imported Crude Oil ^a															
(dollars per barrel).....	18.38	20.12	20.70	23.06	21.03	17.93	18.17	18.33	18.42	18.75	18.58	18.99	20.59	18.82	18.69
Natural Gas Wellhead															
(dollars per thousand cubic feet).....	2.01	2.10	2.13	2.74	2.52	1.97	2.18	2.69	2.49	2.04	2.01	2.40	2.25	2.34	2.24
Petroleum Products															
Gasoline Retail ^b															
(dollars per gallon).....	1.20	1.35	1.31	1.30	1.31	1.29	1.31	1.26	1.24	1.29	1.27	1.25	1.29	1.29	1.26
No. 2 Diesel Oil, Retail															
(dollars per gallon).....	1.16	1.23	1.21	1.30	1.25	1.18	1.15	1.19	1.18	1.17	1.16	1.21	1.23	1.19	1.18
No. 2 Heating Oil, Wholesale															
(dollars per gallon).....	0.59	0.61	0.63	0.72	0.65	0.57	0.56	0.58	0.57	0.53	0.54	0.59	0.64	0.59	0.56
No. 2 Heating Oil, Retail															
(dollars per gallon).....	0.96	0.98	0.91	1.06	1.06	0.98	0.90	0.94	0.98	0.93	0.88	0.96	0.99	1.00	0.96
No. 6 Residual Fuel Oil, Retail ^c															
(dollars per barrel).....	19.29	18.12	17.64	20.72	19.00	16.83	17.07	18.13	18.33	17.30	16.80	18.18	18.97	17.81	17.69
Electric Utility Fuels															
Coal															
(dollars per million Btu).....	1.30	1.30	1.28	1.28	1.29	1.30	1.27	1.25	1.26	1.27	1.25	1.24	1.29	1.28	1.25
Heavy Fuel Oil ^d															
(dollars per million Btu).....	3.01	2.93	2.83	3.35	2.91	2.72	2.74	2.97	2.92	2.84	2.69	2.98	3.01	2.83	2.85
Natural Gas															
(dollars per million Btu).....	2.81	2.55	2.46	2.96	3.13	2.51	2.61	3.13	2.92	2.41	2.34	2.76	2.64	2.78	2.54
Other Residential															
Natural Gas															
(dollars per thousand cubic feet).....	5.74	6.66	8.35	6.46	6.66	6.75	7.64	6.21	6.16	6.58	7.60	6.13	6.29	6.62	6.33
Electricity															
(cents per kilowatthour).....	7.90	8.52	8.83	8.31	8.04	8.62	8.82	8.35	7.94	8.52	8.79	8.29	8.39	8.46	8.39

^aRefiner acquisition cost (RAC) of imported crude oil.

^bAverage for all grades and services.

^cAverage for all sulfur contents.

^dIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the second quarter of 1997. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

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

Table U5. U.S. Petroleum Supply and Demand: Mid World Oil Price Case-September 1997
(Million Barrels per Day, Except Closing Stocks)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Crude Oil Supply															
Domestic Production ^a	6.55	6.43	6.39	6.49	6.45	6.41	6.36	6.44	6.44	6.44	6.40	6.40	6.46	6.42	6.42
Alaska	1.46	1.38	1.35	1.39	1.36	1.30	1.23	1.29	1.26	1.20	1.18	1.20	1.39	1.30	1.21
Lower 48	5.09	5.06	5.04	5.10	5.09	5.11	5.13	5.15	5.18	5.24	5.22	5.20	5.07	5.12	5.21
Net Imports (including SPR) ^b	6.96	7.68	7.63	7.32	7.32	8.11	8.11	7.66	7.46	8.14	8.20	7.83	7.40	7.80	7.91
Other SPR Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPR Stock Withdrawn or Added (-)	0.03	0.05	0.12	0.09	0.03	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.00
Other Stock Withdrawn or Added (-)	0.04	-0.16	0.13	0.20	-0.34	-0.08	0.16	0.01	-0.07	-0.01	0.06	0.02	0.05	-0.06	0.00
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.13	0.44	0.16	0.14	0.24	0.41	0.25	0.27	0.27	0.28	0.28	0.28	0.22	0.29	0.28
Total Crude Oil Supply	13.70	14.43	14.42	14.22	13.71	14.84	14.87	14.38	14.08	14.85	14.93	14.52	14.19	14.45	14.60
Other Supply															
NGL Production.....	1.74	1.83	1.85	1.90	1.87	1.84	1.79	1.86	1.84	1.85	1.86	1.88	1.83	1.84	1.86
Other Hydrocarbon and Alcohol Inputs.....	0.33	0.29	0.30	0.33	0.31	0.34	0.29	0.30	0.31	0.30	0.29	0.31	0.31	0.31	0.30
Crude Oil Product Supplied.....	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain.....	0.79	0.84	0.85	0.87	0.78	0.84	0.86	0.86	0.83	0.88	0.89	0.87	0.84	0.84	0.87
Net Product Imports ^c	1.01	1.19	1.05	1.16	1.30	1.22	0.97	1.12	1.33	1.48	1.26	1.17	1.10	1.15	1.31
Product Stock Withdrawn or Added (-) ^d	0.82	-0.60	-0.31	0.20	0.26	-0.63	-0.03	0.45	0.38	-0.73	-0.35	0.46	0.03	0.01	-0.06
Total Supply	18.39	17.98	18.18	18.68	18.23	18.46	18.75	18.97	18.79	18.64	18.90	19.22	18.31	18.61	18.89
Demand															
Motor Gasoline.....	7.55	8.01	8.06	7.93	7.59	8.15	8.21	8.08	7.73	8.30	8.36	8.27	7.89	8.01	8.17
Jet Fuel	1.61	1.52	1.59	1.60	1.57	1.56	1.62	1.67	1.62	1.58	1.64	1.68	1.58	1.61	1.63
Distillate Fuel Oil	3.63	3.23	3.12	3.48	3.58	3.33	3.33	3.57	3.84	3.42	3.36	3.63	3.37	3.45	3.56
Residual Fuel Oil.....	0.98	0.77	0.83	0.82	0.90	0.77	0.84	0.96	1.04	0.88	0.85	0.94	0.85	0.87	0.93
Other Oils ^e	4.62	4.45	4.58	4.85	4.61	4.65	4.75	4.68	4.56	4.46	4.68	4.71	4.63	4.67	4.60
Total Demand.....	18.39	17.98	18.18	18.68	18.24	18.46	18.75	18.97	18.79	18.64	18.90	19.22	18.31	18.61	18.89
Total Petroleum Net Imports	7.97	8.87	8.67	8.47	8.62	9.32	9.07	8.78	8.79	9.62	9.46	9.00	8.50	8.95	9.22
Closing Stocks (million barrels)															
Crude Oil (excluding SPR).....	300	314	302	284	314	322	307	306	312	313	307	305	284	306	305
Total Motor Gasoline.....	203	205	200	195	200	205	190	189	201	207	206	200	195	189	200
Finished Motor Gasoline	158	164	161	157	154	164	150	148	160	167	165	159	157	148	159
Blending Components.....	44	41	39	38	46	41	40	40	42	40	41	41	38	40	41
Jet Fuel	34	39	43	40	39	43	44	41	40	41	42	42	40	41	42
Distillate Fuel Oil	90	102	115	127	102	118	131	133	95	109	126	130	127	133	130
Residual Fuel Oil.....	32	35	38	46	41	39	36	38	34	39	40	43	46	38	43
Other Oils ^e	235	267	280	250	253	286	294	253	248	290	303	260	250	253	260
Total Stocks (excluding SPR)	893	962	978	942	949	1013	1001	959	931	998	1024	980	942	959	980
Crude Oil in SPR.....	589	584	574	566	563	563	564	564	564	564	564	564	566	564	564
Total Stocks (including SPR)	1482	1547	1551	1507	1512	1577	1565	1523	1494	1561	1587	1543	1507	1523	1543

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes 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.

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

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

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

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

Table U6. U.S. Natural Gas Supply and Demand: Mid world Oil Price Case-September 1997
(Trillion cubic Feet)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Total Dry Gas Production	4.74	4.70	4.72	4.84	4.70	<i>4.68</i>	<i>4.74</i>	<i>4.81</i>	<i>4.77</i>	<i>4.75</i>	<i>4.81</i>	<i>4.88</i>	18.99	<i>18.92</i>	<i>19.21</i>
Net Imports	0.70	0.68	0.67	0.73	0.74	<i>0.70</i>	<i>0.72</i>	<i>0.78</i>	<i>0.79</i>	<i>0.77</i>	<i>0.78</i>	<i>0.84</i>	2.78	<i>2.94</i>	<i>3.17</i>
Supplemental Gaseous Fuels	0.03	0.02	0.02	0.03	0.03	<i>0.03</i>	<i>0.03</i>	<i>0.04</i>	<i>0.04</i>	<i>0.03</i>	<i>0.03</i>	<i>0.04</i>	0.11	<i>0.13</i>	<i>0.13</i>
Total New Supply.....	5.47	5.40	5.41	5.60	5.47	<i>5.41</i>	<i>5.49</i>	<i>5.63</i>	<i>5.59</i>	<i>5.55</i>	<i>5.61</i>	<i>5.76</i>	21.89	<i>21.99</i>	<i>22.51</i>
Underground Working Gas Storage															
Opening	6.50	5.04	5.86	6.93	6.51	<i>5.32</i>	<i>6.04</i>	<i>6.95</i>	<i>6.51</i>	<i>5.23</i>	<i>6.03</i>	<i>6.97</i>	6.50	<i>6.51</i>	<i>6.51</i>
Closing.....	5.04	5.86	6.93	6.51	5.32	<i>6.04</i>	<i>6.95</i>	<i>6.51</i>	<i>5.23</i>	<i>6.03</i>	<i>6.97</i>	<i>6.51</i>	6.51	<i>6.51</i>	<i>6.51</i>
Net Withdrawals.....	1.46	-0.82	-1.07	0.42	1.19	<i>-0.72</i>	<i>-0.91</i>	<i>0.43</i>	<i>1.28</i>	<i>-0.80</i>	<i>-0.94</i>	<i>0.46</i>	-0.00	<i>-0.01</i>	<i>0.00</i>
Total Supply.....	6.93	4.58	4.34	6.02	6.66	<i>4.69</i>	<i>4.58</i>	<i>6.06</i>	<i>6.87</i>	<i>4.75</i>	<i>4.67</i>	<i>6.22</i>	21.88	<i>21.98</i>	<i>22.51</i>
Balancing Item ^a	0.19	0.31	0.00	-0.30	0.23	<i>0.14</i>	<i>-0.14</i>	<i>-0.28</i>	<i>0.45</i>	<i>0.24</i>	<i>-0.07</i>	<i>-0.30</i>	0.20	<i>-0.04</i>	<i>0.32</i>
Total Primary Supply	7.13	4.89	4.35	5.72	6.89	<i>4.83</i>	<i>4.44</i>	<i>5.79</i>	<i>7.32</i>	<i>4.98</i>	<i>4.60</i>	<i>5.92</i>	22.09	<i>21.94</i>	<i>22.83</i>
Demand															
Lease and Plant Fuel.....	0.35	0.35	0.35	0.36	0.31	<i>0.31</i>	<i>0.32</i>	<i>0.33</i>	<i>0.33</i>	<i>0.32</i>	<i>0.32</i>	<i>0.33</i>	1.41	<i>1.27</i>	<i>1.29</i>
Pipeline Use.....	0.23	0.16	0.14	0.18	0.22	<i>0.16</i>	<i>0.16</i>	<i>0.20</i>	<i>0.23</i>	<i>0.17</i>	<i>0.16</i>	<i>0.20</i>	0.71	<i>0.74</i>	<i>0.75</i>
Residential.....	2.46	0.91	0.38	1.48	2.28	<i>0.88</i>	<i>0.37</i>	<i>1.41</i>	<i>2.45</i>	<i>0.86</i>	<i>0.38</i>	<i>1.43</i>	5.23	<i>4.93</i>	<i>5.11</i>
Commercial.....	1.32	0.61	0.39	0.89	1.26	<i>0.61</i>	<i>0.41</i>	<i>0.89</i>	<i>1.38</i>	<i>0.62</i>	<i>0.42</i>	<i>0.91</i>	3.21	<i>3.17</i>	<i>3.33</i>
Industrial (Incl. Cogenerators).....	2.25	2.09	2.04	2.22	2.29	<i>2.11</i>	<i>2.08</i>	<i>2.32</i>	<i>2.37</i>	<i>2.15</i>	<i>2.12</i>	<i>2.37</i>	8.60	<i>8.80</i>	<i>9.00</i>
Cogenerators ^b	0.56	0.51	0.52	0.60	0.56	<i>0.54</i>	<i>0.57</i>	<i>0.65</i>	<i>0.58</i>	<i>0.56</i>	<i>0.59</i>	<i>0.68</i>	2.20	<i>2.32</i>	<i>2.41</i>
Electricity Production															
Electric Utilities	0.46	0.73	1.01	0.53	0.47	<i>0.72</i>	<i>1.05</i>	<i>0.59</i>	<i>0.51</i>	<i>0.82</i>	<i>1.17</i>	<i>0.64</i>	2.73	<i>2.83</i>	<i>3.14</i>
Nonutilities (Excl. Cogen.)	0.05	0.04	0.05	0.05	0.05	<i>0.05</i>	<i>0.05</i>	<i>0.06</i>	<i>0.05</i>	<i>0.05</i>	<i>0.05</i>	<i>0.06</i>	0.19	<i>0.20</i>	<i>0.21</i>
Total Demand.....	7.13	4.89	4.35	5.72	6.89	<i>4.83</i>	<i>4.44</i>	<i>5.79</i>	<i>7.32</i>	<i>4.98</i>	<i>4.60</i>	<i>5.92</i>	22.09	<i>21.94</i>	<i>22.83</i>

^aThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

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

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

Table U7. U.S. Coal Supply and Demand: Mid World Oil Price Case-September 1997
(Million Short Tons)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Production	259.8	263.4	272.1	268.6	273.9	<i>263.5</i>	<i>271.0</i>	<i>280.0</i>	<i>284.1</i>	<i>273.6</i>	<i>279.4</i>	<i>281.7</i>	1063.9	<i>1088.4</i>	<i>1118.9</i>
Appalachia	111.5	113.9	111.3	115.1	119.0	<i>111.8</i>	<i>108.3</i>	<i>117.7</i>	<i>121.4</i>	<i>113.8</i>	<i>109.2</i>	<i>116.2</i>	451.9	<i>456.9</i>	<i>460.6</i>
Interior	44.0	42.7	43.9	42.2	42.9	<i>41.1</i>	<i>41.7</i>	<i>41.9</i>	<i>42.9</i>	<i>41.1</i>	<i>41.0</i>	<i>40.1</i>	172.8	<i>167.7</i>	<i>165.1</i>
Western	104.3	106.7	116.9	111.3	112.0	<i>110.5</i>	<i>120.9</i>	<i>120.4</i>	<i>119.8</i>	<i>118.8</i>	<i>129.3</i>	<i>125.4</i>	439.1	<i>463.8</i>	<i>493.2</i>
Primary Stock Levels ^a															
Opening	34.4	36.9	37.3	33.8	31.1	<i>37.5</i>	<i>37.0</i>	<i>33.0</i>	<i>31.0</i>	<i>34.0</i>	<i>34.0</i>	<i>32.0</i>	34.4	<i>31.1</i>	<i>31.0</i>
Closing	36.9	37.3	33.8	31.1	37.5	<i>37.0</i>	<i>33.0</i>	<i>31.0</i>	<i>34.0</i>	<i>34.0</i>	<i>32.0</i>	<i>30.0</i>	31.1	<i>31.0</i>	<i>30.0</i>
Net Withdrawals	-2.4	-0.5	3.6	2.7	-6.5	<i>0.5</i>	<i>4.0</i>	<i>2.0</i>	<i>-3.0</i>	<i>(S)</i>	<i>2.0</i>	<i>2.0</i>	3.4	<i>0.1</i>	<i>1.0</i>
Imports	1.7	1.6	2.1	1.8	1.3	<i>1.7</i>	<i>1.9</i>	<i>1.9</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	7.1	<i>6.8</i>	<i>7.3</i>
Exports	20.5	23.0	23.5	23.4	20.0	<i>20.6</i>	<i>23.3</i>	<i>23.2</i>	<i>22.0</i>	<i>22.6</i>	<i>22.8</i>	<i>22.7</i>	90.5	<i>87.1</i>	<i>90.1</i>
Total Net Domestic Supply	238.5	241.4	254.2	249.7	248.8	<i>245.1</i>	<i>253.6</i>	<i>260.7</i>	<i>261.0</i>	<i>252.9</i>	<i>260.5</i>	<i>262.8</i>	983.9	<i>1008.2</i>	<i>1037.1</i>
Secondary Stock Levels ^b															
Opening	134.6	124.8	134.3	127.6	123.0	<i>119.8</i>	<i>128.5</i>	<i>113.5</i>	<i>115.9</i>	<i>115.6</i>	<i>124.2</i>	<i>110.6</i>	134.6	<i>123.0</i>	<i>115.9</i>
Closing	124.8	134.3	127.6	123.0	119.8	<i>128.5</i>	<i>113.5</i>	<i>115.9</i>	<i>115.6</i>	<i>124.2</i>	<i>110.6</i>	<i>112.0</i>	123.0	<i>115.9</i>	<i>112.0</i>
Net Withdrawals	9.8	-9.5	6.7	4.6	3.1	<i>-8.7</i>	<i>15.1</i>	<i>-2.4</i>	<i>0.2</i>	<i>-8.5</i>	<i>13.6</i>	<i>-1.5</i>	11.7	<i>7.1</i>	<i>3.8</i>
Total Supply	248.4	231.9	261.0	254.3	251.9	<i>236.4</i>	<i>268.6</i>	<i>258.3</i>	<i>261.2</i>	<i>244.4</i>	<i>274.1</i>	<i>261.3</i>	995.5	<i>1015.4</i>	<i>1041.0</i>
Demand															
Coke Plants	8.0	8.0	8.0	7.8	7.6	<i>7.7</i>	<i>7.5</i>	<i>8.1</i>	<i>7.7</i>	<i>7.6</i>	<i>7.7</i>	<i>8.2</i>	31.7	<i>31.0</i>	<i>31.2</i>
Electricity Production															
Electric Utilities	214.9	203.2	233.6	223.0	218.2	<i>207.4</i>	<i>239.4</i>	<i>225.8</i>	<i>229.4</i>	<i>214.8</i>	<i>244.6</i>	<i>228.8</i>	874.7	<i>890.8</i>	<i>917.8</i>
Nonutilities (Excl. Cogen.) ^c	6.0	6.0	6.0	6.0	6.5	<i>6.5</i>	<i>6.5</i>	<i>6.5</i>	<i>7.0</i>	<i>7.0</i>	<i>7.0</i>	<i>7.0</i>	24.0	<i>26.0</i>	<i>28.0</i>
Retail and General Industry ^d	20.3	18.0	17.9	20.3	20.1	<i>17.5</i>	<i>17.8</i>	<i>20.4</i>	<i>19.8</i>	<i>17.7</i>	<i>17.5</i>	<i>20.1</i>	76.4	<i>75.8</i>	<i>75.2</i>
Total Demand	249.2	235.1	265.5	257.0	252.3	<i>239.0</i>	<i>271.2</i>	<i>260.9</i>	<i>264.0</i>	<i>247.2</i>	<i>276.9</i>	<i>264.1</i>	1006.8	<i>1023.5</i>	<i>1052.1</i>
Discrepancy ^e	-0.8	-3.2	-4.6	-2.7	-0.4	<i>-2.6</i>	<i>-2.6</i>	<i>-2.6</i>	<i>-2.8</i>	<i>-2.8</i>	<i>-2.8</i>	<i>-2.8</i>	-11.3	<i>-8.2</i>	<i>-11.2</i>

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

^bSecondary stocks are held by users.

^cConsumption of coal by Independent Power Producers (IPPs). In 1995, IPP consumption was estimated to be 5.290 million tons per quarter. Quarterly estimates and projections for coal consumption by nonutility generators are based on estimates for annual coal-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867 (Annual Nonutility Power Producer Report). Data for second quarter 1997 are estimates.

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

^eHistorical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference. Estimated IPP consumption not included in production (waste coal) has been netted out of the discrepancy. The estimated annual consumption for 1995 is 8.496 million tons, 9.600 million tons in 1996, and the forecast for 1997 is 10.400 million tons, and 11.200 million tons in 1998.

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

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

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

Table U8. U.S. Electricity Supply and Demand: Mid World Oil Price Case- September 1997
(Billion Kilowatthours)

	1996				1997				1998				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1996	1997	1998
Supply															
Net Utility Generation															
Coal.....	428.2	405.7	462.7	441.0	434.0	<i>414.0</i>	<i>476.3</i>	<i>452.2</i>	<i>461.0</i>	<i>431.4</i>	<i>488.6</i>	<i>458.0</i>	1737.5	<i>1776.5</i>	<i>1838.9</i>
Petroleum.....	22.3	12.8	19.0	14.1	17.6	<i>15.4</i>	<i>23.1</i>	<i>15.4</i>	<i>21.1</i>	<i>16.2</i>	<i>20.2</i>	<i>14.8</i>	68.2	<i>71.4</i>	<i>72.2</i>
Natural Gas.....	44.6	70.8	96.6	50.8	45.6	<i>69.1</i>	<i>101.2</i>	<i>56.5</i>	<i>49.3</i>	<i>78.9</i>	<i>112.5</i>	<i>61.1</i>	262.8	<i>272.4</i>	<i>301.8</i>
Nuclear.....	174.3	163.5	177.0	159.9	160.0	<i>144.4</i>	<i>161.7</i>	<i>155.5</i>	<i>169.9</i>	<i>153.0</i>	<i>178.5</i>	<i>161.2</i>	674.7	<i>621.6</i>	<i>662.6</i>
Hydroelectric.....	91.1	92.4	73.1	72.1	94.3	<i>96.0</i>	<i>71.8</i>	<i>67.4</i>	<i>77.5</i>	<i>78.2</i>	<i>63.7</i>	<i>64.0</i>	328.7	<i>329.5</i>	<i>283.4</i>
Geothermal and Other ^a	1.5	1.5	2.2	2.1	1.6	<i>1.8</i>	<i>1.7</i>	<i>1.7</i>	<i>1.7</i>	<i>1.6</i>	<i>1.7</i>	<i>1.7</i>	7.2	<i>7.0</i>	<i>6.6</i>
Subtotal.....	762.1	746.6	830.5	739.9	753.1	<i>740.8</i>	<i>835.8</i>	<i>748.7</i>	<i>780.4</i>	<i>759.2</i>	<i>865.1</i>	<i>760.7</i>	3079.1	<i>3078.4</i>	<i>3165.5</i>
Nonutility Generation ^b															
Coal.....	16.1	14.7	15.1	17.4	15.9	<i>15.5</i>	<i>16.3</i>	<i>18.7</i>	<i>16.4</i>	<i>16.0</i>	<i>16.8</i>	<i>19.3</i>	63.3	<i>66.4</i>	<i>68.5</i>
Petroleum.....	4.4	4.0	4.1	4.7	4.5	<i>4.4</i>	<i>4.6</i>	<i>5.3</i>	<i>4.9</i>	<i>4.8</i>	<i>5.0</i>	<i>5.7</i>	17.3	<i>18.8</i>	<i>20.4</i>
Natural Gas.....	52.3	47.9	49.1	56.5	52.3	<i>50.8</i>	<i>53.3</i>	<i>61.2</i>	<i>54.2</i>	<i>52.7</i>	<i>55.3</i>	<i>63.6</i>	205.8	<i>217.6</i>	<i>225.9</i>
Other Gaseous Fuels ^c	3.2	2.9	3.0	3.4	3.0	<i>2.9</i>	<i>3.1</i>	<i>3.5</i>	<i>3.0</i>	<i>2.9</i>	<i>3.1</i>	<i>3.5</i>	12.5	<i>12.5</i>	<i>12.6</i>
Hydroelectric.....	3.9	3.6	3.7	4.2	4.0	<i>3.8</i>	<i>4.0</i>	<i>4.6</i>	<i>4.1</i>	<i>4.0</i>	<i>4.2</i>	<i>4.9</i>	15.3	<i>16.4</i>	<i>17.3</i>
Geothermal and Other ^d	20.5	18.7	19.2	22.1	19.9	<i>19.4</i>	<i>20.3</i>	<i>23.4</i>	<i>20.2</i>	<i>19.7</i>	<i>20.6</i>	<i>23.7</i>	80.5	<i>83.0</i>	<i>84.3</i>
Subtotal.....	100.3	91.8	94.2	108.3	99.6	<i>96.9</i>	<i>101.6</i>	<i>116.7</i>	<i>103.0</i>	<i>100.1</i>	<i>105.0</i>	<i>120.7</i>	394.7	<i>414.7</i>	<i>428.8</i>
Total Generation.....	862.4	838.5	924.7	848.2	852.7	<i>837.7</i>	<i>937.3</i>	<i>865.4</i>	<i>883.4</i>	<i>859.3</i>	<i>970.1</i>	<i>881.4</i>	3473.8	<i>3493.1</i>	<i>3594.3</i>
Net Imports ^e	7.1	9.5	13.0	8.4	7.5	<i>9.3</i>	<i>12.7</i>	<i>8.1</i>	<i>6.9</i>	<i>9.2</i>	<i>12.6</i>	<i>8.3</i>	38.0	<i>37.6</i>	<i>37.0</i>
Total Supply.....	869.5	848.0	937.7	856.6	860.2	<i>846.9</i>	<i>950.0</i>	<i>873.6</i>	<i>890.3</i>	<i>868.5</i>	<i>982.7</i>	<i>889.7</i>	3511.8	<i>3530.7</i>	<i>3631.3</i>
Losses and Unaccounted for ^f	55.2	78.5	59.5	72.2	57.6	<i>80.6</i>	<i>66.0</i>	<i>68.2</i>	<i>53.2</i>	<i>74.3</i>	<i>68.5</i>	<i>69.4</i>	265.4	<i>272.5</i>	<i>265.5</i>
Demand															
Electric Utility Sales															
Residential.....	290.7	239.2	302.1	246.5	276.8	<i>226.0</i>	<i>296.4</i>	<i>253.4</i>	<i>295.8</i>	<i>242.5</i>	<i>312.5</i>	<i>259.9</i>	1078.5	<i>1052.6</i>	<i>1110.7</i>
Commercial.....	212.3	215.8	248.1	215.4	214.5	<i>215.4</i>	<i>250.4</i>	<i>220.2</i>	<i>222.4</i>	<i>224.3</i>	<i>259.4</i>	<i>224.5</i>	891.6	<i>900.5</i>	<i>930.6</i>
Industrial.....	245.6	252.5	262.8	253.4	248.0	<i>262.4</i>	<i>270.2</i>	<i>259.8</i>	<i>252.1</i>	<i>262.0</i>	<i>272.5</i>	<i>261.8</i>	1014.3	<i>1040.3</i>	<i>1048.4</i>
Other.....	24.6	24.3	26.6	24.7	23.4	<i>23.8</i>	<i>26.5</i>	<i>25.4</i>	<i>26.1</i>	<i>25.7</i>	<i>28.2</i>	<i>26.5</i>	100.2	<i>99.1</i>	<i>106.6</i>
Subtotal.....	773.2	731.9	839.6	740.0	762.8	<i>727.6</i>	<i>843.5</i>	<i>758.7</i>	<i>796.4</i>	<i>754.6</i>	<i>872.7</i>	<i>772.6</i>	3084.7	<i>3092.6</i>	<i>3196.3</i>
Nonutility Gener. for Own Use ^b	41.1	37.6	38.6	44.4	39.8	<i>38.7</i>	<i>40.6</i>	<i>46.6</i>	<i>40.7</i>	<i>39.6</i>	<i>41.5</i>	<i>47.7</i>	161.8	<i>165.6</i>	<i>169.5</i>
Total Demand.....	814.3	769.5	878.3	784.4	802.5	<i>766.3</i>	<i>884.1</i>	<i>805.4</i>	<i>837.1</i>	<i>794.2</i>	<i>914.2</i>	<i>820.3</i>	3246.4	<i>3258.2</i>	<i>3365.8</i>
Memo:															
Nonutility Sales to															
Electric Utilities ^b	59.2	54.2	55.6	63.9	59.8	<i>58.2</i>	<i>61.0</i>	<i>70.1</i>	<i>62.3</i>	<i>60.6</i>	<i>63.5</i>	<i>73.0</i>	232.9	<i>249.1</i>	<i>259.3</i>

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

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

^cIncludes refinery still gas and other process or waste gases, and liquefied petroleum gases.

^dIncludes geothermal, solar, wind, wood, waste, nuclear, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

^eData for 1996 are estimates.

^fBalancing item, mainly transmission and distribution losses.

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

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