State Energy Price and Expenditure Report 1989

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Introduction

The *State Energy Price and Expenditure Report (SEPER)* presents energy price and expenditure estimates for the 50 States, the District of Columbia, and the United States. The estimates are provided by energy source and economic sector. This report is an update of the *State Energy Price and Expenditure Report 1988* published in September 1990. Changes from the last report are summarized in a section of the documentation.

Energy price and expenditure estimates are published for the years 1970, 1975, 1980, and 1985 through 1989. Documentation follows the tables and describes how the price estimates are developed, including sources of data, methods of estimation, and conversion factors applied. Data for all years, 1970 through 1989, are available on personal computer diskettes. Consumption estimates used to calculate expenditures, and the documentation for those estimates, are from the *State Energy Data Report, Consumption Estimates, 1960-1989 (SEDR)*, published in May 1991. Expenditures are calculated by multiplying the price estimates by the consumption estimates, adjusted to remove process fuel and intermediate product consumption. All expenditures are consumer expenditures, that is, they represent estimates of money directly spent by consumers to purchase energy, generally including taxes.

Although all prices and expenditures in this report are expressed in nominal dollars, an appendix entitled "Additional Measures of Energy Consumption, Expenditures, and Prices" describes the methodology used to develop energy expenditure estimates in constant 1982 dollars, an implicit energy price deflator, and a fixed-weight energy price index. A national-level analysis illustrating the use of these estimates is also presented in the appendix.

Reliable State¹ data rarely exist, especially as series that are consistent over a long period. Estimates and assumptions are applied to fill data gaps and to maintain consistent definitions in the data series over time. *SEPER* incorporates the most consistent series and procedures possible. Users of this report (and of the personal computer diskettes) should recognize the limitations imposed on the system due to changing and inadequate data sources. Estimates often are based on a variety of surrogate measures that are selected on

the basis of availability, applicability as indicators, continuity over time, and consistency among the various energy commodities. Original source documents for data used in *SEPER* (cited in the documentation) include descriptions of collection methodologies, universes, imputation or adjustment techniques (if any), and errors associated with the individual processes. Due to the numerous collection forms and procedures associated with these reports, it is not possible to develop a meaningful numerical estimate of the overall errors of the material published in *SEPER*.

The five economic sectors used in *SEPER* correspond to those used in *SEDR* as follows:

- **Residential Sector**--The residential sector is considered to consist of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks generally are not included in the residential sector; they are included in the commercial sector. The SIC code used to classify an establishment as residential is 88 (Household).
- **Commercial Sector**--The commercial sector, as defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial. SIC codes used to classify an establishment as commercial are 50 through 87, 89, and 91 through 97.
- **Industrial Sector**--The industrial sector comprises manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills, to small

¹Throughout this report, the term "State" includes the District of Columbia.

farms, to companies assembling electronic components. The SIC codes used to classify establishments as industrial are 1 through 39.

- **Transportation Sector**--Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines. The SIC codes used to classify establishments as belonging to the transportation sector are 40 through 49.
- **Electric Utility Sector**--Privately and publicly owned establishments that generate electricity primarily for use by the public.

Although end-use allocations of energy consumption and expenditures follow those guidelines as closely as possible, some data are collected using different classifications. For example, agricultural use of natural gas should be included in the industrial sector. However, since it is not separately identified on the data collection form, there is no basis for allocating it to the industrial sector, and it remains in the commercial sector. Another example is master-metered condominiums, apartments, and establishments with a combination of residential and commercial units. In many cases, residential use is counted in the commercial sector because it is metered and billed as commercial. In those cases, there is no basis for separating residential from commercial use. Readers are advised to consult the

Taxes in *SEPER*

While the objective is to provide price estimates that include all taxes, the data sources used in *SEPER* do not treat taxes uniformly. In general, where taxes are included in the source data, they are included in *SEPER*. Where taxes are not included but can be separately estimated, they are generally added. In many cases, particularly in the early 1970's, it is not clear whether taxes are included in the source data and no adjustments are made. EIA is continuing to analyze these cases to see if the presence of taxes can be determined. The status of tax data in this year's report is summarized below and described more fully in the documentation for each energy source and sector.

End-Use Sectors

Coal. Residential steam coal and industrial coking coal prices include taxes in all years. Commercial, industrial, and transportation sector steam coal prices include taxes from 1980 forward; it is not clear from the data sources whether taxes are included in the prices for earlier years. Appropriately, coal imports and exports in the industrial sector do not include taxes.

Natural Gas. Natural gas prices are intended to include all federal, State, and local taxes, surcharges, and adjustments billed to consumers. However, sales and other taxes itemized directly on customers' bills are typically not reported as revenues and therefore are not included in calculating the prices.

Petroleum. Motor gasoline and diesel fuel prices include excise and other per-gallon taxes but do not include general sales taxes due to wide variation at the local level. Residual fuel oil and asphalt and road oil prices include all taxes. Distillate fuel oil and kerosene prices include taxes, generally from 1983 forward; it is not clear from the data sources whether taxes are included in the prices for earlier years. Residential liquefied petroleum gas prices include taxes in all years, but commercial, industrial, and transportation sector prices do not include taxes from 1985 forward. Jet fuel, aviation gasoline, lubricants and other petroleum products do not include taxes. Other petroleum products are miscellaneous products, petrochemical feedstocks (naphtha, other oils, and still gas), industrial petroleum coke, special naphthas, and waxes.

Electricity. Taxes paid directly by electric utilities (rather than end users) are considered operating costs and are passed on to end users as part of the price. Depending on jurisdiction, taxes collected from end users and turned over directly to a governmental authority are not included in reported revenues and therefore are not included in calculating the prices.

Electric Utility Sector

Coal, natural gas, petroleum, petroleum coke, nuclear, and wood and waste prices include all taxes, transportation, and handling costs. There are no direct fuel costs (or taxes) for hydroelectric, geothermal, centralized solar, or wind energy. Capital costs and related taxes associated with these energy sources are included indirectly because electricity prices reflect their presence in the rate base.

SEDR documentation for specific assumptions regarding the consumption estimates.

Where prices for an energy source and sector are not available, comparable prices are substituted. For example, the transportation sector motor gasoline prices are also applied to the commercial and industrial sectors. In some cases, the average of adjacent States' prices is assigned to a missing State price. The documentation elaborates on these price assumptions. There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Capital costs associated with these energy sources frequently are extensive and are included indirectly because the prices charged for electricity reflect their presence in the rate base.

Except where specified, it is not generally possible to describe the prices in this report as "wholesale" or "retail." The prices paid in each consuming sector are actually a combination of both sets of prices depending on a number of closely interrelated factors, and the data reflect the combination of prices actually paid by each sector. Almost all residential sector prices are close to retail, reflecting the relatively small quantities of individual purchases and the increased costs of ex-

tensive, diffuse, and multilayered distribution systems. Similarly, in the transportation sector almost everyone pays the same retail-like price for motor gasoline, regardless of volume purchased or location of purchase. Conversely, residual fuel oil prices in the transportation sector are certainly more wholesale-like as a result of large deliveries to bulk facilities in major ports. In the same manner, most large industrial and many large commercial expenditures can be thought of as near wholesale, frequently involving direct access to a producer or bulk distribution facility for very large quantities. Many smaller industrial and commercial facilities pay something much closer to retail prices as a result of the small quantities involved and their institutional distance from primary suppliers. Notable exceptions to these relationships include natural gas and electric utilities, which typically establish fixed rates for each of several classes of service depending on representative quantities, service factors, and distribution expenses.

Under contract to the Energy Information Administration, the Battelle Pacific Northwest Laboratories developed many of the price series and estimating procedures incorporated into this report. Descriptions of those data series and procedures are included in the documentation section of this report.

U.S. Energy Prices and Expenditures

The U.S. energy bill totaled \$437 billion in 1989.² While the total amount of energy consumed in the United States grew by 1 percent in 1989 reaching 81 quadrillion Btu, the average price of energy increased by 6 percent to \$7.72 per million Btu, causing energy expenditures to increase by 7 percent. In 1989, consumers used almost the same amount of energy per person as they had in 1970; however, including inflation, they spent 4 times as much money per person for that same amount of energy (Table 1).

Expenditures by Energy Source. Americans purchased \$209 billion worth of petroleum products in 1989, 48 percent of their total expenditures on energy (Figure 1). Motor gasoline purchases alone cost \$113 billion, 26 percent of total expenditures. While these shares represent significant portions of the total, they are reduced from the 1970 shares when petroleum took 58 percent of all expenditures and motor gasoline accounted for 38 percent. The Nation spent \$65 billion in natural gas purchases in 1989, 15 percent of the total

amount spent on energy. The natural gas portion of the U.S. total energy bill ranged from a low of 11 percent in 1974 to a high of 18 percent in 1984. Coal purchases in 1989 totaled \$28 billion, 6 percent of the national total energy expenditures. During the 1970-89 period, coal's portion of the national energy expenditures remained steady at 5 percent to 8 percent of the total.

In 1989, purchases of primary energy sources by the four major end-use sectors, which exclude electric utilities, cost \$267 billion while electricity purchases totaled \$169 billion, 61 percent and 39 percent of total expenditures, respectively. In comparison, primary energy purchases in 1970 accounted for 72 percent of total expenses while electricity's share was only 28 percent.

Expenditures by End-Use Sector. The largest portion of the 1989 U.S. energy expenditure was spent in the transportation sector, \$157 billion. The residential

Table 1. Energy Consumption and Expenditures per Capita, 1970-1989

	Consumption per Capita		Expenditures per Capita	
	Million Btu	Index 1970=1.00	Dollars	Index 1970=1.00
1970	326	1.00	406	1.00
1971	328	1.00	434	1.07
1972	341	1.04	467	1.15
1973	352	1.08	528	1.30
1974	340	1.04	718	1.77
1975	328	1.00	797	1.96
1976	342	1.05	890	2.19
1977	347	1.06	1,002	2.47
1978	352	1.08	1,076	2.65
1979	351	1.08	1,323	3.26
1980	335	1.03	1,650	4.06
1981	322	0.99	1,857	4.57
1982	305	0.94	1,831	4.51
1983	301	0.92	1,775	4.37
1984	313	0.96	1,833	4.51
1985	310	0.95	1,825	4.49
1986	308	0.94	1,582	3.89
1987	315	0.97	1,617	3.98
1988	326	1.00	1,658	4.08
1989	328	1.00	1,759	4.33

Note: Indices are based on unrounded data.

Sources: State Energy Data System 1989 and State Energy Price and Expenditure Data System 1989.

Figure 1. U.S. Energy Expenditures by Source, 1989

Note: Data are not additive due to expenditure components not shown and the double-counting of primary fuels in electricity. See U.S. expenditures table on page 19.
Source: State Energy Price and Expenditure Data System 1989.

²All prices and expenditures are expressed in nominal dollars.

sector was next, at \$109 billion, followed by the industrial and commercial sectors, spending \$95 billion and \$76 billion, respectively. While the transportation sector exceeded other sectors in expenditures throughout the 1970-89 period, its relative share of the total generally decreased (Figure 2). The commercial sector's share of expenditures expanded the most beginning in the early 1980's, reflecting the consumption growth in that sector. The industrial and residential sectors each spent close to one quarter of the Nation's total energy expenses during the period studied, with the industrial sector's portion larger in 1974-85 and the residential sector spending more at the beginning and ending of the period. In 1970, the sectors' shares of total expenditures were transportation, 43 percent; residential, 24 percent; industrial, 20 percent; and commercial, 13 percent. By 1989, the transportation sector's share was 7 percentage points lower at 36 percent; the residential and industrial sectors' portions were about the same--residential, 25 percent, and industrial, 22 percent; and the commercial sector's share increased to 17 percent.

In 1989, electricity purchases accounted for the largest portion of the residential, commercial, and industrial sectors' energy bills (Figure 3). The transportation sector purchased petroleum products for energy almost exclusively. The residential and commercial sectors' spending for energy were parallel; natural gas, as the second-largest expense, accounted for over twice as much as the petroleum purchases did. Although electricity accounted for the largest energy expenditure in the industrial sector in 1989, industries relied more heavily on petroleum products than did the residential

Figure 2. End-Use Sector Shares of U.S. Total Energy Expenditures, 1970-1989

Source: State Energy Price and Expenditure Data System 1989.

and commercial sectors. Natural gas and coal expenses were lower than petroleum in the industrial sector, and their combined costs were less than the amount spent on petroleum products.

Prices by Energy Source. Of the major energy sources in 1989, electricity registered the highest price per million Btu (\$18.98), followed by petroleum (\$6.48), natural gas (\$3.85), coal (\$1.48), and nuclear fuel (\$0.70) (Figure 4). The prices of these energy sources have remained in the same relative order throughout the

Figure 3. U.S. Energy Expenditures by End-Use Sector and Source, 1989
(Billion Dollars)

Residential

Commercial

Industrial

Transportation

(s) = Less than 0.5 billion dollars.

Source: State Energy Price and Expenditure Data System 1989.

Figure 4. U.S. Energy Prices by Source, 1989

Source: State Energy Price and Expenditure Data System 1989.

1970-89 period. The price of electricity is considerably higher because of significant costs for converting energy from various forms (e.g., fossil fuels, nuclear fuel, hydroelectric energy, and geothermal energy) into electricity as well as somewhat smaller costs for transmitting and distributing electricity to end users. In addition, electricity is a premium form of energy because of its flexibility and clean nature at energy consumers' sites.

Figure 5. U.S. Energy Prices by End-Use Sector, 1989

Source: State Energy Price and Expenditure Data System 1989.

Prices by End-Use Sector. Because of the differing mixes of the energy sources consumed, the average prices paid by major end-use sectors in the U.S. economy varied considerably (Figure 5). The commercial and residential sectors' average prices were the highest in 1989, \$11.36 per million Btu in the commercial sector and \$11.26 per million Btu in the residential sector. The transportation sector's average price of \$7.23 per million Btu reflects that sector's reliance on petroleum products. Although the industrial sector consumed

Figure 6. U.S. Energy Prices by End-Use Sector and Source, 1989
(Dollars per Million Btu)**Residential** **Commercial** **Industrial** **Transportation**

Source: State Energy Price and Expenditure Data System 1989.

more energy than the other sectors, its lower average price of \$5.14 per million Btu reflects the use of large contracted purchases, which are less costly, and the use of lower-priced fuels such as coal and residual fuel (Figure 6). The higher average prices paid by commercial and residential consumers are a result, in part, of those sectors' greater reliance on higher-priced electricity. Throughout the 1970's, the residential, commercial, and transportation sectors' average prices for energy were very close, with industrial sector prices about half of the residential prices but following the same year-to-year pattern in price fluctuations. For instance, in 1970, the average price for energy in the residential sector was \$2.12 per million Btu, in the commercial sector was \$1.97 per million Btu, in the transportation sector was \$2.31 per million Btu, and in the industrial sector was \$.83 per million Btu. Throughout the 1980's, the transportation sector average prices dropped significantly below the average residential and commercial prices, following the trend in motor gasoline prices. Industrial prices continued to follow the same fluctuations as the residential and commercial sectors and remained about half of those prices.

Prices at Electric Utilities. The average price of fuel consumed at electric utilities in 1989 was \$1.48 per million Btu, compared with the peak price of \$2.01 per million Btu paid in 1982, when petroleum and natural gas prices were near their highest. Petroleum was consistently the highest-priced fuel used by electric utilities during the 1970-89 period. In 1970-1975, coal prices were slightly higher than natural gas prices. After 1975, natural gas prices rose rapidly until 1985, while coal prices grew more slowly. The prices of both fuels declined in the second half of the 1980's. In 1989, electric utilities paid an average price of \$1.45 per million Btu for coal and \$0.70 per million Btu for nuclear fuel versus \$2.95 per million Btu for petroleum and \$2.36 per million Btu for natural gas (Figure 7).

Expenditures at Electric Utilities. Of the \$39 billion spent by electric utilities to purchase fuel in 1989, 60 percent (\$23 billion) was used to purchase coal (Figure 8). Far less money was spent purchasing other fuels--\$7 billion for natural gas, \$5 billion for petroleum products, and \$4 billion for nuclear fuel. Coal consumption by electric utilities doubled during the 1970-89 period, as its portion of electric utilities' annual energy expenditures ranged between 40 percent to 65 percent of the total. Petroleum took increasing shares of the electric utility sector fuel budget in the early 1970's and peaked in 1974 at 44 percent. After that, electric utilities spent proportionally less each year on petroleum and by 1986, petroleum purchases were only 10 percent of electric utilities' fuel expenditures. Purchases of natural

Figure 7. U.S. Energy Prices at Electric Utilities, 1989

Source: State Energy Price and Expenditure Data System 1989.

gas were a more constant portion of electric utilities' expenditures, accounting for 20 percent to 25 percent of the electric utility budget in 1970-73 and 1979-85 and slipping to 16 percent to 18 percent in the late 1980's. The trend over the 20-year period was for electric utilities to spend proportionally less each year on petroleum products and more on nuclear fuel. During 1989, however, there was a slight shift back with increased consumption and higher prices for petroleum and natural gas along with decreased prices for coal and nuclear fuel.

Figure 8. U.S. Energy Expenditures at Electric Utilities, 1989

Source: State Energy Price and Expenditure Data System 1989.

State Rankings

Energy Prices. It is important to note that, even within a State,³ a single average price may have limited meaning in that it represents a consumption-weighted average over a whole State. For example, urban and rural electricity prices can vary significantly from a State's weighted average, and prices in one region of a State may differ from another because of access to less expensive hydroelectricity. Differences within a State may be greater than differences among adjacent States. Thus, the principal value of the estimates in this report lies in general comparisons among the States, interstate comparisons for a given year, and the analysis of trends over several years.

The average price paid for energy in 1989 ranged from \$5.18 per million Btu in Louisiana to \$10.68 per million Btu in Connecticut (Table 2). The State rankings of average energy prices in 1989 varied from their rankings in 1970. The District of Columbia, with the second-highest price in 1989 (\$10.58 per million Btu), ranked 28th among the States in 1970. Conversely, North Dakota, which ranked 49th in energy prices in 1989, ranked 7th in 1970.

Energy Expenditures. State energy expenditures vary widely due to differences in population, climate, and size and type of industry, among other factors. In 1989, energy expenditures ranged from \$43.6 billion in California to \$1.0 billion in Vermont (Table 3). Nine of the top 10 States in energy expenditures in 1989 were among the 10 largest spending States in 1970 in slightly different order--California, New York, Texas, Illinois, Pennsylvania, Ohio, Michigan, New Jersey, and Florida. The top 10 States accounted for over half of the Nation's total energy expenditures in both years, 53 percent in 1989 and 55 percent in 1970. California and Texas, the two States with the largest energy purchases in 1989, accounted for 19 percent of the total U.S. energy expenditures that year.

Energy Expenditures per Capita. Energy expenditures per capita in 1989 ranged from the lowest rate in New York (\$1,404) to the highest in Alaska (\$3,362) (Table 4). State-level energy expenditures per capita demonstrate some interesting facts of energy usage: for example, California spent the highest sum for energy in 1989 but ranked 48th in spending per person; New York's total expenditures ranked 3rd, but its per capita

expenditures ranked last; and Florida was 7th in expenditures in 1989 but 49th in per capita expenditures.

Petroleum Prices and Expenditures. Vermont paid the highest average price for petroleum products in 1989, \$8.03 per million Btu, while Texas paid the lowest, \$5.15 per million Btu (Table 5). The States that paid the most for petroleum products in 1970 varied from those in 1989. Only Ohio, Iowa, South Dakota, and Minnesota were among the 10 States with the highest petroleum prices in both years. Mississippi paid the 2d highest price for petroleum products in 1970 but ranked 48th in petroleum prices in 1989. The District of Columbia, which had one of the lowest prices for petroleum in 1970, paid the eighth highest price in 1989. Even with its high price, the District of Columbia spent the smallest amount on petroleum products of all the States in 1989 (Table 6). Similarly, Vermont paid the highest price for petroleum in 1989 but had the second smallest petroleum expenditures that year. The 10 States that spent the most for all energy in 1989 were also the leading petroleum-purchasing States, in slightly different order. The top 10 petroleum purchasers in 1970 were still the top 10 in 1989 with the exception of Louisiana, which replaced Massachusetts in 1989. The top 10 States accounted for 53 percent of all expenditures for petroleum in 1970 and 51 percent in 1989.

Motor Gasoline Prices and Expenditures. The State rankings for motor gasoline prices changed significantly when 1970 and 1989 are compared (Table 7). Although Hawaii had the highest price in both years, 6 States in the top 10 changed. In 1970, Alaska, Nevada, Illinois, Nebraska, New Jersey, and Indiana were among the States paying the most for motor gasoline. The States with the highest motor gasoline prices in 1989 were eastern States with the exception of Hawaii, Minnesota, and North Dakota. The most substantial increase in relative prices occurred in North Dakota, which ranked 33d in 1970 and 6th in 1989. The nine States with the largest petroleum and motor gasoline purchases were the same in 1989 (Table 8). With the exception of slight ranking differences, the nine States with the largest motor gasoline expenditures were the same in 1970 and 1989. The three States with the lowest motor gasoline expenditures in 1970 and 1989 were the District of Columbia, Alaska, and Vermont.

³Throughout this report, the term "State" includes the District of Columbia.

Natural Gas Prices and Expenditures. When 1970 and 1989 are compared, the State rankings in natural gas prices and expenditures shifted very little, with the exception of Hawaii's disparate high price for liquefied natural gas in 1989. The highest prices paid for natural gas in both years were in the the Eastern United States (Table 9). Mississippi, Oklahoma, Louisiana, and Texas paid among the lowest prices in 1970 and 1989. The States with the largest expenditures on natural gas in 1989 were Texas, \$7.8 billion dollars, and California, \$7.4 billion dollars (Table 10). Their portion of the U.S. total natural gas expenditures in 1989 was 23 percent, 6 percentage points less than their share in 1970. The 10 largest purchasers of natural gas in 1989 were responsible for 64 percent of the U.S. total, up from 62 percent in 1970. The States that spent the least on natural gas in 1970 and 1989 were Vermont, Maine, and Hawaii.

Coal Prices and Expenditures. Vermont paid the highest price for coal in 1989, \$3.12 dollars per million Btu (Table 11) and had the smallest expenditure, \$1 million (Table 12). The 10 States that paid the highest prices for coal in 1989 were well below the median in expenditures, with the exceptions of Alabama and Florida, which were 8th and 10th, respectively, in both coal prices and expenditures. Comparing data for 1970 and 1989, State rankings in coal prices and expenditures show more change than in other energy sources. In 1970, there were 5 States that consumed no coal, and the 10 States that spent the most on coal purchases accounted for 74 percent of the national total. In 1989, all States had some expenditures for coal, and the 10 largest purchasers accounted for only 56 percent of the total. The District of Columbia, whose price for coal ranked 40th in 1970, paid the 5th highest price in 1989. Texas showed the most dramatic change in coal expenditures, ranking 30th in 1970 and 4th in 1989.

Electricity Prices and Expenditures. While Alaska paid the highest price for electricity in both 1970 and 1989 (Table 13), it's total expenditures for electricity ranked 51st in 1970 and 50th in 1989. Washington, which relies extensively on hydroelectricity, paid the lowest electricity price in 1970 and 1989. California experienced the largest increase in its electricity price ranking, moving from 34th in 1970 to 5th in 1989. Several States experienced considerable declines in their price rankings comparing 1970 and 1989--Wisconsin, Minnesota, Iowa, North Dakota, and South Dakota. States' rankings in electricity expenditures in 1970 and 1989 were remarkably similar with 9 States remaining among the top 10 States in slightly different order (Table 14). The 10 States that spent the most for electricity accounted for 55 percent of the national total in 1970 and 54 percent in 1989. In 1989, the three States (California, Texas, and New York) that had the highest expenditures on total energy and petroleum products and natural gas, also spent the most on electricity accounting for 24 percent of the U.S. total electricity expenditures.

**Table 2. Energy Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Connecticut	10.68
2	District of Columbia	10.58
3	New Hampshire	10.39
4	Arizona	10.38
5	Vermont	10.34
6	New York	9.94
7	Florida	9.83
8	Massachusetts	9.66
9	Rhode Island	9.59
10	North Carolina	9.31
11	Maine	9.13
12	New Jersey	8.68
13	Maryland	8.60
14	Delaware	8.57
15	South Carolina	8.52
16	California	8.42
17	Virginia	8.39
18	Hawaii	8.25
19	Nevada	8.22
20	Georgia	8.15
21	New Mexico	8.13
22	Tennessee	8.03
23	South Dakota	8.03
24	Missouri	8.01
25	Illinois	7.99
26	Oregon	7.92
27	Pennsylvania	7.88
28	Wisconsin	7.80
29	Michigan	7.78
	United States	7.72
30	Minnesota	7.68
31	Ohio	7.68
32	Nebraska	7.61
33	Colorado	7.60
34	Arkansas	7.56
35	Kentucky	7.47
36	Idaho	7.36
37	Kansas	7.25
38	Iowa	7.16
39	Montana	7.13
40	Mississippi	7.13
41	Alabama	7.04
42	Washington	6.98
43	Oklahoma	6.73
44	Utah	6.69
45	Wyoming	6.45
46	Indiana	6.29
47	Alaska	6.25
48	West Virginia	6.13
49	North Dakota	6.05
50	Texas	5.70
51	Louisiana	5.18

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 3. Energy Expenditures
by State, 1969**
(Million Dollars)

Ranking	State	Expenditure
1	California	43,619
2	Texas	38,375
3	New York	25,210
4	Ohio	20,599
5	Illinois	20,456
6	Pennsylvania	20,365
7	Florida	18,864
8	Michigan	16,096
9	New Jersey	15,343
10	Louisiana	11,983
11	Indiana	11,685
12	Georgia	11,560
13	North Carolina	11,530
14	Virginia	10,513
15	Massachusetts	9,838
16	Tennessee	9,196
17	Missouri	8,854
18	Alabama	7,992
19	Wisconsin	7,983
20	Washington	7,756
21	Maryland	7,587
22	Minnesota	7,217
23	Kentucky	7,195
24	South Carolina	6,348
25	Arizona	6,014
26	Connecticut	5,948
27	Oklahoma	5,570
28	Kansas	5,062
29	Iowa	4,971
30	Colorado	4,869
31	Mississippi	4,778
32	Oregon	4,628
33	Arkansas	4,376
34	West Virginia	3,488
35	Nebraska	2,942
36	New Mexico	2,763
37	Utah	2,595
38	Maine	2,227
39	Nevada	2,173
40	New Hampshire	1,861
41	Hawaii	1,856
42	Alaska	1,772
43	Idaho	1,696
44	Montana	1,598
45	North Dakota	1,525
46	Rhode Island	1,505
47	Wyoming	1,453
48	South Dakota	1,308
49	Delaware	1,308
50	District of Columbia	1,067
51	Vermont	983
	United States	436,643

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 4. Energy Expenditures
per Capita by State, 1989**
(Dollars per Capita)

Ranking	State	Expenditure
1	Alaska	3,362
2	Wyoming	3,060
3	Louisiana	2,735
4	North Dakota	2,311
5	Texas	2,259
6	Indiana	2,089
7	Kansas	2,014
8	New Jersey	1,983
9	Montana	1,982
10	Nevada	1,956
11	Delaware	1,943
12	Alabama	1,941
13	Kentucky	1,931
14	Ohio	1,889
15	West Virginia	1,878
16	Tennessee	1,862
17	Connecticut	1,836
18	South Dakota	1,830
19	Nebraska	1,826
20	Mississippi	1,823
21	Maine	1,822
22	Arkansas	1,819
23	New Mexico	1,808
24	South Carolina	1,808
25	Georgia	1,796
26	District of Columbia	1,766
	United States	1,759
27	North Carolina	1,755
28	Illinois	1,755
29	Iowa	1,750
30	Michigan	1,736
31	Vermont	1,734
32	Oklahoma	1,728
33	Virginia	1,724
34	Missouri	1,716
35	Pennsylvania	1,691
36	Arizona	1,691
37	New Hampshire	1,681
38	Idaho	1,673
39	Hawaii	1,669
40	Massachusetts	1,664
41	Minnesota	1,658
42	Oregon	1,641
43	Wisconsin	1,640
44	Washington	1,629
45	Maryland	1,616
46	Utah	1,520
47	Rhode Island	1,508
48	California	1,501
49	Florida	1,489
50	Colorado	1,468
51	New York	1,404

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 5. Petroleum Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Vermont	8.03
2	Wisconsin	7.72
3	Minnesota	7.59
4	Iowa	7.50
5	Ohio	7.44
6	Michigan	7.43
7	South Dakota	7.36
8	District of Columbia	7.36
9	Rhode Island	7.32
10	Illinois	7.31
11	Arizona	7.30
12	Nebraska	7.27
13	North Carolina	7.27
14	Tennessee	7.27
15	Idaho	7.24
16	Colorado	7.15
17	Kentucky	7.07
18	South Carolina	7.05
19	Oregon	7.02
20	Nevada	6.98
21	Virginia	6.97
22	West Virginia	6.97
23	Maryland	6.94
24	North Dakota	6.93
25	Kansas	6.90
26	Wyoming	6.85
27	Pennsylvania	6.79
28	Oklahoma	6.77
29	Utah	6.75
30	Arkansas	6.74
31	Missouri	6.74
32	New Mexico	6.73
33	Montana	6.72
34	Connecticut	6.71
35	New Hampshire	6.57
36	Indiana	6.56
37	Maine	6.52
	United States	6.48
38	New Jersey	6.44
39	Alabama	6.43
40	Georgia	6.41
41	California	6.40
42	Massachusetts	6.26
43	Alaska	6.25
44	Washington	6.23
45	Delaware	6.23
46	New York	6.15
47	Florida	6.04
48	Mississippi	5.84
49	Hawaii	5.27
50	Louisiana	5.26
51	Texas	5.15

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 6. Petroleum Expenditures
by State, 1989**
(Million Dollars)

Ranking	State	Expenditure
1	California	20,868
2	Texas	20,062
3	New York	10,784
4	Florida	9,383
5	Ohio	8,333
6	Pennsylvania	8,310
7	Illinois	7,744
8	New Jersey	7,739
9	Michigan	6,855
10	Louisiana	6,375
11	Massachusetts	5,312
12	Virginia	5,293
13	North Carolina	5,234
14	Georgia	5,111
15	Indiana	5,028
16	Missouri	4,257
17	Tennessee	4,227
18	Washington	4,174
19	Maryland	3,809
20	Wisconsin	3,801
21	Alabama	3,770
22	Minnesota	3,666
23	Kentucky	3,547
24	Connecticut	3,281
25	South Carolina	2,722
26	Oklahoma	2,722
27	Kansas	2,623
28	Arizona	2,572
29	Mississippi	2,563
30	Oregon	2,465
31	Iowa	2,428
32	Colorado	2,257
33	Arizona	2,051
34	West Virginia	1,758
35	Nebraska	1,533
36	New Mexico	1,511
37	Maine	1,475
38	Hawaii	1,475
39	Alaska	1,273
40	Utah	1,251
41	Nevada	1,217
42	New Hampshire	1,088
43	Montana	907
44	Idaho	854
45	South Dakota	821
46	Wyoming	805
47	Rhode Island	779
48	North Dakota	772
49	Delaware	745
50	Vermont	590
51	District of Columbia	310
	United States	208,536

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 7. Motor Gasoline Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Hawaii	10.42
2	District of Columbia	9.50
3	Connecticut	9.30
4	Rhode Island	9.11
5	Delaware	8.88
6	North Dakota	8.88
7	Vermont	8.84
8	Maryland	8.84
9	Minnesota	8.72
10	Maine	8.69
11	Alaska	8.65
12	New Hampshire	8.60
13	Montana	8.59
14	Virginia	8.55
15	West Virginia	8.52
16	South Dakota	8.51
17	Massachusetts	8.50
18	Oregon	8.50
19	New Jersey	8.48
20	Nebraska	8.42
21	Iowa	8.40
22	Wisconsin	8.29
23	Tennessee	8.25
24	Utah	8.24
25	New Mexico	8.24
26	Idaho	8.21
27	Arizona	8.19
28	Nevada	8.19
29	Ohio	8.18
30	Colorado	8.13
31	North Carolina	8.10
32	Kentucky	8.08
33	Mississippi	8.07
34	Washington	8.03
	United States	8.01
35	Illinois	8.00
36	Alabama	7.96
37	Texas	7.92
38	Louisiana	7.90
39	South Carolina	7.84
40	New York	7.82
41	Oklahoma	7.79
42	Pennsylvania	7.79
43	Wyoming	7.79
44	Michigan	7.77
45	Arkansas	7.69
46	Florida	7.68
47	California	7.66
48	Kansas	7.66
49	Indiana	7.60
50	Missouri	7.45
51	Georgia	7.12

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 8. Motor Gasoline Expenditures
by State, 1989**
(Million Dollars)

Ranking	State	Expenditure
1	California	12,504
2	Texas	8,458
3	Florida	5,732
4	New York	5,480
5	Ohio	4,994
6	Illinois	4,853
7	Pennsylvania	4,453
8	Michigan	4,127
9	New Jersey	3,626
10	North Carolina	3,306
11	Virginia	3,183
12	Georgia	3,122
13	Massachusetts	2,601
14	Tennessee	2,601
15	Missouri	2,493
16	Indiana	2,401
17	Maryland	2,209
18	Washington	2,268
19	Minnesota	2,225
20	Wisconsin	2,139
21	Alabama	2,067
22	Louisiana	1,945
23	Kentucky	1,841
24	South Carolina	1,755
25	Arizona	1,747
26	Oklahoma	1,590
27	Connecticut	1,576
28	Colorado	1,513
29	Iowa	1,436
30	Oregon	1,423
31	Mississippi	1,229
32	Kansas	1,201
33	Arizona	1,188
34	West Virginia	872
35	New Mexico	817
36	Nebraska	814
37	Utah	749
38	Maine	647
39	Nevada	626
40	New Hampshire	555
41	Idaho	487
42	Hawaii	479
43	Montana	465
44	Rhode Island	424
45	South Dakota	408
46	North Dakota	392
47	Delaware	380
48	Wyoming	309
49	Vermont	304
50	Alaska	231
51	District of Columbia	209
	United States	112,585

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 9. Natural Gas Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Hawaii	11.41 *
2	District of Columbia	6.36
3	Connecticut	6.35
4	Rhode Island	6.21
5	New Hampshire	6.06
6	Maine	5.78
7	New York	5.38
8	Massachusetts	5.33
9	Maryland	5.12
10	New Jersey	5.11
11	Pennsylvania	4.96
12	Virginia	4.95
13	Georgia	4.76
14	Ohio	4.65
15	Wisconsin	4.61
16	Michigan	4.61
17	Vermont	4.56
18	North Carolina	4.56
19	Indiana	4.52
20	Missouri	4.50
21	Illinois	4.41
22	South Carolina	4.22
23	Oregon	4.17
24	South Dakota	4.12
25	California	4.10
26	North Dakota	4.08
27	West Virginia	4.07
28	Kentucky	4.07
29	Delaware	4.06
30	Washington	4.02
31	Utah	3.99
32	Montana	3.95
33	Arizona	3.92
34	Alabama	3.92
35	Tennessee	3.87
36	Minnesota	3.87
	United States	3.85
37	Colorado	3.85
38	Nevada	3.84
39	Nebraska	3.84
40	Wyoming	3.82
41	New Mexico	3.61
42	Iowa	3.57
43	Idaho	3.57
44	Arkansas	3.39
45	Kansas	3.36
46	Florida	3.02
47	Mississippi	2.89
48	Oklahoma	2.87
49	Texas	2.52
50	Louisiana	2.13
51	Alaska	1.82

* Based on small quantities of liquefied natural gas.
Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data
System 1989.

**Table 10. Natural Gas Expenditures
by State, 1989**
(Million Dollars)

Ranking	State	Expenditure
1	Texas	7,821
2	California	7,426
3	New York	4,627
4	Illinois	4,359
5	Ohio	3,826
6	Michigan	3,517
7	Pennsylvania	3,295
8	Louisiana	2,431
9	New Jersey	2,360
10	Indiana	2,045
11	Wisconsin	1,491
12	Georgia	1,486
13	Massachusetts	1,367
14	Oklahoma	1,353
15	Missouri	1,161
16	Minnesota	1,109
17	Maryland	990
18	Florida	977
19	Virginia	851
20	Alabama	838
21	Colorado	837
22	Kansas	829
23	Tennessee	797
24	Iowa	778
25	Arizona	725
26	North Carolina	719
27	Kentucky	690
28	Washington	628
29	Connecticut	620
30	Mississippi	525
31	Arizona	511
32	South Carolina	495
33	West Virginia	475
34	Nebraska	437
35	Oregon	430
36	Utah	406
37	New Mexico	355
38	Nevada	246
39	Rhode Island	216
40	District of Columbia	213
41	Alaska	187
42	Montana	165
43	Idaho	149
44	Delaware	143
45	Wyoming	135
46	South Dakota	106
47	North Dakota	105
48	New Hampshire	86
49	Hawaii	33
50	Vermont	28
51	Maine	21
	United States	65,419

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data
System 1989.

**Table 11. Coal Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Vermont	3.12
2	Rhode Island	2.70
3	Maine	2.66
4	Connecticut	2.16
5	District of Columbia	1.97
6	Alaska	1.95
7	California	1.93
8	Alabama	1.83
9	Idaho	1.82
10	Florida	1.79
11	Illinois	1.77
12	North Carolina	1.77
13	Hawaii	1.76
14	Delaware	1.75
15	New Hampshire	1.75
16	Georgia	1.75
17	Michigan	1.72
18	South Carolina	1.71
19	Mississippi	1.67
20	Massachusetts	1.64
21	Arkansas	1.64
22	New York	1.63
23	New Jersey	1.63
24	Washington	1.62
25	Louisiana	1.62
26	Maryland	1.60
27	Virginia	1.57
28	Ohio	1.51
29	Pennsylvania	1.50
30	Wisconsin	1.50
31	Indiana	1.49
32	Nevada	1.49
	United States	1.48
33	Texas	1.44
34	West Virginia	1.43
35	Arizona	1.38
36	Tennessee	1.36
37	Missouri	1.35
38	Utah	1.31
39	Oklahoma	1.29
40	Minnesota	1.26
41	Iowa	1.25
42	Oregon	1.25
43	Kansas	1.24
44	New Mexico	1.23
45	Kentucky	1.22
46	North Dakota	1.21
47	Colorado	1.08
48	South Dakota	1.07
49	Wyoming	0.89
50	Nebraska	0.85
51	Montana	0.61

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 12. Coal Expenditures
by State, 1989**
(Million Dollars)

Ranking	State	Expenditure
1	Ohio	2,208
2	Pennsylvania	2,200
3	Indiana	1,953
4	Texas	1,910
5	Michigan	1,377
6	West Virginia	1,326
7	Illinois	1,261
8	Alabama	1,234
9	Georgia	1,182
10	Florida	1,128
11	North Carolina	982
12	Kentucky	934
13	Tennessee	765
14	Missouri	740
15	New York	590
16	Wisconsin	590
17	Virginia	569
18	South Carolina	514
19	Arizona	494
20	Maryland	473
21	Utah	452
22	North Dakota	437
23	Minnesota	406
24	Iowa	398
25	Wyoming	375
26	Colorado	349
27	Oklahoma	346
28	New Mexico	345
29	Louisiana	336
30	Arizona	333
31	Kansas	330
32	Nevada	253
33	Massachusetts	198
34	Mississippi	161
35	Washington	157
36	New Jersey	153
37	Nebraska	113
38	California	112
39	Montana	108
40	Delaware	106
41	New Hampshire	55
42	Connecticut	51
43	South Dakota	35
44	Maine	18
45	Idaho	18
46	Alaska	9
47	Oregon	9
48	District of Columbia	3
49	Rhode Island	2
50	Hawaii	1
51	Vermont	1
	United States	28,101

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 13. Electricity Prices
by State, 1989**
(Dollars per Million Btu)

Ranking	State	Price
1	Alaska	27.06
2	New York	26.08
3	New Jersey	25.95
4	Connecticut	25.68
5	California	24.91
6	New Hampshire	24.49
7	Massachusetts	24.39
8	Rhode Island	24.24
9	Hawaii	23.76
10	Vermont	23.46
11	Arizona	22.10
12	Illinois	22.07
13	Pennsylvania	21.68
14	New Mexico	21.55
15	Maine	20.53
16	Florida	20.45
17	Michigan	19.91
18	Arkansas	19.04
	United States	18.98
19	Missouri	18.92
20	Kansas	18.83
21	Georgia	18.70
22	Delaware	18.47
23	North Carolina	18.33
24	Mississippi	18.25
25	South Dakota	17.71
26	Louisiana	17.64
27	Maryland	17.53
28	Colorado	17.48
29	Iowa	17.30
30	Virginia	17.26
31	District of Columbia	17.22
32	Utah	17.10
33	Ohio	16.83
34	Texas	16.79
35	North Dakota	16.74
36	South Carolina	16.53
37	Alabama	16.43
38	Oklahoma	16.28
39	Nebraska	16.22
40	Wisconsin	15.99
41	Indiana	15.92
42	Tennessee	15.91
43	Minnesota	15.57
44	Nevada	15.46
45	Kentucky	14.17
46	West Virginia	14.04
47	Wyoming	12.66
48	Oregon	12.49
49	Montana	12.00
50	Idaho	11.10
51	Washington	10.34

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

**Table 14. Electricity Expenditures
by State, 1989**
(Million Dollars)

Ranking	State	Expenditure
1	California	17,085
2	Texas	12,782
3	New York	11,353
4	Florida	9,661
5	Pennsylvania	8,361
6	Illinois	8,158
7	Ohio	8,033
8	New Jersey	5,583
9	Michigan	5,572
10	North Carolina	5,479
11	Georgia	4,885
12	Virginia	4,308
13	Tennessee	4,031
14	Indiana	3,913
15	Maine	3,801
16	Louisiana	3,604
17	Missouri	3,396
18	Alabama	3,140
19	South Carolina	3,038
20	Arizona	3,030
21	Washington	2,984
22	Maryland	2,946
23	Kentucky	2,792
24	Wisconsin	2,614
25	Minnesota	2,410
26	Connecticut	2,398
27	Oklahoma	2,040
28	Mississippi	1,787
29	Colorado	1,775
30	Oregon	1,774
31	Iowa	1,695
32	Kansas	1,647
33	Arizona	1,645
34	West Virginia	1,085
35	Nebraska	972
36	New Mexico	958
37	Utah	854
38	Maine	801
39	Nevada	773
40	New Hampshire	759
41	Idaho	675
42	Hawaii	630
43	District of Columbia	567
44	Rhode Island	526
45	Montana	519
46	Delaware	504
47	Wyoming	467
48	North Dakota	401
49	South Dakota	383
50	Alaska	380
51	Vermont	366
	United States	169,340

Note: Rankings are based on unrounded data.

Source: State Energy Price and Expenditure Data System 1989.

Statistical Tables

Energy Price and Expenditure Estimates by Source, United States 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.37	1.03	1.47	1.70	1.62	1.54	1.50	1.48
Coking Coal	.45	1.65	2.10	2.03	1.90	1.74	1.79	1.78
Steam Coal	.35	.90	1.38	1.67	1.60	1.53	1.48	1.47
Natural Gas	.59	1.18	2.86	4.61	4.07	3.77	3.78	3.85
Petroleum	1.71	3.33	7.35	7.62	5.72	6.01	5.88	6.48
Asphalt and Road Oil	.68	1.89	3.68	4.77	4.34	3.56	3.39	2.95
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.16	2.60	6.70	7.16	5.65	5.89	5.77	6.46
Jet Fuel	.73	2.05	6.36	5.91	3.92	4.03	3.80	4.39
Kerosene	1.19	2.73	6.97	7.68	5.16	5.38	5.38	6.08
LPG	1.46	2.97	5.64	6.62	6.46	5.95	5.84	5.74
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.65	9.84	9.01	6.79	7.22	7.32	8.01
Residual Fuel	.42	1.93	3.88	4.28	2.38	2.83	2.31	2.68
Other ^a	.95	2.43	6.57	7.13	4.59	5.18	4.35	5.13
Nuclear Fuel	.18	.24	.43	.71	.70	.71	.73	.70
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	.87	.82
Exports of Coal Coke	1.27	2.37	2.51	2.76	2.63	3.37	2.85	2.98
Imports of Coal Coke	.93	3.47	3.19	2.99	3.11	2.40	2.90	3.79
Primary Energy — Five Sectors	1.08	2.19	4.58	4.92	3.97	3.98	3.88	4.15
Electric Utility Fuel	.32	.96	1.75	1.85	1.55	1.51	1.45	1.48
Electricity Purchased by End Users	4.99	8.61	13.95	19.05	19.06	18.74	18.68	18.98
Total Energy^b	1.65	3.33	6.91	8.43	7.36	7.38	7.31	7.72
Expenditures in Millions of Dollars								
Coal	4,593	13,047	22,648	29,719	27,914	27,589	28,372	28,101
Coking Coal	1,175	3,692	3,753	2,228	1,833	1,721	2,007	1,978
Steam Coal	3,418	9,356	18,894	27,491	26,081	25,868	26,365	26,123
Natural Gas	10,891	20,061	51,061	72,938	59,702	58,019	61,089	65,419
Petroleum	48,088	103,859	238,410	223,653	174,772	186,711	189,417	208,538
Asphalt and Road Oil	731	1,914	3,543	4,916	4,717	4,018	3,848	3,228
Aviation Gasoline	218	245	580	503	496	344	363	394
Distillate Fuel	6,253	15,680	40,797	43,611	34,954	37,240	38,362	43,349
Jet Fuel	1,441	4,193	13,923	14,747	10,505	11,448	11,318	13,434
Kerosene	648	897	2,291	1,809	1,049	1,054	1,074	1,060
LPG	2,446	5,231	10,926	13,717	12,772	12,633	12,725	12,628
Lubricants	1,532	2,278	5,082	5,670	4,909	4,833	5,017	6,303
Motor Gasoline	31,596	59,446	124,408	118,044	91,526	99,809	103,211	112,585
Residual Fuel	2,046	10,374	21,573	11,462	7,506	7,987	7,143	8,218
Other ^a	1,177	3,602	15,286	9,175	6,339	7,345	6,356	7,337
Nuclear Fuel	44	448	1,189	2,930	3,125	3,486	4,111	3,992
Wood and Waste at Utilities	2	2	8	11	4	14	15	17
Exports of Coal Coke	-78	-75	-130	-77	-65	-48	-77	-80
Imports of Coal Coke	4	156	52	43	25	55	194	217
Primary Energy — Five Sectors	63,544	137,500	313,238	329,217	265,476	275,827	283,120	306,201
Electric Utility Fuel	-4,316	-16,396	-37,435	-42,558	-35,792	-36,681	-37,435	-38,898
Electricity Purchased by End Users	23,351	50,680	98,098	149,242	151,806	154,692	162,065	169,340
Total Energy^b	82,579	171,784	373,901	435,901	381,490	393,838	407,749	436,643

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, United States 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.12	3.83	7.55	11.12	10.97	10.93	10.87	11.26
Primary Energy	1.24	2.13	4.56	6.49	5.96	5.71	5.65	6.04
Coal	1.13	2.47	2.90	3.25	3.11	2.76	2.64	2.67
Natural Gas	1.06	1.67	3.60	5.94	5.67	5.39	5.32	5.47
Petroleum	1.56	3.04	7.26	8.26	6.94	6.74	6.73	7.88
Distillate Fuel	1.39	2.74	7.02	7.92	6.35	6.05	6.11	6.76
Kerosene	1.54	3.14	8.32	8.68	6.88	6.48	6.50	7.24
LPG	2.12	4.02	7.92	8.94	8.39	8.46	8.22	10.29
Electricity	6.51	10.29	15.71	21.66	21.75	21.82	21.92	22.41
Commercial Sector	1.97	4.09	7.88	11.72	11.40	11.05	10.88	11.36
Primary Energy	.79	1.67	4.02	5.54	4.73	4.56	4.40	4.65
Coal	.45	1.31	1.54	1.80	1.66	1.54	1.54	1.54
Natural Gas	.75	1.32	3.32	5.34	4.94	4.64	4.51	4.61
Petroleum	.90	2.39	5.64	6.41	4.58	4.64	4.41	5.05
Distillate Fuel	1.10	2.42	6.45	6.35	4.59	4.52	4.33	5.10
Kerosene	.77	2.32	6.46	6.82	4.49	4.86	4.34	5.08
LPG	1.24	2.60	5.15	8.47	8.19	7.61	7.69	7.22
Motor Gasoline	2.86	4.66	9.77	9.01	6.77	7.22	7.33	8.03
Residual Fuel	.45	1.91	4.12	4.40	2.58	2.96	2.37	2.67
Electricity	6.10	10.11	16.06	21.31	21.10	20.45	20.34	20.77
Industrial Sector	.83	2.20	4.71	6.11	5.39	5.18	5.01	5.14
Primary Energy	.60	1.66	3.77	4.50	3.64	3.50	3.32	3.41
Coal	.45	1.50	1.87	1.89	1.80	1.68	1.68	1.66
Coking Coal	.45	1.65	2.10	2.03	1.90	1.74	1.79	1.78
Steam Coal	.44	1.28	1.56	1.81	1.75	1.64	1.61	1.58
Natural Gas	.38	.95	2.52	3.87	3.20	2.88	2.90	2.94
Petroleum	.96	2.41	5.59	6.25	4.76	4.78	4.44	4.69
Asphalt and Road Oil	.68	1.89	3.68	4.77	4.34	3.56	3.39	2.95
Distillate Fuel	.72	2.23	5.54	6.10	3.76	4.16	3.83	4.78
Kerosene	.77	2.34	6.30	6.60	3.55	4.22	4.04	4.95
LPG	1.10	2.51	5.18	5.86	5.80	5.19	5.06	4.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.65	9.82	9.07	6.80	7.25	7.32	8.05
Residual Fuel	.46	1.91	3.69	4.17	2.38	2.78	2.17	2.50
Other	.96	2.43	6.58	7.16	4.61	5.22	4.38	5.18
Exports of Coal Coke	1.27	2.37	2.54	2.76	2.63	3.37	2.85	2.98
Imports of Coal Coke	.93	3.47	3.19	2.99	3.11	2.40	2.90	3.79
Electricity	2.99	6.07	10.81	14.57	14.45	13.98	13.78	13.85
Transportation Sector	2.31	4.02	8.61	8.25	6.23	6.59	6.58	7.23
Primary Energy	2.31	4.02	8.60	8.25	6.23	6.58	6.57	7.22
Coal	.41	1.26	-	-	-	-	-	-
Petroleum	2.31	4.02	8.60	8.25	6.23	6.58	6.57	7.22
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.31	2.80	7.19	7.50	6.36	6.75	6.59	7.16
Jet Fuel	.73	2.05	6.36	5.91	3.92	4.03	.80	4.39
LPG	1.11	2.51	5.20	8.52	8.05	7.60	7.65	7.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.64	9.84	9.01	6.79	7.22	7.32	8.01
Residual Fuel	.38	1.72	3.31	4.41	2.25	2.62	2.23	2.47
Electricity	4.65	11.72	14.71	19.74	19.63	23.03	22.05	22.96
Total Energy*	1.65	3.33	6.91	8.43	7.36	7.38	7.31	7.72
Primary Energy — Four Sectors	1.30	2.65	5.85	6.54	5.24	5.30	5.21	5.62
Electricity	4.99	8.61	13.95	19.05	19.06	18.74	18.68	18.98
Electric Utility Sector	.32	.96	1.75	1.85	1.55	1.51	1.45	1.48
Coal	.31	.82	1.35	1.65	1.58	1.51	1.47	1.45
Natural Gas	.28	.75	2.20	3.43	2.35	2.24	2.26	2.36
Petroleum	.42	2.00	4.34	4.35	2.48	3.03	2.49	2.95
Heavy Oil ^b	.41	1.99	4.25	4.24	2.42	2.97	2.41	2.85
Light Oil ^b	.57	2.22	5.75	5.89	3.67	4.05	3.81	4.26
Petroleum Coke	.29	.53	2.61	1.27	1.04	1.04	.99	.86
Nuclear Fuel	.18	.24	.43	.71	.70	.71	.73	.70
Wood and Waste	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.08	2.19	4.58	4.92	3.97	3.98	3.88	4.15

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, United States 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	20,083	36,844	68,825	98,729	96,628	97,814	103,209	109,171
Primary Energy	9,731	16,201	30,367	40,057	35,851	34,496	36,415	39,927
Coal	173	209	175	225	215	181	174	156
Natural Gas	5,272	8,410	17,497	27,136	25,147	23,926	25,332	26,934
Petroleum	4,286	7,582	12,695	12,696	10,489	10,389	10,909	12,837
Distillate Fuel	2,603	4,954	9,234	7,910	6,428	6,236	6,497	7,038
Kerosene	459	504	887	1,011	596	588	675	604
LPG	1,225	2,124	2,575	3,775	3,465	3,566	3,737	5,196
Electricity	10,352	20,644	38,458	58,672	60,776	63,318	66,793	69,243
Commercial Sector	10,668	22,835	46,881	70,325	68,320	68,717	71,725	75,605
Primary Energy	3,333	6,680	16,260	20,201	16,822	16,746	17,256	18,076
Coal	98	162	135	193	178	154	158	135
Natural Gas	1,844	3,385	8,858	13,368	11,770	11,601	12,377	12,915
Petroleum	1,391	3,133	7,267	6,640	4,874	4,992	4,721	5,026
Distillate Fuel	646	1,423	3,337	3,965	2,731	2,680	2,487	2,731
Kerosene	47	114	262	338	186	175	180	240
LPG	127	242	296	632	597	566	617	643
Motor Gasoline	247	415	1,046	866	720	795	810	818
Residual Fuel	323	939	2,325	840	639	775	628	594
Electricity	7,335	16,155	30,621	50,124	51,498	51,970	54,469	57,529
Industrial Sector	16,458	41,170	94,521	105,529	90,436	90,186	91,143	94,891
Primary Energy	10,834	27,409	65,658	65,339	51,164	51,077	50,641	52,636
Coal	2,082	5,498	5,888	5,244	4,766	4,469	4,750	4,645
Coking Coal	1,175	3,692	3,753	2,228	1,833	1,721	2,007	1,978
Steam Coal	907	1,806	2,135	3,016	2,934	2,748	2,743	2,667
Natural Gas	2,625	5,844	16,350	21,615	16,479	15,909	17,257	18,820
Petroleum	6,202	15,986	43,498	38,513	29,959	30,691	28,517	29,034
Asphalt and Road Oil	731	1,914	3,543	4,916	4,717	4,018	3,848	3,228
Distillate Fuel	866	2,907	7,232	7,208	4,478	5,082	4,652	5,473
Kerosene	142	278	1,143	460	267	291	219	216
LPG	1,046	2,760	7,967	9,074	8,502	8,345	8,201	6,632
Lubricants	787	1,119	2,614	2,916	2,524	2,486	2,580	3,241
Motor Gasoline	824	1,039	1,553	1,977	1,402	1,487	1,414	1,599
Residual Fuel	635	2,367	4,175	2,797	1,741	1,649	1,260	1,321
Other	1,171	3,601	15,271	9,166	6,329	7,335	6,344	7,324
Exports of Coal Coke	-78	-75	-130	-77	-65	-48	-77	-80
Imports of Coal Coke	4	156	52	43	25	55	194	217
Electricity	5,624	13,760	28,863	40,190	39,271	39,109	40,503	42,255
Transportation Sector	35,370	70,935	163,674	161,318	126,107	137,121	141,673	156,977
Primary Energy	35,330	70,814	163,518	161,062	125,847	136,826	141,373	156,664
Coal	3	1	-	-	-	-	-	-
Petroleum	35,327	70,814	163,518	161,062	125,847	136,826	141,373	156,664
Aviation Gasoline	218	245	580	503	496	344	363	394
Distillate Fuel	2,058	5,938	20,090	24,027	21,012	22,879	24,310	27,475
Jet Fuel	1,441	4,150	13,856	14,747	10,505	11,448	11,318	13,434
LPG	49	105	88	236	208	156	170	157
Lubricants	746	1,159	2,469	2,754	2,384	2,348	2,437	3,061
Motor Gasoline	30,525	57,992	121,809	115,201	89,404	97,527	100,988	110,168
Residual Fuel	291	1,226	4,626	3,594	1,838	2,124	1,787	1,974
Electricity	40	120	156	256	260	295	300	313
Total Energy*	82,579	171,784	373,901	435,901	381,490	393,838	407,749	436,643
Primary Energy — Four Sectors	59,228	121,104	275,803	286,659	229,684	239,146	245,685	267,303
Electricity	23,351	50,680	98,098	149,242	151,806	154,692	162,065	169,340
Electric Utility Sector	4,316	16,396	37,435	42,558	35,792	36,681	37,435	38,898
Coal	2,237	7,178	16,450	24,056	22,755	22,785	23,290	23,165
Natural Gas	1,151	2,422	8,357	10,819	6,305	6,583	6,123	6,750
Petroleum	882	6,345	11,432	4,742	3,603	3,812	3,896	4,974
Heavy Oil ^b	797	5,842	10,446	4,232	3,288	3,439	3,468	4,328
Light Oil ^b	80	502	972	502	306	362	416	632
Petroleum Coke	6	1	14	9	10	11	12	13
Nuclear Fuel	44	448	1,189	2,930	3,125	3,486	4,111	3,992
Wood and Waste	2	2	8	11	4	14	15	17
Primary Energy — Five Sectors	63,544	137,500	313,238	329,217	265,476	275,827	283,120	306,201

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Alabama 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.32	1.10	1.70	2.01	1.89	1.87	1.87	1.83
Coking Coal	.42	1.50	1.96	2.02	1.81	1.71	1.70	1.74
Steam Coal	.26	.94	1.63	2.00	1.89	1.89	1.90	1.84
Natural Gas	.52	.96	2.90	4.73	4.50	4.27	4.03	3.92
Petroleum	2.09	3.31	7.86	7.88	5.86	6.00	5.73	6.43
Asphalt and Road Oil	.65	1.85	3.02	4.72	4.90	3.37	3.07	2.86
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.10	2.60	6.58	6.66	5.46	5.90	5.54	6.35
Jet Fuel	.73	2.03	6.39	6.17	4.45	4.39	4.07	4.64
Kerosene	.90	2.45	6.42	8.31	4.82	4.87	5.20	5.87
LPG	2.00	3.83	6.62	7.01	7.10	7.27	7.02	8.62
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.26	9.89	9.15	6.99	7.27	7.21	7.96
Residual Fuel	.41	1.59	2.99	3.89	2.12	2.58	2.10	2.34
Other ^a	.61	1.85	5.68	7.07	4.21	5.03	4.19	5.07
Nuclear Fuel	-	.14	.33	.77	.70	.89	.65	.60
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.84	1.82	3.37	4.01	3.45	3.55	3.43	3.70
Electric Utility Fuel	.26	.88	1.17	1.74	1.68	1.69	1.66	1.63
Electricity Purchased by End Users	3.51	6.87	12.52	16.59	16.66	16.48	16.35	16.43
Total Energy ^b	1.37	2.84	6.41	7.86	6.91	6.87	6.60	7.04
Expenditures in Millions of Dollars								
Coal	215.3	700.9	1,121.0	1,328.5	1,245.1	1,234.1	1,223.2	1,234.0
Coking Coal	99.4	269.2	254.7	156.1	129.4	144.5	154.0	154.7
Steam Coal	115.9	431.7	866.3	1,172.4	1,115.8	1,089.5	1,069.2	1,079.4
Natural Gas	143.2	227.1	676.5	923.7	796.7	763.9	826.2	838.2
Petroleum	731.8	1,595.1	3,492.7	3,443.6	2,895.3	3,244.8	3,175.1	3,770.3
Asphalt and Road Oil	13.7	33.2	62.8	117.7	113.5	102.0	84.1	85.0
Aviation Gasoline	3.8	4.3	11.3	8.7	8.7	5.4	5.9	5.5
Distillate Fuel	54.6	221.6	579.2	631.8	523.4	644.1	658.9	913.4
Jet Fuel	7.2	19.1	72.3	121.6	93.5	95.2	42.2	52.7
Kerosene	6.7	9.4	45.6	47.5	47.6	59.6	87.4	38.4
LPG	57.0	91.9	116.3	104.6	107.6	127.1	125.1	196.6
Lubricants	25.0	47.6	86.4	96.4	83.5	82.2	85.3	107.2
Motor Gasoline	547.6	1,010.7	2,301.3	2,080.3	1,705.0	1,848.6	1,824.2	2,067.1
Residual Fuel	8.0	127.4	135.2	88.4	121.0	173.3	169.2	198.0
Other ^a	8.2	29.9	82.1	136.6	91.5	107.1	92.9	106.5
Nuclear Fuel	-	4.2	85.2	118.7	87.5	83.3	90.1	74.4
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,090.4	2,527.2	5,375.3	5,814.5	5,024.5	5,326.2	5,314.5	5,916.9
Electric Utility Fuel	-103.4	-385.8	-849.4	-1,174.9	-1,088.6	-1,063.7	-1,046.7	-1,065.0
Electricity Purchased by End Users	411.6	940.2	2,120.5	2,735.9	2,818.4	2,950.9	3,039.7	3,139.7
Total Energy ^b	1,398.6	3,081.5	6,646.5	7,375.5	6,754.3	7,213.4	7,307.4	7,991.7

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Alabama
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.45	4.48	9.06	12.66	12.75	12.69	12.32	12.94
Primary Energy	1.37	2.13	4.53	6.64	6.49	6.69	6.43	6.74
Coal	.81	1.82	2.97	3.19	2.89	2.88	2.62	2.64
Natural Gas	1.10	1.52	3.91	6.18	6.30	6.43	6.33	6.09
Petroleum	2.17	4.22	7.89	8.60	7.39	7.75	6.85	8.52
Distillate Fuel	1.24	2.53	6.83	7.68	5.33	5.13	4.93	5.52
Kerosene	1.62	3.31	9.13	8.90	6.18	5.94	5.71	6.40
LPG	2.22	4.32	7.75	8.49	8.08	8.68	8.21	9.25
Electricity	4.62	8.05	14.44	18.74	18.95	18.92	19.06	19.31
Commercial Sector	1.98	3.97	8.44	10.71	9.11	9.33	8.42	8.71
Primary Energy	.75	1.46	3.78	5.21	3.74	3.99	3.38	3.66
Coal	.28	1.07	1.73	1.86	1.76	1.63	1.60	1.65
Natural Gas	.58	1.04	3.27	5.27	5.21	5.31	5.13	5.02
Petroleum	1.53	2.96	6.61	5.44	2.80	3.34	2.49	3.01
Distillate Fuel	.97	2.22	6.22	6.76	3.65	4.04	3.43	4.11
Kerosene	.75	2.24	5.91	7.08	3.49	4.03	3.26	4.52
LPG	1.58	3.07	5.28	4.97	5.55	4.91	4.89	7.50
Motor Gasoline	2.82	4.26	9.89	9.15	6.99	7.27	7.21	7.96
Residual Fuel	.38	1.69	3.39	4.02	2.16	2.67	1.99	2.38
Electricity	5.39	8.98	16.19	20.01	20.03	19.36	19.29	19.65
Industrial Sector	.63	1.86	3.99	5.58	4.87	4.61	4.34	4.61
Primary Energy	.44	1.36	2.68	3.78	3.02	2.80	2.56	2.88
Coal	.40	1.39	1.89	1.95	1.78	1.67	1.65	1.71
Coking Coal	.42	1.50	1.96	2.02	1.81	1.71	1.70	1.74
Steam Coal	.28	1.07	1.73	1.86	1.76	1.63	1.60	1.65
Natural Gas	.32	.73	2.46	4.09	3.54	3.01	2.92	2.93
Petroleum	.92	2.10	4.64	6.56	4.10	3.98	3.42	4.24
Asphalt and Road Oil	.65	1.85	3.02	4.72	4.90	3.37	3.07	2.86
Distillate Fuel	.69	2.04	5.28	7.02	3.46	4.00	3.24	4.49
Kerosene	.75	2.24	5.91	7.08	3.49	4.03	3.26	4.52
LPG	1.58	3.07	5.28	4.97	5.55	4.91	4.89	7.50
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.26	9.89	9.15	6.99	7.27	7.21	7.96
Residual Fuel	.51	1.74	3.05	4.02	2.16	2.67	1.99	2.38
Other	.72	1.85	5.68	7.07	4.21	5.03	4.19	5.07
Electricity	2.24	5.40	10.29	13.60	13.34	13.23	12.96	12.72
Transportation Sector	2.45	3.67	8.78	8.34	6.68	6.91	6.85	7.48
Primary Energy	2.45	3.67	8.78	8.34	6.68	6.91	6.85	7.48
Coal	.28	1.07	-	-	-	-	-	-
Petroleum	2.46	3.67	8.78	8.34	6.68	6.91	6.85	7.48
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.33	2.92	6.99	6.54	6.35	6.73	6.41	7.06
Jet Fuel	.73	2.03	6.39	6.17	4.45	4.39	4.07	4.64
LPG	1.58	3.07	5.28	4.97	5.55	4.91	4.89	7.50
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.26	9.89	9.15	6.99	7.27	7.21	7.96
Residual Fuel	.34	1.47	2.93	3.72	1.85	1.92	2.79	2.15
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.37	2.84	6.41	7.86	6.91	6.87	6.60	7.04
Primary Energy — Four Sectors	1.09	2.26	5.22	6.00	4.87	4.89	4.63	5.14
Electricity	3.51	6.87	12.52	16.59	16.66	16.48	16.35	16.43
Electric Utility Sector	.26	.88	1.17	1.74	1.68	1.69	1.66	1.63
Coal	.26	.92	1.61	2.02	1.91	1.92	1.95	1.87
Natural Gas	.26	1.08	2.62	3.17	2.47	2.10	2.07	2.21
Petroleum	.20	2.08	6.35	6.00	3.49	4.03	3.67	4.14
Heavy Oil ^b	-	1.69	-	-	-	-	-	-
Light Oil ^b	.81	2.16	6.35	6.00	3.49	4.03	3.67	4.14
Petroleum Coke	.17	-	-	-	-	-	-	-
Nuclear Fuel	-	.14	.33	.77	.70	.69	.65	.60
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.84	1.82	3.37	4.01	3.45	3.55	3.43	3.70

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."
 Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Alabama 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	289.4	517.3	1,113.2	1,491.2	1,581.2	1,702.0	1,770.1	1,775.3
Primary Energy	107.7	148.8	301.9	392.8	400.8	456.8	493.1	468.3
Coal	.9	.3	5.7	3.4	3.2	3.4	3.5	1.6
Natural Gas	63.0	82.0	211.7	280.1	291.3	325.9	318.4	300.5
Petroleum	43.8	66.4	84.5	109.4	106.3	127.6	171.2	166.1
Distillate Fuel	.3	1.1	.5	1.5	1.2	.9	1.2	1.1
Kerosene	2.2	2.5	10.2	34.4	30.2	31.8	76.1	30.1
LPG	41.4	62.8	73.7	73.5	74.9	94.9	93.9	134.9
Electricity	181.7	368.5	811.2	1,098.4	1,180.4	1,245.2	1,277.0	1,307.0
Commercial Sector	131.2	263.4	551.3	866.2	876.3	911.0	929.3	1,045.3
Primary Energy	36.6	64.4	154.2	265.0	241.1	254.9	255.3	300.4
Coal	.5	.3	6.2	3.6	3.6	3.5	3.9	1.8
Natural Gas	21.8	35.9	96.5	141.3	135.7	122.7	135.0	136.7
Petroleum	14.2	28.2	51.5	120.1	101.8	128.8	116.4	161.8
Distillate Fuel	1.5	7.1	23.2	50.8	20.6	27.1	22.5	29.4
Kerosene	1.8	3.1	5.9	5.9	7.6	17.7	4.3	3.8
LPG	5.2	7.9	8.9	7.6	9.1	9.5	9.9	19.3
Motor Gasoline	5.8	10.1	13.4	12.1	9.3	9.9	9.2	9.3
Residual Fuel	*	*	.1	43.7	55.2	64.7	70.5	100.0
Electricity	94.6	199.0	397.2	601.1	635.2	656.1	674.0	745.0
Industrial Sector	369.6	1,032.8	2,058.2	2,321.0	2,041.1	2,108.9	2,136.4	2,247.2
Primary Energy	234.3	660.1	1,146.0	1,284.6	1,038.2	1,059.3	1,047.7	1,159.5
Coal	115.2	332.8	353.9	272.2	241.4	251.5	268.3	249.2
Coking Coal	99.4	269.2	254.7	156.1	129.4	144.5	154.0	154.7
Steam Coal	15.8	63.6	99.2	116.1	112.0	106.9	114.3	94.5
Natural Gas	54.2	102.4	364.1	498.5	366.8	312.1	367.2	397.0
Petroleum	64.9	224.9	428.0	514.0	430.0	495.7	412.2	513.4
Asphalt and Road Oil	13.7	33.2	62.8	117.7	113.5	102.0	84.1	85.0
Distillate Fuel	11.4	52.4	100.8	150.0	82.3	103.8	82.7	135.1
Kerosene	2.7	3.8	29.5	7.3	9.8	10.1	7.1	4.0
LPG	9.9	20.1	32.8	20.8	21.1	21.0	19.7	39.8
Lubricants	12.1	20.0	44.1	49.2	42.6	42.0	43.5	54.7
Motor Gasoline	3.0	4.4	5.4	24.4	15.8	16.7	14.6	20.7
Residual Fuel	4.4	61.1	70.5	7.9	53.5	92.9	67.6	67.1
Other	7.7	29.9	82.1	136.6	91.5	107.1	92.9	106.5
Electricity	135.3	372.7	912.1	1,036.4	1,002.8	1,049.6	1,088.7	1,087.7
Transportation Sector	608.4	1,268.0	2,923.8	2,697.1	2,255.8	2,491.4	2,471.6	2,923.8
Primary Energy	608.4	1,268.0	2,923.8	2,697.1	2,255.8	2,491.4	2,471.6	2,923.8
Coal	.1	*	-	-	-	-	-	-
Petroleum	608.3	1,268.0	2,923.8	2,697.1	2,255.8	2,491.4	2,471.6	2,923.8
Aviation Gasoline	3.8	4.3	11.3	8.7	8.7	5.4	5.9	5.5
Distillate Fuel	41.3	154.6	449.8	426.4	418.0	510.9	548.8	742.6
Jet Fuel	7.2	19.1	72.3	121.6	93.5	95.2	42.2	52.7
LPG	.6	1.0	.9	2.7	2.6	1.8	1.6	2.6
Lubricants	13.0	27.7	42.3	47.2	40.9	40.2	41.8	52.5
Motor Gasoline	538.8	996.1	2,282.5	2,053.8	1,679.9	1,822.0	1,800.4	2,037.0
Residual Fuel	3.5	65.2	64.6	36.8	12.3	15.8	31.0	30.9
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,398.6	3,081.5	6,646.5	7,375.5	6,754.3	7,213.4	7,307.4	7,991.7
Primary Energy -- Four Sectors	987.0	2,141.4	4,525.9	4,839.6	3,935.9	4,262.5	4,267.7	4,851.9
Electricity	411.6	940.2	2,120.5	2,735.9	2,818.4	2,950.9	3,039.7	3,139.7
Electric Utility Sector	103.4	385.8	849.4	1,174.9	1,088.6	1,063.7	1,046.7	1,065.0
Coal	98.6	367.5	755.2	1,049.4	996.9	975.7	947.4	981.4
Natural Gas	4.2	6.7	4.1	3.8	2.8	3.3	5.5	4.0
Petroleum	.6	7.5	4.8	3.1	1.4	1.4	3.7	5.2
Heavy Oil ^b	-	1.0	-	-	-	-	-	-
Light Oil ^b	.1	6.5	4.8	3.1	1.4	1.4	3.7	5.2
Petroleum Coke	.4	-	-	-	-	-	-	-
Nuclear Fuel	-	4.2	85.2	118.7	87.5	83.3	90.1	74.4
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy -- Five Sectors	1,090.4	2,527.2	5,375.3	5,814.5	5,024.5	5,326.2	5,314.5	5,916.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

-No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Alaska 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.92	1.40	1.91	3.65	3.38	2.00	2.64	1.95
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.92	1.40	1.91	3.65	3.38	2.00	2.64	1.95
Natural Gas	.67	.89	.62	1.23	1.48	1.42	1.70	1.82
Petroleum	1.33	3.00	7.06	7.18	5.26	5.40	5.46	6.25
Asphalt and Road Oil	.57	1.80	3.62	4.47	4.49	4.25	3.93	3.19
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.15	2.88	6.82	7.67	6.71	6.18	6.38	7.62
Jet Fuel	.73	2.04	6.21	6.07	4.16	4.13	4.14	4.69
Kerosene	1.25	3.18	7.29	8.15	6.72	6.36	4.60	7.43
LPG	2.09	3.80	6.88	13.68	11.89	11.53	11.46	14.89
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.18	5.15	10.20	9.83	7.86	7.90	8.14	8.65
Residual Fuel	1.37	2.34	4.07	4.81	3.02	3.38	4.68	3.93
Other ^a	.43	1.31	4.04	2.79	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.12	2.21	4.04	4.72	3.94	3.84	4.05	4.72
Electric Utility Fuel	.66	.95	1.25	1.71	1.48	1.59	2.12	1.86
Electricity Purchased by End Users	9.02	9.61	15.09	24.52	24.89	26.64	26.36	27.06
Total Energy ^b	1.39	2.71	5.06	6.05	5.24	5.29	5.43	6.25
Expenditures in Millions of Dollars								
Coal	12.1	21.4	8.2	42.3	41.1	8.7	11.5	9.2
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	12.1	21.4	8.2	42.3	41.1	8.7	11.5	9.2
Natural Gas	26.2	54.5	64.5	162.4	165.5	158.4	187.1	187.4
Petroleum	122.7	354.0	853.7	1,380.5	1,115.8	973.4	1,015.5	1,273.3
Asphalt and Road Oil	1.0	3.8	7.4	14.4	11.1	7.2	18.2	5.8
Aviation Gasoline	5.1	8.1	22.7	24.7	26.2	7.9	15.2	20.5
Distillate Fuel	33.3	116.6	264.0	462.1	292.9	287.5	317.3	490.1
Jet Fuel	27.5	85.0	335.7	520.3	379.8	345.6	394.0	491.0
Kerosene	.2	2.2	.8	.4	62.0	56.1	7.0	.1
LPG	1.1	2.5	4.2	16.6	12.9	11.1	11.0	14.6
Lubricants	1.9	6.6	10.0	11.1	9.7	9.5	9.9	12.4
Motor Gasoline	43.8	113.0	196.9	291.2	224.1	215.4	227.7	230.7
Residual Fuel	8.7	15.7	9.4	35.2	97.2	33.0	15.2	8.1
Other ^a	.1	.5	2.5	4.5	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	161.0	429.9	926.4	1,585.2	1,322.4	1,140.4	1,214.1	1,470.0
Electric Utility Fuel	-9.9	-27.0	-48.3	-77.0	-66.3	-62.7	-83.9	-78.1
Electricity Purchased by End Users	33.9	65.9	129.5	331.5	339.3	353.4	358.8	380.1
Total Energy ^b	185.0	468.9	1,007.7	1,839.6	1,595.4	1,431.1	1,489.0	1,771.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Alaska 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.34	3.27	6.67	9.20	9.48	9.32	9.66	9.86
Primary Energy	1.49	2.26	4.31	5.25	5.18	4.75	4.76	5.29
Coal	2.47	2.86	-	7.75	7.99	-	-	-
Natural Gas	1.51	1.62	1.73	2.79	3.22	3.18	3.45	3.64
Petroleum	1.46	2.90	7.21	8.41	7.52	6.67	6.79	7.63
Distillate Fuel	1.40	2.80	7.05	7.81	6.84	6.24	6.27	6.95
Kerosene	1.61	3.23	-	9.37	8.21	7.49	7.52	8.34
LPG	2.93	6.07	12.23	13.97	13.14	13.02	12.85	15.85
Electricity	9.29	10.16	16.18	25.96	26.48	28.75	28.39	28.72
Commercial Sector	1.67	2.60	4.16	7.15	6.26	6.89	7.50	8.15
Primary Energy	1.08	1.81	2.54	3.66	3.75	3.90	3.31	3.35
Coal	1.01	1.58	-	3.37	2.22	-	-	-
Natural Gas	.68	.97	1.06	2.35	2.50	2.39	2.59	2.57
Petroleum	1.66	3.21	7.69	7.71	5.21	5.41	5.26	6.60
Distillate Fuel	1.21	2.60	6.75	7.01	5.90	5.69	5.65	6.33
Kerosene	-	-	-	7.94	6.72	6.36	4.55	6.86
LPG	1.10	2.32	3.96	13.07	9.06	8.52	8.58	12.13
Motor Gasoline	3.18	5.15	10.20	9.83	7.86	7.90	8.14	8.65
Residual Fuel	1.49	2.52	4.31	-	2.64	3.23	2.51	-
Electricity	9.46	10.83	18.02	24.36	24.90	25.78	25.88	26.62
Industrial Sector	.75	1.84	1.91	2.36	2.55	2.21	2.42	2.98
Primary Energy	.70	1.66	1.61	2.10	2.24	1.69	1.91	2.38
Coal	1.01	1.58	-	-	-	-	-	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.01	1.58	-	-	-	-	-	-
Natural Gas	.43	.81	.39	.71	.80	.73	1.07	1.08
Petroleum	.75	2.65	5.96	6.22	4.26	5.60	4.19	5.86
Asphalt and Road Oil	.57	1.80	3.62	4.47	4.49	4.25	3.93	3.19
Distillate Fuel	.66	2.68	6.27	6.98	5.91	5.59	4.00	6.03
Kerosene	.76	3.02	7.29	7.94	6.72	6.36	4.55	6.86
LPG	1.10	2.32	3.96	13.07	9.06	8.52	8.58	12.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.18	5.15	10.20	9.83	7.86	7.90	8.14	8.65
Residual Fuel	.36	1.85	3.59	4.55	3.24	3.54	-	-
Other	.43	1.31	4.04	2.79	-	-	-	-
Electricity	5.36	6.79	10.32	19.13	18.53	22.97	21.63	22.80
Transportation Sector	1.39	3.06	7.31	7.27	5.45	5.31	5.48	6.21
Primary Energy	1.39	3.06	7.31	7.27	5.45	5.31	5.48	6.21
Coal	1.01	1.58	-	-	-	-	-	-
Petroleum	1.39	3.06	7.31	7.27	5.45	5.31	5.48	6.21
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.46	3.13	7.39	8.00	7.33	6.58	7.50	8.51
Jet Fuel	.73	2.04	6.21	6.07	4.16	4.13	4.14	4.69
LPG	1.10	-	3.96	13.07	9.06	8.52	8.58	12.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.18	5.15	10.20	9.83	7.86	7.90	8.14	8.65
Residual Fuel	1.11	2.14	-	4.54	2.42	3.24	4.62	3.34
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.39	2.71	5.06	6.05	5.24	5.29	5.43	6.25
Primary Energy — Four Sectors	1.17	2.42	4.61	5.19	4.32	4.19	4.34	5.16
Electricity	9.02	9.61	15.09	24.52	24.89	26.64	26.36	27.06
Electric Utility Sector	.66	.95	1.25	1.71	1.48	1.59	2.12	1.86
Coal	.68	.96	1.91	1.80	1.82	2.00	2.64	1.95
Natural Gas	.37	.51	.48	.92	1.11	1.13	1.33	1.35
Petroleum	1.68	3.10	4.90	6.12	3.40	4.41	7.53	5.55
Heavy Oil ^b	1.35	2.67	4.08	5.18	2.82	3.68	5.70	4.19
Light Oil ^b	1.68	3.11	5.48	7.06	4.15	4.98	8.76	6.21
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.12	2.21	4.04	4.72	3.94	3.84	4.05	4.72

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Alaska 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	38.6	77.9	124.8	275.5	260.4	258.3	252.8	283.4
Primary Energy	21.9	46.8	64.5	127.2	113.6	106.4	98.8	122.3
Coal	.4	.3	-	18.7	22.0	-	-	-
Natural Gas	9.4	16.9	13.8	37.3	39.3	39.3	43.4	49.3
Petroleum	12.1	29.6	50.8	71.2	52.3	67.0	55.5	73.0
Distillate Fuel	11.1	26.4	48.2	59.6	42.4	58.6	46.9	61.5
Kerosene	.2	1.7	-	.1	*	*	.2	.1
LPG	.9	1.5	2.6	11.5	9.8	8.4	8.3	11.5
Electricity	16.7	31.1	60.3	148.3	146.8	151.9	154.0	161.0
Commercial Sector	39.0	66.4	99.0	274.6	351.6	325.9	263.7	276.2
Primary Energy	23.5	42.1	54.2	116.9	185.3	159.2	94.8	90.2
Coal	.3	.3	-	15.1	11.3	-	-	-
Natural Gas	8.6	14.0	17.5	48.1	52.7	48.7	54.2	55.9
Petroleum	14.7	27.8	36.8	53.7	121.2	110.5	40.6	34.4
Distillate Fuel	3.0	7.6	22.7	37.8	28.8	34.9	28.8	30.4
Kerosene	-	-	-	.1	61.9	56.1	6.7	.1
LPG	.1	.1	.1	1.9	1.2	1.0	1.0	1.6
Motor Gasoline	4.1	11.2	13.8	13.8	8.3	2.1	2.2	2.4
Residual Fuel	7.5	8.9	.1	-	21.1	16.4	1.9	-
Electricity	15.4	24.3	44.8	157.7	166.3	166.6	168.9	186.0
Industrial Sector	25.7	81.2	128.0	205.5	193.7	136.4	154.4	147.1
Primary Energy	23.9	70.7	103.5	180.0	167.5	101.5	118.5	114.0
Coal	8.6	16.5	-	-	-	-	-	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	8.6	16.5	-	-	-	-	-	-
Natural Gas	5.1	13.5	19.5	45.2	34.9	35.5	48.3	37.7
Petroleum	10.2	40.7	84.0	134.9	132.5	66.0	70.3	76.3
Asphalt and Road Oil	1.0	3.8	7.4	14.4	11.1	7.2	18.2	5.8
Distillate Fuel	6.9	30.8	64.0	71.2	37.7	31.9	46.0	64.1
Kerosene	.1	.5	.8	.2	*	*	*	*
LPG	.2	.8	1.3	2.6	1.5	1.5	1.5	1.2
Lubricants	*	1.1	1.8	2.0	1.7	1.7	1.8	2.2
Motor Gasoline	1.8	2.9	5.9	21.0	15.9	16.6	2.7	2.9
Residual Fuel	.1	.3	.3	19.1	64.6	6.9	-	-
Other	.1	.5	2.5	4.5	-	-	-	-
Electricity	1.7	10.6	24.5	25.5	26.2	34.9	35.8	33.0
Transportation Sector	81.8	243.3	655.9	1,084.0	789.8	710.5	818.1	1,065.3
Primary Energy	81.8	243.3	655.9	1,084.0	789.8	710.5	818.1	1,065.3
Coal	*	*	-	-	-	-	-	-
Petroleum	81.7	243.3	655.9	1,084.0	789.8	710.5	818.1	1,065.3
Aviation Gasoline	5.1	8.1	22.7	24.7	26.2	7.9	15.2	20.5
Distillate Fuel	8.5	39.3	112.1	272.2	173.5	149.8	173.9	315.8
Jet Fuel	27.5	85.0	335.7	520.3	379.8	345.6	394.0	491.0
LPG	*	-	.1	.6	.3	.2	.2	.3
Lubricants	1.8	5.5	8.2	9.1	7.9	7.8	8.1	10.2
Motor Gasoline	37.9	98.9	177.1	256.4	199.9	196.6	222.8	225.4
Residual Fuel	.9	6.5	-	.6	2.2	2.6	3.9	2.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	185.0	468.9	1,007.7	1,839.6	1,595.4	1,431.1	1,489.0	1,771.9
Primary Energy — Four Sectors	151.2	403.0	878.2	1,508.2	1,256.1	1,077.7	1,130.2	1,391.9
Electricity	33.9	65.9	129.5	331.5	339.3	353.4	358.8	380.1
Electric Utility Sector	9.9	27.0	48.3	77.0	66.3	62.7	83.9	78.1
Coal	2.9	4.3	8.2	8.4	7.8	8.7	11.5	9.2
Natural Gas	3.1	10.1	13.8	31.8	38.5	34.8	41.3	44.5
Petroleum	3.9	12.6	26.3	36.8	19.9	19.3	31.1	24.4
Heavy Oil ^b	*	*	9.1	15.5	9.4	7.1	9.4	6.1
Light Oil ^b	3.9	12.6	17.2	21.3	10.6	12.2	21.6	18.3
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	161.0	429.9	926.4	1,585.2	1,322.4	1,140.4	1,214.1	1,470.0

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Arizona 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.21	0.23	1.01	1.36	1.49	1.33	1.42	1.38
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.21	.23	1.01	1.36	1.49	1.33	1.42	1.38
Natural Gas	.54	1.01	2.86	4.92	4.12	4.10	4.45	3.92
Petroleum	1.96	3.45	8.14	8.08	6.47	6.87	6.55	7.30
Asphalt and Road Oil	.60	1.87	3.63	4.76	4.33	3.21	3.28	2.84
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.10	2.49	6.57	6.45	5.32	6.02	5.97	6.33
Jet Fuel	.76	2.12	6.59	6.20	4.25	4.36	4.15	4.80
Kerosene	1.63	3.19	5.45	5.79	3.60	3.55	4.82	4.40
LPG	2.08	4.06	6.85	9.98	9.58	9.89	9.06	11.51
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.62	9.68	9.06	7.24	7.77	7.31	8.19
Residual Fuel	.48	2.08	3.92	3.74	2.38	2.28	2.41	2.76
Other ^a	-	1.31	4.04	-	-	-	-	-
Nuclear Fuel	-	-	-	.65	.65	.82	.77	.85
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.29	2.25	4.49	4.59	3.69	3.75	3.36	3.95
Electric Utility Fuel	.33	.84	1.35	1.60	1.26	1.21	1.18	1.38
Electricity Purchased by End Users	5.32	9.65	15.68	21.15	21.87	21.31	21.73	22.10
Total Energy ^b	1.97	3.87	8.42	10.03	9.17	9.73	9.75	10.38
Expenditures in Millions of Dollars								
Coal	1.8	21.1	247.0	466.2	440.8	376.0	439.6	493.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.8	21.1	247.0	466.2	440.8	376.0	439.6	493.8
Natural Gas	96.8	148.4	434.0	580.6	379.7	426.6	487.9	510.6
Petroleum	417.7	1,056.9	2,448.1	2,567.5	2,175.3	2,362.4	2,284.0	2,571.8
Asphalt and Road Oil	14.6	28.9	49.6	81.0	72.7	53.1	58.4	45.0
Aviation Gasoline	4.7	6.2	12.8	9.3	9.6	7.9	7.0	8.8
Distillate Fuel	31.3	147.1	412.0	382.6	350.5	373.2	363.9	420.6
Jet Fuel	27.5	82.9	289.7	244.4	181.0	202.5	195.0	217.4
Kerosene	1.5	3.8	2.3	.6	.4	.3	2.1	2.0
LPG	10.2	16.9	40.0	66.8	70.8	73.8	58.1	61.9
Lubricants	10.6	21.4	53.3	59.4	51.4	50.6	52.6	66.0
Motor Gasoline	316.9	671.9	1,555.4	1,719.7	1,438.5	1,599.5	1,546.4	1,747.4
Residual Fuel	.3	77.7	33.0	3.7	.5	1.6	.5	2.6
Other ^a	-	-	.1	-	-	-	-	-
Nuclear Fuel	-	-	-	8.0	69.8	118.4	190.6	71.8
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	516.4	1,226.3	3,129.1	3,622.2	3,065.6	3,283.5	3,402.1	3,648.0
Electric Utility Fuel	-23.5	-129.6	-398.7	-580.5	-490.6	-539.1	-671.5	-664.3
Electricity Purchased by End Users	250.1	697.1	1,431.6	2,381.4	2,536.2	2,664.5	2,886.0	3,030.3
Total Energy ^b	743.0	1,793.8	4,161.9	5,423.2	5,111.3	5,408.9	5,616.7	6,014.0

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Arizona 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.96	5.29	11.20	16.53	17.54	17.31	18.33	18.96
Primary Energy	1.29	1.72	4.21	7.09	6.59	6.53	7.04	7.38
Coal	-	-	-	3.85	-	2.62	2.63	-
Natural Gas	1.13	1.46	3.88	6.69	6.06	5.89	6.76	6.66
Petroleum	2.48	4.52	8.46	10.13	9.89	10.63	9.47	14.07
Distillate Fuel	1.27	2.82	7.27	4.00	4.74	3.74	4.98	4.98
Kerosene	2.88	4.65	-	8.02	9.52	7.51	10.00	9.98
LPG	2.65	5.55	8.40	10.25	9.97	10.81	9.52	14.20
Electricity	6.99	11.67	18.28	24.18	25.37	25.09	25.65	25.93
Commercial Sector	2.51	4.68	10.00	15.17	15.70	14.30	15.09	15.42
Primary Energy	.69	1.33	3.44	5.40	4.59	4.53	4.88	4.66
Coal	-	-	-	1.81	-	1.94	1.84	-
Natural Gas	.60	1.10	3.00	5.33	4.47	4.38	4.81	4.57
Petroleum	1.51	2.95	7.63	5.87	5.39	5.28	5.37	5.50
Distillate Fuel	1.12	2.62	6.94	4.11	3.48	2.97	4.22	4.05
Kerosene	.77	2.35	-	5.26	3.23	3.29	4.50	4.35
LPG	1.05	2.67	5.72	9.62	9.06	8.52	8.58	8.09
Motor Gasoline	2.80	4.62	9.68	9.06	7.24	7.77	7.31	8.19
Residual Fuel	.63	2.08	-	4.13	-	-	2.30	-
Electricity	5.57	10.03	16.68	22.33	22.87	21.20	21.80	22.05
Industrial Sector	1.00	2.55	5.34	6.49	6.00	7.03	7.26	7.26
Primary Energy	.58	1.42	3.59	3.73	3.25	3.49	3.75	3.62
Coal	.63	.98	1.58	1.81	2.17	1.94	1.84	1.92
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.63	.98	1.58	1.81	2.17	1.94	1.84	1.92
Natural Gas	.41	.72	2.57	4.25	3.77	3.62	3.66	3.52
Petroleum	.86	2.38	5.19	5.70	4.43	3.99	4.46	4.27
Asphalt and Road Oil	.60	1.87	3.63	4.76	4.33	3.21	3.28	2.84
Distillate Fuel	.72	2.19	5.15	4.22	2.59	2.64	3.61	3.49
Kerosene	.77	2.35	5.45	5.26	3.23	3.29	4.50	4.35
LPG	1.05	2.67	5.72	9.62	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.62	9.68	9.06	7.24	7.77	7.31	8.19
Residual Fuel	.36	1.87	3.95	4.13	2.29	2.88	2.30	2.51
Other	-	1.31	4.04	-	-	-	-	-
Electricity	3.56	7.16	11.39	15.05	15.07	15.37	15.41	15.80
Transportation Sector	2.20	3.93	8.79	8.40	6.73	7.23	6.79	7.67
Primary Energy	2.20	3.93	8.79	8.40	6.73	7.23	6.79	7.67
Coal	.63	.98	-	-	-	-	-	-
Petroleum	2.20	3.93	8.79	8.40	6.73	7.23	6.79	7.67
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.26	2.74	7.34	7.15	6.42	7.44	6.74	7.62
Jet Fuel	.76	2.12	6.59	6.20	4.25	4.36	4.15	4.80
LPG	1.05	2.67	5.72	9.62	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.62	9.68	9.06	7.24	7.77	7.31	8.19
Residual Fuel	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.97	3.87	8.42	10.03	9.17	9.73	9.75	10.38
Primary Energy — Four Sectors	1.49	2.81	6.77	7.11	5.84	6.37	6.16	6.75
Electricity	5.32	9.65	15.68	21.15	21.87	21.31	21.73	22.10
Electric Utility Sector	.33	.84	1.35	1.60	1.26	1.21	1.18	1.38
Coal	.21	.21	.98	1.31	1.36	1.30	1.41	1.36
Natural Gas	.35	.73	2.41	3.74	2.35	2.20	2.24	2.24
Petroleum	.61	2.12	4.57	5.15	3.64	3.80	4.07	3.76
Heavy Oil ^b	.60	2.08	3.92	3.71	3.51	2.24	2.47	2.77
Light Oil ^b	.68	2.27	6.48	6.22	3.64	4.34	4.27	4.50
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	.65	.65	.82	.77	.85
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.29	2.25	4.49	4.59	3.69	3.75	3.36	3.95

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Arizona 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	149.1	359.2	741.3	1,250.9	1,287.5	1,405.8	1,518.2	1,580.1
Primary Energy	45.8	75.0	140.1	240.4	202.0	222.6	229.2	231.0
Coal	-	-	-	-	-	-	-	-
Natural Gas	35.6	58.2	119.6	200.5	159.6	173.7	197.2	188.0
Petroleum	10.2	16.8	20.5	39.9	42.4	49.0	32.1	43.1
Distillate Fuel	.7	3.6	.1	.3	.3	.4	.2	.2
Kerosene	1.1	2.0	-	.2	.1	-	.3	-
LPG	8.4	11.2	20.4	39.5	42.1	48.5	31.6	42.8
Electricity	103.3	284.3	601.2	1,010.5	1,085.5	1,183.1	1,289.0	1,349.0
Commercial Sector	107.8	296.9	628.4	1,102.6	1,153.5	1,192.2	1,272.9	1,341.6
Primary Energy	18.7	51.7	109.1	166.0	132.5	156.2	162.9	154.8
Coal	-	-	-	-	-	-	-	-
Natural Gas	14.3	37.8	86.2	141.3	111.6	125.6	140.6	136.0
Petroleum	4.3	13.9	22.9	24.7	20.8	30.6	22.3	18.8
Distillate Fuel	1.4	7.4	11.3	11.4	7.7	9.2	11.9	8.8
Kerosene	.1	.2	-	.1	.1	.1	-	.1
LPG	.6	.9	2.4	6.5	6.7	6.7	5.0	4.3
Motor Gasoline	2.2	4.3	9.1	6.7	6.3	14.5	5.3	5.5
Residual Fuel	.1	1.1	-	-	-	-	-	-
Electricity	89.1	245.1	519.3	936.7	1,021.0	1,036.0	1,110.0	1,187.0
Industrial Sector	115.2	304.4	650.4	767.8	735.8	683.7	762.2	759.4
Primary Energy	57.4	136.7	339.3	333.6	306.1	238.3	275.2	265.1
Coal	.1	2.6	20.6	70.2	100.4	25.8	22.7	27.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.1	2.6	20.6	70.2	100.4	25.8	22.7	27.4
Natural Gas	25.2	38.5	101.5	73.4	33.2	66.6	91.4	68.6
Petroleum	32.1	95.6	217.1	190.0	172.5	145.9	161.1	169.1
Asphalt and Road Oil	14.6	28.9	49.6	81.0	72.7	53.1	58.4	45.0
Distillate Fuel	5.8	39.6	107.1	45.5	42.0	37.6	42.8	62.3
Kerosene	.4	1.6	2.3	.3	.2	.2	1.8	1.9
LPG	1.0	4.3	15.5	18.0	19.0	16.5	19.6	13.2
Lubricants	3.6	9.3	23.0	25.7	22.2	21.9	22.7	28.6
Motor Gasoline	6.7	10.7	15.7	19.2	15.9	16.5	15.6	18.0
Residual Fuel	.1	1.2	3.8	.3	.4	.1	.2	.1
Other	-	-	.1	-	-	-	-	-
Electricity	57.8	167.7	311.1	434.2	429.7	445.3	487.0	494.3
Transportation Sector	371.0	833.4	2,141.9	2,301.9	1,934.5	2,127.3	2,063.3	2,332.7
Primary Energy	371.0	833.4	2,141.9	2,301.9	1,934.5	2,127.3	2,063.3	2,332.7
Coal	-	-	-	-	-	-	-	-
Petroleum	371.0	833.4	2,141.9	2,301.9	1,934.5	2,127.3	2,063.3	2,332.7
Aviation Gasoline	4.7	6.2	12.8	9.3	9.6	7.9	7.0	8.8
Distillate Fuel	23.4	75.8	277.0	317.7	295.3	317.7	304.1	343.7
Jet Fuel	27.5	81.7	289.7	244.4	181.0	202.5	195.0	217.4
LPG	.2	.5	1.6	2.9	3.0	2.0	1.9	1.6
Lubricants	7.1	12.1	30.2	33.7	29.2	28.7	29.8	37.5
Motor Gasoline	308.1	656.9	1,530.5	1,693.9	1,416.3	1,568.4	1,525.5	1,723.8
Residual Fuel	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	743.0	1,793.8	4,161.9	5,423.2	5,111.3	5,408.9	5,616.7	6,014.0
Primary Energy — Four Sectors	492.9	1,096.7	2,730.3	3,041.8	2,575.0	2,744.4	2,730.6	2,983.7
Electricity	250.1	697.1	1,431.6	2,381.4	2,536.2	2,664.5	2,886.0	3,030.3
Electric Utility Sector	23.5	129.6	398.7	580.5	490.6	539.1	671.5	664.3
Coal	1.8	18.5	226.3	396.0	340.5	350.2	416.9	466.4
Natural Gas	21.7	13.9	126.7	165.5	75.2	60.7	58.7	118.0
Petroleum	.1	97.2	45.7	11.0	5.1	9.8	5.2	8.2
Heavy Oil ^b	.1	75.4	29.2	3.4	.1	1.5	.3	2.6
Light Oil ^b	-	21.8	16.5	7.7	5.1	8.3	4.9	5.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	8.0	69.8	118.4	190.6	71.8
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	516.4	1,226.3	3,129.1	3,622.2	3,065.6	3,283.5	3,402.1	3,648.0

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Arkansas 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	-	1.22	1.44	1.60	1.58	1.57	1.60	1.64
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	1.22	1.44	1.60	1.58	1.57	1.60	1.64
Natural Gas	0.38	.79	2.27	3.83	3.53	3.34	3.43	3.39
Petroleum	1.96	3.30	7.56	8.17	5.70	6.43	6.22	6.74
Asphalt and Road Oil	.68	1.81	3.58	4.21	4.62	3.33	3.27	2.90
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.98	2.39	6.04	7.92	4.76	5.68	5.13	5.92
Jet Fuel	.72	2.01	6.34	5.96	3.93	4.07	3.66	4.27
Kerosene	.88	2.41	5.51	10.29	3.85	5.04	4.29	4.92
LPG	1.63	3.12	6.97	8.54	7.54	7.29	7.71	7.16
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.74	4.60	9.93	8.80	6.84	7.28	7.13	7.69
Residual Fuel	.43	1.72	3.23	4.01	2.41	2.74	2.58	2.71
Other ^a	.52	2.11	5.99	7.20	6.65	7.34	6.49	6.64
Nuclear Fuel	-	.24	.54	.77	.71	.75	.74	.75
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.10	4.37	4.43	3.48	3.60	3.65	3.90
Electric Utility Fuel	.26	.72	1.46	1.36	1.32	1.28	1.34	1.39
Electricity Purchased by End Users	4.78	7.80	12.77	18.24	19.61	19.00	18.76	19.04
Total Energy ^b	1.51	2.98	6.68	8.34	7.16	7.85	7.35	7.56
Expenditures in Millions of Dollars								
Coal	-	1.1	52.6	351.1	354.7	330.7	349.4	332.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	1.1	52.6	351.1	354.7	330.7	349.4	332.8
Natural Gas	133.8	165.8	581.7	636.9	613.0	486.6	632.7	724.6
Petroleum	465.7	1,125.6	2,313.0	2,426.4	1,752.8	1,857.4	1,858.5	2,051.3
Asphalt and Road Oil	9.4	27.4	65.9	35.3	30.1	22.5	29.8	15.0
Aviation Gasoline	3.2	4.4	12.5	4.4	4.7	3.5	3.7	4.3
Distillate Fuel	31.1	133.2	376.2	687.9	367.7	444.5	423.4	500.9
Jet Fuel	8.5	21.7	70.0	65.7	41.1	45.8	44.5	45.2
Kerosene	4.1	9.4	17.8	85.4	15.1	19.6	22.5	13.3
LPG	62.4	103.4	123.7	129.1	109.3	96.3	109.4	127.9
Lubricants	16.4	28.0	61.0	68.0	58.9	58.0	60.2	75.6
Motor Gasoline	323.7	666.5	1,381.9	1,235.5	1,001.9	1,089.6	1,108.1	1,187.7
Residual Fuel	2.4	97.6	100.3	60.3	95.1	44.7	29.8	54.8
Other ^a	4.4	28.0	103.6	54.8	28.9	32.7	26.9	26.5
Nuclear Fuel	-	12.7	46.0	82.8	68.0	91.6	70.4	71.4
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	599.4	1,325.1	2,993.3	3,497.2	2,788.5	2,766.2	2,911.0	3,180.0
Electric Utility Fuel	-29.3	-82.2	-286.3	-451.4	-454.4	-459.1	-445.9	-448.2
Electricity Purchased by End Users	217.4	480.4	1,149.8	1,440.1	1,490.5	1,521.8	1,566.2	1,644.7
Total Energy ^b	787.6	1,723.3	3,856.8	4,485.8	3,824.6	3,828.8	4,031.3	4,376.5

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Arkansas 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.91	3.90	8.14	11.48	11.99	11.99	11.87	12.01
Primary Energy	1.07	1.82	3.45	5.26	5.23	5.04	5.25	5.23
Coal	-	-	2.97	3.19	-	2.88	2.62	2.64
Natural Gas	.75	1.12	2.49	4.35	4.77	4.57	4.78	4.83
Petroleum	1.81	3.44	8.54	8.88	6.88	7.07	7.19	6.72
Distillate Fuel	.93	2.40	6.54	10.33	4.38	5.30	4.71	4.95
Kerosene	1.40	2.80	-	11.07	4.70	5.68	5.05	5.30
LPG	1.84	3.51	8.77	8.46	7.36	7.42	7.93	6.97
Electricity	6.82	9.35	15.58	21.91	22.68	22.46	22.31	22.78
Commercial Sector	1.58	3.08	6.73	10.18	10.70	10.50	10.37	10.70
Primary Energy	.64	1.25	2.80	5.81	4.49	4.41	4.43	4.52
Coal	-	-	1.89	2.12	-	2.02	2.04	1.98
Natural Gas	.52	.90	2.29	4.06	4.33	4.21	4.31	4.36
Petroleum	1.37	2.23	5.24	9.36	5.52	5.53	5.17	5.45
Distillate Fuel	.86	2.29	6.25	9.09	3.00	4.18	3.31	3.69
Kerosene	.77	2.32	5.51	10.09	3.04	4.42	3.53	4.30
LPG	1.23	2.64	5.54	8.65	7.83	7.13	7.45	7.40
Motor Gasoline	2.74	4.60	9.93	8.80	6.84	7.28	7.13	7.69
Residual Fuel	.42	1.75	3.33	-	2.42	-	-	-
Electricity	6.07	8.60	14.74	19.06	19.70	19.06	19.11	19.84
Industrial Sector	.68	1.62	4.15	6.60	4.86	5.73	5.01	5.06
Primary Energy	.44	1.27	3.24	5.41	3.39	3.79	3.43	3.52
Coal	-	1.22	1.89	2.12	2.04	2.02	2.04	1.98
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	1.22	1.89	2.12	2.04	2.02	2.04	1.98
Natural Gas	.28	.68	2.24	3.65	3.40	3.10	3.04	3.08
Petroleum	.92	2.14	4.90	7.71	3.50	4.48	4.11	4.50
Asphalt and Road Oil	.68	1.81	3.58	4.21	4.62	3.33	3.27	2.90
Distillate Fuel	.67	2.09	4.87	9.44	2.84	4.14	3.30	4.02
Kerosene	.77	2.32	5.51	10.09	3.04	4.42	3.53	4.30
LPG	1.23	2.64	5.54	8.65	7.83	7.13	7.45	7.40
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.74	4.60	9.93	8.80	6.84	7.28	7.13	7.69
Residual Fuel	.45	1.63	2.95	4.01	2.42	2.74	2.49	2.68
Other	.52	2.11	5.99	7.20	6.65	7.34	6.49	6.64
Electricity	2.78	5.18	9.15	13.74	15.53	14.56	14.14	14.34
Transportation Sector	2.38	4.06	9.11	8.24	6.63	7.02	6.81	7.39
Primary Energy	2.38	4.06	9.11	8.24	6.63	7.02	6.81	7.39
Coal	-	1.22	-	-	-	-	-	-
Petroleum	2.38	4.06	9.11	8.24	6.63	7.02	6.81	7.39
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.16	2.53	6.70	6.56	6.09	6.59	6.21	6.71
Jet Fuel	.72	2.01	6.34	5.96	3.93	4.07	3.66	4.27
LPG	1.23	2.64	5.54	8.65	7.83	7.13	7.45	7.40
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.74	4.60	9.93	8.80	6.84	7.28	7.13	7.69
Residual Fuel	.40	1.57	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.51	2.98	6.68	8.34	7.16	7.85	7.35	7.56
Primary Energy — Four Sectors	1.20	2.40	5.55	6.63	5.09	5.66	5.30	5.55
Electricity	4.78	7.80	12.77	18.24	19.61	19.00	18.76	19.04
Electric Utility Sector	.26	.72	1.48	1.36	1.32	1.28	1.34	1.39
Coal	-	-	1.34	1.58	1.56	1.55	1.59	1.63
Natural Gas	.25	.61	2.16	2.82	1.56	1.52	1.35	1.65
Petroleum	.42	1.79	3.39	4.99	2.20	3.86	4.43	3.81
Heavy Oil ^b	.42	1.78	3.34	3.84	1.65	2.76	3.81	3.26
Light Oil ^b	.46	2.22	4.34	5.86	4.43	3.86	5.12	4.36
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.24	.54	.77	.71	.75	.74	.75
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.10	4.37	4.43	3.48	3.60	3.65	3.90

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Arkansas 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	192.8	373.2	734.6	937.2	977.1	995.1	1,037.8	1,056.5
Primary Energy	92.3	125.8	190.8	269.3	260.9	251.2	280.8	282.5
Coal	-	-	.1	-	-	-	-	.1
Natural Gas	45.1	54.2	115.9	177.9	186.2	185.5	206.2	205.2
Petroleum	47.2	71.7	74.8	91.3	74.7	65.8	74.6	77.2
Distillate Fuel	.4	2.2	5.8	-	-	-	-	-
Kerosene	1.2	2.0	-	18.2	9.0	10.8	13.2	8.9
LPG	45.6	67.4	69.0	73.1	65.6	54.9	61.4	68.3
Electricity	100.5	247.4	543.7	667.9	716.2	743.8	757.0	774.0
Commercial Sector	87.1	184.7	371.3	616.7	528.7	528.5	559.4	586.7
Primary Energy	29.3	58.2	103.5	236.3	131.2	129.8	142.4	146.7
Coal	-	-	.2	-	-	-	-	.1
Natural Gas	20.6	29.7	69.9	110.5	109.5	104.8	119.2	119.5
Petroleum	8.7	26.5	33.5	125.8	21.7	24.9	23.2	27.1
Distillate Fuel	.2	1.2	4.1	62.0	3.3	8.8	4.9	9.4
Kerosene	.4	1.0	4.1	45.1	1.5	1.9	3.5	.5
LPG	5.4	8.9	7.7	13.2	12.3	9.3	10.2	12.8
Motor Gasoline	2.6	3.5	8.5	5.5	4.2	5.0	4.6	4.4
Residual Fuel	.1	11.9	9.2	-	.4	-	-	-
Electricity	57.8	128.6	267.8	380.4	397.5	398.8	417.0	440.0
Industrial Sector	143.8	365.2	994.5	1,321.2	976.9	828.1	941.0	1,063.0
Primary Energy	84.8	260.7	656.2	929.4	600.1	449.0	548.8	632.4
Coal	-	1.1	12.0	17.0	15.8	13.6	11.7	11.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	1.1	12.0	17.0	15.8	13.6	11.7	11.8
Natural Gas	40.7	82.3	265.8	314.5	270.6	146.0	276.7	350.2
Petroleum	44.1	177.4	378.4	597.9	313.7	289.3	260.4	270.3
Asphalt and Road Oil	9.4	27.4	65.9	35.3	30.1	22.5	29.8	15.0
Distillate Fuel	7.7	34.5	100.5	331.9	87.0	112.1	95.5	84.7
Kerosene	2.6	6.3	13.7	22.1	4.6	7.0	5.8	3.9
LPG	8.2	26.4	42.8	38.5	29.1	30.2	35.8	44.7
Lubricants	7.1	14.0	23.3	26.0	22.5	22.2	23.0	29.0
Motor Gasoline	4.2	4.1	2.7	29.1	17.3	17.9	16.9	14.5
Residual Fuel	.5	36.7	25.9	60.1	94.2	44.7	26.6	52.1
Other	4.4	28.0	103.6	54.8	28.9	32.7	26.9	26.5
Electricity	59.1	104.4	338.3	391.8	376.8	379.1	392.2	430.7
Transportation Sector	363.9	800.2	1,756.4	1,610.8	1,341.9	1,477.1	1,493.1	1,670.3
Primary Energy	363.9	800.2	1,756.4	1,610.8	1,341.9	1,477.1	1,493.1	1,670.3
Coal	-	-	-	-	-	-	-	-
Petroleum	363.9	800.2	1,756.4	1,610.8	1,341.9	1,477.1	1,493.1	1,670.3
Aviation Gasoline	3.2	4.4	12.5	4.4	4.7	3.5	3.7	4.3
Distillate Fuel	22.8	94.4	261.3	293.5	277.1	323.4	319.1	403.2
Jet Fuel	8.5	21.7	70.0	65.7	41.1	45.8	44.5	45.2
LPG	3.2	6.7	4.2	4.3	2.3	1.9	2.1	2.0
Lubricants	9.2	14.0	37.6	42.0	36.3	35.8	37.1	46.7
Motor Gasoline	316.9	658.9	1,370.7	1,200.9	980.4	1,066.7	1,086.5	1,168.9
Residual Fuel	-	.1	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	787.6	1,723.3	3,856.8	4,485.8	3,824.6	3,828.8	4,031.3	4,376.5
Primary Energy — Four Sectors	570.2	1,243.0	2,707.0	3,045.8	2,334.1	2,307.1	2,465.1	2,731.8
Electricity	217.4	480.4	1,149.8	1,440.1	1,490.5	1,521.8	1,566.2	1,644.7
Electric Utility Sector	29.3	82.2	286.3	451.4	454.4	459.1	445.9	448.2
Coal	-	-	40.3	334.0	338.9	317.0	337.7	320.8
Natural Gas	27.4	19.7	130.1	34.0	46.7	50.3	30.7	49.7
Petroleum	1.9	49.8	69.6	.6	.8	.2	7.1	6.4
Heavy Oil ^b	1.8	49.0	65.3	.2	.5	-	3.2	2.8
Light Oil ^b	-	.8	4.5	.4	.3	.2	3.9	3.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	12.7	46.0	82.8	68.0	91.6	70.4	71.4
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	599.4	1,325.1	2,993.3	3,497.2	2,788.5	2,766.2	2,911.0	3,180.0

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, California 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.45	1.32	1.01	2.30	2.26	2.09	1.96	1.93
Coking Coal	.43	1.38	1.97	-	-	-	-	-
Steam Coal	.83	.92	1.82	2.30	2.26	2.09	1.96	1.93
Natural Gas	.56	1.25	3.54	5.01	4.02	3.77	4.05	4.10
Petroleum	1.78	3.53	7.37	7.45	5.69	5.89	5.87	6.40
Asphalt and Road Oil	.49	1.62	3.78	4.78	5.08	5.36	4.53	3.10
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.26	2.97	6.62	6.48	5.55	5.92	5.93	6.72
Jet Fuel	.73	2.04	6.21	6.01	3.99	4.04	3.84	4.50
Kerosene	1.08	2.76	6.44	6.16	7.72	5.26	7.07	9.99
LPG	1.84	3.08	6.09	9.32	9.62	9.76	9.52	8.90
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.84	10.19	8.68	6.68	6.95	7.08	7.66
Residual Fuel	.38	2.38	4.49	4.95	2.76	2.62	2.34	2.68
Other ^a	1.01	2.23	6.18	7.26	5.85	5.84	4.96	5.30
Nuclear Fuel	.19	.21	.49	.96	.97	.99	.90	.85
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.20	2.61	5.95	6.21	4.86	4.80	4.92	5.24
Electric Utility Fuel	.34	1.82	3.99	3.70	2.16	2.02	2.17	2.20
Electricity Purchased by End Users	4.76	8.71	17.16	22.90	23.21	22.70	23.42	24.91
Total Energy ^b	1.73	3.47	7.71	8.96	7.75	7.67	7.91	8.42
Expenditures in Millions of Dollars								
Coal	27.9	74.6	126.7	104.1	96.0	94.0	99.5	111.6
Coking Coal	25.6	67.7	79.8	-	-	-	-	-
Steam Coal	2.3	6.9	46.8	104.1	96.0	94.0	99.5	111.6
Natural Gas	1,126.7	2,148.2	6,063.2	9,251.8	6,011.6	7,109.8	7,145.3	7,426.4
Petroleum	4,207.6	9,931.8	24,299.1	21,108.4	16,879.2	18,024.1	18,733.7	20,868.3
Asphalt and Road Oil	39.0	141.0	462.2	439.0	517.9	585.1	461.6	308.2
Aviation Gasoline	23.9	28.5	13.0	68.3	56.8	41.3	49.1	54.4
Distillate Fuel	283.0	719.4	2,390.8	2,729.9	2,409.2	2,539.5	2,908.9	3,199.9
Jet Fuel	242.7	716.0	2,199.3	2,257.8	1,685.3	1,811.7	1,784.5	2,286.8
Kerosene	6.1	31.8	77.3	33.7	7.0	6.6	12.5	17.9
LPG	99.5	169.8	365.8	582.6	588.4	633.0	622.3	644.4
Lubricants	122.3	164.9	427.4	476.8	412.8	406.5	421.9	530.1
Motor Gasoline	3,149.1	6,137.9	13,579.1	12,192.3	9,816.4	10,665.9	11,300.4	12,504.1
Residual Fuel	161.1	1,628.1	4,131.7	1,857.1	1,085.1	985.9	876.6	1,007.3
Other ^a	80.7	194.4	652.5	470.9	300.3	348.6	295.9	315.2
Nuclear Fuel	6.7	14.4	26.1	204.0	273.7	322.8	297.0	295.9
Wood and Waste at Utilities	.3	.2	.4	*	.1	.2	.1	*
Primary Energy — Five Sectors	5,369.2	12,169.1	30,515.4	30,668.3	23,260.6	25,550.9	26,275.6	28,702.3
Electric Utility Fuel	-282.1	-1,553.7	-4,018.4	-3,498.6	-1,694.0	-2,060.3	-2,131.0	-2,168.0
Electricity Purchased by End Users	1,886.7	4,328.6	9,560.0	14,143.4	14,220.3	14,334.2	15,574.0	17,085.2
Total Energy ^b	6,973.7	14,944.0	36,057.0	41,313.1	35,786.9	37,824.8	39,718.5	43,619.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, California 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.92	3.20	6.76	10.02	10.27	10.43	11.36	11.89
Primary Energy	.99	1.55	3.53	5.63	5.19	5.42	5.74	5.67
Coal	1.31	-	5.13	4.54	-	3.76	3.37	3.66
Natural Gas	.93	1.49	3.37	5.51	4.95	5.13	5.48	5.40
Petroleum	2.49	4.17	8.14	8.54	10.76	11.91	11.05	11.49
Distillate Fuel	1.27	2.80	6.92	5.25	7.58	6.05	5.84	7.63
Kerosene	2.57	5.08	13.04	9.18	13.26	10.57	10.22	13.34
LPG	2.67	4.45	8.15	8.66	10.95	12.37	11.39	11.65
Electricity	6.53	10.68	17.18	22.80	23.26	23.55	25.02	27.69
Commercial Sector	2.09	4.36	9.58	15.05	15.21	14.18	13.88	14.64
Primary Energy	.71	1.48	4.30	6.42	5.65	5.31	4.71	4.92
Coal	.63	-	1.82	2.28	-	2.09	1.96	1.92
Natural Gas	.69	1.22	3.82	6.39	5.65	5.28	4.55	4.71
Petroleum	.76	2.93	6.02	6.72	5.67	5.42	5.48	6.15
Distillate Fuel	1.12	2.60	6.60	5.40	5.56	4.81	4.94	6.22
Kerosene	.78	2.50	6.38	5.90	4.41	4.54	4.51	5.70
LPG	1.37	2.77	5.21	9.65	9.02	8.47	8.53	7.63
Motor Gasoline	2.80	4.84	10.19	8.68	6.68	6.95	7.08	7.66
Residual Fuel	.40	2.45	4.90	3.93	2.16	2.60	2.09	2.30
Electricity	5.02	8.73	17.99	23.61	24.19	23.47	24.15	25.33
Industrial Sector	.87	2.24	6.19	8.24	7.25	6.66	6.96	7.05
Primary Energy	.57	1.51	4.32	5.28	4.24	4.23	4.24	4.21
Coal	.43	1.32	1.91	2.28	2.26	2.09	1.96	1.92
Coking Coal	.43	1.38	1.97	-	-	-	-	-
Steam Coal	.63	.92	1.82	2.28	2.26	2.09	1.96	1.92
Natural Gas	.38	1.05	3.64	4.54	3.46	3.39	3.65	3.62
Petroleum	.91	2.25	5.20	6.44	5.25	.59	5.33	5.41
Asphalt and Road Oil	.49	1.62	3.78	4.78	5.08	5.36	4.53	3.10
Distillate Fuel	.68	2.21	5.49	5.54	4.15	4.27	4.24	5.35
Kerosene	.78	2.50	6.38	5.90	4.41	4.54	4.51	5.70
LPG	1.37	2.77	5.21	9.65	9.02	8.47	8.53	7.63
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.84	10.19	8.68	6.68	6.95	7.08	7.66
Residual Fuel	.35	1.66	3.16	3.93	2.16	2.60	2.09	2.30
Other	1.01	2.23	6.18	7.26	5.85	5.84	4.96	5.30
Electricity	2.90	6.70	16.04	22.00	21.63	20.38	20.15	20.89
Transportation Sector	2.07	4.02	8.22	7.63	5.75	5.92	6.00	6.60
Primary Energy	2.07	4.02	8.22	7.62	5.75	5.92	5.99	6.60
Coal	.63	.92	-	-	-	-	-	-
Petroleum	2.07	4.02	8.22	7.62	5.75	5.92	5.99	6.60
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.42	3.22	7.07	6.90	5.93	6.70	6.51	7.14
Jet Fuel	.73	2.04	6.21	6.01	3.99	4.04	3.84	4.50
LPG	1.37	2.77	5.21	9.65	9.02	8.47	8.53	7.63
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.84	10.19	8.68	6.68	6.95	7.08	7.66
Residual Fuel	.36	2.12	4.14	5.02	2.86	2.60	2.26	2.57
Electricity	2.88	4.34	11.39	18.29	18.21	13.47	14.99	13.15
Total Energy*	1.73	3.47	7.71	8.96	7.75	7.67	7.91	8.42
Primary Energy — Four Sectors	1.40	2.78	6.43	6.80	5.38	5.46	5.54	5.90
Electricity	4.76	8.71	17.16	22.90	23.21	22.70	23.42	24.91
Electric Utility Sector	.34	1.82	3.99	3.70	2.16	2.02	2.17	2.20
Coal	-	-	-	-	-	-	-	-
Natural Gas	.33	1.05	3.53	4.47	2.81	2.50	2.83	2.92
Petroleum	.40	2.50	5.06	5.33	3.26	2.93	2.67	3.09
Heavy Oil ^b	.40	2.50	5.03	5.31	3.16	2.82	2.66	3.08
Light Oil ^b	.36	2.43	5.84	5.69	4.79	4.10	4.03	3.64
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.19	.21	.49	.96	.97	.99	.90	.85
Wood and Waste	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.20	2.61	5.95	6.21	4.86	4.80	4.92	5.24

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, California 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,401.1	2,665.4	5,063.6	7,683.8	7,172.7	7,776.7	8,594.0	9,246.8
Primary Energy	603.5	1,052.7	2,014.1	3,211.0	2,606.9	2,925.8	3,076.0	3,166.8
Coal	1.1	-	.2	2.0	-	*	.2	.3
Natural Gas	544.3	993.8	1,861.6	3,016.1	2,384.7	2,648.3	2,803.9	2,874.8
Petroleum	58.2	58.9	152.4	192.9	222.2	277.6	272.0	291.7
Distillate Fuel	3.7	8.0	3.8	4.5	10.6	10.0	7.8	10.7
Kerosene	2.4	6.1	1.3	4.0	4.5	1.6	8.1	13.4
LPG	52.1	44.7	147.2	184.3	207.1	265.9	256.1	267.6
Electricity	797.6	1,612.8	3,049.5	4,472.8	4,565.8	4,850.8	5,518.0	6,080.0
Commercial Sector	905.1	2,165.1	5,377.9	7,531.1	7,526.4	7,710.2	8,108.8	8,806.2
Primary Energy	208.7	442.1	1,482.7	1,601.1	1,356.0	1,478.4	1,451.7	1,549.6
Coal	1.0	-	.1	1.8	-	*	.2	.3
Natural Gas	152.9	309.6	1,027.9	1,359.7	1,070.4	1,153.9	1,162.5	1,264.5
Petroleum	54.8	132.6	454.6	239.6	285.6	324.4	289.0	284.8
Distillate Fuel	4.3	9.8	124.0	110.5	182.9	192.7	181.9	167.1
Kerosene	2.3	9.2	8.0	12.4	.9	1.4	3.1	2.2
LPG	4.7	4.9	16.6	36.2	30.1	32.1	33.9	30.9
Motor Gasoline	21.8	41.2	96.1	80.2	61.6	91.8	66.0	71.7
Residual Fuel	21.8	67.4	209.9	.3	10.0	6.4	4.2	12.9
Electricity	696.3	1,722.9	3,895.2	5,930.0	6,170.4	6,231.8	6,657.1	7,256.6
Industrial Sector	917.3	2,350.3	6,325.1	7,872.9	6,725.7	7,027.9	6,845.3	7,409.8
Primary Energy	525.0	1,361.3	3,717.3	4,147.5	3,256.0	3,786.2	3,458.3	3,671.6
Coal	25.8	74.6	126.4	100.3	96.0	94.0	99.1	111.0
Coking Coal	25.6	67.7	79.8	-	-	-	-	-
Steam Coal	.2	6.9	46.5	100.3	96.0	94.0	99.1	111.0
Natural Gas	209.3	539.6	1,248.7	1,745.8	1,252.1	1,637.5	1,557.2	1,712.8
Petroleum	289.9	747.1	2,342.2	2,301.4	1,907.9	2,054.7	1,802.0	1,847.9
Asphalt and Road Oil	39.0	141.0	462.2	439.0	517.9	585.1	461.6	308.2
Distillate Fuel	31.2	126.2	489.1	586.9	346.6	443.8	414.5	504.7
Kerosene	1.5	16.5	67.9	17.3	1.6	3.6	1.3	2.3
LPG	41.1	116.1	191.9	323.4	318.1	307.7	306.5	325.1
Lubricants	46.6	56.6	183.2	204.4	176.9	174.2	180.8	227.2
Motor Gasoline	28.6	34.0	90.9	139.8	111.5	118.6	110.8	130.0
Residual Fuel	21.3	62.4	204.4	119.8	135.1	73.1	30.5	35.2
Other	80.7	194.4	652.5	470.9	300.3	348.6	295.9	315.2
Electricity	392.2	988.9	2,607.7	3,725.4	3,469.7	3,241.7	3,387.0	3,738.1
Transportation Sector	3,750.3	7,763.2	19,290.4	18,225.4	14,362.1	15,310.1	16,170.4	18,158.8
Primary Energy	3,749.8	7,759.3	19,282.9	18,210.1	14,347.6	15,300.1	16,158.5	18,146.2
Coal	.1	*	-	-	-	-	-	-
Petroleum	3,749.7	7,759.3	19,282.9	18,210.1	14,347.6	15,300.1	16,158.5	18,146.2
Aviation Gasoline	23.9	28.5	13.0	68.3	56.8	41.3	49.1	54.4
Distillate Fuel	243.7	573.4	1,720.6	2,017.9	1,859.4	1,884.6	2,300.8	2,511.1
Jet Fuel	242.7	714.6	2,166.4	2,257.8	1,685.3	1,811.7	1,784.5	2,286.8
LPG	1.6	4.0	10.0	38.6	33.0	27.3	25.8	20.9
Lubricants	75.8	108.3	244.2	272.5	235.9	232.3	241.1	302.9
Motor Gasoline	3,098.8	6,062.6	13,392.0	11,972.3	9,643.3	10,455.5	11,123.6	12,302.4
Residual Fuel	63.3	267.8	1,736.6	1,582.8	834.0	847.5	633.6	667.7
Electricity	.5	4.0	7.6	15.2	14.5	9.9	11.9	10.5
Total Energy*	6,973.7	14,944.0	36,057.0	41,313.1	35,786.9	37,824.8	39,718.5	43,619.4
Primary Energy — Four Sectors	5,087.1	10,615.4	26,497.0	27,169.7	21,566.6	23,490.6	24,144.5	26,534.2
Electricity	1,886.7	4,328.6	9,560.0	14,143.4	14,220.3	14,334.2	15,574.0	17,085.2
Electric Utility Sector	282.1	1,553.7	4,018.4	3,498.6	1,694.0	2,060.3	2,131.0	2,168.0
Coal	-	-	-	-	-	-	-	-
Natural Gas	220.1	305.2	1,925.0	3,130.1	1,304.4	1,670.1	1,621.7	1,574.3
Petroleum	54.9	1,234.0	2,067.0	164.4	115.8	67.3	212.2	297.8
Heavy Oil ^b	54.7	1,230.5	1,980.8	154.2	106.1	58.9	208.3	291.5
Light Oil ^b	.2	3.4	86.2	10.2	9.7	8.4	3.9	6.3
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	6.7	14.4	26.1	204.0	273.7	322.6	297.0	295.9
Wood and Waste	.3	.2	.4	*	.1	.2	.1	*
Primary Energy — Five Sectors	5,369.2	12,169.1	30,515.4	30,668.3	23,260.6	25,550.9	26,275.6	28,702.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Colorado 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.33	0.68	1.00	1.17	1.18	1.14	1.08	1.08
Coking Coal	.43	1.38	1.97	-	-	-	-	-
Steam Coal	.30	.53	.89	1.17	1.18	1.14	1.08	1.08
Natural Gas	.48	.98	2.98	4.71	4.54	4.26	3.95	3.85
Petroleum	1.88	3.54	7.93	8.00	6.02	6.47	6.24	7.15
Asphalt and Road Oil	.58	2.01	3.40	4.73	4.30	3.03	3.19	2.73
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.04	2.30	6.45	6.26	5.52	5.86	5.46	6.66
Jet Fuel	.76	2.12	6.59	5.94	3.92	4.05	3.78	4.30
Kerosene	.98	2.22	5.78	7.55	4.56	4.09	3.98	5.18
LPG	1.60	3.02	5.88	6.39	6.23	4.80	3.28	5.97
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.72	4.67	9.36	9.28	6.76	7.59	7.34	8.13
Residual Fuel	.44	1.59	3.88	4.05	2.34	2.68	2.44	1.81
Other ^a	.99	1.98	7.39	6.78	5.89	5.56	4.85	5.05
Nuclear Fuel	-	-	.21	-	.27	.28	.29	.28
Wood and Waste at Utilities	-	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.03	2.02	4.33	4.73	3.93	4.01	3.77	3.99
Electric Utility Fuel	.25	.60	1.12	1.21	1.21	1.15	1.09	1.08
Electricity Purchased by End Users	6.09	7.95	12.94	17.88	17.69	17.12	17.32	17.48
Total Energy^b	1.51	2.92	6.49	6.20	7.20	7.35	7.14	7.60
Expenditures in Millions of Dollars								
Coal	38.3	108.4	248.2	349.9	349.5	336.8	337.3	349.0
Coking Coal	12.0	39.5	50.2	-	-	-	-	-
Steam Coal	26.3	69.0	197.9	349.9	349.5	336.8	337.3	349.0
Natural Gas	128.2	262.9	706.8	931.2	810.9	793.7	817.3	837.0
Petroleum	503.1	1,139.9	2,577.0	2,604.8	2,019.1	2,140.1	2,074.1	2,257.3
Asphalt and Road Oil	12.3	29.8	51.6	97.5	88.2	62.6	75.2	53.1
Aviation Gasoline	3.7	4.6	12.1	7.1	7.5	5.8	6.2	7.6
Distillate Fuel	30.9	118.1	422.1	348.2	325.5	336.7	355.7	395.9
Jet Fuel	32.0	85.7	175.9	264.1	178.8	192.0	138.0	129.8
Kerosene	4.5	3.5	13.5	4.5	1.4	1.5	1.6	3.2
LPG	27.5	55.7	83.3	56.8	48.3	38.5	29.6	76.7
Lubricants	13.1	20.8	55.8	62.3	53.9	53.1	55.1	69.2
Motor Gasoline	372.5	782.3	1,685.6	1,742.4	1,297.1	1,439.3	1,404.9	1,512.7
Residual Fuel	3.9	32.7	43.6	4.0	10.9	2.2	.6	1.4
Other ^a	2.7	6.7	33.5	18.0	7.6	8.4	7.1	7.7
Nuclear Fuel	-	-	1.5	-	.2	.5	2.1	1.6
Wood and Waste at Utilities	-	-	-	.	.	.	.	.
Primary Energy — Five Sectors	669.6	1,511.2	3,533.4	3,685.9	3,179.7	3,271.2	3,230.7	3,444.9
Electric Utility Fuel	-30.6	-105.4	-272.5	-342.6	-340.8	-332.3	-337.3	-350.7
Electricity Purchased by End Users	222.3	426.0	918.2	1,608.3	1,621.9	1,622.8	1,716.9	1,775.2
Total Energy^b	861.3	1,831.8	4,179.1	5,151.5	4,460.8	4,581.7	4,610.3	4,869.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Colorado 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.71	2.76	5.72	8.75	9.05	8.61	8.23	8.60
Primary Energy	.88	1.53	3.53	5.19	5.08	4.74	4.28	4.66
Coal	.90	1.58	2.54	2.83	2.78	2.40	2.12	2.43
Natural Gas	.74	1.29	3.26	5.11	4.99	4.74	4.39	4.57
Petroleum	1.74	3.26	7.31	6.71	6.62	5.07	2.62	6.08
Distillate Fuel	1.28	2.84	6.96	6.91	4.32	3.49	3.47	5.09
Kerosene	1.51	2.96	7.98	9.20	5.75	4.65	4.62	6.78
LPG	1.79	3.33	7.32	6.55	6.81	5.19	2.51	6.11
Electricity	7.73	9.94	15.00	20.28	20.60	20.01	20.31	20.56
Commercial Sector	1.66	2.73	6.09	9.48	9.42	8.91	8.69	9.17
Primary Energy	.62	1.20	3.26	4.64	4.35	4.11	3.77	4.03
Coal	.39	.81	1.20	1.31	1.24	1.39	1.36	1.34
Natural Gas	.59	1.10	3.03	4.61	4.41	4.15	3.83	4.00
Petroleum	1.28	2.73	7.08	6.15	4.40	4.20	3.62	4.82
Distillate Fuel	1.06	2.49	6.48	5.45	4.83	3.61	2.95	3.83
Kerosene	.89	2.11	5.65	5.67	3.49	3.82	3.59	4.83
LPG	1.18	2.59	4.79	6.12	5.10	4.09	4.21	5.86
Motor Gasoline	2.72	4.67	9.36	9.28	6.76	7.59	7.34	8.13
Residual Fuel	.38	1.93	4.35	4.07	2.34	-	-	1.80
Electricity	5.97	7.95	14.37	18.34	17.73	17.05	17.03	17.17
Industrial Sector	.65	1.74	4.20	5.64	5.13	5.14	4.97	4.84
Primary Energy	.53	1.40	3.44	4.34	3.61	3.39	3.35	3.25
Coal	.42	1.17	1.66	1.31	1.24	1.39	1.36	1.34
Coking Coal	.43	1.38	1.97	-	-	-	-	-
Steam Coal	.39	.81	1.20	1.31	1.24	1.39	1.36	1.34
Natural Gas	.29	.72	2.65	4.01	3.82	3.60	3.43	2.50
Petroleum	.97	2.19	5.17	5.77	4.26	3.96	3.84	4.54
Asphalt and Road Oil	.58	2.01	3.40	4.73	4.30	3.03	3.19	2.73
Distillate Fuel	.83	1.96	5.33	5.25	3.23	3.53	3.32	4.47
Kerosene	.89	2.11	5.65	5.67	3.49	3.82	3.59	4.83
LPG	1.18	2.59	4.79	6.12	5.10	4.09	4.21	5.86
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.72	4.67	9.36	9.28	6.76	7.59	7.34	8.13
Residual Fuel	.47	1.43	3.82	4.07	2.34	2.68	1.82	1.80
Other	.99	1.98	7.39	6.78	5.89	5.56	4.85	5.05
Electricity	3.50	5.55	9.40	12.67	12.95	12.78	13.22	13.32
Transportation Sector	2.17	3.99	8.75	8.44	6.38	6.98	6.88	7.73
Primary Energy	2.17	3.99	8.75	8.44	6.38	6.98	6.88	7.73
Coal	.39	.81	-	-	-	-	-	-
Petroleum	2.17	3.99	8.75	8.44	6.38	6.98	6.88	7.73
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.20	2.49	7.13	6.70	6.91	7.28	7.13	7.85
Jet Fuel	.76	2.12	6.59	5.94	3.92	4.05	3.78	4.30
LPG	1.18	2.59	4.79	6.12	5.10	4.09	4.21	5.86
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.72	4.67	9.36	9.28	6.76	7.59	7.34	8.13
Residual Fuel	.38	1.86	-	3.93	2.01	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.51	2.92	6.49	8.20	7.20	7.35	7.14	7.60
Primary Energy — Four Sectors	1.20	2.45	5.69	6.58	5.38	5.59	5.29	5.74
Electricity	6.09	7.95	12.94	17.88	17.69	17.12	17.32	17.48
Electric Utility Sector	.25	.60	1.12	1.21	1.21	1.15	1.09	1.08
Coal	.26	.48	.86	1.15	1.18	1.12	1.07	1.06
Natural Gas	.24	.59	2.64	3.53	3.00	2.29	2.29	2.28
Petroleum	.37	2.18	5.65	5.79	3.37	3.86	3.52	4.07
Heavy Oil ^b	.36	1.94	4.38	4.00	-	2.35	2.80	2.74
Light Oil ^b	.45	2.56	6.50	5.92	3.37	3.86	3.88	4.10
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	.21	-	.27	.28	.29	.28
Wood and Waste	-	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.03	2.02	4.33	4.73	3.93	4.01	3.77	3.99

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Colorado 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	185.9	330.9	684.1	1,120.0	1,069.2	1,088.7	1,088.2	1,134.8
Primary Energy	84.1	156.5	341.6	506.8	446.1	439.3	426.3	461.7
Coal	1.6	.2	1.9	3.3	2.2	1.5	1.5	1.2
Natural Gas	59.4	115.6	290.6	459.9	406.6	408.9	410.6	424.0
Petroleum	23.1	40.7	49.1	43.5	37.3	28.9	14.2	36.6
Distillate Fuel	1.2	4.7	3.2	4.3	1.6	1.2	1.1	1.2
Kerosene	1.0	.6	1.0	2.9	.8	.6	.7	.8
LPG	20.9	35.4	44.9	36.4	34.9	27.1	12.4	34.6
Electricity	101.8	174.4	342.5	613.3	623.0	629.5	662.0	673.0
Commercial Sector	134.4	258.5	594.0	1,129.7	1,055.2	1,035.7	1,078.5	1,128.9
Primary Energy	40.9	88.2	237.1	357.5	302.2	300.6	294.5	301.9
Coal	1.3	.2	1.7	2.8	1.8	1.6	1.8	1.2
Natural Gas	33.7	75.5	201.9	317.8	272.8	267.1	264.5	273.3
Petroleum	5.9	12.4	33.6	36.9	27.5	32.0	28.2	27.5
Distillate Fuel	.9	3.4	12.8	21.6	11.4	20.2	17.5	12.0
Kerosene	.7	.6	.2	.6	.2	.4	.2	2.1
LPG	2.4	4.9	5.2	6.0	4.6	3.8	3.7	5.9
Motor Gasoline	1.8	2.7	15.4	8.6	6.8	7.6	6.8	7.0
Residual Fuel	.1	.9	.1	.1	4.5	-	-	.5
Electricity	93.5	170.3	356.8	772.2	753.0	735.1	784.0	827.0
Industrial Sector	121.1	314.6	769.0	635.8	599.0	556.6	620.0	632.2
Primary Energy	94.2	233.3	550.2	413.0	353.2	298.3	349.1	357.1
Coal	17.4	53.4	71.3	22.4	20.5	21.8	19.6	17.9
Coking Coal	12.0	39.5	50.2	-	-	-	-	-
Steam Coal	5.4	14.0	21.1	22.4	20.5	21.8	19.6	17.9
Natural Gas	23.1	40.9	131.6	136.3	117.6	100.0	123.2	121.1
Petroleum	53.7	138.9	347.2	254.3	215.0	176.4	206.3	218.1
Asphalt and Road Oil	12.3	29.8	51.6	97.5	88.2	62.6	75.2	53.1
Distillate Fuel	10.1	38.6	123.7	70.2	64.9	54.7	71.4	73.5
Kerosene	2.8	2.3	12.3	1.0	.3	.5	.7	.4
LPG	3.6	13.6	32.4	12.9	7.9	7.1	12.9	35.2
Lubricants	4.2	7.1	20.8	23.2	20.1	19.8	20.5	25.8
Motor Gasoline	14.8	21.1	34.2	28.3	19.7	21.1	18.4	21.6
Residual Fuel	3.0	19.8	38.8	3.3	6.4	2.2	.2	.9
Other	2.7	6.7	33.5	18.0	7.6	8.4	7.1	7.7
Electricity	26.9	81.3	216.8	222.7	245.8	258.3	270.9	275.1
Transportation Sector	419.9	927.9	2,132.0	2,265.9	1,737.3	1,900.7	1,823.6	1,973.5
Primary Energy	419.9	927.9	2,132.0	2,265.9	1,737.3	1,900.7	1,823.6	1,973.5
Coal	-	-	-	-	-	-	-	-
Petroleum	419.9	927.9	2,132.0	2,265.9	1,737.3	1,900.7	1,823.6	1,973.5
Aviation Gasoline	3.7	4.6	12.1	7.1	7.5	5.8	6.2	7.6
Distillate Fuel	18.6	62.3	272.1	248.2	245.7	258.6	264.4	307.5
Jet Fuel	32.0	95.7	175.9	264.1	178.8	192.0	138.0	129.8
LPG	.6	1.8	.8	1.4	.9	.5	.7	1.0
Lubricants	8.8	13.7	35.1	39.1	33.9	33.3	34.6	43.5
Motor Gasoline	356.0	758.5	1,636.1	1,705.6	1,270.6	1,410.6	1,379.7	1,484.1
Residual Fuel	.2	1.2	-	.4	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	861.3	1,831.8	4,179.1	5,151.5	4,460.8	4,561.7	4,610.3	4,869.4
Primary Energy — Four Sectors	639.0	1,405.8	3,260.9	3,543.2	2,838.9	2,938.9	2,893.4	3,094.2
Electricity	222.3	426.0	918.2	1,608.3	1,621.9	1,622.8	1,716.9	1,775.2
Electric Utility Sector	30.6	105.4	272.5	342.6	340.8	332.3	337.3	350.7
Coal	18.0	54.5	173.3	321.3	324.9	312.0	314.3	328.7
Natural Gas	12.0	30.9	82.7	17.2	13.9	17.7	19.1	18.7
Petroleum	.6	20.0	15.1	4.1	1.9	2.0	1.8	1.7
Heavy Oil ^b	.6	10.8	4.7	.2	-	-	.5	-
Light Oil ^b	.1	9.2	10.3	3.9	1.9	2.0	1.3	1.7
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	1.5	-	.2	.5	2.1	1.6
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	669.6	1,511.2	3,533.4	3,885.9	3,179.7	3,271.2	3,230.7	3,444.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Connecticut 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.48	2.09	2.68	2.40	2.32	2.45	2.31	2.16
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.48	2.09	2.68	2.40	2.32	2.45	2.31	2.16
Natural Gas	1.57	2.86	4.97	7.20	6.86	5.94	6.04	6.35
Petroleum	1.37	3.07	7.09	7.49	5.72	6.02	6.18	6.71
Asphalt and Road Oil	.68	1.91	3.67	5.20	4.86	3.58	3.39	3.20
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.29	2.73	6.82	8.25	6.61	6.28	6.49	7.19
Jet Fuel	.75	2.11	6.50	6.29	4.50	4.34	4.00	4.67
Kerosene	1.40	2.91	7.17	8.70	6.77	6.42	6.15	6.70
LPG	1.98	3.63	6.85	10.91	10.65	9.98	10.80	11.17
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.96	4.61	10.10	9.37	7.45	7.93	8.91	9.30
Residual Fuel	.40	2.04	4.66	4.30	2.54	2.96	2.42	2.87
Other ^a	.91	3.08	7.76	7.80	5.06	5.93	4.97	5.73
Nuclear Fuel	.13	.29	.38	.91	.91	.92	.86	.89
Wood and Waste at Utilities	-	-	-	-	-	-	.87	.82
Primary Energy — Five Sectors	1.26	2.68	5.65	5.95	4.47	4.47	4.52	5.03
Electric Utility Fuel	.35	1.35	2.60	2.38	1.54	1.61	1.42	1.64
Electricity Purchased by End Users	6.27	13.15	19.10	26.62	24.65	24.27	24.55	25.68
Total Energy ^b	2.09	4.53	9.07	11.30	9.79	9.70	10.06	10.68
Expenditures in Millions of Dollars								
Coal	23.5	2.7	1.0	51.1	49.2	52.4	53.3	51.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	23.5	2.7	1.0	51.1	49.2	52.4	53.3	51.1
Natural Gas	96.4	183.6	368.3	577.0	553.0	556.8	546.3	620.3
Petroleum	802.3	1,642.2	3,615.0	3,257.4	2,603.7	2,696.0	2,963.4	3,280.9
Asphalt and Road Oil	4.6	16.0	15.3	72.2	68.6	50.9	41.7	38.2
Aviation Gasoline	1.4	1.6	4.1	3.6	3.1	2.1	1.8	1.7
Distillate Fuel	181.0	343.5	885.8	909.1	793.6	775.0	868.6	1,073.0
Jet Fuel	12.3	25.4	72.5	38.5	31.9	43.7	48.8	59.2
Kerosene	6.2	9.7	20.0	15.9	10.9	12.1	11.7	12.4
LPG	13.9	29.8	37.8	48.4	43.3	53.2	60.6	67.1
Lubricants	17.5	18.0	39.7	44.3	38.3	37.7	39.2	49.2
Motor Gasoline	445.2	770.2	1,602.8	1,525.5	1,247.2	1,348.0	1,539.8	1,575.7
Residual Fuel	89.3	417.5	859.2	536.5	333.0	334.4	318.0	367.1
Other ^a	31.0	10.6	77.9	63.5	33.9	38.9	33.3	37.5
Nuclear Fuel	5.3	26.4	49.1	125.5	182.7	203.0	205.2	186.1
Wood and Waste at Utilities	-	-	-	-	-	-	2.2	2.7
Primary Energy — Five Sectors	927.5	1,854.7	4,033.5	4,011.1	3,388.6	3,508.2	3,770.4	4,141.1
Electric Utility Fuel	-76.1	-311.5	-888.1	-634.9	-521.1	-561.8	-541.4	-590.8
Electricity Purchased by End Users	345.0	829.8	1,381.4	2,132.6	2,062.9	2,130.0	2,255.1	2,398.0
Total Energy ^b	1,196.4	2,373.0	4,726.7	5,508.8	4,930.4	5,076.4	5,484.0	5,948.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Connecticut 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.47	5.14	9.39	13.48	11.93	11.62	11.54	12.06
Primary Energy	1.62	3.03	6.73	8.59	7.52	7.04	7.05	7.62
Coal	1.30	2.62	4.47	4.39	4.19	3.85	4.24	4.21
Natural Gas	1.88	3.28	5.72	8.88	8.57	7.96	7.63	7.98
Petroleum	1.53	2.93	7.14	8.47	7.02	6.58	6.77	7.45
Distillate Fuel	1.48	2.84	7.07	8.37	6.90	6.46	6.61	7.23
Kerosene	1.70	3.16	8.15	8.98	7.40	6.94	7.10	7.76
LPG	2.70	5.01	9.21	10.41	10.52	9.13	10.96	12.74
Electricity	7.21	14.49	20.27	29.24	27.20	26.82	27.03	28.09
Commercial Sector	2.60	5.93	10.31	13.90	12.75	12.52	12.79	13.51
Primary Energy	1.13	2.53	5.43	6.64	5.44	5.14	4.97	5.71
Coal	.79	2.00	-	2.38	2.13	2.73	2.56	2.61
Natural Gas	1.45	2.64	4.67	6.59	6.24	5.59	5.45	5.88
Petroleum	1.00	2.47	6.06	6.74	4.76	4.68	4.45	5.52
Distillate Fuel	1.09	2.44	6.37	7.27	5.15	4.83	4.72	5.74
Kerosene	.79	2.67	6.29	7.10	4.83	5.20	4.96	5.90
LPG	1.42	2.89	5.31	11.48	10.80	10.95	10.63	9.28
Motor Gasoline	2.96	4.61	10.10	9.37	7.45	7.93	8.91	9.30
Residual Fuel	.42	1.97	4.59	4.68	2.79	3.12	2.57	3.04
Electricity	7.15	13.70	19.84	27.30	25.26	24.53	24.74	25.99
Industrial Sector	1.06	3.46	7.05	10.14	8.84	8.43	8.43	9.32
Primary Energy	.72	2.29	5.14	6.14	4.83	4.63	4.38	4.96
Coal	.79	2.00	-	2.38	2.13	2.73	2.56	2.61
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.79	2.00	-	2.38	2.13	2.73	2.56	2.61
Natural Gas	1.03	2.24	4.08	5.38	4.53	4.08	3.92	4.36
Petroleum	.69	2.31	5.41	6.51	4.98	4.88	4.62	5.30
Asphalt and Road Oil	.68	1.91	3.67	5.20	4.86	3.58	3.39	3.20
Distillate Fuel	.73	2.41	5.75	6.72	4.57	4.92	4.70	5.59
Kerosene	.79	2.67	6.29	7.10	4.83	5.20	4.96	5.90
LPG	1.42	2.89	5.31	11.48	10.80	10.95	10.63	9.28
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.96	4.61	10.10	9.37	7.45	7.93	8.91	9.30
Residual Fuel	.43	2.12	4.55	4.68	2.79	3.12	2.57	3.04
Other	.91	3.08	7.76	7.80	5.06	5.93	4.97	5.73
Electricity	4.27	10.51	16.60	21.93	20.00	19.93	20.17	21.11
Transportation Sector	2.63	4.30	9.69	9.28	7.42	7.71	8.49	8.91
Primary Energy	2.63	4.30	9.69	9.28	7.42	7.71	8.49	8.91
Coal	.79	2.00	-	-	-	-	-	-
Petroleum	2.63	4.30	9.69	9.28	7.42	7.71	8.49	8.91
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.39	2.90	7.40	9.19	7.60	7.35	7.78	8.33
Jet Fuel	.75	2.09	6.51	6.29	4.50	4.34	4.00	4.67
LPG	1.42	2.89	5.31	11.48	10.80	10.95	10.63	9.28
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.61	10.10	9.37	7.45	7.93	8.91	9.30
Residual Fuel	.38	1.72	3.88	4.05	2.32	2.74	2.21	2.64
Electricity	-	-	-	-	-	-	-	-
Total Energy*	2.09	4.53	9.07	11.30	9.79	9.70	10.06	10.88
Primary Energy — Four Sectors	1.64	3.35	7.46	8.29	6.83	6.76	7.12	7.66
Electricity	6.27	13.15	19.10	26.62	24.65	24.27	24.55	25.68
Electric Utility Sector	.35	1.35	2.60	2.38	1.54	1.61	1.42	1.64
Coal	.45	1.24	-	2.35	2.27	2.42	2.29	2.14
Natural Gas	.34	1.36	-	3.39	2.09	2.37	2.17	2.51
Petroleum	.38	2.02	4.71	4.25	2.51	2.94	2.41	2.87
Heavy Oil ^a	.38	2.02	4.70	4.24	2.51	2.93	2.40	2.85
Light Oil ^b	.37	2.36	6.13	5.88	3.59	4.01	3.64	4.26
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.13	.29	.38	.91	.91	.92	.86	.89
Wood and Waste	-	-	-	-	-	-	.87	.82
Primary Energy — Five Sectors	1.26	2.68	5.65	5.95	4.47	4.47	4.52	5.03

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^aHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Connecticut 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	353.6	708.8	1,342.0	1,678.4	1,651.3	1,655.4	1,805.7	1,989.0
Primary Energy	196.4	340.6	773.7	816.5	808.7	770.5	855.7	984.0
Coal	.8	.8	1.0	2.2	2.3	1.5	.7	.8
Natural Gas	59.6	105.8	187.4	299.8	309.8	296.7	310.7	335.7
Petroleum	136.0	234.0	585.3	514.4	496.6	472.4	544.2	647.5
Distillate Fuel	122.7	214.5	554.3	475.8	465.2	437.3	505.9	599.6
Kerosene	5.1	5.2	10.8	14.0	9.0	9.2	7.5	6.2
LPG	8.2	14.3	20.1	24.7	22.3	25.9	30.9	41.8
Electricity	157.3	368.2	568.4	861.9	842.6	884.9	950.0	1,005.0
Commercial Sector	169.6	398.3	731.0	1,178.8	1,092.8	1,100.5	1,138.5	1,276.0
Primary Energy	56.1	117.9	254.6	365.3	294.0	280.3	267.5	332.0
Coal	.3	.4	-	.8	.8	.7	.3	.3
Natural Gas	21.3	42.3	96.1	166.9	158.9	158.9	154.0	187.1
Petroleum	34.4	75.2	158.4	197.6	134.3	120.7	113.2	144.6
Distillate Fuel	29.5	59.7	107.8	150.2	105.8	88.2	83.1	114.6
Kerosene	.1	.2	.2	1.2	.9	1.9	.9	2.4
LPG	.8	1.5	2.0	4.8	4.0	5.5	5.3	5.4
Motor Gasoline	1.5	5.8	14.6	7.0	5.7	7.2	7.7	9.3
Residual Fuel	2.6	8.1	33.8	34.4	17.8	17.9	16.2	12.9
Electricity	113.5	280.4	476.4	813.3	798.8	820.1	871.0	944.0
Industrial Sector	193.4	421.0	859.9	835.3	705.0	723.4	707.3	734.1
Primary Energy	119.2	239.9	523.3	377.9	283.5	298.4	273.2	285.1
Coal	2.7	1.4	-	.2	.5	.2	1.0	.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	2.7	1.4	-	.2	.5	.2	1.0	.1
Natural Gas	15.3	34.9	84.7	105.0	82.6	83.4	78.7	89.0
Petroleum	101.1	203.6	438.5	272.7	200.4	214.9	193.5	196.0
Asphalt and Road Oil	4.6	16.0	15.3	72.2	68.6	50.9	41.7	38.2
Distillate Fuel	8.3	27.2	108.4	42.0	28.1	48.7	36.5	47.4
Kerosene	1.0	4.3	9.0	.8	1.0	1.0	3.3	3.9
LPG	4.8	13.8	15.3	17.9	16.3	21.1	23.6	19.0
Lubricants	10.2	9.1	18.1	20.2	17.5	17.2	17.9	22.5
Motor Gasoline	4.2	.9	3.5	11.1	9.3	9.8	12.5	13.5
Residual Fuel	37.0	121.7	191.1	45.1	25.8	27.3	24.8	14.2
Other	31.0	10.6	77.9	63.5	33.9	38.9	33.3	37.5
Electricity	74.3	181.2	336.6	457.4	421.5	424.9	434.0	449.0
Transportation Sector	479.8	844.8	1,793.8	1,816.6	1,481.3	1,597.2	1,832.5	1,949.2
Primary Energy	479.8	844.8	1,793.8	1,816.6	1,481.3	1,597.2	1,832.5	1,949.2
Coal	-	-	-	-	-	-	-	-
Petroleum	479.8	844.8	1,793.8	1,816.6	1,481.3	1,597.2	1,832.5	1,949.2
Aviation Gasoline	1.4	1.6	4.1	3.6	3.1	2.1	1.8	1.7
Distillate Fuel	18.3	40.5	111.2	238.2	192.0	197.6	238.3	308.5
Jet Fuel	12.3	23.8	70.7	38.5	31.9	43.7	48.8	59.2
LPG	.1	.3	.3	1.0	.7	.7	.9	.9
Lubricants	7.3	8.9	21.6	24.0	20.8	20.5	21.3	26.7
Motor Gasoline	439.6	763.5	1,584.7	1,507.4	1,232.2	1,331.0	1,519.6	1,552.8
Residual Fuel	.9	6.3	1.3	3.8	.7	1.5	1.9	1.3
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,196.4	2,373.0	4,726.7	5,508.8	4,930.4	5,076.4	5,484.0	5,948.4
Primary Energy — Four Sectors	851.4	1,543.2	3,345.3	3,376.2	2,867.5	2,946.4	3,229.0	3,550.3
Electricity	345.0	829.8	1,381.4	2,132.6	2,062.9	2,130.0	2,255.1	2,398.0
Electric Utility Sector	76.1	311.5	688.1	634.9	521.1	561.8	541.4	590.8
Coal	19.7	.1	-	47.8	45.7	50.0	51.3	49.9
Natural Gas	.1	.5	-	5.4	1.6	17.9	2.8	8.5
Petroleum	51.0	284.6	639.0	456.1	291.1	290.9	280.0	343.6
Heavy Oil ^b	48.8	281.4	633.0	453.2	288.7	287.7	275.1	338.7
Light Oil ^b	2.2	3.1	6.0	2.9	2.4	3.2	4.9	4.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	5.3	26.4	49.1	125.5	182.7	203.0	205.2	186.1
Wood and Waste	-	-	-	-	-	-	2.2	2.7
Primary Energy — Five Sectors	927.5	1,854.7	4,033.5	4,011.1	3,388.6	3,508.2	3,770.4	4,141.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Delaware 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.39	1.16	1.57	1.87	1.87	1.78	1.77	1.75
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.39	1.16	1.57	1.87	1.87	1.78	1.77	1.75
Natural Gas	.91	1.80	3.37	4.87	4.43	3.93	4.04	4.06
Petroleum	1.27	2.75	6.00	7.41	5.28	5.64	5.43	6.23
Asphalt and Road Oil	.66	1.76	3.58	4.97	4.16	3.17	3.13	2.90
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.16	2.53	6.77	7.58	5.94	5.70	5.68	6.33
Jet Fuel	.73	2.03	6.46	6.63	4.87	4.03	4.16	4.80
Kerosene	1.26	3.14	8.36	8.66	7.03	6.51	6.48	7.30
LPG	1.25	3.60	5.20	10.64	10.77	10.37	10.14	11.47
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.54	9.60	9.39	6.97	7.61	8.07	8.88
Residual Fuel	.45	1.92	4.23	4.15	2.31	2.74	2.25	2.67
Other ^a	.35	1.68	5.84	4.94	2.88	3.30	2.92	3.47
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.06	2.48	5.13	5.14	4.07	4.11	4.11	4.61
Electric Utility Fuel	.39	1.63	3.35	2.48	2.01	2.05	1.96	2.12
Electricity Purchased by End Users	4.94	11.69	18.84	21.42	19.09	18.79	19.54	18.47
Total Energy ^b	1.69	3.89	7.28	9.22	7.75	7.64	8.03	8.57
Expenditures in Millions of Dollars								
Coal	14.5	26.6	44.1	133.3	124.1	125.1	121.8	106.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	14.5	26.6	44.1	133.3	124.1	125.1	121.8	106.4
Natural Gas	24.4	34.0	102.9	188.6	145.4	144.1	118.9	143.4
Petroleum	173.0	435.9	1,059.8	793.3	588.1	627.1	669.8	745.4
Asphalt and Road Oil	2.3	7.6	8.3	27.3	16.8	12.1	8.5	10.0
Aviation Gasoline	.2	.3	.5	.8	.8	.6	.7	.7
Distillate Fuel	29.1	62.2	146.5	150.8	114.3	126.9	127.3	155.3
Jet Fuel	8.1	18.0	54.6	56.0	35.2	27.9	30.5	32.4
Kerosene	3.1	4.9	14.3	15.7	6.8	7.8	5.8	5.8
LPG	10.6	34.9	56.7	38.5	34.4	36.3	38.0	42.0
Lubricants	3.3	3.7	12.1	13.5	11.7	11.5	11.9	15.0
Motor Gasoline	93.8	168.4	333.5	372.5	282.7	314.6	347.3	380.3
Residual Fuel	18.6	123.3	335.5	86.2	65.1	65.4	78.7	79.1
Other ^a	3.8	12.5	97.8	32.1	20.2	24.0	20.9	24.8
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	211.8	496.5	1,206.8	1,115.2	857.7	896.2	910.5	995.2
Electric Utility Fuel	-23.1	-106.3	-239.3	-229.9	-179.4	-186.2	-185.6	-191.6
Electricity Purchased by End Users	75.7	202.1	368.7	457.9	440.0	446.3	499.4	504.3
Total Energy ^b	264.4	592.2	1,336.2	1,343.2	1,118.3	1,156.3	1,224.3	1,307.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Delaware 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.39	5.15	10.19	12.98	12.67	11.85	12.08	12.62
Primary Energy	1.52	2.78	6.05	7.77	7.05	6.44	6.32	7.14
Coal	1.13	2.73	3.38	3.76	3.75	3.50	3.65	3.51
Natural Gas	1.55	2.39	4.16	6.91	6.97	6.26	5.90	6.33
Petroleum	1.51	2.99	7.34	8.26	7.15	6.66	6.65	7.79
Distillate Fuel	1.42	2.71	6.88	7.54	6.13	5.72	5.78	6.36
Kerosene	1.34	3.37	8.55	8.80	7.15	6.67	6.74	7.42
LPG	2.40	4.73	8.53	10.37	11.18	10.86	10.04	13.10
Electricity	7.53	13.93	21.76	27.29	24.88	24.21	24.65	23.91
Commercial Sector	1.55	4.54	6.60	14.30	13.10	11.69	12.24	12.61
Primary Energy	.76	2.11	4.47	6.62	5.70	4.68	4.74	5.19
Coal	.28	1.20	1.20	1.33	1.33	1.30	1.32	1.28
Natural Gas	1.22	1.87	3.92	6.30	6.26	5.12	4.84	5.32
Petroleum	.68	2.17	4.54	7.14	5.13	4.82	4.89	5.44
Distillate Fuel	1.12	2.39	6.30	6.57	4.94	4.46	4.67	5.19
Kerosene	.85	2.36	6.36	7.07	5.11	4.77	4.44	5.21
LPG	.99	3.40	4.72	11.06	10.37	9.88	10.26	9.19
Motor Gasoline	2.86	4.54	9.60	9.39	6.97	7.61	8.07	8.88
Residual Fuel	.46	1.95	4.24	4.35	2.68	2.87	2.31	2.81
Electricity	6.56	12.76	20.78	22.97	20.37	19.77	20.53	19.78
Industrial Sector	1.02	3.14	5.69	6.71	5.60	5.34	5.53	5.83
Primary Energy	.66	2.14	4.36	4.74	3.68	3.54	3.31	3.68
Coal	.28	1.20	1.20	1.33	1.33	1.30	1.32	1.28
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.28	1.20	1.20	1.33	1.33	1.30	1.32	1.28
Natural Gas	.57	1.37	2.72	4.38	3.41	3.27	3.16	3.40
Petroleum	.69	2.31	5.23	6.29	4.85	4.54	4.17	4.78
Asphalt and Road Oil	.66	1.76	3.58	4.97	4.16	3.17	3.13	2.90
Distillate Fuel	.78	2.19	5.71	6.20	4.48	4.19	3.89	4.57
Kerosene	.85	2.36	6.36	7.07	5.11	4.77	4.44	5.21
LPG	.99	3.40	4.72	11.06	10.37	9.88	10.26	9.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.54	9.60	9.39	6.97	7.61	8.07	8.88
Residual Fuel	.46	1.87	4.19	4.35	2.68	2.87	2.31	2.81
Other	.50	1.96	6.16	6.71	3.95	4.30	3.64	4.39
Electricity	3.10	9.25	15.28	16.15	13.80	13.27	14.17	12.89
Transportation Sector	2.13	3.74	8.41	8.79	6.50	6.73	7.09	7.82
Primary Energy	2.13	3.74	8.41	8.79	6.50	6.73	7.09	7.82
Coal	.28	1.20	-	-	-	-	-	-
Petroleum	2.13	3.74	8.41	8.79	6.50	6.73	7.09	7.82
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.24	2.81	7.72	8.52	6.56	6.53	6.66	7.27
Jet Fuel	.73	2.03	6.46	6.63	4.87	4.03	4.16	4.80
LPG	.99	3.40	4.72	11.06	10.37	9.88	10.26	9.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.54	9.60	9.39	6.97	7.61	8.07	8.88
Residual Fuel	.42	1.72	3.93	3.98	2.13	2.58	2.00	2.35
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.89	3.89	7.28	9.22	7.75	7.64	8.03	8.57
Primary Energy — Four Sectors	1.34	2.89	5.80	7.12	5.59	5.56	5.71	6.41
Electricity	4.94	11.69	18.84	21.42	19.09	18.79	19.54	18.47
Electric Utility Sector	.39	1.63	3.35	2.48	2.01	2.05	1.96	2.12
Coal	.39	1.15	1.64	1.91	1.91	1.81	1.81	1.79
Natural Gas	.37	1.02	3.47	3.88	2.53	2.75	2.42	2.54
Petroleum	.40	1.92	4.33	3.86	2.20	2.59	2.23	2.66
Heavy Oil ^b	.46	1.97	4.27	4.13	2.29	2.75	2.28	2.72
Light Oil ^b	.47	2.18	6.21	5.51	3.50	3.99	3.51	3.90
Petroleum Coke	.29	.49	4.32	1.27	1.09	1.05	1.02	.94
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.06	2.46	5.13	5.14	4.07	4.11	4.11	4.61

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Delaware 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	65.9	135.5	246.2	319.2	290.8	309.4	332.1	345.8
Primary Energy	35.9	57.5	107.7	140.0	110.7	117.0	119.1	131.8
Coal	.1	.2	.2	.2	.4	1.3	.6	.6
Natural Gas	12.4	16.9	29.7	43.9	48.6	44.7	45.5	48.8
Petroleum	23.4	40.4	77.8	95.9	61.7	71.0	73.0	82.4
Distillate Fuel	16.8	29.4	52.7	58.5	37.7	44.7	46.9	48.9
Kerosene	2.8	4.1	13.3	14.7	6.6	7.3	5.4	5.5
LPG	3.8	6.9	11.7	22.8	17.4	19.1	20.8	28.0
Electricity	30.0	77.9	138.6	179.1	180.1	192.4	213.0	214.0
Commercial Sector	34.4	90.5	261.3	176.4	165.4	170.6	189.6	193.1
Primary Energy	14.5	32.5	154.0	43.3	35.7	36.6	30.6	39.1
Coal	.	.	.1	.1	.2	.8	.4	.4
Natural Gas	3.5	5.6	13.1	22.0	22.4	19.3	19.9	22.6
Petroleum	11.0	26.8	140.8	21.2	13.2	16.5	18.3	16.2
Distillate Fuel	5.1	10.0	23.3	12.8	7.0	9.4	10.6	9.0
Kerosene	.2	.4	.3	.9	.2	.3	.3	.1
LPG	.3	.9	1.1	4.3	2.9	3.1	3.7	3.5
Motor Gasoline	.4	.8	2.3	1.9	1.4	1.7	1.7	1.8
Residual Fuel	5.0	14.7	113.8	1.3	1.7	2.1	1.9	1.8
Electricity	19.9	58.0	107.3	133.0	129.6	133.9	151.0	154.0
Industrial Sector	57.1	160.3	375.0	349.8	278.3	260.9	258.7	264.3
Primary Energy	31.3	94.2	252.1	204.1	148.0	140.9	123.4	128.0
Coal	.2	.8	5.4	7.0	6.7	7.1	8.1	6.6
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.2	.8	5.4	7.0	6.7	7.1	8.1	6.6
Natural Gas	7.0	9.5	34.8	93.5	69.7	57.7	46.2	50.2
Petroleum	24.1	83.9	212.0	103.7	71.6	76.2	69.1	71.2
Asphalt and Road Oil	2.3	7.6	8.3	27.3	16.8	12.1	8.5	10.0
Distillate Fuel	3.6	12.7	20.5	15.0	10.8	10.2	10.1	12.0
Kerosene	.1	.4	.6	.1	.	.2	.1	.1
LPG	6.5	26.7	43.6	11.2	12.8	14.1	13.4	10.4
Lubricants	1.3	1.4	6.6	7.3	6.3	6.2	6.5	8.1
Motor Gasoline	1.4	1.5	1.8	2.7	2.2	2.3	2.4	3.0
Residual Fuel	7.3	21.7	45.1	10.7	5.2	9.3	9.2	4.6
Other	1.6	11.8	85.6	29.4	17.4	21.6	18.9	23.0
Electricity	25.7	66.1	122.9	145.7	130.3	119.9	135.4	136.3
Transportation Sector	107.0	206.0	453.7	497.8	383.8	415.4	443.9	504.6
Primary Energy	107.0	206.0	453.7	497.8	383.8	415.4	443.9	504.6
Coal	.	.	-	-	-	-	-	-
Petroleum	107.0	206.0	453.7	497.8	383.8	415.4	443.9	504.6
Aviation Gasoline	.2	.3	.5	.8	.8	.6	.7	.7
Distillate Fuel	2.8	8.4	43.3	61.3	56.5	59.6	56.3	79.1
Jet Fuel	8.1	18.0	54.6	56.0	35.2	27.9	30.5	32.4
LPG	.1	.5	.2	.1	1.3	.1	.2	.2
Lubricants	2.1	2.3	5.5	6.2	5.4	5.3	5.5	6.9
Motor Gasoline	92.1	166.2	329.4	367.9	279.0	310.5	343.2	375.5
Residual Fuel	1.8	10.4	20.1	5.4	5.6	11.4	7.6	9.8
Electricity	-	-	-	-	-	-	-	-
Total Energy*	264.4	592.2	1,336.2	1,343.2	1,118.3	1,156.3	1,224.3	1,307.9
Primary Energy — Four Sectors	188.8	390.2	967.5	885.3	678.3	710.0	724.9	803.6
Electricity	75.7	202.1	368.7	457.9	440.0	446.3	499.4	504.3
Electric Utility Sector	23.1	106.3	239.3	229.9	179.4	186.2	185.6	191.6
Coal	14.2	25.6	38.5	125.9	116.9	115.9	112.8	98.8
Natural Gas	1.4	1.9	25.3	29.3	4.8	22.3	7.3	21.9
Petroleum	7.5	78.8	175.6	74.7	57.7	48.0	65.5	70.9
Heavy Oil ^b	4.5	76.4	156.5	68.8	52.6	42.6	60.0	62.8
Light Oil ^b	.8	1.7	6.8	3.2	2.3	3.1	3.5	6.3
Petroleum Coke	2.2	.7	12.2	2.7	2.8	2.4	2.0	1.8
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	211.8	496.5	1,206.8	1,115.2	857.7	896.2	910.5	995.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, District of Columbia 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.29	1.32	1.76	2.00	1.99	1.96	1.92	1.97
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.29	1.32	1.76	2.00	1.99	1.96	1.92	1.97
Natural Gas	1.27	2.13	4.36	7.30	6.77	6.06	6.00	6.36
Petroleum	1.19	3.30	7.86	8.73	6.43	6.93	7.01	7.36
Asphalt and Road Oil	.67	1.80	3.58	4.95	4.18	3.22	3.16	2.88
Aviation Gasoline	-	-	-	-	-	-	-	-
Distillate Fuel	1.09	2.61	7.18	7.95	6.22	6.26	6.04	6.42
Jet Fuel	.73	-	6.46	5.80	4.01	4.01	3.75	-
Kerosene	1.41	2.74	8.50	7.08	6.84	6.74	6.09	5.82
LPG	1.49	3.37	6.00	11.55	11.19	10.88	11.04	10.29
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.85	9.97	10.19	8.11	8.36	8.80	9.50
Residual Fuel	.50	1.97	4.46	4.19	2.78	3.23	2.37	2.74
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.06	2.85	6.36	7.81	6.48	6.45	6.52	6.82
Electric Utility Fuel	.43	1.92	4.59	4.24	2.28	3.04	2.40	2.89
Electricity Purchased by End Users	5.39	10.74	14.92	20.89	20.14	18.84	18.00	17.22
Total Energy ^b	1.72	4.33	8.75	11.67	10.51	10.35	10.46	10.58
Expenditures in Millions of Dollars								
Coal	8.4	13.4	5.8	7.0	2.7	3.4	1.5	2.9
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	8.4	13.4	5.8	7.0	2.7	3.4	1.5	2.9
Natural Gas	33.5	55.7	121.8	211.5	200.6	188.7	197.1	213.1
Petroleum	154.1	250.8	374.9	334.6	290.4	285.2	290.5	310.3
Asphalt and Road Oil	.1	.2	.4	.9	.9	.7	.7	.5
Aviation Gasoline	-	-	-	-	-	-	-	-
Distillate Fuel	31.4	48.1	95.6	103.2	86.8	70.6	65.7	68.8
Jet Fuel	*	-	12.1	.2	11.4	*	.1	-
Kerosene	.4	1.7	12.9	1.2	.3	.3	.2	.9
LPG	*	.1	.1	.2	.1	.1	.2	.2
Lubricants	1.7	2.7	5.3	5.9	5.1	5.0	5.2	6.6
Motor Gasoline	85.4	146.4	203.3	203.4	165.2	185.9	201.8	209.4
Residual Fuel	35.1	51.6	45.2	19.5	20.6	22.5	16.5	23.8
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	195.9	319.9	502.4	553.1	493.7	477.3	489.1	526.3
Electric Utility Fuel	-18.0	-31.7	-45.1	-8.3	-6.7	-11.7	-16.4	-26.8
Electricity Purchased by End Users	99.2	212.3	356.5	585.3	590.1	578.9	576.0	567.0
Total Energy ^b	277.2	500.5	813.8	1,130.1	1,077.1	1,044.6	1,048.7	1,066.5

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, District of Columbia 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.01	3.79	7.12	9.78	9.60	9.26	9.19	9.42
Primary Energy	1.42	2.44	5.15	7.66	7.29	6.88	6.84	7.26
Coal	1.05	1.75	3.18	3.28	3.22	3.10	3.07	3.25
Natural Gas	1.43	2.30	4.56	7.80	7.42	6.99	6.88	7.37
Petroleum	1.42	2.71	7.41	8.74	7.13	7.03	7.02	7.57
Distillate Fuel	1.42	2.71	7.40	8.74	7.12	7.02	7.00	7.54
Kerosene	1.50	3.37	8.55	8.88	7.23	7.13	7.11	7.66
LPG	2.57	4.61	9.81	13.53	13.81	13.84	14.13	14.13
Electricity	7.02	12.65	17.32	20.31	19.97	19.15	18.41	17.59
Commercial Sector	1.40	4.63	8.62	13.08	11.78	11.06	11.42	11.17
Primary Energy	.71	2.11	4.45	5.99	5.03	4.55	4.74	5.05
Coal	.11	1.25	1.20	1.32	1.33	1.34	1.31	1.27
Natural Gas	1.09	1.96	4.21	6.62	5.84	4.94	4.98	5.25
Petroleum	.61	2.28	6.60	6.48	4.39	4.28	4.30	5.19
Distillate Fuel	1.12	2.39	6.55	6.73	4.95	4.91	4.49	5.19
Kerosene	1.33	2.70	8.50	6.76	4.61	5.13	4.66	5.40
LPG	1.03	2.75	5.13	10.88	10.37	9.88	10.26	9.19
Motor Gasoline	2.86	4.85	9.97	10.19	8.11	8.36	8.80	9.50
Residual Fuel	.46	2.02	4.43	5.16	3.34	3.50	3.23	3.70
Electricity	6.86	12.49	18.41	22.82	21.78	20.19	19.29	18.38
Industrial Sector	1.19	4.29	10.20	17.09	16.15	15.66	15.03	14.58
Primary Energy	.49	1.63	6.16	8.31	6.08	6.95	7.09	8.08
Coal	.11	1.25	1.20	-	-	-	-	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.11	1.25	1.20	-	-	-	-	-
Natural Gas	.67	1.36	2.45	-	-	-	-	-
Petroleum	.66	2.08	7.60	8.31	6.08	6.95	7.09	8.08
Asphalt and Road Oil	.67	1.80	3.58	4.95	4.18	3.22	3.16	2.88
Distillate Fuel	1.22	2.50	7.63	6.73	4.59	5.11	4.63	5.37
Kerosene	1.33	2.70	8.50	6.76	4.61	5.13	4.66	-
LPG	1.03	2.75	5.13	10.88	10.37	9.88	10.26	9.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	-	-	-	10.19	8.11	8.36	8.80	9.50
Residual Fuel	.59	1.82	3.97	5.16	-	-	-	3.70
Other	-	-	-	-	-	-	-	-
Electricity	3.80	8.42	11.65	17.86	17.34	16.37	15.55	15.00
Transportation Sector	2.74	4.43	9.44	9.72	7.69	8.36	8.68	9.24
Primary Energy	2.74	4.43	9.40	9.56	7.51	8.23	8.56	9.12
Coal	.11	1.25	-	-	-	-	-	-
Petroleum	2.74	4.43	9.40	9.56	7.51	8.23	8.56	9.12
Aviation Gasoline	-	-	-	-	-	-	-	-
Distillate Fuel	1.32	2.81	7.70	8.78	7.67	7.25	7.19	7.49
Jet Fuel	.73	-	6.46	5.80	4.01	4.01	3.75	-
LPG	1.03	2.75	5.13	10.88	10.37	9.88	10.26	9.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.85	9.97	10.19	8.11	8.36	8.80	9.50
Residual Fuel	.45	1.81	4.20	3.75	2.05	-	2.12	2.57
Electricity	-	-	12.62	20.73	20.40	17.14	16.91	16.91
Total Energy*	1.72	4.33	8.75	11.67	10.51	10.35	10.46	10.58
Primary Energy — Four Sectors	1.25	3.01	6.62	7.91	6.65	6.63	6.93	7.36
Electricity	5.39	10.74	14.92	20.89	20.14	18.84	18.00	17.22
Electric Utility Sector	.43	1.92	4.59	4.24	2.28	3.04	2.40	2.89
Coal	.39	1.50	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	.47	2.01	4.59	4.24	2.28	3.04	2.40	2.89
Heavy Oil ^b	.47	2.01	4.49	3.94	2.16	2.93	2.22	2.71
Light Oil ^b	.46	2.11	5.95	5.43	2.98	3.83	3.47	4.08
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.06	2.85	6.36	7.81	6.48	6.45	6.52	6.82

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, District of Columbia 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	54.0	88.6	162.5	246.3	239.1	229.7	226.7	226.1
Primary Energy	34.1	49.4	98.3	160.9	148.3	137.5	134.7	138.1
Coal	.4	.2	3.0	4.0	1.5	1.9	.8	1.7
Natural Gas	20.2	30.7	62.8	131.4	130.0	118.6	121.6	129.7
Petroleum	13.6	18.5	32.6	25.5	16.8	17.0	12.2	6.7
Distillate Fuel	13.4	18.3	32.3	25.2	16.5	16.7	12.0	6.4
Kerosene	.2	.1	.2	.2	.2	.2	.2	.2
LPG	.	.	.	.	.	.	.	.1
Electricity	19.9	39.2	64.1	85.4	90.7	92.1	92.0	88.0
Commercial Sector	82.6	153.4	242.6	458.3	452.4	432.8	422.9	426.2
Primary Energy	37.4	53.1	88.0	121.3	115.6	103.9	94.8	104.1
Coal	.1	.3	2.1	3.0	1.2	1.5	.7	1.2
Natural Gas	12.9	24.4	58.0	80.1	70.6	70.1	75.5	83.4
Petroleum	24.3	28.4	27.9	38.2	43.8	32.2	18.7	19.4
Distillate Fuel	8.5	13.0	24.7	29.4	28.5	18.6	14.3	16.3
Kerosene	.1	.1	.	1.0	.	.	.1	.7
LPG	.	.	.	.	.	.	.	.
Motor Gasoline	1.0	2.0	2.1	1.5	2.1	.9	1.0	1.1
Residual Fuel	14.8	13.4	1.0	6.4	13.3	12.7	3.3	1.3
Electricity	45.3	100.4	154.6	337.0	336.8	329.0	328.1	322.1
Industrial Sector	50.6	94.4	158.6	160.8	160.6	156.5	153.4	155.2
Primary Energy	16.6	21.7	25.2	6.3	6.4	5.2	4.4	5.2
Coal	1.1	8.7	.7	-	-	-	-	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.1	8.7	.7	-	-	-	-	-
Natural Gas	.3	.6	.9	-	-	-	-	-
Petroleum	15.2	12.4	23.6	6.3	6.4	5.2	4.4	5.2
Asphalt and Road Oil	.1	.2	.4	.9	.9	.7	.7	.5
Distillate Fuel	2.7	2.2	8.5	1.4	2.1	.4	.1	.1
Kerosene	.1	1.5	12.6	.1	.	.	.	-
LPG	.	.	.1	.1	.1	.1	.1	.1
Lubricants	.1	.6	.6	.7	.6	.6	.6	.8
Motor Gasoline	-	-	-	3.1	2.7	3.5	2.9	3.7
Residual Fuel	12.2	7.9	1.3	.	-	-	-	.
Other	-	-	-	-	-	-	-	-
Electricity	34.1	72.7	133.4	154.4	154.2	151.2	149.0	150.0
Transportation Sector	89.9	164.0	250.2	264.7	225.0	225.6	245.7	259.1
Primary Energy	89.9	164.0	245.8	256.3	216.7	219.0	238.8	252.1
Coal	.	.	-	-	-	-	-	-
Petroleum	89.9	164.0	245.8	256.3	216.7	219.0	238.8	252.1
Aviation Gasoline	-	-	-	-	-	-	-	-
Distillate Fuel	3.8	13.4	26.3	45.1	38.5	33.1	35.9	40.9
Jet Fuel	.	-	12.1	.2	11.4	.	.1	-
LPG	.	.	.	.	.	.	.	.
Lubricants	1.6	2.1	4.7	5.2	4.5	4.5	4.6	5.8
Motor Gasoline	84.4	144.4	201.2	198.8	160.4	181.5	197.9	204.6
Residual Fuel	.	4.0	1.6	6.8	1.9	-	.2	.8
Electricity	-	-	4.4	8.4	8.3	6.6	6.9	6.9
Total Energy*	277.2	500.5	813.8	1,130.1	1,077.1	1,044.6	1,048.7	1,066.5
Primary Energy — Four Sectors	178.0	288.2	457.3	544.8	487.0	465.6	472.7	499.5
Electricity	99.2	212.3	356.5	585.3	590.1	578.9	576.0	567.0
Electric Utility Sector	18.0	31.7	45.1	8.3	6.7	11.7	16.4	26.8
Coal	6.8	4.2	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	11.2	27.5	45.1	8.3	6.7	11.7	16.4	26.8
Heavy Oil ^b	8.1	26.4	41.3	6.2	5.5	9.8	13.1	21.7
Light Oil ^b	3.1	1.1	3.8	2.1	1.2	1.9	3.3	5.1
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	195.9	319.9	502.4	553.1	493.7	477.3	489.1	526.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Florida 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.31	1.01	1.80	2.12	1.93	1.82	1.78	1.79
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.31	1.01	1.80	2.12	1.93	1.82	1.78	1.79
Natural Gas	.49	1.00	2.19	3.73	2.76	3.21	2.80	3.02
Petroleum	1.53	3.02	6.66	7.51	5.38	5.88	5.54	6.04
Asphalt and Road Oil	.67	1.78	3.57	4.99	4.16	3.20	3.13	2.87
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.08	2.53	6.91	6.78	5.90	6.12	5.83	6.16
Jet Fuel	.73	2.03	6.46	5.90	4.19	4.07	3.82	4.43
Kerosene	1.28	3.12	8.45	7.56	7.87	7.76	7.99	7.35
LPG	2.61	5.14	7.48	10.90	10.28	11.00	11.21	10.17
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.39	9.80	9.03	6.70	7.11	7.12	7.68
Residual Fuel	.33	1.84	3.61	3.88	2.15	2.90	2.18	2.65
Other ^a	1.21	3.02	7.89	8.29	5.31	6.17	5.20	5.84
Nuclear Fuel	-	.17	.35	.65	.73	.69	.94	.66
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	2.44	5.12	5.18	3.98	4.20	3.94	4.26
Electric Utility Fuel	.33	1.35	2.40	2.21	1.76	1.96	1.72	1.90
Electricity Purchased by End Users	5.67	10.46	16.24	22.59	21.37	20.55	20.70	20.45
Total Energy ^b	2.35	4.62	8.84	10.93	9.43	9.46	9.32	9.83
Expenditures in Millions of Dollars								
Coal	35.8	135.0	405.4	999.9	887.6	1,066.6	1,088.2	1,128.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	35.8	135.0	405.4	999.9	887.6	1,066.6	1,088.2	1,128.3
Natural Gas	170.1	283.6	693.8	1,081.0	787.7	964.7	825.1	976.6
Petroleum	1,630.7	4,166.9	11,048.0	9,699.0	7,902.4	8,434.0	8,608.1	9,383.4
Asphalt and Road Oil	18.0	43.3	106.4	220.8	227.3	160.8	164.6	123.5
Aviation Gasoline	34.4	33.4	61.0	42.4	43.4	29.6	33.0	40.8
Distillate Fuel	98.0	343.6	1,183.7	1,198.8	1,089.5	1,172.6	1,169.0	1,269.2
Jet Fuel	96.6	275.6	1,302.3	762.5	587.3	604.7	685.3	835.0
Kerosene	26.6	15.5	45.6	49.2	32.6	28.7	24.1	17.3
LPG	77.1	142.5	294.6	390.4	401.1	340.5	336.6	313.6
Lubricants	33.6	54.0	122.7	136.9	118.5	116.7	121.2	152.2
Motor Gasoline	1,125.2	2,319.6	5,627.4	5,947.5	4,614.0	5,132.4	5,310.7	5,731.5
Residual Fuel	112.8	915.2	2,193.5	835.2	705.2	752.3	682.4	811.4
Other ^a	8.4	24.1	110.8	115.2	83.4	95.6	81.1	88.9
Nuclear Fuel	-	15.8	63.8	165.1	172.9	138.6	265.0	148.5
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,836.6	4,801.2	12,211.0	11,945.0	9,750.6	10,603.9	10,786.5	11,636.8
Electric Utility Fuel	-196.0	-1,114.2	-2,439.2	-2,244.7	-1,980.3	-2,256.9	-2,200.2	-2,433.9
Electricity Purchased by End Users	971.7	2,532.9	5,029.8	8,548.0	8,480.2	8,586.9	9,197.0	9,661.0
Total Energy ^b	2,612.4	6,019.9	14,801.6	18,248.3	16,250.4	16,933.8	17,783.3	18,863.8

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Florida 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	4.60	9.04	14.66	21.68	20.69	20.44	20.86	20.85
Primary Energy	2.37	4.19	7.48	8.80	8.83	9.30	9.47	9.19
Coal	-	-	3.12	3.31	3.07	2.96	2.95	3.05
Natural Gas	2.42	2.54	4.49	6.72	6.70	6.83	6.94	7.42
Petroleum	2.35	5.10	9.24	10.12	10.11	10.94	11.22	10.32
Distillate Fuel	1.25	2.62	6.92	6.73	7.67	6.75	7.17	6.56
Kerosene	1.63	3.27	8.92	9.34	10.63	9.36	9.94	9.10
LPG	3.11	6.32	10.34	10.70	10.35	12.01	12.01	10.81
Electricity	6.10	10.92	16.74	24.73	23.36	22.73	22.91	22.67
Commercial Sector	3.53	7.13	12.27	16.09	14.72	14.38	14.84	15.35
Primary Energy	1.07	2.03	4.68	5.67	4.63	4.74	4.53	4.90
Coal	-	-	1.77	2.04	1.98	1.87	1.84	1.86
Natural Gas	.89	1.58	3.21	4.80	4.11	4.28	4.20	4.47
Petroleum	1.23	2.52	6.24	6.48	5.16	5.22	4.86	5.41
Distillate Fuel	.98	2.26	6.30	5.79	5.01	4.85	4.46	4.60
Kerosene	.61	2.38	6.41	6.64	6.12	5.77	5.45	5.93
LPG	1.27	2.51	5.46	11.24	10.15	9.27	9.94	9.15
Motor Gasoline	2.81	4.39	9.80	9.03	6.70	7.11	7.12	7.68
Residual Fuel	.33	1.85	3.71	4.08	2.27	2.98	2.29	2.75
Electricity	6.24	11.44	17.38	22.03	20.45	19.57	19.75	19.40
Industrial Sector	.93	2.71	5.48	7.24	6.56	6.15	5.71	6.14
Primary Energy	.55	1.63	3.87	5.02	4.24	3.94	3.53	3.79
Coal	-	.53	1.77	2.04	1.98	1.87	1.84	1.86
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	.53	1.77	2.04	1.98	1.87	1.84	1.86
Natural Gas	.37	.95	2.61	3.71	2.85	3.01	2.63	2.88
Petroleum	.68	2.17	4.70	6.29	5.25	4.89	4.46	5.02
Asphalt and Road Oil	.67	1.78	3.57	4.99	4.16	3.20	3.13	2.87
Distillate Fuel	.56	2.20	5.75	5.81	5.36	5.05	4.77	5.19
Kerosene	.61	2.38	6.41	6.64	6.12	5.77	5.45	5.93
LPG	1.27	2.51	5.46	11.24	10.15	9.27	9.94	9.15
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.39	9.80	9.03	6.70	7.11	7.12	7.68
Residual Fuel	.37	1.75	3.44	4.08	2.27	2.98	2.29	2.75
Other	1.21	3.02	7.89	8.29	5.31	6.17	5.20	5.84
Electricity	3.56	7.57	13.38	16.63	16.29	14.99	14.93	14.84
Transportation Sector	2.19	3.79	8.39	8.20	6.18	6.50	6.34	6.86
Primary Energy	2.19	3.79	8.39	8.20	6.18	6.50	6.34	6.86
Coal	-	.53	-	-	-	-	-	-
Petroleum	2.19	3.79	8.39	8.20	6.18	6.50	6.34	6.86
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.44	2.89	7.72	7.24	6.24	6.66	6.25	6.64
Jet Fuel	.73	2.03	6.46	5.90	4.19	4.07	3.82	4.43
LPG	1.27	2.51	5.46	11.24	10.15	9.27	9.94	9.15
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.39	9.80	9.03	6.70	7.11	7.12	7.68
Residual Fuel	.29	1.60	3.14	3.75	2.01	2.83	1.94	2.33
Electricity	-	-	-	22.04	19.81	19.74	19.83	19.67
Total Energy*	2.35	4.62	8.84	10.93	9.43	9.46	9.32	9.83
Primary Energy — Four Sectors	1.74	3.28	7.16	7.51	5.86	6.08	5.87	6.36
Electricity	5.67	10.46	16.24	22.59	21.37	20.55	20.70	20.45
Electric Utility Sector	.33	1.35	2.40	2.21	1.76	1.96	1.72	1.90
Coal	.31	1.01	1.80	2.12	1.93	1.82	1.78	1.79
Natural Gas	.35	.72	1.53	3.25	2.08	2.71	2.10	2.46
Petroleum	.33	1.88	3.80	3.96	2.18	2.94	2.23	2.77
Heavy Oil ^b	.33	1.85	3.72	3.87	2.15	2.91	2.20	2.69
Light Oil ^b	.36	2.21	5.76	5.71	3.41	3.93	3.54	4.27
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.17	.35	.65	.73	.69	.94	.66
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	2.44	5.12	5.18	3.98	4.20	3.94	4.26

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Florida 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	645.6	1,488.1	2,884.5	4,951.9	4,987.5	5,076.8	5,373.2	5,606.4
Primary Energy	133.6	192.8	329.5	385.1	390.9	392.9	372.2	333.4
Coal	-	-	.3	3.2	2.6	1.5	.1	*
Natural Gas	37.0	41.7	72.7	100.9	99.9	109.0	111.5	105.5
Petroleum	96.6	151.1	256.5	281.0	288.4	282.5	260.6	227.9
Distillate Fuel	7.4	16.7	49.0	22.3	20.7	28.3	21.8	13.9
Kerosene	22.3	13.4	39.1	20.7	17.0	19.2	17.0	9.6
LPG	66.9	121.0	168.4	238.0	250.8	235.0	221.8	204.5
Electricity	512.1	1,295.3	2,555.0	4,566.8	4,596.6	4,683.9	5,001.0	5,273.0
Commercial Sector	411.3	1,028.4	1,921.0	3,559.3	3,464.6	3,515.3	3,728.0	3,868.1
Primary Energy	65.3	134.2	294.8	455.9	395.1	404.9	367.2	345.3
Coal	-	-	.3	3.6	3.1	1.6	.1	*
Natural Gas	24.9	53.9	103.6	163.4	158.6	175.8	171.8	170.3
Petroleum	40.4	80.3	190.9	288.9	233.5	227.5	195.3	175.0
Distillate Fuel	11.7	29.3	70.7	123.3	99.7	109.1	86.0	74.4
Kerosene	.5	.5	1.0	17.9	14.9	8.8	6.0	5.9
LPG	4.8	8.5	15.7	44.1	43.4	32.0	32.4	30.5
Motor Gasoline	20.4	23.9	69.0	64.9	50.2	51.0	48.8	49.1
Residual Fuel	3.1	18.0	34.4	38.7	25.2	26.6	22.2	15.0
Electricity	345.9	894.1	1,626.2	3,103.3	3,069.5	3,110.4	3,360.8	3,522.8
Industrial Sector	233.9	678.0	2,056.5	1,995.9	1,697.4	1,620.1	1,665.4	1,679.9
Primary Energy	120.2	334.6	1,207.9	1,119.2	885.8	830.2	832.4	816.9
Coal	-	.3	30.2	45.4	37.9	46.4	49.2	53.2
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	.3	30.2	45.4	37.9	46.4	49.2	53.2
Natural Gas	35.8	85.1	259.6	272.5	174.5	199.3	214.5	236.3
Petroleum	84.4	249.2	918.0	801.4	673.4	584.5	568.8	527.5
Asphalt and Road Oil	18.0	43.3	106.4	220.8	227.3	160.8	164.6	123.5
Distillate Fuel	14.7	60.0	236.8	154.0	156.6	148.7	116.4	111.9
Kerosene	3.9	1.6	5.5	10.6	.6	.8	1.2	1.9
LPG	4.4	11.5	107.2	96.1	94.3	67.8	76.2	72.6
Lubricants	12.9	25.8	52.6	58.7	50.8	50.0	51.9	65.3
Motor Gasoline	3.0	2.1	4.5	48.5	36.1	37.2	35.2	41.6
Residual Fuel	19.1	81.0	294.2	97.5	24.3	23.5	42.1	21.8
Other	8.4	24.1	110.8	115.2	83.4	95.6	81.1	88.9
Electricity	113.7	343.4	848.6	876.6	811.6	789.9	833.0	863.0
Transportation Sector	1,321.5	2,825.4	7,939.7	7,741.3	6,100.9	6,721.6	7,016.7	7,709.4
Primary Energy	1,321.5	2,825.4	7,939.7	7,740.0	6,098.4	6,718.9	7,014.5	7,707.2
Coal	-	*	-	-	-	-	-	-
Petroleum	1,321.5	2,825.4	7,939.7	7,740.0	6,098.4	6,718.9	7,014.5	7,707.2
Aviation Gasoline	34.4	33.4	61.0	42.4	43.4	29.6	33.0	40.8
Distillate Fuel	63.0	171.1	719.9	857.8	792.2	862.6	923.5	1,008.4
Jet Fuel	96.6	275.3	1,302.3	762.5	587.3	604.7	685.3	835.0
LPG	.9	1.6	3.2	12.2	12.6	5.6	6.2	6.0
Lubricants	20.6	28.3	70.1	78.2	67.7	66.7	69.2	87.0
Motor Gasoline	1,101.8	2,293.5	5,553.9	5,834.1	4,527.7	5,044.1	5,226.7	5,640.8
Residual Fuel	4.2	22.3	229.2	152.8	67.5	105.5	70.6	89.3
Electricity	-	-	-	1.3	2.5	2.7	2.2	2.2
Total Energy*	2,612.4	6,019.9	14,801.6	18,248.3	16,250.4	16,933.8	17,783.3	18,863.8
Primary Energy — Four Sectors	1,640.7	3,487.0	9,771.8	9,700.3	7,770.2	8,346.9	8,586.3	9,202.9
Electricity	971.7	2,532.9	5,029.8	8,548.0	8,480.2	8,586.9	9,197.0	9,661.0
Electric Utility Sector	196.0	1,114.2	2,439.2	2,244.7	1,980.3	2,256.9	2,200.2	2,433.9
Coal	35.8	134.7	374.6	947.7	844.1	1,017.1	1,038.9	1,075.1
Natural Gas	72.4	102.9	257.9	544.2	354.8	480.6	327.3	464.5
Petroleum	87.8	860.8	1,743.0	587.7	608.6	620.6	568.9	745.8
Heavy Oil ^b	86.5	794.0	1,635.7	542.2	588.3	596.7	547.5	685.2
Light Oil ^b	1.3	66.8	107.3	41.5	20.3	23.9	21.4	60.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	15.8	63.8	165.1	172.9	138.6	265.0	148.5
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,836.6	4,601.2	12,211.0	11,945.0	9,750.6	10,603.9	10,786.5	11,636.8

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Georgia 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.39	0.95	1.50	1.87	1.81	1.79	1.75	1.75
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.39	.95	1.50	1.87	1.81	1.79	1.75	1.75
Natural Gas	.58	1.02	3.06	5.25	4.95	4.78	4.72	4.76
Petroleum	1.93	3.65	8.01	7.65	5.73	5.96	5.75	6.41
Asphalt and Road Oil	.76	1.74	3.72	4.97	4.19	3.21	3.15	2.85
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.06	2.71	7.00	6.68	5.43	5.71	5.37	5.79
Jet Fuel	.73	2.03	6.46	5.66	3.51	3.77	3.54	4.12
Kerosene	.85	2.38	6.51	9.43	6.21	6.33	6.28	6.25
LPG	2.01	3.58	6.40	9.48	8.83	8.77	8.37	9.11
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.73	9.91	8.76	6.29	6.66	6.51	7.12
Residual Fuel	.38	1.70	3.27	4.10	2.19	2.91	2.29	2.55
Other ^a	1.99	3.05	8.42	8.88	5.79	6.61	5.62	6.36
Nuclear Fuel	-	.13	.45	.72	.84	.94	1.01	1.00
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.24	2.27	4.55	4.62	3.89	3.85	3.81	3.92
Electric Utility Fuel	.35	.91	1.38	1.73	1.71	1.63	1.61	1.53
Electricity Purchased by End Users	4.58	8.93	12.75	17.09	16.91	17.44	18.29	18.70
Total Energy ^b	1.85	3.68	7.34	8.55	7.46	7.58	7.58	8.15
Expenditures in Millions of Dollars								
Coal	75.7	295.9	784.3	1,359.4	1,249.4	1,267.9	1,220.7	1,182.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	75.7	295.9	784.3	1,359.4	1,249.4	1,267.9	1,220.7	1,182.3
Natural Gas	195.4	336.1	970.9	1,467.5	1,370.2	1,437.2	1,508.1	1,486.2
Petroleum	1,065.5	2,389.1	5,626.4	5,683.2	4,300.5	4,686.0	4,730.9	5,111.2
Asphalt and Road Oil	19.7	48.4	118.2	151.2	156.7	127.4	126.4	93.9
Aviation Gasoline	6.6	6.9	17.6	10.7	10.8	8.3	8.5	8.8
Distillate Fuel	79.1	240.0	792.6	924.0	776.2	865.8	872.4	948.5
Jet Fuel	42.8	147.4	598.1	518.0	351.4	419.2	405.8	405.7
Kerosene	2.2	3.3	20.4	8.9	6.0	4.5	5.5	5.4
LPG	56.5	108.2	175.0	234.9	208.9	197.1	209.0	255.2
Lubricants	31.5	51.1	108.8	121.4	105.1	103.5	107.4	135.0
Motor Gasoline	795.3	1,628.9	3,409.4	3,356.1	2,543.8	2,796.6	2,859.1	3,122.4
Residual Fuel	24.5	115.5	185.0	195.9	29.9	36.9	29.5	17.8
Other ^a	7.3	25.3	201.3	162.0	111.7	126.8	107.3	118.5
Nuclear Fuel	-	4.3	41.7	79.4	66.0	154.6	164.6	267.5
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,336.5	3,025.4	7,423.2	8,589.4	6,986.0	7,545.7	7,624.2	8,047.2
Electric Utility Fuel	-88.1	-372.6	-837.7	-1,379.9	-1,256.5	-1,347.1	-1,305.3	-1,372.2
Electricity Purchased by End Users	491.7	1,265.9	2,227.3	3,690.2	3,916.7	4,236.8	4,608.9	4,885.1
Total Energy ^b	1,740.2	3,918.7	8,812.8	10,899.7	9,646.2	10,435.4	10,927.9	11,560.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Georgia 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.33	4.35	7.88	12.10	12.58	12.30	12.39	12.98
Primary Energy	1.21	1.89	4.17	6.85	6.79	6.50	6.32	6.60
Coal	1.00	3.23	3.12	3.31	3.00	2.96	2.95	3.05
Natural Gas	1.02	1.46	3.57	6.42	6.46	6.18	6.07	6.08
Petroleum	2.22	4.20	7.53	9.06	8.69	8.69	8.07	9.71
Distillate Fuel	1.24	2.61	6.92	7.51	5.43	5.45	5.54	5.34
Kerosene	1.48	3.35	8.77	10.25	7.41	7.44	7.56	7.29
LPG	2.35	4.40	7.64	9.23	9.26	9.23	8.36	10.21
Electricity	5.18	9.01	13.85	18.91	19.67	19.80	20.58	21.18
Commercial Sector	2.60	4.98	7.69	12.29	11.50	12.18	12.86	13.87
Primary Energy	.84	1.36	3.47	5.85	5.22	5.11	5.12	5.30
Coal	.50	1.31	1.60	1.80	1.76	1.73	1.75	1.73
Natural Gas	.72	1.07	3.12	5.57	5.46	5.26	5.32	5.32
Petroleum	1.44	2.85	7.00	6.98	4.38	4.68	4.47	5.27
Distillate Fuel	.97	2.25	6.31	6.46	3.55	3.92	3.45	3.74
Kerosene	.63	2.22	6.06	7.52	4.40	4.74	4.27	4.90
LPG	1.58	2.83	5.27	9.84	8.26	8.12	8.40	7.64
Motor Gasoline	2.80	4.73	9.91	8.76	6.29	6.66	6.51	7.12
Residual Fuel	.32	1.73	3.44	4.20	2.46	2.90	2.37	2.72
Electricity	5.85	10.79	14.64	19.94	18.17	19.81	20.90	21.33
Industrial Sector	.85	2.29	4.95	6.56	6.03	5.83	5.85	6.08
Primary Energy	.57	1.41	3.78	4.89	3.97	3.74	3.61	3.81
Coal	.50	1.31	1.60	1.80	1.76	1.73	1.75	1.73
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.50	1.31	1.60	1.80	1.76	1.73	1.75	1.73
Natural Gas	.40	.82	2.75	4.41	3.80	3.57	3.52	3.64
Petroleum	.78	2.20	5.31	6.36	5.14	4.94	4.68	5.18
Asphalt and Road Oil	.76	1.74	3.72	4.97	4.19	3.21	3.15	2.85
Distillate Fuel	.58	2.05	5.44	6.48	3.80	4.08	3.68	4.23
Kerosene	.63	2.22	6.06	7.52	4.40	4.74	4.27	4.90
LPG	1.58	2.83	5.27	9.84	8.26	8.12	8.40	7.64
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.73	9.91	8.76	6.29	6.66	6.51	7.12
Residual Fuel	.40	1.69	3.44	4.20	2.46	2.90	2.37	2.72
Other	1.99	3.05	8.42	8.88	5.79	6.61	5.62	6.36
Electricity	2.91	7.33	10.43	13.09	12.95	13.01	13.68	13.72
Transportation Sector	2.33	4.11	8.73	7.91	5.80	6.10	5.90	6.53
Primary Energy	2.33	4.11	8.73	7.91	5.80	6.09	5.90	6.53
Coal	.50	1.31	-	-	-	-	-	-
Petroleum	2.33	4.11	8.73	7.91	5.80	6.09	5.90	6.53
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	3.02	7.48	6.74	5.88	6.09	5.74	6.18
Jet Fuel	.73	2.03	6.46	5.66	3.51	3.77	3.54	4.12
LPG	1.58	2.83	5.27	9.84	8.26	8.12	8.40	7.64
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.80	4.73	9.91	8.76	6.29	6.66	6.51	7.12
Residual Fuel	.28	1.52	2.91	3.38	1.67	2.82	1.96	2.35
Electricity	-	-	10.06	12.92	13.59	21.39	21.42	22.70
Total Energy*	1.85	3.68	7.34	8.55	7.46	7.58	7.58	8.15
Primary Energy — Four Sectors	1.50	2.87	6.42	6.80	5.39	5.47	5.31	5.77
Electricity	4.58	8.93	12.75	17.09	16.91	17.44	18.29	18.70
Electric Utility Sector	.35	.91	1.38	1.73	1.71	1.63	1.61	1.53
Coal	.38	.93	1.50	1.88	1.81	1.79	1.75	1.75
Natural Gas	.29	.71	2.56	4.31	2.00	3.72	2.73	3.16
Petroleum	.31	1.85	4.45	5.22	2.32	3.42	2.95	4.37
Heavy Oil ^b	.31	1.74	3.47	3.59	1.82	3.09	2.94	2.77
Light Oil ^b	.39	2.30	6.22	5.65	3.46	3.91	3.39	4.52
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.13	.45	.72	.84	.94	1.01	1.00
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.24	2.27	4.55	4.62	3.89	3.85	3.81	3.92

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products." Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Georgia 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	353.0	706.7	1,406.8	2,230.0	2,463.7	2,598.1	2,742.6	2,871.3
Primary Energy	132.3	200.7	460.2	713.7	731.4	774.9	803.6	822.3
Coal	1.1	1.4	.6	1.1	.2	1.0	.7	.3
Natural Gas	91.6	130.5	332.0	555.0	591.3	638.0	672.5	646.8
Petroleum	39.7	68.9	127.6	157.5	139.9	135.9	130.4	175.1
Distillate Fuel	1.8	4.5	23.3	15.5	11.5	10.9	8.3	8.3
Kerosene	1.0	.7	4.5	6.8	4.3	3.1	4.1	3.6
LPG	36.9	63.7	99.7	135.3	124.1	121.9	118.0	163.2
Electricity	220.7	505.9	946.6	1,516.4	1,732.3	1,823.2	1,939.0	2,049.0
Commercial Sector	206.7	497.0	830.4	1,561.0	1,477.8	1,677.3	1,850.7	1,971.6
Primary Energy	43.5	83.8	232.9	403.6	345.9	365.2	375.0	351.2
Coal	1.0	1.0	.6	1.1	.2	1.0	.8	.4
Natural Gas	28.6	54.2	189.1	295.1	282.6	294.8	305.0	290.0
Petroleum	13.9	28.6	43.2	107.3	63.0	69.4	69.2	60.8
Distillate Fuel	4.0	11.2	11.6	58.2	20.5	22.9	24.1	21.3
Kerosene	.1	.1	.4	.9	.9	.5	.2	1.0
LPG	4.4	7.2	12.1	25.5	19.5	18.9	20.9	21.6
Motor Gasoline	5.1	9.2	18.9	14.2	11.9	14.3	15.5	15.1
Residual Fuel	.2	.9	.2	8.6	10.2	12.7	8.4	1.9
Electricity	163.1	413.2	597.5	1,157.5	1,131.9	1,312.1	1,475.7	1,620.4
Industrial Sector	265.4	732.2	1,844.0	2,499.9	2,130.6	2,185.6	2,290.4	2,349.0
Primary Energy	157.5	385.4	1,161.3	1,486.0	1,080.8	1,087.8	1,100.6	1,137.9
Coal	6.0	13.3	26.5	69.5	77.8	84.1	91.6	88.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	6.0	13.3	26.5	69.5	77.8	84.1	91.6	88.0
Natural Gas	58.0	122.1	440.0	613.4	484.3	501.3	526.1	547.1
Petroleum	93.5	250.0	694.8	803.1	518.7	502.5	482.8	502.8
Asphalt and Road Oil	19.7	48.4	118.2	151.2	156.7	127.4	126.4	93.9
Distillate Fuel	13.5	42.2	126.4	135.3	86.4	84.8	72.8	97.2
Kerosene	1.1	2.5	15.4	1.2	.8	.9	1.2	.9
LPG	14.5	36.2	61.7	68.4	60.9	53.0	66.1	67.7
Lubricants	14.6	27.7	55.0	61.4	53.2	52.4	54.3	68.3
Motor Gasoline	1.8	1.5	1.4	57.5	38.3	42.6	39.5	48.5
Residual Fuel	21.0	66.2	115.4	166.2	10.7	14.8	14.5	7.8
Other	7.3	25.3	201.3	162.0	111.7	126.8	107.3	118.5
Electricity	107.9	346.8	682.6	1,013.9	1,049.8	1,097.7	1,189.8	1,211.1
Transportation Sector	915.2	1,982.9	4,731.6	4,608.7	3,574.1	3,974.5	4,044.1	4,368.2
Primary Energy	915.2	1,982.9	4,731.1	4,606.3	3,571.4	3,970.7	4,039.8	4,363.6
Coal	-	-	-	-	-	-	-	-
Petroleum	915.2	1,982.9	4,731.1	4,606.3	3,571.4	3,970.7	4,039.8	4,363.6
Aviation Gasoline	6.6	6.9	17.6	10.7	10.8	8.3	8.5	8.8
Distillate Fuel	59.6	181.7	616.2	707.4	654.4	743.7	761.0	813.3
Jet Fuel	42.8	147.4	598.1	518.0	351.4	419.2	405.8	405.7
LPG	.6	1.1	1.5	5.8	4.4	3.3	3.3	2.8
Lubricants	16.9	23.4	53.8	60.0	52.0	51.2	53.1	66.7
Motor Gasoline	788.3	1,618.2	3,389.1	3,284.4	2,493.6	2,739.7	2,804.1	3,058.8
Residual Fuel	.3	4.1	54.8	19.9	4.9	5.4	4.0	7.6
Electricity	-	-	.5	2.4	2.7	3.7	4.3	4.6
Total Energy*	1,740.2	3,918.7	8,812.8	10,899.7	9,646.2	10,435.4	10,927.9	11,560.1
Primary Energy — Four Sectors	1,248.5	2,652.9	6,585.5	7,209.5	5,729.5	6,198.6	6,319.0	6,675.0
Electricity	491.7	1,265.9	2,227.3	3,690.2	3,916.7	4,236.8	4,608.9	4,885.1
Electric Utility Sector	88.1	372.6	837.7	1,379.9	1,256.5	1,347.1	1,305.3	1,372.2
Coal	67.7	280.1	756.7	1,287.7	1,171.2	1,181.8	1,127.6	1,093.6
Natural Gas	17.3	29.3	9.7	3.9	11.9	3.1	4.4	2.2
Petroleum	3.1	58.7	29.7	9.0	7.5	7.5	8.7	8.9
Heavy Oil ^b	3.0	44.3	14.6	1.3	4.1	4.0	2.5	.5
Light Oil ^b	.1	14.4	15.1	7.7	3.4	3.5	6.2	8.4
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	4.3	41.7	79.4	66.0	154.6	164.6	267.5
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,336.5	3,025.4	7,423.2	8,589.4	6,986.0	7,545.7	7,624.2	8,047.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Hawaii 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	-	-	-	2.15	2.09	1.95	1.81	1.76
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	-	2.15	2.09	1.95	1.81	1.76
Natural Gas	-	-	13.06	14.20	11.96	11.89	11.52	11.41
Petroleum	1.09	2.53	6.17	6.83	5.05	5.22	4.93	5.27
Asphalt and Road Oil	.56	1.77	3.61	4.47	4.49	4.24	3.95	3.18
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.04	2.30	6.58	7.88	6.33	6.06	6.26	6.88
Jet Fuel	.73	2.04	6.21	6.21	4.36	4.30	4.04	4.59
Kerosene	.85	2.50	6.38	6.50	3.96	4.36	4.46	5.34
LPG	2.53	3.77	6.32	13.35	12.64	12.77	12.61	14.96
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.32	5.44	10.81	11.14	9.63	9.47	9.55	10.42
Residual Fuel	.40	1.59	3.80	4.82	2.82	3.41	2.81	3.19
Other ^a	.51	1.39	2.49	2.51	1.53	1.50	1.45	1.92
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	.65	.92	-	.79	-	-	-	.82
Primary Energy — Five Sectors	1.09	2.53	6.25	6.89	5.13	5.28	4.99	5.32
Electric Utility Fuel	.41	1.58	3.97	4.94	2.98	3.54	2.95	3.32
Electricity Purchased by End Users	6.98	12.80	22.01	29.81	23.66	24.49	22.53	23.76
Total Energy ^b	1.73	3.95	8.71	10.43	8.50	8.67	8.11	8.25
Expenditures in Millions of Dollars								
Coal	-	-	-	2.4	0.8	3.1	2.3	1.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	-	2.4	.8	3.1	2.3	1.4
Natural Gas	-	-	39.4	38.1	32.0	33.1	32.4	33.2
Petroleum	207.0	522.2	1,499.6	1,528.6	1,100.1	1,147.1	1,216.4	1,474.6
Asphalt and Road Oil	1.4	4.4	6.8	9.1	8.1	11.2	9.2	6.3
Aviation Gasoline	1.5	2.0	9.1	7.8	11.8	9.5	10.5	12.0
Distillate Fuel	9.9	25.6	228.7	211.5	168.2	142.6	215.1	227.7
Jet Fuel	58.4	170.3	492.4	462.1	248.5	277.1	271.7	341.8
Kerosene	.7	1.1	.3	.1	*	*	*	*
LPG	8.5	10.3	31.1	6.9	6.9	8.1	8.6	10.0
Lubricants	2.2	4.7	8.2	9.1	7.9	7.8	8.1	10.2
Motor Gasoline	99.2	193.5	410.7	444.3	398.5	406.1	425.8	478.8
Residual Fuel	24.7	108.5	308.6	376.3	249.6	283.8	266.3	386.7
Other ^a	.5	1.7	3.7	1.5	.4	.9	1.0	1.3
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	.2	.2	-	.2	-	-	-	.1
Primary Energy — Five Sectors	207.2	522.4	1,538.9	1,569.4	1,132.9	1,183.3	1,251.1	1,509.3
Electric Utility Fuel	-17.4	-92.4	-275.8	-342.5	-215.9	-269.6	-240.5	-282.9
Electricity Purchased by End Users	87.4	225.3	456.9	654.7	538.6	570.6	565.5	629.6
Total Energy ^b	277.2	655.3	1,720.0	1,881.6	1,455.6	1,484.3	1,576.1	1,855.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Hawaii 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	7.07	13.13	20.08	30.92	25.50	25.82	24.31	25.71
Primary Energy	4.11	6.19	12.48	16.14	14.53	14.47	14.15	15.65
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	13.50	16.74	14.82	14.89	14.55	14.50
Petroleum	4.11	6.19	11.61	15.01	14.07	13.94	13.68	17.02
Distillate Fuel	1.27	2.80	6.92	7.57	5.86	5.83	5.77	6.49
Kerosene	-	-	-	-	-	-	-	-
LPG	4.12	6.20	11.63	15.04	14.16	14.02	13.84	17.07
Electricity	8.22	14.59	23.64	33.29	27.17	27.63	25.89	27.19
Commercial Sector	5.65	12.66	17.85	25.97	20.26	15.30	11.67	8.58
Primary Energy	1.55	3.37	8.75	11.28	8.50	5.90	4.67	4.02
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	12.70	13.34	11.08	11.01	10.69	10.59
Petroleum	1.55	3.37	6.60	7.67	5.37	4.19	3.56	3.46
Distillate Fuel	1.12	2.60	6.60	6.61	4.95	4.64	4.87	5.76
Kerosene	.85	2.50	-	6.50	3.96	4.36	4.46	5.34
LPG	.91	1.91	3.81	9.62	9.06	8.52	8.58	8.09
Motor Gasoline	3.32	5.44	10.81	11.14	9.63	9.47	9.55	10.42
Residual Fuel	.42	1.59	3.86	4.60	2.81	3.33	2.71	3.09
Electricity	9.92	16.50	26.40	34.41	27.29	27.52	25.60	26.97
Industrial Sector	1.55	4.80	8.67	15.45	9.81	10.93	10.46	10.48
Primary Energy	.60	2.05	4.44	5.15	3.55	3.91	3.75	3.80
Coal	-	-	-	2.15	2.09	1.95	1.81	1.76
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	-	2.15	2.09	1.95	1.81	1.76
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	.60	2.05	4.44	5.56	3.59	4.19	3.97	3.91
Asphalt and Road Oil	.56	1.77	3.61	4.47	4.49	4.24	3.95	3.18
Distillate Fuel	.74	2.22	5.49	6.07	3.70	4.07	4.16	4.99
Kerosene	.85	2.50	6.38	6.50	3.96	4.36	4.46	5.34
LPG	.91	1.91	3.81	9.62	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.32	5.44	10.81	11.14	9.63	9.47	9.55	10.42
Residual Fuel	.42	1.92	3.82	4.60	2.81	3.33	2.71	3.09
Other	.51	1.39	2.49	2.51	1.53	1.50	1.45	1.92
Electricity	4.59	9.84	18.63	25.08	18.96	20.08	18.20	19.42
Transportation Sector	1.34	2.96	7.40	7.78	6.33	6.35	6.23	6.77
Primary Energy	1.34	2.96	7.40	7.78	6.33	6.35	6.23	6.77
Coal	-	-	-	-	-	-	-	-
Petroleum	1.34	2.96	7.40	7.78	6.33	6.35	6.23	6.77
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.37	2.63	7.39	8.53	7.31	8.21	7.35	8.73
Jet Fuel	.73	2.04	6.21	6.21	4.36	4.30	4.04	4.59
LPG	.91	1.91	3.81	9.62	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.32	5.44	10.81	11.14	9.63	9.47	9.55	10.42
Residual Fuel	.37	1.37	3.27	4.64	2.62	3.18	2.50	2.81
Electricity	-	-	-	-	-	-	-	-
Total Energy^a	1.73	3.95	8.71	10.43	8.50	8.67	8.11	8.25
Primary Energy — Four Sectors	1.29	2.90	7.15	7.74	6.17	6.18	5.97	6.18
Electricity	6.98	12.80	22.01	29.81	23.66	24.49	22.53	23.76
Electric Utility Sector	.41	1.58	3.97	4.94	2.98	3.54	2.95	3.32
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	.40	1.58	3.97	4.95	2.98	3.54	2.95	3.32
Heavy Oil ^b	.40	1.57	3.87	4.86	2.86	3.44	2.87	3.29
Light Oil ^b	.43	1.71	5.19	6.40	4.69	4.63	3.82	3.61
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	.65	.92	-	.79	-	-	-	.82
Primary Energy — Five Sectors	1.09	2.53	6.25	6.89	5.13	5.28	4.99	5.32

^aThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Expenditure Estimates by Sector, Hawaii
1970, 1975, 1980, and 1985-1989
(Million Dollars)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	43.0	90.1	185.3	230.1	196.7	211.7	206.1	225.6
Primary Energy	7.0	7.4	36.8	16.7	14.8	16.3	16.1	17.6
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	18.4	11.3	9.3	9.4	8.8	8.8
Petroleum	7.0	7.4	18.4	5.3	5.5	6.9	7.3	8.7
Distillate Fuel	-	-	-	-	-	-	.1	-
Kerosene	-	-	-	-	-	-	-	-
LPG	7.0	7.4	18.4	5.3	5.5	6.9	7.2	8.7
Electricity	36.0	82.8	148.5	213.4	181.9	195.4	190.0	208.0
Commercial Sector	30.3	67.7	172.7	225.0	202.2	233.1	246.8	316.9
Primary Energy	4.2	5.3	41.0	35.7	31.7	50.8	65.8	118.9
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	21.0	26.8	22.7	23.7	23.6	24.4
Petroleum	4.2	5.3	20.0	8.8	9.1	27.0	42.2	94.5
Distillate Fuel	1.1	1.3	15.3	5.2	5.2	13.1	17.1	16.6
Kerosene	.4	.6	-	.1	-	-	-	-
LPG	.3	.4	1.1	.6	.6	.7	.8	.7
Motor Gasoline	2.3	2.8	3.1	2.8	2.3	2.2	2.7	2.8
Residual Fuel	.1	.2	.6	.2	.9	11.0	21.6	74.3
Electricity	26.1	62.5	131.7	189.3	170.5	182.4	181.0	198.0
Industrial Sector	36.0	110.9	275.7	300.3	237.2	241.8	240.7	282.0
Primary Energy	10.7	30.8	99.1	48.4	50.9	48.9	46.3	58.5
Coal	-	-	-	2.4	.8	3.1	2.3	1.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	-	2.4	.8	3.1	2.3	1.4
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	10.7	30.8	99.1	45.9	50.1	45.9	44.0	57.1
Asphalt and Road Oil	1.4	4.4	6.8	9.1	8.1	11.2	9.2	6.3
Distillate Fuel	2.8	7.3	43.0	16.5	11.1	18.0	18.2	14.9
Kerosene	.3	.4	.3	-	-	-	-	-
LPG	1.2	2.4	11.3	.8	.7	.3	.3	.3
Lubricants	.1	1.3	1.7	1.9	1.7	1.6	1.7	2.1
Motor Gasoline	.9	1.5	2.8	6.1	5.1	5.3	5.5	7.0
Residual Fuel	3.5	11.7	29.4	10.1	22.9	8.5	8.0	25.2
Other	.5	1.7	3.7	1.5	.4	.9	1.0	1.3
Electricity	25.3	80.1	176.7	252.0	186.3	192.9	194.5	223.6
Transportation Sector	167.9	386.6	1,086.3	1,126.3	819.6	797.7	882.4	1,031.4
Primary Energy	167.9	386.6	1,086.3	1,126.3	819.6	797.7	882.4	1,031.4
Coal	-	-	-	-	-	-	-	-
Petroleum	167.9	386.6	1,086.3	1,126.3	819.6	797.7	882.4	1,031.4
Aviation Gasoline	1.5	2.0	9.1	7.8	11.8	9.5	10.5	12.0
Distillate Fuel	5.7	12.7	143.5	161.7	129.4	82.7	151.3	166.8
Jet Fuel	58.4	170.3	492.4	462.1	248.5	277.1	271.7	341.8
LPG	.1	.2	.4	.2	.2	.2	.2	.2
Lubricants	2.1	3.4	6.5	7.2	6.3	6.2	6.4	8.0
Motor Gasoline	96.0	189.2	404.9	435.4	391.0	398.5	417.6	468.9
Residual Fuel	4.1	8.7	29.7	51.9	32.4	23.5	24.6	33.7
Electricity	-	-	-	-	-	-	-	-
Total Energy*	277.2	655.3	1,720.0	1,881.6	1,455.6	1,484.3	1,576.1	1,855.9
Primary Energy — Four Sectors	189.8	430.0	1,263.2	1,226.9	917.0	913.7	1,010.6	1,226.3
Electricity	87.4	225.3	456.9	654.7	538.6	570.6	565.5	629.6
Electric Utility Sector	17.4	92.4	275.8	342.5	215.9	269.6	240.5	282.9
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	17.2	92.2	275.8	342.3	215.9	269.6	240.5	282.8
Heavy Oil ^b	17.0	87.9	248.9	314.2	193.4	240.7	212.2	253.5
Light Oil ^b	.2	4.3	26.9	28.0	22.5	28.9	28.3	29.3
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	.2	.2	-	.2	-	-	-	.1
Primary Energy — Five Sectors	207.2	522.4	1,538.9	1,569.4	1,132.9	1,183.3	1,251.1	1,509.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Idaho 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.59	0.98	1.78	1.70	2.01	1.97	1.78	1.82
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.59	.98	1.78	1.70	2.01	1.97	1.78	1.82
Natural Gas	.66	1.43	3.87	5.07	4.22	5.86	4.49	3.57
Petroleum	1.92	3.64	8.11	8.41	6.47	6.46	6.72	7.24
Asphalt and Road Oil	.60	1.88	3.64	4.78	4.40	3.43	3.39	2.79
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.01	2.55	6.54	7.62	5.73	5.75	5.80	6.58
Jet Fuel	.76	2.12	6.59	6.68	4.40	4.39	4.24	4.93
Kerosene	.82	2.59	-	7.96	7.29	7.61	7.71	8.33
LPG	2.41	3.81	6.39	9.45	7.96	9.05	9.02	9.92
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.81	9.79	9.31	7.07	7.26	7.61	8.21
Residual Fuel	.34	2.01	4.45	3.67	2.38	2.57	1.93	1.66
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.49	2.80	6.57	7.19	5.71	6.06	5.89	6.02
Electric Utility Fuel	.35	1.89	3.87	5.60	4.25	2.78	4.07	4.45
Electricity Purchased by End Users	2.95	4.11	7.39	10.66	10.94	10.81	10.84	11.10
Total Energy ^b	1.76	3.03	6.75	8.12	7.11	7.32	7.23	7.36
Expenditures in Millions of Dollars								
Coal	4.7	13.1	17.1	15.1	17.3	17.4	17.3	17.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	4.7	13.1	17.1	15.1	17.3	17.4	17.3	17.8
Natural Gas	29.5	84.6	182.6	192.9	138.4	200.0	167.7	149.0
Petroleum	201.8	456.2	913.5	890.7	686.2	705.5	750.0	854.3
Asphalt and Road Oil	4.5	11.0	19.2	20.0	15.9	11.4	9.0	15.4
Aviation Gasoline	1.7	2.1	7.4	4.0	3.7	2.9	1.9	2.3
Distillate Fuel	32.9	112.3	215.6	247.7	197.2	213.7	219.9	263.3
Jet Fuel	3.9	11.0	44.9	40.7	26.8	27.7	27.3	33.4
Kerosene	1.1	2.1	-	.4	.3	.3	.4	.1
LPG	9.6	16.7	23.3	29.4	21.2	20.0	24.1	29.5
Lubricants	4.7	7.4	15.9	17.7	15.3	15.1	15.6	19.7
Motor Gasoline	142.8	285.0	570.0	521.6	404.5	408.1	448.7	487.3
Residual Fuel	.6	8.6	17.1	9.2	1.3	6.3	3.1	3.5
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	236.0	553.9	1,113.2	1,098.7	841.9	923.0	935.0	1,021.1
Electric Utility Fuel	*	-.1	-.2	-.2	*	*	*	-.1
Electricity Purchased by End Users	105.8	175.4	345.9	596.4	589.5	593.8	635.1	675.0
Total Energy ^b	341.8	729.2	1,458.8	1,695.0	1,431.3	1,516.7	1,570.0	1,696.0

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Idaho 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.58	3.43	7.14	10.29	10.28	10.39	10.44	10.57
Primary Energy	1.54	2.45	5.28	6.93	6.05	5.70	5.59	5.75
Coal	.99	1.78	2.56	1.97	1.91	1.54	1.26	1.56
Natural Gas	1.31	2.07	4.73	6.57	5.89	5.41	5.38	4.92
Petroleum	1.91	3.25	6.97	7.89	6.54	6.37	6.48	7.90
Distillate Fuel	1.40	2.82	6.60	7.29	5.59	5.21	5.21	5.89
Kerosene	-	-	-	12.00	9.20	8.58	8.58	9.70
LPG	2.83	4.17	7.85	9.55	9.70	10.64	10.38	12.49
Electricity	4.81	5.27	8.54	12.60	13.14	13.45	13.88	14.11
Commercial Sector	2.12	2.91	6.49	9.05	9.18	8.97	8.65	8.66
Primary Energy	.96	1.66	4.53	5.62	4.87	4.60	4.68	4.44
Coal	.50	.87	1.70	1.69	2.01	1.98	1.82	1.84
Natural Gas	.96	1.47	4.36	5.42	4.68	4.44	4.43	4.09
Petroleum	1.35	3.01	5.65	6.83	6.06	5.15	5.76	5.59
Distillate Fuel	1.21	2.62	6.41	6.82	5.74	4.72	4.41	5.27
Kerosene	.82	2.59	-	6.91	4.20	4.96	5.00	5.70
LPG	1.55	3.25	5.72	9.38	6.76	7.98	7.99	7.58
Motor Gasoline	2.81	4.81	9.79	9.31	7.07	7.26	7.61	8.21
Residual Fuel	-	-	4.63	3.67	2.38	2.57	1.93	1.66
Electricity	4.10	4.88	8.33	12.10	12.58	12.25	12.06	12.58
Industrial Sector	.96	1.97	4.53	5.65	4.99	5.73	5.15	4.86
Primary Energy	.69	1.81	4.30	4.78	3.77	4.95	4.07	3.67
Coal	.50	.87	1.70	1.69	2.01	1.98	1.82	1.84
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.50	.87	1.70	1.69	2.01	1.98	1.82	1.84
Natural Gas	.42	1.11	3.58	4.32	3.23	6.59	4.18	2.84
Petroleum	.95	2.60	6.02	6.42	4.87	4.66	4.78	4.99
Asphalt and Road Oil	.60	1.88	3.64	4.78	4.40	3.43	3.39	2.79
Distillate Fuel	.77	2.40	6.02	6.15	4.26	4.41	4.44	5.07
Kerosene	.82	2.59	-	6.91	4.20	4.96	5.00	5.70
LPG	1.55	3.25	5.72	9.38	6.76	7.98	7.99	7.58
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.81	9.79	9.31	7.07	7.26	7.61	8.21
Residual Fuel	.34	2.01	3.76	3.67	2.38	2.57	1.93	1.66
Other	-	-	-	-	-	-	-	-
Electricity	1.84	2.70	5.44	7.69	7.70	7.56	7.53	7.67
Transportation Sector	2.47	4.25	8.98	9.05	6.90	7.05	7.33	8.01
Primary Energy	2.47	4.25	8.98	9.05	6.90	7.05	7.33	8.01
Coal	.50	.87	-	-	-	-	-	-
Petroleum	2.47	4.25	8.98	9.05	6.90	7.05	7.33	8.01
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.31	2.68	6.95	8.70	6.86	7.06	7.23	8.08
Jet Fuel	.76	2.12	6.59	6.68	4.40	4.39	4.24	4.93
LPG	1.55	3.25	5.72	9.38	6.76	7.98	7.99	7.58
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.81	4.81	9.79	9.31	7.07	7.26	7.61	8.21
Residual Fuel	.39	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.76	3.03	6.75	8.12	7.11	7.32	7.23	7.36
Primary Energy — Four Sectors	1.49	2.80	6.57	7.19	5.71	6.06	5.89	6.02
Electricity	2.95	4.11	7.39	10.66	10.94	10.81	10.84	11.10
Electric Utility Sector	.35	1.89	3.87	5.60	4.25	2.78	4.07	4.45
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	1.38	3.76	5.44	4.70	2.31	-	-
Petroleum	.35	2.20	6.39	6.07	3.74	4.25	4.07	4.45
Heavy Oil ^b	-	-	-	-	-	-	-	-
Light Oil ^b	.35	2.20	6.39	6.07	3.74	4.25	4.07	4.45
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.49	2.80	6.57	7.19	5.71	6.06	5.89	6.02

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Idaho 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	65.3	129.9	210.6	342.3	319.4	305.0	331.8	357.2
Primary Energy	26.6	60.4	66.8	93.8	75.8	66.0	73.8	82.2
Coal	1.5	2.7	2.3	.7	.6	.3	.8	1.0
Natural Gas	10.7	30.7	36.8	53.5	43.8	38.5	42.2	44.4
Petroleum	14.4	27.0	27.8	39.6	31.4	27.2	30.9	36.9
Distillate Fuel	6.8	16.0	18.7	27.0	20.6	17.4	18.7	19.1
Kerosene	-	-	-	.1	.2	.2	.3	.1
LPG	7.6	11.0	9.1	12.5	10.6	9.5	11.9	17.7
Electricity	38.6	69.5	143.8	248.5	243.5	239.0	258.0	275.0
Commercial Sector	40.9	90.3	170.8	268.0	248.4	247.1	269.5	282.8
Primary Energy	11.7	31.5	57.8	78.5	58.1	54.3	67.5	69.8
Coal	1.4	2.4	2.8	1.2	1.1	.7	2.0	2.1
Natural Gas	5.9	18.8	26.4	51.2	40.9	34.4	37.3	37.8
Petroleum	4.3	10.2	28.6	26.1	16.1	19.2	26.1	30.0
Distillate Fuel	2.1	5.2	8.1	14.5	9.5	11.6	11.1	10.7
Kerosene	.5	1.2	-	.1	.	.	.	.
LPG	.7	1.5	1.2	2.2	1.3	1.3	1.6	1.9
Motor Gasoline	1.0	2.3	5.1	6.6	5.0	5.4	15.1	15.4
Residual Fuel	-	-	14.2	2.7	.2	.9	.4	2.0
Electricity	29.2	58.8	113.0	189.6	190.4	192.7	202.0	213.0
Industrial Sector	84.0	191.8	369.3	391.1	324.7	412.3	382.8	396.8
Primary Energy	46.1	144.7	280.3	232.8	169.1	250.2	207.8	209.8
Coal	1.8	8.0	12.0	13.2	15.6	16.5	14.5	14.7
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.8	8.0	12.0	13.2	15.6	16.5	14.5	14.7
Natural Gas	12.8	35.0	119.2	88.1	53.7	127.0	88.2	66.9
Petroleum	31.4	101.7	149.0	131.5	99.8	106.7	105.1	128.2
Asphalt and Road Oil	4.5	11.0	19.2	20.0	15.9	11.4	9.0	15.4
Distillate Fuel	14.3	55.0	77.5	62.7	53.0	61.6	63.6	79.0
Kerosene	.5	.9	-	.1	.	.	.	.
LPG	1.2	3.9	12.6	12.9	8.1	8.4	9.6	9.0
Lubricants	1.0	2.0	3.8	4.3	3.7	3.6	3.8	4.7
Motor Gasoline	9.2	20.2	32.9	25.0	18.1	16.5	16.3	18.7
Residual Fuel	.6	8.6	3.0	6.5	1.1	5.3	2.7	1.4
Other	-	-	-	-	-	-	-	-
Electricity	37.9	47.1	89.1	158.3	155.6	162.1	175.0	187.0
Transportation Sector	151.6	317.3	708.1	693.5	538.8	552.4	585.9	659.1
Primary Energy	151.6	317.3	708.1	693.5	538.8	552.4	585.9	659.1
Coal	.	.	-	-	-	-	-	-
Petroleum	151.6	317.3	708.1	693.5	538.8	552.4	585.9	659.1
Aviation Gasoline	1.7	2.1	7.4	4.0	3.7	2.9	1.9	2.3
Distillate Fuel	9.7	36.0	111.3	143.5	114.1	123.1	126.5	154.3
Jet Fuel	3.9	11.0	44.9	40.7	26.8	27.7	27.3	33.4
LPG	.1	.3	.5	1.8	1.3	.9	1.0	.9
Lubricants	3.7	5.4	12.0	13.4	11.6	11.4	11.9	14.9
Motor Gasoline	132.6	262.5	532.0	490.1	381.3	386.3	417.3	453.2
Residual Fuel	.	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	341.8	729.2	1,458.8	1,695.0	1,431.3	1,516.7	1,570.0	1,696.0
Primary Energy — Four Sectors	236.0	553.8	1,113.0	1,098.6	841.8	922.9	935.0	1,021.0
Electricity	105.8	175.4	345.9	596.4	589.5	593.8	635.1	675.0
Electric Utility Sector	.	.1	.2	.2	.	.	.	.1
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	.	.2	.1	.	.	-	-
Petroleum	.	.1	.	.	.	.	.	.1
Heavy Oil ^b	-	-	-	-	-	-	-	-
Light Oil ^b	.	.1	.	.	.	.	.	.1
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	236.0	553.9	1,113.2	1,098.7	841.9	923.0	935.0	1,021.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Illinois 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.36	0.89	1.64	2.12	2.06	1.93	1.83	1.77
Coking Coal	.42	1.49	1.93	2.08	2.05	1.92	2.02	1.92
Steam Coal	.35	.82	1.63	2.12	2.06	1.93	1.82	1.75
Natural Gas	.72	1.38	3.33	5.00	4.59	4.36	4.10	4.41
Petroleum	1.87	3.39	7.67	8.47	6.49	6.69	6.68	7.31
Asphalt and Road Oil	.64	1.99	3.83	4.91	4.57	3.34	3.51	2.92
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.11	2.58	6.88	7.62	5.75	6.00	5.97	6.67
Jet Fuel	.74	2.09	6.38	6.00	4.22	4.21	3.84	4.32
Kerosene	1.13	2.82	6.67	8.42	5.66	6.07	6.14	6.80
LPG	1.39	2.68	5.16	8.71	7.24	6.86	6.94	7.44
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.05	4.73	9.81	9.03	6.78	7.23	7.27	8.00
Residual Fuel	.60	1.68	4.92	5.07	3.92	3.26	2.62	2.79
Other ^a	1.33	2.36	6.75	7.67	5.65	6.10	5.13	5.95
Nuclear Fuel	.15	.18	.33	.64	.64	.64	.66	.60
Wood and Waste at Utilities	.65	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.08	2.00	4.32	4.86	4.06	3.97	3.76	3.89
Electric Utility Fuel	.32	.69	1.60	1.67	1.61	1.42	1.23	1.13
Electricity Purchased by End Users	5.98	9.35	15.33	21.07	22.37	22.86	21.49	22.07
Total Energy ^b	1.69	3.15	6.69	8.44	7.75	7.95	7.57	7.99
Expenditures in Millions of Dollars								
Coal	329.4	750.5	1,388.1	1,720.0	1,619.4	1,459.3	1,319.7	1,261.3
Coking Coal	41.6	120.7	93.7	131.6	88.3	80.5	91.0	131.2
Steam Coal	287.8	629.8	1,294.5	1,588.3	1,531.1	1,378.8	1,228.7	1,130.1
Natural Gas	831.7	1,512.9	3,601.8	4,873.0	4,234.0	3,771.4	3,933.5	4,358.6
Petroleum	2,596.3	5,050.5	10,365.9	9,071.0	7,092.3	7,444.1	7,729.7	7,744.2
Asphalt and Road Oil	53.8	135.0	205.7	244.5	187.4	140.1	130.4	156.0
Aviation Gasoline	2.9	1.4	6.0	10.7	8.9	6.1	7.0	8.0
Distillate Fuel	287.9	770.9	1,464.6	1,427.6	1,174.5	1,191.9	1,169.7	1,342.8
Jet Fuel	95.2	292.9	710.2	92.2	48.4	46.8	85.3	109.3
Kerosene	22.9	41.9	22.9	54.8	13.1	9.2	11.0	15.3
LPG	148.4	329.8	702.6	1,042.7	946.7	1,039.2	1,155.9	424.6
Lubricants	100.4	141.7	302.5	337.5	292.1	287.7	298.6	375.1
Motor Gasoline	1,715.3	2,945.6	5,622.7	5,272.2	3,869.4	4,186.1	4,436.3	4,852.9
Residual Fuel	89.2	223.0	764.2	176.5	194.6	129.4	86.6	70.9
Other ^a	80.3	168.3	564.5	412.2	357.3	407.6	349.0	389.2
Nuclear Fuel	4.1	45.2	99.4	270.5	294.6	347.5	488.7	484.5
Wood and Waste at Utilities	*	-	-	-	-	-	-	-
Primary Energy — Five Sectors	3,761.6	7,359.1	15,455.2	15,934.4	13,240.3	13,022.4	13,471.7	13,848.8
Electric Utility Fuel	-254.5	-689.6	-1,794.2	-1,856.1	-1,849.5	-1,678.7	-1,638.8	-1,550.4
Electricity Purchased by End Users	1,417.5	2,644.9	4,948.6	7,063.0	7,689.4	8,095.9	7,995.8	8,157.9
Total Energy ^b	4,924.5	9,314.3	18,609.5	21,141.3	19,080.2	19,439.7	19,828.7	20,456.2

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Illinois 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.91	3.06	6.05	9.04	9.13	9.77	9.10	9.07
Primary Energy	1.11	1.83	3.77	5.52	5.03	4.85	4.63	4.95
Coal	1.03	2.11	2.15	2.34	2.05	2.27	2.08	2.20
Natural Gas	1.02	1.57	3.53	5.34	4.96	4.74	4.52	4.81
Petroleum	1.48	2.95	7.02	7.83	6.12	6.61	6.43	7.49
Distillate Fuel	1.21	2.57	6.91	7.38	5.47	6.04	5.87	6.12
Kerosene	1.65	3.18	8.71	9.07	6.72	7.43	7.22	7.53
LPG	2.02	3.72	7.07	7.82	6.55	6.94	6.77	8.16
Electricity	7.97	11.41	17.78	26.42	27.74	29.82	28.54	29.21
Commercial Sector	1.90	3.62	7.37	10.22	10.69	10.97	10.07	11.04
Primary Energy	.73	1.43	3.68	5.01	4.41	4.30	4.11	4.46
Coal	.46	1.19	1.71	1.71	1.60	1.44	1.35	1.37
Natural Gas	.73	1.28	3.27	4.84	4.47	4.33	4.12	4.45
Petroleum	.85	2.01	6.41	6.53	4.34	4.64	4.57	5.47
Distillate Fuel	1.04	2.39	6.49	6.11	4.03	4.22	4.00	4.72
Kerosene	.82	2.51	5.93	6.45	4.59	4.76	4.38	5.85
LPG	1.11	2.29	4.93	8.89	7.35	6.85	6.96	7.08
Motor Gasoline	3.05	4.73	9.81	9.03	6.78	7.23	7.27	8.00
Residual Fuel	.60	1.36	5.51	4.14	2.38	2.93	2.39	2.43
Electricity	6.61	10.38	16.70	22.36	23.72	22.95	21.38	22.24
Industrial Sector	.95	2.23	4.93	6.70	6.29	6.13	5.73	5.84
Primary Energy	.74	1.78	4.03	5.20	4.50	4.36	4.12	3.91
Coal	.44	1.33	1.79	1.88	1.75	1.59	1.56	1.61
Coking Coal	.42	1.49	1.93	2.08	2.05	1.92	2.02	1.92
Steam Coal	.46	1.19	1.71	1.71	1.60	1.44	1.35	1.37
Natural Gas	.49	1.19	3.10	4.57	4.06	3.77	3.36	3.65
Petroleum	1.15	2.52	5.58	7.60	6.08	5.94	5.87	5.80
Asphalt and Road Oil	.64	1.99	3.83	4.91	4.57	3.34	3.51	2.92
Distillate Fuel	.76	2.33	5.37	6.05	4.31	4.46	4.10	5.49
Kerosene	.82	2.51	5.93	6.45	4.59	4.76	4.38	5.85
LPG	1.11	2.29	4.93	8.89	7.35	6.85	6.96	7.08
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.05	4.73	9.81	9.03	6.78	7.23	7.27	8.00
Residual Fuel	.59	2.14	3.78	4.14	2.38	2.93	2.39	2.43
Other	1.33	2.36	6.75	7.67	5.65	6.10	5.13	5.95
Electricity	3.56	6.43	11.82	15.35	16.46	16.54	15.14	15.75
Transportation Sector	2.47	4.07	9.00	9.00	6.84	7.22	7.20	7.87
Primary Energy	2.47	4.06	8.99	8.98	6.81	7.20	7.18	7.85
Coal	.46	1.19	-	-	-	-	-	-
Petroleum	2.47	4.06	8.99	8.98	6.81	7.20	7.18	7.85
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.39	2.84	7.45	8.52	6.60	6.89	6.91	7.20
Jet Fuel	.74	2.08	6.38	6.00	4.22	4.21	3.84	4.32
LPG	1.11	2.29	4.93	8.89	7.35	6.85	6.96	7.08
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.05	4.73	9.81	9.03	6.78	7.23	7.27	8.00
Residual Fuel	.57	1.61	5.32	5.87	4.87	3.32	2.59	2.90
Electricity	4.08	6.11	11.82	19.14	20.87	20.31	18.70	19.82
Total Energy*	1.69	3.15	6.69	8.44	7.75	7.95	7.57	7.99
Primary Energy — Four Sectors	1.31	2.49	5.56	6.49	5.38	5.43	5.27	5.61
Electricity	5.98	9.35	15.33	21.07	22.37	22.86	21.49	22.07
Electric Utility Sector	.32	.69	1.60	1.67	1.61	1.42	1.23	1.13
Coal	.30	.75	1.62	2.18	2.12	2.00	1.91	1.81
Natural Gas	.35	1.13	3.19	5.19	4.62	3.66	3.27	3.26
Petroleum	.63	1.63	5.64	6.03	5.09	3.63	3.12	3.59
Heavy Oil ^b	.60	1.35	5.60	6.03	5.24	3.56	2.95	3.36
Light Oil ^b	.67	2.21	6.38	6.05	3.64	4.22	3.77	4.39
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.15	.18	.33	.64	.64	.64	.66	.60
Wood and Waste	.65	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.08	2.00	4.32	4.86	4.06	3.97	3.76	3.89

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Illinois 1970, 1975, 1980, and 1985-1989 (Million Dollars)

ILLINOIS

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,252.7	2,144.7	3,801.3	5,493.0	5,342.4	5,412.0	5,640.5	5,895.2
Primary Energy	639.8	1,118.4	1,985.7	2,790.8	2,411.4	2,157.1	2,331.5	2,668.2
Coal	18.2	12.7	3.1	4.9	4.3	5.2	4.4	5.4
Natural Gas	459.4	772.0	1,728.1	2,480.4	2,214.8	1,961.9	2,126.8	2,442.7
Petroleum	162.2	333.7	254.4	305.5	192.3	190.1	200.3	220.1
Distillate Fuel	84.1	185.3	141.3	97.1	70.0	67.1	72.6	56.4
Kerosene	12.5	22.1	7.9	44.4	7.8	5.5	8.0	9.6
LPG	65.7	126.3	105.2	164.0	114.6	117.4	119.8	154.1
Electricity	612.9	1,026.4	1,815.6	2,702.2	2,930.9	3,254.9	3,309.0	3,227.0
Commercial Sector	733.8	1,419.3	2,802.2	3,785.3	3,772.9	3,754.5	3,761.0	3,877.1
Primary Energy	226.9	424.6	1,002.3	1,297.0	1,049.4	945.3	1,006.0	987.4
Coal	15.2	13.4	4.5	6.7	6.2	6.1	5.3	6.2
Natural Gas	144.9	283.2	761.8	1,073.9	934.7	838.7	901.9	892.4
Petroleum	66.8	128.0	236.0	216.5	108.4	100.5	98.8	88.8
Distillate Fuel	22.9	54.4	79.4	141.5	46.6	40.5	45.6	38.8
Kerosene	.2	.7	.5	5.3	2.6	1.0	1.3	2.3
LPG	6.4	13.7	12.9	32.9	22.7	20.5	21.7	23.6
Motor Gasoline	8.5	16.8	51.9	26.1	20.5	21.0	20.9	19.7
Residual Fuel	28.8	42.4	91.1	10.7	16.1	17.5	9.4	4.4
Electricity	506.9	994.7	1,799.9	2,488.3	2,723.6	2,809.3	2,755.0	2,889.7
Industrial Sector	1,080.9	2,224.8	4,771.9	5,453.2	5,130.5	5,130.3	4,954.6	4,580.1
Primary Energy	766.6	1,606.5	3,449.8	3,603.4	3,120.6	3,121.9	3,045.8	2,563.3
Coal	115.5	230.2	228.7	266.9	229.5	211.6	228.3	251.0
Coking Coal	41.6	120.7	93.7	131.6	88.3	80.5	91.0	131.2
Steam Coal	73.9	109.5	135.1	135.2	141.2	131.1	137.2	119.8
Natural Gas	179.9	418.0	1,049.4	1,287.4	1,055.7	959.0	885.8	1,000.5
Petroleum	471.2	958.4	2,171.7	2,049.2	1,835.4	1,951.3	1,931.7	1,311.7
Asphalt and Road Oil	53.8	135.0	205.7	244.5	187.4	140.1	130.4	156.0
Distillate Fuel	47.4	150.9	240.0	224.0	231.3	248.8	186.8	220.6
Kerosene	10.2	19.2	14.4	5.1	2.8	2.7	1.7	3.5
LPG	74.2	185.6	581.2	828.3	797.3	893.0	1,004.2	238.4
Lubricants	62.1	75.8	170.6	190.3	164.8	162.2	168.4	211.6
Motor Gasoline	96.4	106.5	180.7	82.5	56.0	59.5	57.2	59.6
Residual Fuel	46.8	117.0	214.4	62.4	38.6	37.4	34.0	32.9
Other	80.3	168.3	564.5	412.2	357.3	407.6	349.0	389.2
Electricity	294.3	618.3	1,322.1	1,849.8	2,009.9	2,008.4	1,908.8	2,016.8
Transportation Sector	1,877.0	3,525.5	7,234.1	6,409.8	4,834.3	5,142.8	5,472.5	6,103.8
Primary Energy	1,873.7	3,520.0	7,223.2	6,387.1	4,809.4	5,119.5	5,449.6	6,079.5
Coal	.2	.	.	.	.	.	.	.
Petroleum	1,873.5	3,519.9	7,223.2	6,387.1	4,809.4	5,119.5	5,449.6	6,079.5
Aviation Gasoline	2.9	1.4	6.0	10.7	8.9	6.1	7.0	8.0
Distillate Fuel	123.2	338.4	978.7	949.7	816.9	825.1	852.6	1,015.4
Jet Fuel	95.2	285.7	704.0	92.2	48.4	46.8	85.3	109.3
LPG	2.2	4.1	3.2	17.6	12.1	8.3	10.3	8.5
Lubricants	38.2	65.9	131.9	147.1	127.4	125.4	130.2	163.6
Motor Gasoline	1,610.4	2,822.2	5,390.1	5,163.7	3,792.9	4,105.6	4,358.2	4,773.6
Residual Fuel	1.5	2.2	9.4	6.1	2.8	2.2	6.0	1.1
Electricity	3.3	5.5	10.9	22.7	24.9	23.3	22.9	24.3
Total Energy*	4,924.5	9,314.3	18,609.5	21,141.3	19,080.2	19,439.7	19,828.7	20,456.2
Primary Energy — Four Sectors	3,507.0	6,669.5	13,661.0	14,078.3	11,390.8	11,343.7	11,832.9	12,298.3
Electricity	1,417.5	2,644.9	4,948.6	7,063.0	7,689.4	8,095.9	7,995.8	8,157.9
Electric Utility Sector	254.5	689.6	1,794.2	1,856.1	1,849.5	1,678.7	1,638.8	1,550.4
Coal	180.2	494.2	1,151.8	1,441.6	1,379.4	1,236.5	1,081.7	998.7
Natural Gas	47.7	39.8	62.5	31.3	28.8	11.9	19.0	23.1
Petroleum	22.5	110.5	480.6	112.7	146.8	82.8	49.3	44.1
Heavy Oil ^b	12.2	61.4	449.3	97.4	137.1	72.3	37.2	32.5
Light Oil ^b	10.3	49.1	31.3	15.4	9.7	10.4	12.1	11.6
Petroleum Coke	.	.	.	.	.	.	.	.
Nuclear Fuel	4.1	45.2	99.4	270.5	294.6	347.5	488.7	484.5
Wood and Waste	.	.	.	.	.	.	.	.
Primary Energy — Five Sectors	3,761.6	7,359.1	15,455.2	15,934.4	13,240.3	13,022.4	13,471.7	13,848.8

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Indiana 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.36	1.09	1.53	1.77	1.67	1.56	1.58	1.49
Coking Coal	.44	1.76	2.13	2.24	2.05	1.92	2.02	1.92
Steam Coal	.32	.73	1.31	1.64	1.58	1.46	1.44	1.37
Natural Gas	.68	1.16	2.88	4.71	4.59	4.08	4.31	4.52
Petroleum	2.01	3.51	7.78	7.86	5.77	5.99	5.94	6.56
Asphalt and Road Oil	.76	2.05	3.72	4.81	3.94	3.30	3.33	3.03
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.03	2.49	6.85	7.66	5.77	6.11	5.77	6.41
Jet Fuel	.74	2.08	6.38	5.81	3.80	3.96	3.74	4.33
Kerosene	1.48	3.01	7.94	7.90	5.41	6.04	6.04	6.91
LPG	1.86	3.34	6.08	8.71	7.79	7.45	7.45	8.88
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.98	4.75	10.00	8.85	6.48	6.90	6.94	7.60
Residual Fuel	.57	1.81	3.63	4.40	2.62	2.63	2.10	2.33
Other ^a	.76	1.94	4.65	6.23	4.33	4.42	3.65	4.41
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.93	1.90	3.67	4.14	3.50	3.43	3.38	3.57
Electric Utility Fuel	.26	.62	1.30	1.66	1.59	1.47	1.44	1.37
Electricity Purchased by End Users	5.15	7.08	12.32	16.95	17.74	16.91	16.53	15.92
Total Energy ^b	1.43	2.82	5.64	6.94	6.23	6.04	6.01	6.29
Expenditures in Millions of Dollars								
Coal	364.5	1,155.2	1,775.9	2,108.1	1,921.0	1,861.3	2,040.2	1,952.9
Coking Coal	151.8	651.7	684.0	560.1	468.5	503.6	612.4	544.0
Steam Coal	212.7	503.5	1,091.9	1,548.0	1,452.5	1,357.7	1,427.8	1,409.0
Natural Gas	359.0	532.0	1,343.1	1,995.4	1,776.1	1,639.6	1,920.7	2,044.9
Petroleum	1,313.5	2,643.5	5,384.3	5,482.6	4,275.8	4,618.5	4,412.7	5,028.3
Asphalt and Road Oil	30.7	82.5	127.5	170.2	158.5	166.4	153.5	128.4
Aviation Gasoline	4.0	3.8	11.8	19.8	18.4	14.4	16.2	12.0
Distillate Fuel	176.3	473.9	1,227.3	1,373.4	1,067.7	1,126.8	965.7	1,235.7
Jet Fuel	10.6	30.4	76.5	507.4	400.2	428.4	350.1	429.8
Kerosene	17.9	14.3	29.7	49.8	22.6	18.1	21.9	27.6
LPG	62.9	150.9	174.3	246.7	249.6	254.5	266.4	361.7
Lubricants	48.8	72.9	155.8	173.8	150.4	148.1	153.8	193.2
Motor Gasoline	921.2	1,614.2	3,162.9	2,694.3	2,043.5	2,289.7	2,340.0	2,460.7
Residual Fuel	14.2	120.0	261.7	78.8	59.3	46.3	33.0	48.0
Other ^a	26.9	80.6	156.8	168.4	105.6	125.9	112.2	131.2
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,037.0	4,330.6	8,503.3	9,586.2	7,972.9	8,119.4	8,373.5	9,026.1
Electric Utility Fuel	-136.5	-372.6	-951.4	-1,359.6	-1,270.9	-1,194.4	-1,261.8	-1,254.3
Electricity Purchased by End Users	657.3	1,252.3	2,524.5	3,647.8	3,846.6	3,848.9	3,993.9	3,912.8
Total Energy ^b	2,557.8	5,210.3	10,076.3	11,874.4	10,548.6	10,773.9	11,105.7	11,684.6

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Indiana
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.02	3.20	6.42	9.79	9.97	9.83	9.66	9.87
Primary Energy	1.18	2.00	4.10	5.92	5.62	5.15	5.33	5.93
Coal	1.10	2.52	2.43	2.77	2.83	2.57	2.54	2.46
Natural Gas	1.00	1.47	3.19	5.50	5.47	4.91	5.08	5.42
Petroleum	1.52	3.02	7.31	8.19	6.60	6.51	6.67	8.37
Distillate Fuel	1.21	2.57	7.18	7.50	5.66	5.71	5.71	6.30
Kerosene	1.59	3.11	8.55	8.79	6.64	6.69	6.69	7.38
LPG	2.10	3.92	7.37	8.76	7.64	7.32	7.46	9.78
Electricity	6.56	8.55	13.86	20.37	21.14	21.38	20.95	20.31
Commercial Sector	1.78	3.03	6.18	8.69	9.07	9.05	9.41	9.41
Primary Energy	.86	1.56	3.69	5.06	4.57	4.24	4.30	4.58
Coal	.52	1.36	1.58	1.60	1.53	1.38	1.47	1.46
Natural Gas	.83	1.26	2.99	5.00	4.90	4.41	4.53	4.70
Petroleum	1.09	2.27	5.51	6.34	4.73	5.02	4.87	5.48
Distillate Fuel	1.04	2.39	6.66	6.04	3.94	4.17	3.70	4.79
Kerosene	.81	2.41	6.14	6.32	3.98	4.71	4.30	4.79
LPG	1.28	2.63	5.10	8.66	7.93	7.55	7.44	7.81
Motor Gasoline	2.98	4.75	10.00	8.85	6.48	6.90	6.94	7.60
Residual Fuel	.70	1.74	4.35	4.40	2.61	2.61	2.08	2.31
Electricity	6.58	8.53	13.36	17.51	18.42	18.34	18.72	18.18
Industrial Sector	.75	2.01	3.67	4.89	4.65	4.21	4.08	4.18
Primary Energy	.58	1.64	2.76	3.43	3.01	2.82	2.85	2.97
Coal	.47	1.68	1.99	2.04	1.88	1.76	1.88	1.79
Coking Coal	.44	1.76	2.13	2.24	2.05	1.92	2.02	1.92
Steam Coal	.52	1.36	1.58	1.60	1.53	1.38	1.47	1.46
Natural Gas	.47	.91	2.63	4.04	3.79	3.38	3.69	3.83
Petroleum	1.05	2.30	4.76	6.44	4.78	4.72	4.47	4.93
Asphalt and Road Oil	.76	2.05	3.72	4.81	3.94	3.30	3.33	3.03
Distillate Fuel	.74	2.24	5.57	6.03	3.79	4.49	4.10	4.57
Kerosene	.81	2.41	6.14	6.32	3.98	4.71	4.30	4.79
LPG	1.28	2.63	5.10	8.66	7.93	7.55	7.44	7.81
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.98	4.75	10.00	8.85	6.48	6.90	6.94	7.60
Residual Fuel	.50	1.86	3.43	4.40	2.61	2.61	2.08	2.31
Other	.78	1.94	4.65	6.23	4.55	4.63	3.83	4.77
Electricity	3.52	5.67	11.00	14.54	15.13	13.35	12.43	11.98
Transportation Sector	2.66	4.35	9.25	8.27	6.03	6.35	6.31	6.91
Primary Energy	2.66	4.35	9.25	8.27	6.03	6.35	6.31	6.91
Coal	.52	1.36	-	-	-	-	-	-
Petroleum	2.67	4.35	9.25	8.27	6.03	6.35	6.31	6.91
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.23	2.69	7.17	8.28	6.46	6.76	6.31	6.89
Jet Fuel	.74	2.08	6.38	5.81	3.80	3.96	3.74	4.33
LPG	1.28	2.63	5.10	8.66	7.93	7.55	7.44	7.81
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.98	4.75	10.00	8.85	6.48	6.90	6.94	7.60
Residual Fuel	.65	1.53	3.87	4.84	3.26	3.22	2.37	2.66
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.43	2.82	5.64	6.94	6.23	6.04	6.01	6.29
Primary Energy — Four Sectors	1.15	2.37	4.78	5.50	4.54	4.45	4.43	4.82
Electricity	5.15	7.08	12.32	16.95	17.74	16.91	16.53	15.92
Electric Utility Sector	.26	.62	1.30	1.66	1.59	1.47	1.44	1.37
Coal	.25	.59	1.27	1.64	1.58	1.47	1.43	1.36
Natural Gas	.35	.82	2.51	4.15	4.54	2.82	2.59	2.70
Petroleum	.58	1.83	5.99	5.87	2.55	2.71	2.37	2.30
Heavy Oil ^b	.75	1.74	-	-	-	-	-	-
Light Oil ^b	.77	2.12	5.99	5.87	3.89	4.12	3.63	4.22
Petroleum Coke	.24	-	-	-	.80	.99	.93	.74
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.93	1.90	3.67	4.14	3.50	3.43	3.36	3.57

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Indiana 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	591.5	971.1	1,771.6	2,467.3	2,489.4	2,461.4	2,669.5	2,737.1
Primary Energy	289.6	493.7	860.9	1,091.0	1,010.0	917.0	1,062.4	1,193.1
Coal	6.3	17.6	4.1	11.3	12.2	11.1	12.7	10.0
Natural Gas	160.3	237.0	516.3	810.4	772.9	688.3	792.6	858.9
Petroleum	123.1	239.1	340.4	269.3	224.9	217.6	257.1	324.2
Distillate Fuel	56.3	129.4	225.8	111.8	95.1	91.8	92.9	84.9
Kerosene	16.6	12.6	23.8	35.3	14.9	13.5	17.7	24.1
LPG	50.2	97.1	90.8	122.2	114.9	112.3	146.5	215.2
Electricity	301.8	477.5	910.8	1,376.4	1,479.4	1,544.4	1,607.0	1,544.0
Commercial Sector	247.2	444.7	854.4	1,246.0	1,233.2	1,218.7	1,423.8	1,434.2
Primary Energy	100.8	180.7	379.3	513.7	420.1	376.9	419.8	450.2
Coal	5.5	17.6	5.0	12.1	12.1	11.0	13.7	11.0
Natural Gas	64.5	87.7	206.9	350.9	320.3	288.8	329.9	351.9
Petroleum	30.7	75.3	167.4	150.7	87.7	77.1	76.3	87.4
Distillate Fuel	16.9	41.9	77.0	92.8	42.2	33.9	28.8	32.2
Kerosene	.8	1.0	1.1	7.3	3.1	1.2	1.7	1.2
LPG	5.4	11.5	11.1	21.3	21.0	20.4	25.8	30.3
Motor Gasoline	3.9	3.0	11.7	16.3	16.6	16.8	16.5	17.1
Residual Fuel	3.7	18.0	66.5	12.9	4.8	4.8	3.4	6.5
Electricity	146.4	264.0	475.1	732.3	813.0	841.8	1,004.0	984.0
Industrial Sector	743.2	1,906.2	3,446.9	3,926.9	3,539.5	3,500.8	3,550.8	3,592.9
Primary Energy	534.2	1,455.4	2,308.3	2,387.8	1,985.3	2,038.1	2,167.9	2,208.1
Coal	228.6	776.8	845.6	744.0	639.3	658.7	770.8	599.7
Coking Coal	151.8	651.7	684.0	560.1	468.5	503.6	612.4	544.0
Steam Coal	76.9	125.1	161.6	183.9	170.7	155.0	158.4	155.7
Natural Gas	123.9	198.3	615.0	829.5	677.9	658.8	789.2	823.1
Petroleum	181.6	480.3	847.7	814.3	668.1	720.7	607.9	685.3
Asphalt and Road Oil	30.7	82.5	127.5	170.2	158.5	166.4	153.5	128.4
Distillate Fuel	43.8	121.5	162.6	157.8	118.2	148.4	101.6	128.2
Kerosene	.5	.8	4.7	7.2	4.6	3.5	2.5	2.3
LPG	6.9	41.0	70.8	97.2	108.6	117.9	89.2	110.9
Lubricants	30.0	38.2	95.5	106.5	92.2	90.8	94.3	118.4
Motor Gasoline	35.0	31.5	39.5	41.9	28.3	30.3	29.3	30.2
Residual Fuel	8.2	84.2	190.3	65.1	53.4	39.2	27.2	37.7
Other	26.5	80.6	156.8	168.4	104.4	124.2	110.4	129.2
Electricity	209.0	510.8	1,138.6	1,539.1	1,554.2	1,462.6	1,382.9	1,384.8
Transportation Sector	975.9	1,828.2	4,003.3	4,234.2	3,286.5	3,593.1	3,461.6	3,920.4
Primary Energy	975.9	1,828.2	4,003.3	4,234.2	3,286.5	3,593.1	3,461.6	3,920.4
Coal	.4	.1	-	-	-	-	-	-
Petroleum	975.5	1,828.2	4,003.3	4,234.2	3,286.5	3,593.1	3,461.6	3,920.4
Aviation Gasoline	4.0	3.8	11.8	19.8	18.4	14.4	16.2	12.0
Distillate Fuel	58.1	175.3	736.5	996.8	805.0	844.2	734.3	981.3
Jet Fuel	10.6	30.4	76.5	507.4	400.2	428.4	350.1	429.8
LPG	.5	1.2	1.6	6.0	5.1	3.9	4.9	5.3
Lubricants	18.8	34.6	60.3	67.2	58.2	57.3	59.5	74.8
Motor Gasoline	882.2	1,579.7	3,111.7	2,636.0	1,998.6	2,242.6	2,294.2	2,413.4
Residual Fuel	1.3	3.2	4.9	.8	1.1	2.4	2.4	3.8
Electricity	-	-	-	-	-	-	-	-
Total Energy*	2,557.8	5,210.3	10,076.3	11,874.4	10,548.6	10,773.9	11,105.7	11,684.6
Primary Energy — Four Sectors	1,900.5	3,958.0	7,551.8	8,226.6	6,702.0	6,925.0	7,111.7	7,771.8
Electricity	657.3	1,252.3	2,524.5	3,647.8	3,846.6	3,848.9	3,993.9	3,912.8
Electric Utility Sector	136.5	372.6	951.4	1,359.6	1,270.9	1,194.4	1,261.8	1,254.3
Coal	123.7	343.1	921.2	1,340.7	1,257.4	1,180.5	1,243.0	1,232.3
Natural Gas	10.3	9.0	4.8	4.7	5.0	3.7	9.0	11.0
Petroleum	2.5	20.6	25.4	14.2	8.5	10.1	9.8	11.1
Heavy Oil ^b	1.0	14.7	-	-	-	-	-	-
Light Oil ^b	1.2	5.9	25.4	14.2	7.3	8.5	8.0	9.1
Petroleum Coke	.4	-	-	-	1.2	1.7	1.8	2.0
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,037.0	4,330.6	8,503.3	9,586.2	7,972.9	8,119.4	8,373.5	9,026.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Iowa 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.36	0.95	1.42	1.52	1.41	1.31	1.28	1.25
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.36	.95	1.42	1.52	1.41	1.31	1.28	1.25
Natural Gas	.57	1.00	2.79	4.60	4.22	3.63	3.80	3.57
Petroleum	2.11	3.74	8.19	8.10	6.59	6.70	6.51	7.50
Asphalt and Road Oil	.72	2.06	3.77	5.03	3.89	3.55	3.46	3.00
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.01	2.45	6.41	6.16	5.47	5.95	5.48	6.27
Jet Fuel	.75	2.09	6.47	6.28	4.36	4.27	4.12	4.57
Kerosene	1.31	2.74	6.23	6.93	5.77	5.80	5.41	5.36
LPG	1.59	3.00	5.57	7.33	7.23	5.87	5.79	6.88
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.59	9.97	9.47	7.13	7.36	7.37	8.40
Residual Fuel	.61	1.88	3.19	4.07	2.86	2.48	2.38	2.25
Other ^a	2.19	3.20	7.69	8.60	7.14	7.78	6.70	8.21
Nuclear Fuel	-	.25	.39	.94	.75	.71	.68	.67
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.19	2.16	4.60	4.93	4.17	3.91	3.82	4.05
Electric Utility Fuel	.30	.75	1.32	1.46	1.31	1.21	1.19	1.17
Electricity Purchased by End Users	6.39	9.11	13.97	19.02	19.25	18.30	17.59	17.30
Total Energy ^b	1.80	3.12	6.73	8.02	7.28	7.05	6.85	7.16
Expenditures in Millions of Dollars								
Coal	47.5	125.4	333.4	407.9	370.6	375.2	390.6	397.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	47.5	125.4	333.4	407.9	370.6	375.2	390.6	397.8
Natural Gas	150.2	332.4	719.9	1,003.4	851.8	713.4	874.1	777.6
Petroleum	730.8	1,403.3	3,032.4	2,746.5	2,241.4	2,135.4	2,182.7	2,428.0
Asphalt and Road Oil	13.9	31.4	42.5	67.6	52.6	42.1	50.8	34.1
Aviation Gasoline	2.8	3.3	8.4	4.2	6.4	4.2	5.4	4.6
Distillate Fuel	80.7	207.6	594.5	555.9	508.6	546.5	508.9	546.1
Jet Fuel	3.0	9.8	29.6	20.9	14.5	18.7	16.5	19.3
Kerosene	3.6	3.3	6.0	9.3	3.8	3.2	2.9	2.3
LPG	66.2	152.2	228.5	372.1	369.0	192.0	213.7	259.6
Lubricants	21.6	29.8	62.2	69.3	60.0	59.1	61.3	77.1
Motor Gasoline	530.1	942.1	1,853.2	1,565.7	1,174.7	1,222.9	1,260.5	1,435.8
Residual Fuel	1.5	7.2	8.3	5.6	11.0	1.9	4.2	3.3
Other ^a	7.4	16.7	199.1	75.9	40.7	44.7	38.2	45.7
Nuclear Fuel	-	6.3	10.9	19.6	24.4	19.3	23.0	22.6
Wood and Waste at Utilities	.3	.4	.5	.5	.2	.7	.5	.2
Primary Energy — Five Sectors	968.7	1,867.8	4,097.0	4,177.3	3,488.4	3,244.0	3,450.9	3,626.2
Electric Utility Fuel	-50.4	-132.5	-313.1	-336.7	-335.2	-326.2	-354.1	-350.1
Electricity Purchased by End Users	337.5	624.4	1,184.5	1,666.6	1,731.1	1,687.4	1,731.0	1,695.7
Total Energy ^b	1,255.8	2,359.7	4,968.4	5,477.7	4,884.3	4,605.2	4,827.8	4,971.2

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Iowa 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.06	3.44	6.87	9.44	9.44	9.82	9.31	9.61
Primary Energy	1.16	1.94	4.09	5.40	5.14	4.76	4.80	5.34
Coal	1.27	3.69	3.31	3.41	3.12	2.89	2.51	2.60
Natural Gas	.96	1.42	3.18	5.33	5.07	4.71	4.76	4.65
Petroleum	1.63	3.25	6.84	5.78	5.47	5.13	5.19	7.69
Distillate Fuel	1.22	2.56	6.79	5.94	5.32	5.33	4.80	4.86
Kerosene	1.57	2.99	8.10	7.33	6.57	6.57	5.92	5.99
LPG	1.85	3.55	6.86	5.62	5.51	5.00	5.31	8.68
Electricity	7.75	10.46	16.13	22.53	22.56	22.91	22.23	22.19
Commercial Sector	1.80	2.94	6.33	9.23	9.38	8.85	8.35	8.39
Primary Energy	.77	1.29	3.38	4.91	4.48	3.88	3.96	3.91
Coal	.41	1.24	1.59	1.66	1.57	1.52	1.42	1.35
Natural Gas	.68	1.05	2.84	4.80	4.41	3.84	4.00	3.87
Petroleum	1.30	2.71	6.57	6.50	5.95	5.33	5.15	5.03
Distillate Fuel	1.05	2.40	6.44	5.10	3.81	4.18	3.41	3.65
Kerosene	.81	2.30	5.52	5.78	4.32	4.95	4.02	4.48
LPG	1.16	2.46	4.88	8.25	8.25	6.45	6.23	5.21
Motor Gasoline	2.83	4.59	9.97	9.47	7.13	7.36	7.37	8.40
Residual Fuel	.66	1.69	3.80	4.07	2.86	2.49	2.38	2.25
Electricity	7.68	10.55	15.93	21.88	21.81	19.95	19.06	18.63
Industrial Sector	1.05	2.01	4.70	6.00	5.51	4.85	4.67	4.38
Primary Energy	.83	1.61	3.97	4.86	4.14	3.51	3.40	3.06
Coal	.41	1.24	1.59	1.66	1.57	1.52	1.42	1.35
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.41	1.24	1.59	1.66	1.57	1.52	1.42	1.35
Natural Gas	.36	.77	2.51	3.87	3.36	2.80	3.09	2.51
Petroleum	1.48	2.85	6.29	7.07	5.78	5.52	4.89	5.19
Asphalt and Road Oil	.72	2.06	3.77	5.03	3.89	3.55	3.46	3.00
Distillate Fuel	.75	2.15	5.28	5.32	3.97	4.56	3.70	4.12
Kerosene	.81	2.30	5.52	5.78	4.32	4.95	4.02	4.48
LPG	1.16	2.46	4.88	8.25	8.25	6.45	6.23	5.21
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.59	9.97	9.47	7.13	7.36	7.37	8.40
Residual Fuel	.57	1.92	2.88	4.07	2.86	2.49	2.38	2.25
Other	2.19	3.20	7.69	8.60	7.14	7.78	6.70	8.21
Electricity	3.87	6.31	10.47	13.50	14.16	12.71	12.15	11.81
Transportation Sector	2.60	4.24	9.34	8.95	7.13	7.31	7.27	8.25
Primary Energy	2.60	4.24	9.34	8.95	7.13	7.31	7.27	8.25
Coal	.41	1.24	-	-	-	-	-	-
Petroleum	2.60	4.24	9.34	8.95	7.13	7.31	7.27	8.25
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.27	2.65	6.97	6.85	6.76	7.01	6.77	7.55
Jet Fuel	.75	2.09	6.47	6.28	4.36	4.27	4.12	4.57
LPG	1.16	2.46	4.88	8.25	8.25	6.45	6.23	5.21
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.59	9.97	9.47	7.13	7.36	7.37	8.40
Residual Fuel	.66	-	-	-	-	2.33	-	2.08
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.80	3.12	6.73	8.02	7.28	7.05	6.85	7.16
Primary Energy — Four Sectors	1.42	2.52	5.79	6.40	5.43	5.20	5.11	5.49
Electricity	6.39	9.11	13.97	19.02	19.25	18.30	17.59	17.30
Electric Utility Sector	.30	.75	1.32	1.48	1.31	1.21	1.19	1.17
Coal	.32	.85	1.39	1.48	1.37	1.25	1.24	1.22
Natural Gas	.27	.68	2.41	3.61	3.42	2.15	2.03	2.67
Petroleum	.74	2.05	5.41	5.88	3.63	4.06	3.72	4.45
Heavy Oil ^b	.70	1.93	3.78	3.99	-	-	-	-
Light Oil ^b	.75	2.11	6.06	5.93	3.63	4.06	3.72	4.45
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.25	.39	.94	.75	.71	.63	.67
Wood and Waste	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.19	2.16	4.60	4.93	4.17	3.91	3.82	4.05

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products." Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Iowa 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	332.2	554.3	1,020.5	1,345.8	1,306.0	1,206.8	1,310.1	1,343.9
Primary Energy	160.9	256.7	467.9	588.4	535.6	421.7	500.1	556.9
Coal	1.6	3.3	2.1	7.1	5.9	7.1	7.3	3.7
Natural Gas	92.9	134.7	271.2	424.1	379.8	309.9	364.6	363.8
Petroleum	66.4	118.8	194.6	157.2	149.8	104.7	128.2	189.3
Distillate Fuel	15.8	26.9	94.5	49.7	43.0	37.8	31.2	30.2
Kerosene	2.9	2.3	2.2	7.3	2.8	1.9	2.4	1.5
LPG	47.6	89.5	98.0	100.2	104.0	65.0	94.7	157.7
Electricity	171.3	297.5	552.6	757.4	770.4	785.1	810.0	787.0
Commercial Sector	151.3	287.6	505.7	780.1	741.3	655.4	699.2	686.0
Primary Energy	55.5	103.3	206.7	309.3	253.9	198.2	235.2	222.0
Coal	1.0	2.0	1.9	6.4	5.5	6.9	7.2	3.5
Natural Gas	39.4	71.1	144.0	231.3	194.7	147.3	181.2	180.4
Petroleum	15.1	30.2	60.8	71.6	53.7	44.0	46.8	38.2
Distillate Fuel	5.5	10.1	28.2	33.4	15.1	18.5	13.6	10.4
Kerosene	.1	.1	.2	.4	.	.1	.1	.2
LPG	5.3	11.0	12.3	26.0	27.5	14.8	19.6	16.7
Motor Gasoline	4.0	7.8	18.3	11.8	10.2	10.3	13.1	10.3
Residual Fuel	.3	1.2	1.9	.	.8	.3	.3	.6
Electricity	95.8	184.3	299.0	470.8	487.4	457.3	464.0	464.0
Industrial Sector	273.1	533.0	1,338.4	1,482.6	1,346.2	1,164.5	1,207.1	1,087.8
Primary Energy	202.6	390.4	1,005.5	1,044.3	873.0	719.4	750.1	643.8
Coal	17.8	35.1	51.6	59.1	55.6	64.8	59.4	72.7
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	17.8	35.1	51.6	59.1	55.6	64.8	59.4	72.7
Natural Gas	36.3	94.6	288.2	340.2	272.6	249.1	317.3	226.9
Petroleum	148.5	260.6	665.7	645.0	544.8	405.5	373.5	344.1
Asphalt and Road Oil	13.9	31.4	42.5	67.6	52.6	42.1	50.8	34.1
Distillate Fuel	25.8	58.6	144.4	148.4	135.4	131.6	110.8	98.7
Kerosene	.7	.9	3.7	1.6	1.0	1.2	.5	.7
LPG	13.0	51.2	117.6	242.4	232.4	111.0	98.2	84.0
Lubricants	6.8	7.0	16.7	18.6	16.1	15.9	16.5	20.7
Motor Gasoline	80.0	91.5	136.7	84.8	56.5	57.5	54.6	57.5
Residual Fuel	.9	3.4	5.0	5.5	10.2	1.5	3.8	2.7
Other	7.4	16.7	199.1	75.9	40.7	44.7	38.2	45.7
Electricity	70.5	142.6	332.9	438.4	473.2	445.1	457.0	444.0
Transportation Sector	499.2	984.9	2,103.8	1,869.2	1,490.8	1,578.4	1,611.5	1,853.5
Primary Energy	499.2	984.9	2,103.8	1,869.2	1,490.8	1,578.4	1,611.5	1,853.5
Coal	.	.	-	-	-	-	-	-
Petroleum	499.2	984.9	2,103.8	1,869.2	1,490.8	1,578.4	1,611.5	1,853.5
Aviation Gasoline	2.8	3.3	8.4	4.2	6.4	4.2	5.4	4.6
Distillate Fuel	32.2	105.7	321.6	320.9	312.8	355.8	350.6	403.9
Jet Fuel	3.0	9.8	29.6	20.9	14.5	18.7	16.5	19.3
LPG	.3	.5	.6	3.5	5.1	1.2	1.3	1.2
Lubricants	14.8	22.7	45.4	50.7	43.9	43.2	44.9	56.4
Motor Gasoline	446.0	842.8	1,698.2	1,469.1	1,108.0	1,155.2	1,192.8	1,368.0
Residual Fuel	.1	-	-	-	-	.2	-	.
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,255.8	2,359.7	4,968.4	5,477.7	4,884.3	4,605.2	4,827.8	4,971.2
Primary Energy — Four Sectors	918.3	1,735.3	3,783.9	3,811.2	3,153.2	2,917.8	3,096.8	3,276.1
Electricity	337.5	624.4	1,184.5	1,666.6	1,731.1	1,687.4	1,731.0	1,695.0
Electric Utility Sector	50.4	132.5	313.1	366.7	335.2	326.2	354.1	350.1
Coal	27.0	85.0	277.7	335.3	303.6	296.4	316.7	317.9
Natural Gas	21.5	32.0	16.6	7.7	4.7	7.1	11.1	6.5
Petroleum	1.6	8.8	7.4	3.6	2.2	2.7	2.7	2.9
Heavy Oil ^b	.2	2.6	1.5	.1	-	-	-	-
Light Oil ^b	1.4	6.2	5.9	3.5	2.2	2.7	2.7	2.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	6.3	10.9	19.6	24.4	19.3	23.0	22.6
Wood and Waste	.3	.4	.5	.5	.2	.7	.5	.2
Primary Energy — Five Sectors	968.7	1,867.8	4,097.0	4,177.9	3,488.4	3,244.0	3,450.9	3,626.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Kansas 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.34	0.68	1.08	1.41	1.33	1.27	1.24	1.24
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.34	.68	1.08	1.41	1.33	1.27	1.24	1.24
Natural Gas	.39	.67	2.14	3.58	3.30	3.15	3.03	3.36
Petroleum	1.96	3.41	7.38	7.20	6.31	6.45	6.11	6.90
Asphalt and Road Oil	.74	2.10	4.02	5.22	3.88	3.70	3.49	3.00
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.99	2.43	6.52	6.42	5.54	5.66	5.16	6.30
Jet Fuel	.75	2.09	6.47	5.94	3.73	4.01	3.81	4.27
Kerosene	.96	2.61	5.25	6.76	4.72	3.44	3.49	5.82
LPG	1.27	2.65	4.41	4.39	7.93	7.43	7.38	7.29
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.64	4.50	9.27	9.28	6.72	7.05	6.78	7.66
Residual Fuel	.47	1.60	3.24	3.90	2.28	2.36	1.87	2.05
Other ^a	.68	1.65	3.72	5.81	6.35	6.22	5.28	6.11
Nuclear Fuel	-	-	-	.84	.63	.51	.45	.32
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.98	1.88	3.87	4.29	3.76	3.71	3.61	3.83
Electric Utility Fuel	.30	.72	1.38	1.44	1.22	1.16	1.13	1.04
Electricity Purchased by End Users	5.74	7.72	13.75	19.07	20.53	20.06	19.22	18.83
Total Energy ^b	1.54	2.86	5.93	7.23	7.01	6.91	6.68	7.25
Expenditures in Millions of Dollars								
Coal	3.7	42.5	207.0	365.8	334.3	340.5	334.5	330.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	3.7	42.5	207.0	365.8	334.3	340.5	334.5	330.4
Natural Gas	175.6	248.1	808.1	960.1	768.5	809.7	772.4	828.8
Petroleum	532.9	1,160.4	2,501.4	2,676.8	2,353.4	2,403.7	2,465.4	2,623.0
Asphalt and Road Oil	10.7	30.1	80.5	58.9	68.4	64.2	101.4	61.9
Aviation Gasoline	3.6	3.1	10.1	6.9	6.9	4.6	5.5	6.5
Distillate Fuel	43.3	159.8	560.3	561.8	461.6	550.4	498.4	578.8
Jet Fuel	6.4	15.0	89.3	147.6	148.2	96.7	89.2	91.5
Kerosene	1.7	1.5	14.6	3.3	2.0	1.2	.7	2.0
LPG	37.1	83.9	131.0	358.7	506.6	448.9	514.6	500.4
Lubricants	20.2	35.1	88.1	98.3	85.1	83.8	86.9	109.2
Motor Gasoline	399.6	756.2	1,440.7	1,375.2	1,005.0	1,077.4	1,099.1	1,200.6
Residual Fuel	1.5	49.8	17.9	1.6	5.8	4.0	7.6	4.7
Other ^a	8.8	25.8	69.1	64.4	63.9	72.6	62.0	67.4
Nuclear Fuel	-	-	-	34.9	47.7	35.7	32.4	33.3
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	712.2	1,451.0	3,516.5	4,037.6	3,504.0	3,589.7	3,604.7	3,815.5
Electric Utility Fuel	-53.9	-159.5	-394.3	-453.4	-412.3	-405.4	-404.4	-400.5
Electricity Purchased by End Users	259.0	444.0	986.7	1,520.6	1,656.3	1,658.4	1,680.9	1,646.7
Total Energy ^b	917.3	1,735.4	4,108.8	5,104.9	4,748.0	4,842.6	4,881.3	5,061.6

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Kansas 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.68	2.53	5.48	8.63	9.47	9.25	9.24	9.37
Primary Energy	.82	1.39	2.79	4.38	4.08	3.97	4.15	4.61
Coal	.91	-	2.15	2.31	2.33	1.94	1.80	1.85
Natural Gas	.69	1.05	2.38	4.12	3.95	3.90	4.08	4.20
Petroleum	1.52	3.27	6.83	6.54	5.38	4.70	4.81	8.50
Distillate Fuel	1.19	2.62	6.85	6.43	5.45	3.53	3.55	6.16
Kerosene	1.40	2.84	7.68	7.47	6.33	4.09	4.12	7.15
LPG	1.53	3.30	6.83	6.52	5.37	4.73	4.84	8.57
Electricity	7.17	9.23	15.75	21.98	24.01	23.63	22.94	22.46
Commercial Sector	1.56	2.75	5.62	8.46	8.93	8.70	8.36	8.61
Primary Energy	.53	.89	2.27	3.42	3.11	3.04	3.21	3.35
Coal	.45	-	1.32	1.69	1.74	1.58	1.42	1.28
Natural Gas	.46	.68	1.91	3.15	2.90	2.88	3.07	3.16
Petroleum	1.22	2.63	6.51	5.73	5.73	5.42	4.98	5.92
Distillate Fuel	1.03	2.45	6.49	5.52	3.85	2.77	2.52	4.54
Kerosene	.69	2.27	5.22	6.12	4.20	3.21	2.91	5.20
LPG	.83	1.91	3.58	4.14	8.25	7.76	7.73	7.13
Motor Gasoline	2.64	4.50	9.27	9.28	6.72	7.05	6.78	7.66
Residual Fuel	.50	1.56	-	-	2.28	2.36	1.67	2.04
Electricity	6.02	8.26	14.81	19.87	21.03	20.37	19.25	19.17
Industrial Sector	.77	1.83	3.92	5.23	5.97	5.43	5.19	5.70
Primary Energy	.59	1.42	3.24	4.30	4.91	4.41	4.19	4.70
Coal	.45	.92	1.32	1.69	1.74	1.58	1.42	1.28
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.45	.92	1.32	1.69	1.74	1.58	1.42	1.28
Natural Gas	.27	.55	2.35	3.54	3.17	2.93	2.39	3.08
Petroleum	1.22	2.46	4.70	5.16	6.43	5.98	5.61	6.08
Asphalt and Road Oil	.74	2.10	4.02	5.22	3.88	3.70	3.49	3.00
Distillate Fuel	.64	2.13	4.99	5.76	3.95	3.02	2.74	4.89
Kerosene	.69	2.27	5.22	6.12	4.20	3.21	2.91	5.20
LPG	.83	1.91	3.58	4.14	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.64	4.50	9.27	9.28	6.72	7.05	6.78	7.66
Residual Fuel	.43	1.84	2.53	3.86	2.28	2.36	1.67	2.04
Other	.68	1.65	3.72	5.81	6.35	6.22	5.28	6.11
Electricity	3.50	5.62	10.68	14.74	15.76	15.33	14.68	14.17
Transportation Sector	2.34	4.13	8.58	8.38	6.30	6.75	6.47	7.30
Primary Energy	2.34	4.13	8.58	8.38	6.30	6.75	6.47	7.30
Coal	.45	.92	-	-	-	-	-	-
Petroleum	2.34	4.13	8.58	8.38	6.30	6.75	6.47	7.30
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.18	2.70	7.05	6.75	6.43	6.69	6.21	6.87
Jet Fuel	.75	2.09	6.47	5.94	3.73	4.01	3.81	4.27
LPG	.83	1.91	3.58	4.14	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.64	4.50	9.27	9.28	6.72	7.05	6.78	7.66
Residual Fuel	.49	1.66	3.82	-	2.34	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.54	2.86	5.93	7.23	7.01	6.91	6.68	7.25
Primary Energy — Four Sectors	1.20	2.35	5.02	5.72	5.19	5.15	4.98	5.59
Electricity	5.74	7.72	13.75	19.07	20.53	20.06	19.22	18.83
Electric Utility Sector	.30	.72	1.38	1.44	1.22	1.16	1.13	1.04
Coal	.31	.67	1.07	1.40	1.32	1.27	1.24	1.24
Natural Gas	.30	.48	1.78	2.88	2.50	2.18	2.06	1.88
Petroleum	.52	1.69	4.60	5.39	3.27	3.62	3.12	3.81
Heavy Oil ^b	.47	1.55	3.78	3.99	2.33	2.39	2.73	2.13
Light Oil ^b	.62	2.08	5.74	5.55	3.36	3.87	3.43	4.33
Petroleum Coke	-	.65	-	-	-	-	-	-
Nuclear Fuel	-	-	-	.84	.63	.51	.45	.32
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.98	1.88	3.87	4.29	3.76	3.71	3.61	3.83

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Kansas 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	226.7	338.9	646.6	998.6	997.3	1,011.7	1,062.6	1,068.1
Primary Energy	95.9	159.5	260.4	384.0	313.7	317.1	348.6	386.2
Coal	.1	-	.1	.	.	.	.	.1
Natural Gas	66.7	101.2	201.9	322.7	274.8	284.9	307.2	317.1
Petroleum	29.2	58.3	58.4	61.3	38.9	32.2	41.3	69.0
Distillate Fuel	.4	1.5	6.0	2.5	.8	.4	.6	1.1
Kerosene	.9	1.0	.2	1.7	.7	.4	.4	.8
LPG	27.9	55.9	52.2	57.1	37.5	31.4	40.3	67.1
Electricity	130.8	179.4	386.2	614.6	683.6	694.6	714.0	682.0
Commercial Sector	112.0	208.4	488.0	770.3	783.8	776.6	799.3	806.5
Primary Energy	30.6	50.3	144.1	216.1	184.0	182.6	208.3	209.5
Coal	.1	-	.1	.	.	.	.	.1
Natural Gas	23.9	34.7	111.7	178.0	159.6	161.9	185.2	183.9
Petroleum	6.6	15.6	32.3	38.0	24.4	20.7	23.1	25.5
Distillate Fuel	.7	3.0	13.6	22.5	7.7	4.4	5.7	8.8
Kerosene	.1	.2	.3	.5	.2	.2	.1	.5
LPG	2.7	5.7	4.8	6.4	10.2	9.1	11.3	9.8
Motor Gasoline	3.0	6.3	13.6	8.6	6.2	7.0	5.9	6.2
Residual Fuel	.1	.4	-	-	.1	.	.	.2
Electricity	81.4	158.1	343.9	554.2	599.8	593.9	591.0	597.0
Industrial Sector	163.3	357.7	1,025.1	1,406.5	1,446.5	1,398.1	1,387.0	1,404.8
Primary Energy	116.5	251.2	768.6	1,054.7	1,073.6	1,028.4	1,011.1	1,037.1
Coal	1.0	2.5	9.4	13.1	9.7	8.7	6.5	5.2
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.0	2.5	9.4	13.1	9.7	8.7	6.5	5.2
Natural Gas	35.5	51.5	322.0	400.3	297.7	328.4	241.3	291.1
Petroleum	80.0	197.1	437.1	641.3	766.1	691.3	763.3	740.8
Asphalt and Road Oil	10.7	30.1	80.5	58.9	68.4	64.2	101.4	61.9
Distillate Fuel	9.4	43.8	101.0	130.8	104.8	75.4	70.9	111.7
Kerosene	.6	.3	14.1	1.1	1.1	.6	.2	.7
LPG	5.4	19.7	72.5	293.4	455.3	405.0	458.1	417.5
Lubricants	6.4	11.5	35.5	39.6	34.3	33.8	35.1	44.1
Motor Gasoline	38.5	56.8	58.3	51.9	32.8	36.1	30.2	33.7
Residual Fuel	.2	9.0	6.1	1.1	5.4	3.6	5.5	3.8
Other	8.8	25.8	69.1	64.4	63.9	72.6	62.0	67.4
Electricity	46.8	106.5	256.6	351.8	372.9	369.8	375.9	367.7
Transportation Sector	415.3	830.4	1,949.1	1,929.5	1,520.4	1,656.2	1,632.4	1,782.2
Primary Energy	415.3	830.4	1,949.1	1,929.5	1,520.4	1,656.2	1,632.4	1,782.2
Coal	.	.	-	-	-	-	-	-
Petroleum	415.3	830.4	1,949.1	1,929.5	1,520.4	1,656.2	1,632.4	1,782.2
Aviation Gasoline	3.6	3.1	10.1	6.9	6.9	4.6	5.5	6.5
Distillate Fuel	32.2	92.9	426.9	399.8	344.9	467.2	418.1	452.3
Jet Fuel	6.4	15.0	89.3	147.6	148.2	96.7	89.2	91.5
LPG	1.1	2.6	1.5	1.8	3.6	3.4	4.8	5.9
Lubricants	13.8	23.6	52.5	58.6	50.8	50.0	51.9	65.2
Motor Gasoline	358.2	693.1	1,368.8	1,314.7	966.1	1,034.3	1,063.0	1,160.7
Residual Fuel	.	.2	.	-	.	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	917.3	1,735.4	4,108.8	5,104.9	4,748.0	4,842.6	4,881.3	5,061.6
Primary Energy — Four Sectors	658.3	1,291.5	3,122.2	3,584.2	3,091.7	3,184.2	3,200.4	3,415.0
Electricity	259.0	444.0	986.7	1,520.6	1,656.3	1,658.4	1,680.9	1,646.7
Electric Utility Sector	53.9	159.5	394.3	453.4	412.3	405.4	404.4	400.5
Coal	2.6	39.9	197.4	352.6	324.6	331.9	328.0	324.9
Natural Gas	49.5	60.6	172.4	59.1	36.4	34.5	38.6	36.7
Petroleum	1.8	58.9	24.5	6.8	3.6	3.3	5.3	5.5
Heavy Oil ^b	1.1	40.3	11.7	.5	.2	.4	2.1	.7
Light Oil ^b	.6	18.6	12.8	6.3	3.4	3.0	3.2	4.8
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	34.9	47.7	35.7	32.4	33.3
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	712.2	1,451.0	3,516.5	4,037.6	3,504.0	3,589.7	3,604.7	3,815.5

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Kentucky 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.26	0.75	1.37	1.48	1.39	1.33	1.26	1.22
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.73	1.75
Steam Coal	.25	.70	1.35	1.46	1.38	1.32	1.24	1.20
Natural Gas	.65	1.02	2.85	4.77	4.38	3.91	3.89	4.07
Petroleum	2.12	3.81	7.82	7.87	6.26	6.64	6.53	7.07
Asphalt and Road Oil	.67	1.80	3.56	4.74	4.90	3.19	3.05	2.86
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.21	2.58	6.41	6.81	5.39	5.91	5.81	6.49
Jet Fuel	.73	2.03	6.39	6.17	4.39	4.16	3.93	4.45
Kerosene	1.42	2.94	7.55	7.76	4.90	5.33	5.49	6.15
LPG	1.90	3.60	5.85	6.90	7.22	8.09	7.37	6.56
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.69	9.65	8.80	6.69	7.36	7.42	8.08
Residual Fuel	.56	2.06	3.64	4.89	3.08	2.98	2.91	3.05
Other ^a	1.06	2.45	6.80	7.21	6.80	6.04	5.18	5.95
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.94	1.88	4.00	4.00	3.31	3.40	3.29	3.60
Electric Utility Fuel	.22	.64	1.32	1.43	1.34	1.26	1.20	1.14
Electricity Purchased by End Users	3.37	5.32	10.07	14.84	15.26	15.18	15.08	14.17
Total Energy^b	1.66	3.27	6.73	8.02	7.25	7.36	7.30	7.47
Expenditures in Millions of Dollars								
Coal	138.9	421.0	878.8	1,061.1	1,045.4	993.4	1,033.7	933.9
Coking Coal	16.4	52.1	44.0	60.5	52.2	57.1	60.5	60.6
Steam Coal	122.4	368.8	834.8	1,000.6	993.2	936.2	973.2	873.3
Natural Gas	136.7	185.7	511.8	722.4	630.7	587.4	637.0	689.6
Petroleum	760.5	1,551.3	3,867.9	3,433.8	2,716.2	3,011.0	3,176.9	3,547.4
Asphalt and Road Oil	13.8	31.3	47.8	58.9	74.3	57.2	53.0	52.4
Aviation Gasoline	3.6	2.2	5.1	3.3	3.6	2.4	2.3	2.2
Distillate Fuel	58.0	164.1	855.7	863.2	640.8	705.8	835.7	1,063.4
Jet Fuel	12.6	24.6	104.4	119.3	87.8	113.5	110.8	127.7
Kerosene	24.9	26.3	124.6	100.8	30.5	17.2	27.3	35.6
LPG	67.5	143.7	216.4	179.9	170.2	224.4	214.1	182.2
Lubricants	26.0	47.6	92.1	102.7	88.9	87.5	90.9	114.2
Motor Gasoline	517.3	1,005.6	2,019.1	1,845.7	1,494.7	1,658.9	1,722.4	1,841.4
Residual Fuel	3.2	11.1	20.9	13.4	11.8	11.9	8.1	8.8
Other ^a	33.5	94.9	381.9	146.5	113.6	132.0	112.3	119.6
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,036.0	2,158.0	5,258.5	5,217.2	4,392.3	4,591.7	4,847.5	5,170.9
Electric Utility Fuel	-90.6	-309.8	-743.7	-883.4	-886.1	-832.6	-884.5	-768.0
Electricity Purchased by End Users	354.9	852.2	1,698.6	2,528.3	2,552.6	2,596.4	2,747.0	2,792.2
Total Energy^b	1,300.3	2,700.5	6,213.4	6,862.1	6,058.8	6,355.5	6,710.0	7,195.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Kentucky 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.87	3.21	6.84	10.06	9.81	9.69	9.46	9.81
Primary Energy	1.08	1.77	4.13	5.99	5.24	5.05	4.93	5.48
Coal	.86	1.91	2.30	2.45	2.29	2.12	2.04	2.01
Natural Gas	.81	1.22	3.00	5.15	4.75	4.37	4.32	4.50
Petroleum	1.98	3.69	8.10	8.78	7.40	7.67	7.29	9.16
Distillate Fuel	1.19	2.49	6.89	7.67	5.10	5.25	5.60	6.14
Kerosene	1.73	3.13	8.52	8.19	5.45	5.61	5.98	6.56
LPG	2.36	4.16	8.31	9.78	9.15	8.93	8.34	11.02
Electricity	5.85	7.83	12.91	17.06	16.94	16.68	16.60	16.51
Commercial Sector	1.51	2.55	5.96	7.93	7.81	9.09	8.63	8.97
Primary Energy	.75	1.43	4.01	5.18	4.31	4.21	4.04	4.19
Coal	.44	1.30	1.75	1.88	1.79	2.00	1.76	1.83
Natural Gas	.66	1.05	2.89	4.95	4.55	4.11	4.06	4.19
Petroleum	1.34	2.88	6.53	6.78	4.61	5.98	5.19	5.17
Distillate Fuel	1.02	2.29	6.49	6.58	3.65	4.12	3.98	4.61
Kerosene	.79	2.53	6.08	7.22	4.00	4.73	4.55	5.48
LPG	1.65	3.29	5.22	5.26	5.91	7.44	6.64	3.18
Motor Gasoline	2.93	4.69	9.65	8.80	6.69	7.36	7.42	8.08
Residual Fuel	.78	1.69	4.12	4.89	3.08	2.98	2.91	3.05
Electricity	5.48	5.26	10.42	12.34	12.94	15.63	15.30	15.13
Industrial Sector	.99	2.63	5.23	7.06	6.76	6.30	6.37	6.10
Primary Energy	.70	1.80	4.09	4.34	3.64	3.64	3.49	3.49
Coal	.42	1.44	1.77	1.90	1.78	1.84	1.74	1.80
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.73	1.75
Steam Coal	.44	1.30	1.75	1.88	1.79	2.00	1.76	1.83
Natural Gas	.48	.75	2.66	4.25	3.79	3.27	3.32	3.55
Petroleum	1.17	2.65	5.91	6.80	5.41	5.38	5.08	5.13
Asphalt and Road Oil	.67	1.80	3.56	4.74	4.90	3.19	3.05	2.86
Distillate Fuel	.73	2.31	5.43	6.87	3.81	4.49	4.32	5.21
Kerosene	.79	2.53	6.08	7.22	4.00	4.73	4.55	5.48
LPG	1.65	3.29	5.22	5.26	5.91	7.44	6.64	3.18
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.69	9.65	8.80	6.69	7.36	7.42	8.08
Residual Fuel	.44	2.11	3.58	4.89	3.08	2.98	2.91	3.05
Other	1.06	2.45	6.80	7.21	6.80	6.04	5.18	5.95
Electricity	2.16	4.56	8.63	14.51	15.14	13.98	14.00	12.46
Transportation Sector	2.58	4.34	8.82	8.19	6.50	6.98	6.92	7.47
Primary Energy	2.58	4.34	8.82	8.19	6.50	6.98	6.92	7.47
Coal	.44	1.30	-	-	-	-	-	-
Petroleum	2.58	4.34	8.82	8.19	6.50	6.98	6.92	7.47
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.45	2.78	6.86	6.78	6.16	6.61	6.40	6.86
Jet Fuel	.73	2.03	6.39	6.17	4.39	4.16	3.93	4.45
LPG	1.65	3.29	5.22	5.26	5.91	7.44	6.64	3.18
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.69	9.65	8.80	6.69	7.36	7.42	8.08
Residual Fuel	.77	1.46	3.94	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.68	3.27	6.73	8.02	7.25	7.36	7.30	7.47
Primary Energy — Four Sectors	1.39	2.77	5.99	6.33	5.25	5.43	5.38	5.75
Electricity	3.37	5.32	10.07	14.84	15.26	15.18	15.08	14.17
Electric Utility Sector	.22	.64	1.32	1.43	1.34	1.26	1.20	1.14
Coal	.21	.64	1.31	1.41	1.34	1.26	1.20	1.14
Natural Gas	.29	.68	2.16	3.54	2.97	2.78	2.46	2.67
Petroleum	.88	1.72	6.54	5.80	3.50	4.07	3.85	4.75
Heavy Oil ^b	.87	1.69	-	-	-	-	-	-
Light Oil ^b	1.12	2.25	6.54	5.80	3.50	4.07	3.85	4.75
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.94	1.88	4.00	4.00	3.31	3.40	3.29	3.60

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Kentucky 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	268.1	441.0	986.8	1,358.4	1,311.6	1,332.5	1,397.6	1,443.7
Primary Energy	128.6	185.0	410.9	512.2	426.8	417.3	445.6	490.7
Coal	3.8	4.6	5.6	5.2	5.7	5.3	6.3	3.9
Natural Gas	71.6	97.1	224.9	318.9	292.7	267.7	286.8	304.6
Petroleum	53.1	83.2	180.4	188.1	128.4	144.4	152.5	182.2
Distillate Fuel	2.8	6.4	32.9	36.8	20.3	23.2	28.9	26.7
Kerosene	20.4	19.0	84.6	58.9	20.9	12.5	19.7	23.5
LPG	30.0	57.8	63.0	92.5	87.2	108.7	103.9	132.0
Electricity	139.6	256.0	575.9	846.2	884.7	915.1	952.0	953.0
Commercial Sector	111.2	193.0	563.7	668.4	650.6	744.0	782.5	798.2
Primary Energy	46.5	76.6	263.8	269.7	212.9	197.6	217.5	210.2
Coal	3.5	5.6	7.7	7.4	8.4	9.2	10.1	6.6
Natural Gas	28.3	40.8	114.9	172.1	154.4	141.8	150.4	157.2
Petroleum	14.6	30.2	141.1	90.2	50.1	46.5	57.0	46.3
Distillate Fuel	5.0	12.2	99.6	58.3	21.8	12.8	22.6	17.4
Kerosene	1.8	3.0	21.4	5.7	3.4	1.6	3.3	5.5
LPG	3.7	8.1	7.0	8.8	9.9	16.0	14.6	6.7
Motor Gasoline	4.1	6.8	12.7	17.5	14.2	16.2	15.8	16.7
Residual Fuel	.1	.1	.5	.	.7	.	.8	.
Electricity	64.8	116.4	299.9	398.7	437.7	546.5	565.0	588.0
Industrial Sector	340.8	920.0	1,991.8	2,336.0	2,024.1	1,985.9	2,045.5	2,109.5
Primary Energy	190.3	440.1	1,168.9	1,052.6	794.1	851.1	815.5	858.3
Coal	44.0	102.3	134.6	178.3	151.3	152.5	138.4	162.6
Coking Coal	16.4	52.1	44.0	60.5	52.2	57.1	60.5	60.6
Steam Coal	27.5	50.1	90.6	117.9	99.2	95.4	77.9	102.0
Natural Gas	34.3	47.5	167.8	227.4	182.3	176.9	198.6	226.9
Petroleum	112.0	290.3	866.6	646.9	460.5	521.7	478.4	468.8
Asphalt and Road Oil	13.8	31.3	47.8	58.9	74.3	57.2	53.0	52.4
Distillate Fuel	8.9	44.7	203.6	224.3	110.1	142.4	131.0	145.2
Kerosene	2.7	4.2	18.6	36.3	6.1	3.2	4.4	6.6
LPG	33.5	77.0	146.2	76.3	71.0	97.7	93.5	42.5
Lubricants	14.6	23.5	46.9	52.4	45.3	44.6	46.3	58.2
Motor Gasoline	3.2	4.8	4.5	39.0	28.9	32.6	30.6	35.6
Residual Fuel	1.8	9.9	17.1	13.4	11.1	11.9	7.4	8.8
Other	33.5	94.9	381.9	146.5	113.6	132.0	112.3	119.6
Electricity	150.5	479.9	822.8	1,283.4	1,230.1	1,134.8	1,230.0	1,251.2
Transportation Sector	580.1	1,146.5	2,671.1	2,499.4	2,072.5	2,293.1	2,484.5	2,843.7
Primary Energy	580.1	1,146.5	2,671.1	2,499.4	2,072.5	2,293.1	2,484.5	2,843.7
Coal	.1	.	-	-	-	-	-	-
Petroleum	580.0	1,146.5	2,671.1	2,499.4	2,072.5	2,293.1	2,484.5	2,843.7
Aviation Gasoline	3.6	2.2	5.1	3.3	3.6	2.4	2.3	2.2
Distillate Fuel	41.4	100.8	511.0	534.7	483.8	522.1	648.7	867.7
Jet Fuel	12.6	24.6	104.4	119.3	87.8	113.5	110.8	127.7
LPG	.3	.8	.2	2.4	2.1	2.1	2.1	1.0
Lubricants	11.4	24.1	45.1	50.3	43.6	42.9	44.5	56.0
Motor Gasoline	510.0	994.0	2,002.0	1,789.3	1,451.6	1,610.1	1,676.0	1,789.1
Residual Fuel	.7	.	3.4	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,300.3	2,700.5	6,213.4	6,862.1	6,058.8	6,355.5	6,710.0	7,195.1
Primary Energy — Four Sectors	945.4	1,848.2	4,514.8	4,333.9	3,506.2	3,759.1	3,963.0	4,402.8
Electricity	354.9	852.2	1,698.6	2,528.3	2,552.6	2,596.4	2,747.0	2,792.2
Electric Utility Sector	90.6	309.8	743.7	883.4	886.1	832.6	884.5	768.0
Coal	87.4	308.4	730.9	870.2	879.9	826.3	878.9	760.8
Natural Gas	2.5	.2	4.2	4.1	1.3	1.0	1.1	.9
Petroleum	.7	1.2	8.6	9.1	4.8	5.3	4.5	6.4
Heavy Oil ^b	.7	1.1	-	-	-	-	-	-
Light Oil ^b	.	.1	8.6	9.1	4.8	5.3	4.5	6.4
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,036.0	2,158.0	5,258.5	5,217.2	4,392.3	4,591.7	4,847.5	5,170.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Louisiana 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	-	-	1.26	2.14	1.80	1.66	1.57	1.62
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	1.26	2.14	1.80	1.66	1.57	1.62
Natural Gas	0.27	0.75	1.61	3.09	2.15	2.00	2.14	2.13
Petroleum	1.48	2.80	5.98	6.05	4.73	5.04	4.84	5.26
Asphalt and Road Oil	.66	1.78	3.62	4.17	4.57	3.15	3.14	2.89
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.86	2.34	6.02	5.01	4.84	5.45	5.61	6.12
Jet Fuel	.72	2.01	6.34	5.70	3.67	3.90	3.61	4.12
Kerosene	.60	2.02	5.53	3.49	3.68	4.82	5.19	5.77
LPG	1.12	2.52	5.30	5.13	5.69	5.85	5.78	5.51
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.43	9.89	9.36	7.04	7.14	7.25	7.90
Residual Fuel	.45	1.62	3.31	3.83	1.68	2.62	2.24	2.40
Other ^a	.71	2.41	6.28	6.57	3.81	4.62	3.86	4.71
Nuclear Fuel	-	-	-	.86	1.04	.97	.92	.90
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.85	1.80	3.70	4.46	3.30	3.38	3.34	3.44
Electric Utility Fuel	.21	.73	2.19	2.46	1.67	1.46	1.44	1.51
Electricity Purchased by End Users	4.69	6.24	11.49	18.25	17.40	17.33	17.30	17.64
Total Energy ^b	.94	2.03	4.50	6.22	5.00	5.08	5.07	5.18
Expenditures in Millions of Dollars								
Coal	-	-	3.1	340.0	308.6	286.7	332.9	335.6
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	3.1	340.0	308.6	286.7	332.9	335.6
Natural Gas	376.4	1,036.2	2,396.3	3,152.5	2,249.7	2,095.4	2,203.4	2,430.6
Petroleum	966.1	2,706.2	8,193.6	7,122.0	5,671.5	6,253.4	6,321.6	6,374.8
Asphalt and Road Oil	9.7	33.2	46.8	50.8	54.3	47.5	49.9	44.4
Aviation Gasoline	4.9	5.1	11.6	8.6	7.0	5.0	4.6	4.8
Distillate Fuel	59.1	268.9	752.1	980.8	984.5	1,162.3	1,270.6	1,319.7
Jet Fuel	23.4	67.9	306.8	410.5	369.3	415.1	435.5	518.2
Kerosene	8.5	27.7	179.2	34.7	63.3	30.9	138.0	56.1
LPG	199.3	481.4	1,012.5	1,196.6	1,131.2	1,101.5	1,051.9	790.4
Lubricants	49.0	82.9	174.1	194.3	168.2	165.6	171.9	215.9
Motor Gasoline	523.4	1,018.8	2,449.2	2,424.2	1,847.2	1,804.3	1,862.1	1,944.6
Residual Fuel	31.1	280.0	1,265.9	975.2	352.2	707.8	625.3	628.4
Other ^a	57.7	440.3	1,995.3	846.3	694.1	813.4	711.8	852.2
Nuclear Fuel	-	-	-	22.9	119.4	128.5	135.7	119.8
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,342.5	3,742.4	10,593.0	10,637.4	8,349.1	8,763.9	8,993.6	9,260.7
Electric Utility Fuel	-72.9	-303.4	-1,079.1	-1,168.2	-942.4	-811.9	-886.9	-881.3
Electricity Purchased by End Users	435.9	710.5	1,899.6	3,664.5	3,408.9	3,379.5	3,430.5	3,604.0
Total Energy ^b	1,705.6	4,149.5	11,413.5	13,133.7	10,815.6	11,331.6	11,537.1	11,983.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Louisiana
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.29	3.31	7.84	12.97	13.47	13.30	13.42	14.00
Primary Energy	.90	1.55	3.56	5.59	5.81	5.59	5.81	6.10
Coal	-	-	2.97	-	-	-	-	-
Natural Gas	.75	1.33	3.28	5.47	5.56	5.35	5.51	5.72
Petroleum	2.19	4.36	8.52	7.10	8.61	8.80	9.40	9.76
Distillate Fuel	.96	2.24	6.65	3.24	5.05	5.00	6.69	5.62
Kerosene	1.60	3.40	-	4.77	7.44	7.37	9.85	8.28
LPG	2.20	4.39	8.54	7.68	8.99	9.13	9.28	10.44
Electricity	6.58	7.96	13.81	20.27	20.75	21.05	20.89	21.50
Commercial Sector	1.62	2.89	5.54	11.33	10.96	11.32	11.69	11.92
Primary Energy	.48	1.25	3.40	4.22	3.94	4.10	4.42	4.03
Coal	-	-	1.24	-	-	-	1.85	-
Natural Gas	.37	.77	2.60	5.09	5.05	4.78	4.94	5.04
Petroleum	1.04	2.19	3.77	3.53	3.09	3.47	3.96	3.09
Distillate Fuel	.89	2.14	6.36	2.85	3.20	3.95	4.66	4.19
Kerosene	.59	2.01	5.53	3.35	3.40	4.42	4.97	5.17
LPG	1.06	2.44	5.22	5.08	5.62	5.79	5.70	5.36
Motor Gasoline	2.86	4.49	9.89	9.36	7.04	7.14	7.25	7.90
Residual Fuel	.49	1.76	3.55	4.12	2.14	2.67	1.91	2.29
Electricity	5.07	6.99	12.08	20.24	19.24	19.25	19.56	19.99
Industrial Sector	.48	1.40	3.30	4.59	3.45	3.51	3.48	3.44
Primary Energy	.42	1.32	3.07	3.95	2.93	3.02	2.98	2.91
Coal	-	-	1.24	1.46	1.83	2.03	1.85	1.55
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	1.24	1.46	1.83	2.03	1.85	1.55
Natural Gas	.23	.74	1.24	2.92	1.84	1.73	1.91	1.89
Petroleum	.97	2.41	5.67	5.11	4.27	4.53	4.16	4.49
Asphalt and Road Oil	.66	1.78	3.62	4.17	4.57	3.15	3.14	2.89
Distillate Fuel	.51	1.81	4.89	2.96	3.00	3.90	4.39	4.57
Kerosene	.59	2.01	5.53	3.35	3.40	4.42	4.97	5.17
LPG	1.06	2.44	5.22	5.08	5.62	5.79	5.70	5.36
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.49	9.89	9.36	7.04	7.14	7.25	7.90
Residual Fuel	.49	1.72	3.68	4.12	2.14	2.67	1.91	2.29
Other	.71	2.41	6.28	6.57	3.81	4.62	3.86	4.71
Electricity	2.49	3.99	9.02	14.93	12.63	12.30	12.25	12.46
Transportation Sector	1.97	3.28	6.87	7.21	5.27	5.59	5.52	5.98
Primary Energy	1.97	3.28	6.87	7.20	5.27	5.59	5.52	5.98
Coal	-	-	-	-	-	-	-	-
Petroleum	1.97	3.28	6.87	7.20	5.27	5.59	5.52	5.98
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.09	2.54	6.84	6.38	6.35	6.56	6.40	6.97
Jet Fuel	.72	2.01	6.34	5.70	3.67	3.90	3.61	4.12
LPG	1.06	2.44	5.22	5.08	5.62	5.79	5.70	5.36
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.49	9.89	9.36	7.04	7.14	7.25	7.90
Residual Fuel	.44	1.54	3.05	3.39	1.34	2.54	2.61	2.53
Electricity	5.07	6.99	12.08	20.24	19.24	17.55	18.24	17.80
Total Energy*	.94	2.03	4.50	6.22	5.00	5.08	5.07	5.18
Primary Energy — Four Sectors	.74	1.78	4.02	4.96	3.76	3.90	3.90	3.97
Electricity	4.69	6.24	11.49	18.25	17.40	17.33	17.30	17.64
Electric Utility Sector	.21	.73	2.19	2.46	1.67	1.46	1.44	1.51
Coal	-	-	-	2.19	1.79	1.64	1.56	1.63
Natural Gas	.21	.64	2.01	2.73	1.86	1.60	1.63	1.70
Petroleum	.57	1.76	3.68	5.08	1.63	3.24	3.35	4.04
Heavy Oil ^b	.55	1.76	3.58	3.51	1.45	2.72	2.98	2.85
Light Oil ^b	.60	1.92	4.37	5.84	3.20	3.63	4.42	5.01
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	.86	1.04	.97	.92	.90
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.65	1.60	3.70	4.46	3.30	3.38	3.34	3.44

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Louisiana 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	299.1	490.0	1,077.9	1,775.4	1,816.5	1,819.1	1,826.4	1,910.5
Primary Energy	89.4	166.2	285.0	380.4	381.8	383.4	391.4	405.5
Coal	-	-	.1	-	-	-	-	-
Natural Gas	66.7	131.6	248.7	344.3	335.6	341.3	342.7	344.5
Petroleum	22.8	34.6	36.2	36.1	46.1	42.1	48.7	61.0
Distillate Fuel	-	.1	.2	.2	.3	.1	.1	.3
Kerosene	2	4	-	4.5	8.9	6.4	11.7	15.4
LPG	22.5	34.0	36.0	31.5	37.0	35.6	36.8	45.3
Electricity	209.6	323.8	792.9	1,395.0	1,434.7	1,435.7	1,435.0	1,505.0
Commercial Sector	187.4	318.5	981.0	1,441.5	1,349.9	1,311.2	1,355.5	1,362.7
Primary Energy	41.6	98.5	453.2	298.9	263.0	248.4	266.6	232.9
Coal	-	-	.1	-	-	-	-	-
Natural Gas	26.6	40.5	107.7	159.7	146.9	138.4	141.2	140.0
Petroleum	15.0	58.0	345.4	139.2	116.2	110.0	125.4	92.9
Distillate Fuel	4.3	18.2	14.8	62.2	75.1	43.2	35.2	20.6
Kerosene	1.5	5.3	17.2	11.6	5.4	8.3	56.6	10.5
LPG	1.9	3.3	3.9	3.7	4.1	4.0	4.0	4.1
Motor Gasoline	5.7	11.0	8.7	11.6	8.8	9.3	9.0	9.2
Residual Fuel	1.6	20.2	300.8	50.2	22.7	45.2	20.6	48.5
Electricity	145.8	220.0	527.7	1,142.6	1,086.9	1,062.8	1,088.8	1,129.8
Industrial Sector	590.8	1,873.5	5,439.9	5,942.2	4,529.8	4,823.1	4,809.6	4,900.2
Primary Energy	510.3	1,706.9	4,861.1	4,815.5	3,642.7	3,942.2	3,903.1	3,931.2
Coal	-	-	2.9	15.8	11.5	17.6	19.5	22.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	-	2.9	15.8	11.5	17.6	19.5	22.0
Natural Gas	210.8	624.6	1,150.2	1,833.1	1,248.4	1,203.7	1,292.8	1,510.8
Petroleum	299.5	1,082.3	3,708.0	2,966.5	2,382.8	2,720.9	2,590.8	2,398.4
Asphalt and Road Oil	9.7	33.2	46.8	50.8	54.3	47.5	49.9	44.4
Distillate Fuel	12.4	49.0	210.9	164.5	208.3	304.5	360.0	316.2
Kerosene	6.8	22.0	161.9	18.5	49.0	16.2	69.6	30.1
LPG	173.5	441.2	969.6	1,159.6	1,088.5	1,060.0	1,009.3	739.5
Lubricants	32.4	59.0	111.3	124.2	107.5	105.9	109.9	138.1
Motor Gasoline	4.5	4.1	3.2	23.9	14.5	14.0	13.1	12.1
Residual Fuel	2.5	33.6	208.8	578.7	166.5	359.5	267.1	265.8
Other	57.7	440.3	1,995.3	846.3	694.1	813.4	711.8	852.2
Electricity	80.3	166.6	578.8	1,126.7	887.1	880.9	906.5	969.0
Transportation Sector	628.3	1,467.5	3,914.7	3,974.5	3,119.4	3,370.2	3,545.7	3,810.0
Primary Energy	628.3	1,467.4	3,914.6	3,974.3	3,119.2	3,378.1	3,545.5	3,809.8
Coal	-	-	-	-	-	-	-	-
Petroleum	628.3	1,467.4	3,914.6	3,974.3	3,119.2	3,378.1	3,545.5	3,809.8
Aviation Gasoline	4.9	5.1	11.6	8.6	7.0	5.0	4.6	4.8
Distillate Fuel	42.1	200.6	496.3	749.4	699.4	813.1	871.6	974.0
Jet Fuel	23.4	67.9	306.8	410.5	369.3	415.1	435.5	518.2
LPG	1.4	2.8	3.0	1.9	1.7	1.9	1.7	1.5
Lubricants	16.6	23.9	62.8	70.0	60.6	59.7	62.0	77.9
Motor Gasoline	513.2	1,003.8	2,437.3	2,388.8	1,823.9	1,780.9	1,839.9	1,923.3
Residual Fuel	26.8	163.2	596.8	345.0	157.3	302.3	330.2	310.1
Electricity	-	.1	.1	.2	.2	.1	.2	.2
Total Energy*	1,705.6	4,149.5	11,413.5	13,133.7	10,815.6	11,331.6	11,537.1	11,983.4
Primary Energy — Four Sectors	1,269.7	3,439.0	9,513.8	9,469.2	7,406.7	7,952.0	8,106.7	8,379.4
Electricity	435.9	710.5	1,899.6	3,664.5	3,408.9	3,379.5	3,430.5	3,604.0
Electric Utility Sector	72.9	303.4	1,079.1	1,168.2	942.4	811.9	886.9	881.3
Coal	-	-	-	324.2	297.1	269.1	313.4	313.5
Natural Gas	72.3	239.5	889.7	815.3	518.7	412.0	426.6	435.3
Petroleum	.5	63.9	189.4	5.8	7.2	2.3	11.2	12.7
Heavy Oil ^b	3	62.9	159.5	1.3	5.7	.8	7.4	4.0
Light Oil ^b	.2	1.0	29.9	4.5	1.4	1.5	3.8	8.7
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	22.9	119.4	128.5	135.7	119.8
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,342.5	3,742.4	10,593.0	10,637.4	8,349.1	8,763.9	8,993.6	9,260.7

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Maine 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	1.06	2.60	1.89	2.58	2.27	2.48	2.63	2.66
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.06	2.60	1.89	2.58	2.27	2.48	2.63	2.66
Natural Gas	1.48	2.03	5.03	7.41	7.06	6.45	5.64	5.78
Petroleum	1.46	3.04	7.00	7.48	5.51	5.97	5.79	6.52
Asphalt and Road Oil	.73	1.99	3.73	5.21	4.88	3.55	3.35	3.23
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.37	2.78	6.83	8.00	6.06	6.21	6.23	6.98
Jet Fuel	.75	2.09	6.51	6.10	4.50	4.41	4.13	4.79
Kerosene	1.53	3.10	7.82	8.74	6.59	6.55	6.57	7.73
LPG	2.37	4.20	7.86	10.95	10.49	10.64	10.59	10.31
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.02	4.56	9.69	9.35	7.38	7.72	8.15	8.69
Residual Fuel	.38	1.79	4.10	4.35	2.43	2.93	2.33	2.79
Other ^a	.89	-	-	-	-	-	-	-
Nuclear Fuel	-	.32	.58	.62	.58	.60	.64	.54
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.45	2.54	5.70	5.85	4.31	5.01	4.86	5.00
Electric Utility Fuel	.35	.71	1.82	1.60	1.11	1.50	1.27	1.21
Electricity Purchased by End Users	5.92	9.70	16.30	20.16	19.88	19.10	19.62	20.53
Total Energy^b	1.95	3.77	8.44	9.70	7.86	8.26	8.03	9.13
Expenditures in Millions of Dollars								
Coal	2.3	3.4	5.7	13.2	21.1	17.0	18.2	18.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	2.3	3.4	5.7	13.2	21.1	17.0	18.2	18.0
Natural Gas	1.9	4.0	11.2	19.3	17.9	17.6	18.5	21.3
Petroleum	337.1	675.2	1,388.1	1,440.7	1,208.6	1,291.2	1,487.9	1,475.5
Asphalt and Road Oil	3.4	9.2	10.8	75.6	23.8	20.1	35.2	21.5
Aviation Gasoline	1.0	1.2	3.7	2.1	2.4	2.0	2.5	2.9
Distillate Fuel	94.2	186.5	422.8	446.4	405.7	432.6	497.8	498.7
Jet Fuel	9.4	22.7	66.7	54.4	39.6	43.7	47.7	59.5
Kerosene	15.5	18.2	22.4	23.4	12.7	15.1	17.2	20.3
LPG	5.7	15.1	25.2	24.9	38.6	47.5	62.8	61.5
Lubricants	5.2	7.6	17.1	19.1	16.5	16.3	16.9	21.2
Motor Gasoline	174.9	303.1	598.7	615.9	520.9	570.3	658.8	647.4
Residual Fuel	27.5	111.7	220.7	178.8	148.4	143.6	149.0	142.6
Other ^a	.4	-	-	-	-	-	-	-
Nuclear Fuel	-	16.1	27.9	35.7	38.9	25.9	34.2	40.0
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	341.3	698.6	1,432.8	1,508.8	1,286.6	1,351.8	1,558.8	1,554.8
Electric Utility Fuel	-10.6	-48.1	-129.8	-127.6	-105.0	-106.3	-107.3	-128.9
Electricity Purchased by End Users	102.3	216.1	455.3	675.7	692.1	698.4	754.0	801.0
Total Energy^b	433.1	866.7	1,758.3	2,057.0	1,873.6	1,943.8	2,205.5	2,226.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Maine 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.17	4.17	9.29	11.92	10.30	10.53	10.67	11.70
Primary Energy	1.56	2.98	7.09	7.77	5.91	6.08	6.31	7.15
Coal	1.29	2.62	3.90	4.39	4.19	3.85	3.99	3.96
Natural Gas	1.96	2.59	6.20	8.76	8.26	7.73	7.07	7.14
Petroleum	1.56	2.98	7.12	7.81	5.90	6.08	6.32	7.17
Distillate Fuel	1.51	2.87	6.94	7.55	5.63	5.66	5.88	6.77
Kerosene	1.60	3.16	8.15	8.95	6.68	6.70	6.97	8.02
LPG	3.04	4.78	10.04	11.45	9.79	10.37	10.37	10.37
Electricity	8.12	11.67	18.30	23.71	23.98	23.79	24.17	24.93
Commercial Sector	2.40	5.09	9.16	12.79	10.62	10.93	9.20	11.05
Primary Energy	1.03	2.40	5.72	6.14	4.55	5.04	4.28	5.21
Coal	.98	2.59	1.68	2.38	2.13	2.37	2.55	2.61
Natural Gas	1.42	2.07	5.00	7.73	7.26	6.71	6.09	6.28
Petroleum	1.02	2.41	5.84	6.21	4.48	5.02	4.20	5.16
Distillate Fuel	1.11	2.46	6.32	7.06	5.32	5.26	5.12	5.86
Kerosene	.68	2.55	6.50	7.30	5.35	5.35	5.09	6.07
LPG	1.35	3.24	6.06	10.29	11.26	11.14	10.88	10.22
Motor Gasoline	3.02	4.56	9.69	9.35	7.38	7.72	8.15	8.69
Residual Fuel	.35	1.79	4.33	4.50	2.47	2.93	2.33	2.83
Electricity	7.86	11.68	19.20	23.69	23.53	20.68	21.15	22.09
Industrial Sector	1.03	2.64	6.32	7.72	5.83	6.61	6.13	7.55
Primary Energy	.59	1.97	4.21	5.05	3.31	3.69	3.42	4.02
Coal	.98	2.59	1.68	2.38	2.13	2.37	2.55	2.61
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.98	2.59	1.68	2.38	2.13	2.37	2.55	2.61
Natural Gas	.84	1.42	4.19	6.14	5.81	5.26	4.39	4.56
Petroleum	.58	1.97	4.38	5.33	3.51	3.88	3.52	4.29
Asphalt and Road Oil	.73	1.99	3.73	5.21	4.88	3.55	3.35	3.23
Distillate Fuel	.63	2.30	5.94	6.63	4.86	4.86	4.63	5.51
Kerosene	.88	2.55	6.50	7.30	5.35	5.35	5.09	6.07
LPG	1.35	3.24	6.06	10.29	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.02	4.56	9.69	9.35	7.38	7.72	8.15	8.69
Residual Fuel	.43	1.82	3.84	4.50	2.47	2.93	2.33	2.83
Other	.89	-	-	-	-	-	-	-
Electricity	3.52	6.46	13.15	15.15	14.14	14.12	14.86	15.74
Transportation Sector	2.28	3.95	8.99	9.06	7.15	7.42	7.58	8.15
Primary Energy	2.28	3.95	8.99	9.06	7.15	7.42	7.58	8.15
Coal	.98	2.59	-	-	-	-	-	-
Petroleum	2.28	3.95	8.99	9.06	7.15	7.42	7.58	8.15
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.39	2.90	7.41	9.16	7.24	7.62	7.55	8.20
Jet Fuel	.75	2.09	6.51	6.10	4.50	4.41	4.13	4.79
LPG	1.35	3.24	6.06	10.29	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.02	4.56	9.69	9.35	7.38	7.72	8.15	8.69
Residual Fuel	.31	1.66	3.68	4.07	2.22	2.82	2.04	2.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.95	3.77	8.44	9.70	7.86	8.26	8.03	9.13
Primary Energy — Four Sectors	1.62	3.14	7.22	7.74	5.81	6.27	6.15	6.96
Electricity	5.92	9.70	16.30	20.16	19.88	19.10	19.62	20.53
Electric Utility Sector	.35	.71	1.82	1.60	1.11	1.50	1.27	1.21
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	.35	1.79	4.41	4.23	2.40	2.94	2.37	2.79
Heavy Oil ^b	.34	1.78	4.38	4.21	2.39	2.93	2.35	2.78
Light Oil ^b	.41	2.48	6.33	5.89	3.49	4.19	4.43	4.14
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.32	.58	.62	.58	.60	.64	.54
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.45	2.54	5.70	5.85	4.31	5.01	4.86	5.00

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Maine 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	137.9	257.0	482.8	533.9	517.2	532.1	582.1	625.7
Primary Energy	90.2	158.0	295.6	257.3	224.5	229.8	260.2	284.7
Coal	.7	.8	1.1	2.2	2.6	2.0	1.6	1.1
Natural Gas	1.0	1.9	3.5	4.8	4.6	4.2	4.1	4.6
Petroleum	88.4	155.3	291.0	250.3	217.3	223.5	254.5	279.0
Distillate Fuel	69.1	127.9	257.7	214.6	186.4	179.9	204.6	223.9
Kerosene	14.9	16.7	18.7	20.9	12.0	13.7	14.3	17.9
LPG	4.4	10.7	14.6	14.8	18.8	29.8	35.6	37.3
Electricity	47.7	99.0	187.2	276.6	292.7	302.4	322.0	341.0
Commercial Sector	39.9	93.9	210.3	269.3	282.1	261.5	295.2	308.0
Primary Energy	13.7	31.5	97.8	80.3	82.1	75.1	97.2	95.0
Coal	.4	.7	.5	1.6	2.0	1.7	1.4	1.0
Natural Gas	.6	1.1	4.4	9.1	9.1	8.7	9.1	10.5
Petroleum	12.7	29.7	92.9	69.6	71.0	64.7	86.7	83.6
Distillate Fuel	10.8	23.1	67.7	39.9	48.4	45.5	53.3	55.3
Kerosene	.3	.6	2.6	1.9	.4	.7	2.1	1.6
LPG	.3	1.3	1.6	2.3	3.8	5.6	6.6	6.5
Motor Gasoline	.6	1.0	2.5	5.1	4.1	3.8	4.5	5.3
Residual Fuel	.6	3.7	18.6	20.4	14.3	9.1	20.2	14.9
Electricity	26.1	62.5	112.5	189.0	199.9	186.4	198.0	213.0
Industrial Sector	55.3	151.1	317.1	405.4	353.6	350.6	408.0	393.2
Primary Energy	26.9	96.5	161.4	195.2	154.1	140.9	174.0	146.2
Coal	1.1	2.0	4.1	9.3	16.5	13.3	15.1	15.9
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.1	2.0	4.1	9.3	16.5	13.3	15.1	15.9
Natural Gas	.3	1.0	3.2	5.4	4.2	4.7	5.2	6.3
Petroleum	25.5	93.5	154.2	180.5	133.4	123.0	153.6	123.9
Asphalt and Road Oil	3.4	9.2	10.8	75.6	23.8	20.1	35.2	21.5
Distillate Fuel	2.9	9.2	26.4	17.6	15.7	26.0	33.3	34.6
Kerosene	.2	.9	1.1	.6	.3	.7	.7	.8
LPG	.9	3.0	8.9	7.3	15.2	11.5	19.7	16.7
Lubricants	1.7	2.7	5.6	6.3	5.4	5.3	5.5	7.0
Motor Gasoline	2.2	1.9	3.8	6.1	5.1	5.5	5.7	6.4
Residual Fuel	13.8	66.8	97.6	67.0	67.9	53.8	53.4	37.0
Other	.4	-	-	-	-	-	-	-
Electricity	28.4	54.6	155.7	210.2	199.5	209.6	234.0	247.0
Transportation Sector	199.9	364.6	748.1	848.3	720.8	799.6	920.1	900.1
Primary Energy	199.9	364.6	748.1	848.3	720.8	799.6	920.1	900.1
Coal	-	-	-	-	-	-	-	-
Petroleum	199.9	364.6	748.1	848.3	720.8	799.6	920.1	900.1
Aviation Gasoline	1.0	1.2	3.7	2.1	2.4	2.0	2.5	2.9
Distillate Fuel	11.2	25.8	68.8	173.3	154.4	180.4	205.3	183.8
Jet Fuel	9.4	22.7	66.7	54.4	39.6	43.7	47.7	59.5
LPG	-	-	.2	.4	.7	.5	.9	1.0
Lubricants	3.5	4.9	11.5	12.8	11.1	10.9	11.3	14.2
Motor Gasoline	172.1	300.2	592.4	604.7	511.8	561.1	648.7	635.8
Residual Fuel	2.7	9.8	4.8	.5	.7	1.1	3.7	2.9
Electricity	-	-	-	-	-	-	-	-
Total Energy*	433.1	866.7	1,758.3	2,057.0	1,873.6	1,943.8	2,205.5	2,226.9
Primary Energy — Four Sectors	330.7	650.6	1,303.0	1,381.3	1,181.6	1,245.5	1,451.5	1,425.9
Electricity	102.3	216.1	455.3	675.7	692.1	698.4	754.0	801.0
Electric Utility Sector	10.6	48.1	129.8	127.6	105.0	106.3	107.3	128.9
Coal	-	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-	-
Petroleum	10.6	32.0	101.9	91.9	66.1	80.4	73.0	88.9
Heavy Oil ^b	10.3	31.4	99.7	90.9	65.5	79.6	71.7	87.8
Light Oil ^b	.2	.6	2.2	1.0	.7	.8	1.3	1.1
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	16.1	27.9	35.7	38.9	25.9	34.2	40.0
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	341.3	698.6	1,432.8	1,508.8	1,286.6	1,351.8	1,558.8	1,554.8

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Maryland 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.45	1.69	1.77	1.75	1.67	1.56	1.57	1.60
Coking Coal	.58	2.14	2.38	1.88	1.76	1.59	1.61	1.67
Steam Coal	.34	1.28	1.50	1.71	1.64	1.56	1.56	1.59
Natural Gas	1.07	1.94	3.81	6.29	5.99	5.31	4.92	5.12
Petroleum	1.61	3.29	7.62	8.10	6.39	6.49	6.51	6.94
Asphalt and Road Oil	.60	1.89	3.73	4.95	4.18	3.22	3.16	2.90
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.20	2.61	6.87	7.83	6.13	6.34	6.32	6.81
Jet Fuel	.73	2.04	6.46	5.80	4.01	4.01	3.75	4.38
Kerosene	1.46	3.24	7.88	8.59	7.08	6.87	6.64	7.19
LPG	1.87	3.71	6.81	11.27	11.00	10.83	9.68	13.90
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.86	9.93	9.50	7.55	7.80	8.18	8.84
Residual Fuel	.43	1.87	4.04	4.04	2.29	3.04	2.28	2.68
Other ^a	1.08	2.00	6.56	5.56	4.76	4.44	3.88	4.72
Nuclear Fuel	-	.23	.44	.59	.56	.49	.49	.52
Wood and Waste at Utilities	-	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.16	2.62	4.88	5.35	4.31	4.35	4.25	4.96
Electric Utility Fuel	.40	1.36	1.66	1.65	1.32	1.43	1.35	1.83
Electricity Purchased by End Users	5.76	11.19	15.47	18.60	18.66	17.61	17.12	17.53
Total Energy ^b	1.78	4.02	7.67	9.09	8.21	7.95	7.97	8.60
Expenditures in Millions of Dollars								
Coal	139.6	333.2	416.8	448.6	458.2	451.2	473.4	473.0
Coking Coal	79.6	200.6	168.9	107.4	91.5	82.3	82.8	77.4
Steam Coal	60.0	132.6	247.9	341.2	366.7	368.9	390.6	395.6
Natural Gas	168.5	270.5	607.5	966.9	933.1	913.8	864.2	990.5
Petroleum	851.3	1,930.9	3,996.4	3,788.5	3,027.8	3,229.3	3,352.1	3,809.2
Asphalt and Road Oil	11.1	40.8	65.3	148.6	144.7	102.9	91.3	86.7
Aviation Gasoline	3.4	3.6	7.9	3.8	4.3	3.3	3.5	3.5
Distillate Fuel	138.3	317.1	872.6	807.7	621.0	668.0	682.5	816.8
Jet Fuel	18.1	34.6	126.3	125.7	86.7	84.0	93.7	107.2
Kerosene	19.3	21.9	52.2	27.5	19.0	27.0	26.5	20.0
LPG	13.0	33.0	51.5	72.8	57.4	65.5	61.2	114.2
Lubricants	19.2	34.6	63.1	70.4	60.9	60.0	62.3	78.2
Motor Gasoline	556.7	1,115.0	2,296.3	2,275.7	1,860.2	1,970.1	2,114.9	2,278.9
Residual Fuel	58.7	314.0	415.8	191.9	92.5	151.8	134.3	226.4
Other ^a	13.4	16.2	45.4	64.3	81.1	96.7	81.9	77.2
Nuclear Fuel	-	11.3	52.5	62.9	77.3	53.2	62.1	15.1
Wood and Waste at Utilities	-	-	-	.1	.1	.5	.5	.1
Primary Energy — Five Sectors	1,159.4	2,546.0	5,073.2	5,267.0	4,496.6	4,648.0	4,752.3	5,287.9
Electric Utility Fuel	-91.0	-352.5	-544.9	-536.2	-495.4	-517.2	-544.1	-646.8
Electricity Purchased by End Users	442.4	1,042.3	1,825.5	2,496.0	2,671.2	2,698.1	2,779.1	2,946.0
Total Energy ^b	1,510.8	3,235.7	6,353.8	7,226.8	6,672.4	6,828.8	6,987.3	7,587.2

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Maryland
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.34	4.62	8.54	11.82	11.56	11.10	10.77	11.65
Primary Energy	1.46	2.58	5.71	7.51	6.82	6.41	6.08	6.84
Coal	1.05	1.75	3.18	3.28	3.22	3.10	3.07	3.25
Natural Gas	1.42	2.30	4.38	7.01	6.64	6.16	5.72	6.11
Petroleum	1.50	2.92	7.31	8.61	7.33	7.01	6.84	8.42
Distillate Fuel	1.42	2.71	7.06	8.24	6.92	6.56	6.59	7.10
Kerosene	1.50	3.37	8.55	8.84	7.42	7.03	7.07	7.62
LPG	2.57	4.61	9.81	11.42	11.25	11.25	9.17	17.98
Electricity	7.02	12.65	17.32	21.32	21.14	20.19	19.68	20.10
Commercial Sector	2.60	5.77	9.78	13.23	12.78	11.05	11.47	11.58
Primary Energy	.98	2.13	4.74	6.21	5.00	4.48	4.56	5.20
Coal	.07	1.06	1.19	1.33	1.33	1.30	1.33	1.28
Natural Gas	1.09	1.96	3.88	6.17	5.54	4.94	4.93	5.27
Petroleum	.93	2.31	5.81	6.95	4.57	4.33	4.32	5.29
Distillate Fuel	1.12	2.39	6.39	6.77	4.70	4.58	4.27	5.45
Kerosene	.88	2.53	6.24	6.50	4.40	4.32	3.98	5.41
LPG	1.03	2.75	5.13	11.07	10.71	10.30	10.26	9.42
Motor Gasoline	2.85	4.86	9.93	9.50	7.55	7.80	8.18	8.84
Residual Fuel	.43	1.83	4.16	4.41	2.56	3.14	2.39	2.82
Electricity	6.86	12.49	18.41	22.00	21.81	19.92	19.27	19.63
Industrial Sector	.89	2.78	4.85	6.28	6.07	5.62	5.45	6.23
Primary Energy	.61	2.03	3.43	4.27	3.87	3.50	3.29	3.71
Coal	.50	2.05	2.15	1.75	1.65	1.50	1.54	1.57
Coking Coal	.58	2.14	2.38	1.88	1.76	1.59	1.61	1.67
Steam Coal	.07	1.06	1.19	1.33	1.33	1.30	1.33	1.28
Natural Gas	.67	1.35	3.19	5.51	5.43	4.97	4.17	4.67
Petroleum	.76	2.33	5.29	6.03	4.82	4.35	4.15	4.73
Asphalt and Road Oil	.60	1.89	3.73	4.95	4.18	3.22	3.16	2.90
Distillate Fuel	.81	2.34	5.60	6.22	4.22	4.14	3.82	5.18
Kerosene	.88	2.53	6.24	6.50	4.40	4.32	3.98	5.41
LPG	1.03	2.75	5.13	11.07	10.71	10.30	10.26	9.42
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.86	9.93	9.50	7.55	7.80	8.18	8.84
Residual Fuel	.43	2.08	4.37	4.41	2.56	3.14	2.39	2.82
Other	1.08	2.00	6.56	5.56	4.76	4.44	3.88	4.72
Electricity	3.80	8.42	11.65	13.92	14.12	13.43	12.97	13.83
Transportation Sector	2.30	4.30	8.92	9.00	7.12	7.37	7.57	8.15
Primary Energy	2.30	4.30	8.92	8.99	7.12	7.36	7.56	8.14
Coal	.07	1.06	-	-	-	-	-	-
Petroleum	2.30	4.31	8.92	8.99	7.12	7.36	7.56	8.14
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.81	7.69	8.64	6.68	7.32	7.40	7.61
Jet Fuel	.73	2.03	6.46	5.80	4.01	4.01	3.75	4.38
LPG	1.03	2.75	5.13	11.07	10.71	10.30	10.26	9.42
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.86	9.93	9.50	7.55	7.80	8.18	8.84
Residual Fuel	.39	1.61	3.53	3.88	2.10	2.87	2.09	2.41
Electricity	-	-	12.62	17.74	17.80	24.06	23.33	23.37
Total Energy*	1.78	4.02	7.67	9.09	8.21	7.95	7.97	8.60
Primary Energy — Four Sectors	1.38	3.08	6.38	7.16	5.98	5.85	5.89	6.50
Electricity	5.76	11.19	15.47	18.60	18.66	17.61	17.12	17.53
Electric Utility Sector	.40	1.36	1.66	1.65	1.32	1.43	1.35	1.83
Coal	.39	1.30	1.54	1.75	1.67	1.58	1.58	1.61
Natural Gas	.32	1.10	2.50	3.73	2.74	2.68	2.60	2.60
Petroleum	.44	1.86	4.41	4.22	2.41	3.17	2.46	2.86
Heavy Oil ^b	.44	1.85	4.21	4.02	2.26	3.06	2.33	2.72
Light Oil ^b	.48	2.18	5.97	5.53	3.39	3.81	3.49	4.12
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.23	.44	.59	.56	.49	.49	.52
Wood and Waste	-	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.16	2.62	4.88	5.35	4.31	4.35	4.25	4.96

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Maryland 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	387.3	752.6	1,450.2	1,849.4	1,883.7	1,916.0	1,969.3	2,090.0
Primary Energy	203.1	335.9	733.9	807.7	742.5	730.0	728.2	782.0
Coal	.9	.6	1.2	3.6	3.7	4.9	3.5	1.6
Natural Gas	106.1	161.4	304.1	496.1	494.8	450.2	442.0	473.4
Petroleum	96.1	173.9	428.6	308.1	244.1	274.9	282.7	307.0
Distillate Fuel	67.9	133.3	361.7	241.0	194.2	210.8	227.2	212.6
Kerosene	18.4	19.3	40.2	25.3	17.7	25.9	24.4	17.2
LPG	9.8	21.3	26.7	41.8	32.2	38.1	31.2	77.3
Electricity	184.2	416.8	716.3	1,041.6	1,141.2	1,186.1	1,241.0	1,308.0
Commercial Sector	204.9	480.9	849.7	977.8	967.2	963.9	961.9	951.8
Primary Energy	56.4	115.5	260.1	255.0	203.2	224.8	202.6	238.6
Coal	.1	.5	.6	2.5	2.6	3.7	2.6	1.1
Natural Gas	28.8	50.1	113.1	153.9	136.6	130.3	131.7	146.2
Petroleum	27.5	65.0	146.4	98.6	64.0	90.8	68.3	91.3
Distillate Fuel	20.9	45.8	106.6	76.6	42.2	51.6	46.3	63.6
Kerosene	.3	.5	.7	1.5	.6	.3	.7	1.3
LPG	.7	2.2	2.5	7.2	5.4	6.2	6.2	7.1
Motor Gasoline	1.5	3.1	6.3	8.5	6.9	7.4	7.3	9.2
Residual Fuel	4.1	13.4	30.3	4.9	8.8	25.3	7.9	10.0
Electricity	148.5	365.3	589.7	722.8	764.0	739.2	759.3	713.2
Industrial Sector	294.9	731.8	1,247.0	1,572.9	1,526.3	1,501.0	1,451.1	1,661.2
Primary Energy	185.2	471.6	728.5	845.4	764.5	733.8	679.1	743.2
Coal	81.4	209.4	190.1	131.0	115.4	113.7	105.5	99.1
Coking Coal	79.6	200.6	168.9	107.4	91.5	82.3	82.8	77.4
Steam Coal	1.8	8.8	21.2	23.5	23.9	31.4	22.8	21.7
Natural Gas	29.8	58.6	176.9	311.7	295.4	300.5	276.0	318.8
Petroleum	74.0	203.6	361.5	402.8	353.7	319.7	297.6	325.4
Asphalt and Road Oil	11.1	40.8	65.3	148.6	144.7	102.9	91.3	86.7
Distillate Fuel	14.8	44.4	104.1	92.3	51.3	40.1	38.2	63.5
Kerosene	.5	2.1	11.3	.7	.7	.7	1.5	1.6
LPG	2.4	9.1	21.9	22.0	18.7	20.2	22.2	28.1
Lubricants	10.0	20.7	36.1	40.2	34.8	34.3	35.6	44.7
Motor Gasoline	3.9	7.5	7.6	14.9	12.7	13.6	15.2	15.9
Residual Fuel	17.8	62.8	69.9	19.7	9.7	11.1	11.7	7.6
Other	13.4	16.2	45.4	64.3	81.1	96.7	81.9	77.2
Electricity	109.7	260.2	518.5	727.4	761.8	767.2	772.0	918.0
Transportation Sector	623.7	1,270.4	2,806.8	2,826.8	2,295.2	2,447.9	2,605.0	2,884.1
Primary Energy	623.7	1,270.4	2,805.9	2,822.6	2,291.0	2,442.2	2,598.2	2,877.3
Coal	-	-	-	-	-	-	-	-
Petroleum	623.7	1,270.4	2,805.9	2,822.6	2,291.0	2,442.2	2,598.2	2,877.3
Aviation Gasoline	3.4	3.6	7.9	3.8	4.3	3.3	3.5	3.5
Distillate Fuel	32.1	85.9	262.0	371.1	318.6	347.6	353.4	447.0
Jet Fuel	18.1	33.5	125.9	125.7	86.7	84.0	93.7	107.2
LPG	.1	.5	.5	1.8	1.1	1.0	1.7	1.7
Lubricants	9.2	13.9	27.0	30.1	26.1	25.7	26.7	33.5
Motor Gasoline	551.2	1,104.5	2,282.4	2,252.3	1,840.6	1,949.1	2,092.4	2,253.8
Residual Fuel	9.5	28.5	100.1	37.7	13.7	31.5	26.8	30.6
Electricity	-	-	.9	4.1	4.2	5.7	6.8	6.8
Total Energy*	1,510.8	3,235.7	6,353.8	7,226.8	6,672.4	6,828.8	6,987.3	7,587.2
Primary Energy — Four Sectors	1,068.4	2,193.4	4,528.3	4,730.8	4,001.2	4,130.8	4,208.2	4,641.1
Electricity	442.4	1,042.3	1,825.5	2,496.0	2,671.2	2,698.1	2,779.1	2,946.0
Electric Utility Sector	91.0	352.5	544.9	536.2	495.4	517.2	544.1	646.8
Coal	57.3	122.7	224.9	311.6	336.6	328.9	361.8	371.2
Natural Gas	3.8	.5	13.4	5.2	6.4	32.9	14.4	52.1
Petroleum	30.0	218.0	254.1	156.4	75.1	101.7	105.3	208.2
Heavy Oil ^b	27.4	209.3	215.5	129.7	60.3	83.8	87.8	178.1
Light Oil ^b	2.6	8.7	38.6	26.7	14.7	17.9	17.4	30.1
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	11.3	52.5	62.9	77.3	53.2	62.1	15.1
Wood and Waste	-	-	-	.1	.1	.5	.5	.1
Primary Energy — Five Sectors	1,159.4	2,546.0	5,073.2	5,267.0	4,496.6	4,648.0	4,752.3	5,287.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

-No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than .05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Massachusetts 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.55	1.57	2.03	2.03	1.81	1.66	1.66	1.64
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.55	1.57	2.03	2.03	1.81	1.66	1.66	1.64
Natural Gas	1.58	2.86	4.88	6.25	6.35	5.23	5.46	5.33
Petroleum	1.24	2.95	6.60	7.37	5.26	5.67	5.62	6.26
Asphalt and Road Oil	.63	1.95	3.73	5.21	4.87	3.57	3.38	3.20
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.34	2.74	6.87	8.05	6.00	5.86	5.87	6.55
Jet Fuel	.75	2.10	6.51	6.04	4.18	4.12	4.02	4.61
Kerosene	1.36	2.99	7.06	8.53	6.05	6.53	6.34	6.97
LPG	2.31	3.74	6.62	11.75	10.09	11.05	11.01	12.04
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.73	9.69	9.18	7.25	7.56	7.90	8.50
Residual Fuel	.39	1.95	3.84	4.00	2.29	2.27	2.27	2.64
Other ^a	2.22	3.57	8.96	10.02	7.42	8.03	6.94	8.47
Nuclear Fuel	.20	.18	.41	.60	.88	.92	.96	.70
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.26	2.83	6.05	6.26	5.05	5.14	5.15	5.49
Electric Utility Fuel	.37	1.66	3.41	2.74	2.03	2.26	2.04	2.18
Electricity Purchased by End Users	7.29	13.93	21.13	24.34	22.70	23.46	22.86	24.39
Total Energy^b	1.90	4.15	8.90	10.23	8.65	8.83	8.94	9.66
Expenditures in Millions of Dollars								
Coal	11.7	38.5	46.4	223.8	180.9	195.2	194.2	198.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	11.7	38.5	46.4	223.8	180.9	195.2	194.2	198.4
Natural Gas	234.1	441.3	901.9	1,395.1	1,203.3	1,215.6	1,174.4	1,367.2
Petroleum	1,542.1	3,331.9	6,056.8	5,605.6	4,474.9	4,680.7	4,755.9	5,311.9
Asphalt and Road Oil	12.0	23.7	30.5	36.4	36.0	35.0	39.6	30.3
Aviation Gasoline	3.0	4.0	12.5	6.8	6.2	4.7	4.8	4.9
Distillate Fuel	461.9	934.7	1,504.7	1,550.3	1,241.9	1,290.7	1,258.0	1,540.7
Jet Fuel	33.3	95.0	315.8	238.4	163.4	182.9	212.1	260.8
Kerosene	16.3	14.7	27.9	16.2	14.4	13.2	7.0	7.6
LPG	15.9	32.2	51.7	72.3	83.5	99.8	96.7	117.5
Lubricants	29.2	35.7	73.2	81.7	70.7	69.7	72.3	90.8
Motor Gasoline	743.8	1,357.3	2,619.1	2,643.9	2,147.8	2,284.5	2,465.8	2,601.2
Residual Fuel	210.9	808.9	1,306.9	826.0	624.0	604.8	518.5	561.4
Other ^a	15.9	25.9	114.5	133.8	87.0	95.4	81.4	96.8
Nuclear Fuel	2.7	7.5	14.3	39.8	23.1	11.3	11.5	22.7
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,790.5	3,819.2	7,019.4	7,264.4	5,882.2	6,102.8	6,136.0	6,900.2
Electric Utility Fuel	-112.4	-524.9	-1,191.4	-1,011.3	-698.3	-782.8	-704.3	-862.8
Electricity Purchased by End Users	612.9	1,401.0	2,398.4	3,166.2	3,101.9	3,392.0	3,489.0	3,801.0
Total Energy^b	2,291.0	4,695.3	8,226.4	9,419.4	8,285.7	8,712.0	8,920.7	9,838.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Massachusetts 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.24	4.22	8.65	11.06	9.83	9.84	9.86	10.66
Primary Energy	1.61	2.96	6.36	7.92	6.75	6.37	6.35	7.11
Coal	1.05	2.62	4.47	4.39	4.19	3.85	3.99	3.96
Natural Gas	1.90	3.14	5.33	7.65	7.23	6.45	6.28	6.91
Petroleum	1.52	2.89	7.10	8.23	6.33	6.31	6.43	7.31
Distillate Fuel	1.49	2.85	7.05	8.10	6.22	6.10	6.22	7.01
Kerosene	1.62	3.16	8.15	8.94	6.86	6.73	6.86	7.74
LPG	3.04	4.92	8.99	11.43	9.01	10.88	10.95	12.96
Electricity	8.59	15.30	22.18	26.16	24.38	25.52	24.88	26.70
Commercial Sector	1.64	4.51	9.35	13.30	11.81	12.09	11.64	12.27
Primary Energy	.83	2.32	5.04	6.49	5.30	5.11	4.96	5.35
Coal	.89	2.62	1.67	2.38	2.11	2.35	2.51	2.57
Natural Gas	1.40	2.64	4.65	6.88	6.49	5.75	5.93	5.67
Petroleum	.72	2.22	5.37	6.28	4.39	4.52	4.11	5.09
Distillate Fuel	1.10	2.44	6.36	6.89	4.85	4.84	4.58	5.45
Kerosene	.81	2.62	6.12	7.04	4.81	5.38	5.04	5.26
LPG	1.54	2.84	5.52	12.27	11.26	11.25	11.10	10.43
Motor Gasoline	2.86	4.73	9.69	9.18	7.25	7.56	7.90	8.50
Residual Fuel	.37	1.89	3.81	4.31	2.46	2.93	2.36	2.69
Electricity	8.05	14.39	22.08	25.20	23.40	23.49	22.72	24.03
Industrial Sector	1.06	3.43	8.43	9.27	7.60	8.10	8.60	9.60
Primary Energy	.66	2.28	5.29	5.89	4.32	4.68	4.54	5.05
Coal	.89	2.62	1.67	2.38	2.11	2.35	2.51	2.57
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.89	2.62	1.67	2.38	2.11	2.35	2.51	2.57
Natural Gas	1.03	2.28	4.09	5.24	4.88	4.13	3.91	3.93
Petroleum	.62	2.27	6.04	6.44	4.23	5.04	4.99	5.97
Asphalt and Road Oil	.63	1.95	3.73	5.21	4.87	3.57	3.38	3.20
Distillate Fuel	.74	2.36	5.59	6.64	4.54	5.07	4.75	4.96
Kerosene	.81	2.62	6.12	7.04	4.81	5.38	5.04	5.26
LPG	1.54	2.84	5.52	12.27	11.26	11.25	11.10	10.43
Lubricants	5.08	7.49	14.38	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.73	9.69	9.18	7.25	7.56	7.90	8.50
Residual Fuel	.42	2.06	4.14	4.31	2.46	2.93	2.36	2.69
Other	2.22	3.57	8.96	10.02	7.42	8.03	6.94	8.47
Electricity	4.88	11.21	18.21	20.47	19.18	20.32	19.94	21.40
Transportation Sector	2.38	4.25	9.02	8.84	6.95	7.13	7.33	7.86
Primary Energy	2.37	4.24	9.01	8.82	6.93	7.10	7.29	7.82
Coal	.89	2.62	-	-	-	-	-	-
Petroleum	2.37	4.24	9.01	8.82	6.93	7.10	7.29	7.82
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.35	2.90	7.40	9.24	7.07	6.82	6.90	7.43
Jet Fuel	.75	2.09	6.51	6.04	4.18	4.12	4.02	4.61
LPG	1.54	2.84	5.52	12.27	11.26	11.25	11.10	10.43
Lubricants	5.08	7.49	14.38	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.73	9.69	9.18	7.25	7.56	7.90	8.50
Residual Fuel	.34	1.72	3.22	3.76	2.10	2.57	2.02	2.36
Electricity	5.66	14.77	21.74	23.83	22.13	30.14	28.58	30.55
Total Energy*	1.90	4.15	8.90	10.23	8.65	8.83	8.94	9.66
Primary Energy — Four Sectors	1.50	3.19	7.19	7.91	6.31	6.32	6.43	7.00
Electricity	7.29	13.93	21.13	24.34	22.70	23.46	22.86	24.39
Electric Utility Sector	.37	1.66	3.41	2.74	2.03	2.26	2.04	2.18
Coal	.31	1.31	1.95	1.97	1.78	1.61	1.61	1.60
Natural Gas	.33	1.32	3.40	3.41	2.27	2.40	2.22	2.37
Petroleum	.38	1.93	3.86	3.97	2.27	2.73	2.32	2.72
Heavy Oil ^b	.38	1.93	3.84	3.91	2.24	2.71	2.26	2.64
Light Oil ^b	.43	2.17	6.00	5.80	3.54	3.22	3.63	4.22
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.20	.18	.41	.60	.88	.92	.96	.70
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.26	2.83	6.05	6.26	5.05	5.14	5.15	5.49

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Massachusetts 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	793.8	1,501.2	2,362.9	2,829.2	2,612.3	2,684.3	2,755.0	3,163.8
Primary Energy	520.1	945.4	1,487.2	1,677.3	1,480.6	1,423.9	1,438.0	1,726.7
Coal	2.6	3.3	5.2	7.2	4.1	3.1	3.2	2.7
Natural Gas	158.6	284.4	511.9	765.7	758.4	696.2	702.8	799.5
Petroleum	358.9	657.7	970.1	904.4	718.0	724.7	731.9	924.5
Distillate Fuel	334.9	628.7	932.9	847.8	669.5	660.3	671.1	838.4
Kerosene	13.2	10.6	14.9	13.3	9.9	11.6	5.4	5.8
LPG	10.7	18.4	22.3	43.3	38.7	52.8	55.5	80.3
Electricity	275.7	555.7	875.7	1,151.9	1,131.8	1,260.4	1,317.0	1,437.0
Commercial Sector	390.4	964.2	1,645.4	1,942.5	1,858.0	1,921.5	1,981.3	2,184.1
Primary Energy	176.2	404.6	662.0	602.9	534.1	502.9	528.4	599.6
Coal	1.7	2.6	2.0	3.9	1.9	1.5	2.1	1.9
Natural Gas	50.1	100.1	252.5	291.5	290.4	275.4	298.9	302.4
Petroleum	124.4	301.8	407.5	307.6	241.7	226.0	225.4	295.4
Distillate Fuel	86.4	187.9	278.0	228.9	188.4	171.1	169.8	246.1
Kerosene	.5	.7	1.0	1.9	4.0	.9	.9	.9
LPG	1.0	1.9	2.4	8.2	8.5	9.6	9.9	11.4
Motor Gasoline	1.5	2.7	9.7	9.1	7.2	7.7	7.6	8.4
Residual Fuel	35.0	108.6	116.3	59.5	33.5	36.8	37.2	28.6
Electricity	214.2	559.6	983.4	1,339.5	1,323.9	1,418.6	1,454.9	1,584.5
Industrial Sector	282.4	666.6	1,003.2	1,291.4	1,137.3	1,270.9	1,141.4	1,222.5
Primary Energy	159.0	386.2	475.9	631.0	503.8	574.8	444.4	464.5
Coal	3.2	6.9	4.0	10.4	5.9	9.8	8.9	7.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	3.2	6.9	4.0	10.4	5.9	9.8	8.9	7.3
Natural Gas	23.5	55.0	120.2	177.8	119.7	145.1	127.3	144.8
Petroleum	132.3	324.4	351.7	442.7	378.2	419.8	308.2	312.3
Asphalt and Road Oil	12.0	23.7	30.5	36.4	36.0	35.0	39.6	30.3
Distillate Fuel	12.5	36.5	61.5	40.4	41.4	114.2	67.9	73.3
Kerosene	2.5	3.4	12.0	.9	.5	.8	.6	.8
LPG	4.0	11.6	26.5	18.5	34.4	35.6	29.3	23.8
Lubricants	15.6	16.0	32.9	36.7	31.7	31.3	32.4	40.8
Motor Gasoline	1.7	2.0	4.6	17.7	14.4	15.5	17.3	21.2
Residual Fuel	68.1	205.3	69.3	158.4	132.8	92.1	39.7	25.3
Other	15.9	25.9	114.5	133.8	87.0	95.4	81.4	96.8
Electricity	123.4	280.3	527.3	660.4	633.5	696.2	697.0	758.0
Transportation Sector	824.4	1,563.4	3,214.8	3,356.3	2,678.1	2,835.2	3,043.1	3,268.1
Primary Energy	822.8	1,558.0	3,202.9	3,342.0	2,665.5	2,818.4	3,023.0	3,246.6
Coal	-	-	-	-	-	-	-	-
Petroleum	822.8	1,558.0	3,202.9	3,342.0	2,665.5	2,818.4	3,023.0	3,246.6
Aviation Gasoline	3.0	4.0	12.5	6.8	6.2	4.7	4.8	4.9
Distillate Fuel	25.2	75.8	211.1	405.4	321.4	324.0	316.8	342.3
Jet Fuel	33.3	94.4	315.5	238.4	163.4	182.9	212.1	260.8
LPG	.2	.3	.5	2.4	2.0	1.8	2.0	2.0
Lubricants	13.6	19.6	40.4	45.0	39.0	38.4	39.8	50.1
Motor Gasoline	740.6	1,352.5	2,604.7	2,617.1	2,126.1	2,261.4	2,440.9	2,571.6
Residual Fuel	7.0	11.3	18.2	26.8	7.4	5.2	6.6	15.0
Electricity	1.6	5.4	11.9	14.4	12.7	16.8	20.1	21.5
Total Energy*	2,291.0	4,695.3	8,226.4	9,419.4	8,285.7	8,712.0	8,920.7	9,838.4
Primary Energy — Four Sectors	1,678.0	3,294.2	5,828.0	6,253.2	5,183.9	5,320.0	5,431.7	6,037.4
Electricity	612.9	1,401.0	2,398.4	3,166.2	3,101.9	3,392.0	3,489.0	3,801.0
Electric Utility Sector	112.4	524.9	1,191.4	1,011.3	698.3	782.8	704.3	862.8
Coal	4.2	25.6	35.2	202.4	169.0	180.8	180.0	186.5
Natural Gas	1.9	1.9	17.3	160.1	34.7	98.9	45.4	120.5
Petroleum	103.7	490.0	1,124.6	609.0	471.5	491.8	467.3	533.1
Heavy Oil ^b	100.8	483.6	1,103.1	581.3	450.3	470.7	434.9	492.5
Light Oil ^b	2.9	6.3	21.5	27.8	21.1	21.1	32.4	40.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	2.7	7.5	14.3	39.8	23.1	11.3	11.5	22.7
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,790.5	3,819.2	7,019.4	7,264.4	5,882.2	6,102.8	6,136.0	6,900.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Michigan 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.44	1.23	1.71	1.92	1.84	1.76	1.76	1.72
Coking Coal	.55	2.07	2.27	2.08	1.95	1.85	1.73	1.75
Steam Coal	.42	1.04	1.62	1.90	1.83	1.75	1.76	1.72
Natural Gas	.77	1.42	3.05	5.70	5.12	4.96	4.80	4.61
Petroleum	2.00	3.72	8.48	8.67	6.55	6.80	6.67	7.43
Asphalt and Road Oil	.84	2.12	4.04	5.00	3.59	3.40	3.21	2.84
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.09	2.49	6.76	7.71	5.73	6.09	5.74	6.37
Jet Fuel	.74	2.08	6.38	6.09	4.20	4.09	3.85	4.39
Kerosene	.89	2.60	6.29	8.47	6.53	6.32	6.38	7.00
LPG	1.89	3.76	6.62	8.86	8.21	7.91	7.73	10.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.71	4.72	10.09	9.10	6.79	7.13	7.15	7.77
Residual Fuel	.59	1.96	3.90	4.44	2.86	3.00	2.87	3.03
Other ^a	1.20	2.87	7.84	8.30	5.75	6.50	5.53	6.07
Nuclear Fuel	.36	.28	.49	.80	.77	.77	.88	.78
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.12	2.23	4.39	5.21	4.32	4.28	4.23	4.39
Electric Utility Fuel	.38	1.02	1.58	1.72	1.66	1.60	1.60	1.52
Electricity Purchased by End Users	5.55	9.78	15.40	19.88	20.35	19.26	19.39	19.91
Total Energy ^b	1.70	3.33	6.61	8.48	7.49	7.61	7.44	7.78
Expenditures in Millions of Dollars								
Coal	363.6	925.0	1,299.2	1,499.0	1,496.4	1,475.4	1,459.6	1,377.2
Coking Coal	73.4	290.3	250.1	149.7	140.2	53.0	39.0	46.4
Steam Coal	290.3	634.7	1,049.1	1,349.3	1,356.1	1,422.4	1,420.6	1,330.8
Natural Gas	620.2	1,235.6	2,596.2	3,954.1	3,376.6	3,189.8	3,507.2	3,517.3
Petroleum	1,922.9	4,015.0	8,015.8	7,205.5	5,707.6	6,034.3	6,200.8	6,854.6
Asphalt and Road Oil	21.5	54.6	94.0	92.2	80.6	79.0	61.2	72.8
Aviation Gasoline	7.9	6.0	22.2	10.1	10.6	9.2	9.0	11.2
Distillate Fuel	240.6	610.6	1,087.9	1,140.8	883.6	897.7	923.9	922.8
Jet Fuel	30.4	66.8	236.9	223.6	167.7	191.9	185.4	227.7
Kerosene	15.7	19.9	44.0	37.0	15.7	13.3	15.4	22.2
LPG	43.9	103.9	163.6	566.4	574.0	567.0	591.0	810.9
Lubricants	97.4	124.9	285.2	318.1	275.4	271.2	281.5	353.6
Motor Gasoline	1,378.2	2,686.4	5,144.7	4,465.3	3,423.8	3,706.1	3,848.7	4,127.1
Residual Fuel	33.7	217.0	315.1	70.6	61.0	53.1	77.6	85.3
Other ^a	53.5	124.8	622.3	281.2	215.2	245.9	207.1	221.0
Nuclear Fuel	1.5	22.2	85.1	117.0	102.1	119.2	169.0	178.2
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,908.2	6,197.8	11,996.2	12,775.6	10,682.7	10,818.7	11,336.6	11,927.3
Electric Utility Fuel	-223.6	-733.0	-1,246.3	-1,312.2	-1,294.4	-1,413.6	-1,448.5	-1,403.8
Electricity Purchased by End Users	1,041.7	2,139.6	3,647.5	4,993.3	5,231.3	5,127.9	5,397.5	5,572.4
Total Energy ^b	3,726.4	7,604.5	14,397.5	16,456.7	14,619.6	14,533.1	15,285.6	16,095.8

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Michigan
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.74	3.14	5.56	8.84	8.38	8.33	8.10	8.30
Primary Energy	1.10	1.93	3.72	6.50	5.75	5.57	5.41	5.64
Coal	1.43	3.07	3.70	3.86	3.45	3.48	3.45	3.46
Natural Gas	1.00	1.58	3.13	6.14	5.53	5.29	5.14	4.93
Petroleum	1.35	2.78	7.25	8.52	7.03	6.98	6.82	9.63
Distillate Fuel	1.23	2.51	7.05	7.66	6.07	5.81	5.81	6.40
Kerosene	1.56	3.12	8.43	8.77	6.96	6.65	6.65	7.32
LPG	2.07	4.29	8.08	9.63	8.16	8.10	7.74	12.10
Electricity	6.99	11.32	16.76	21.62	22.13	21.45	21.68	22.17
Commercial Sector	2.11	3.40	6.38	10.09	10.23	9.11	9.41	9.47
Primary Energy	.88	1.63	3.53	5.70	4.94	4.93	4.84	4.72
Coal	.53	1.49	1.82	1.99	1.93	1.73	1.73	1.68
Natural Gas	.83	1.45	3.13	5.61	5.03	4.88	4.81	4.61
Petroleum	1.23	2.69	6.86	6.92	4.89	5.75	5.41	5.98
Distillate Fuel	1.05	2.33	6.53	6.24	3.67	4.36	4.03	4.32
Kerosene	.74	2.44	6.14	6.91	4.50	5.17	4.90	5.98
LPG	1.39	2.51	5.16	8.32	8.25	7.76	7.73	8.30
Motor Gasoline	2.71	4.72	10.09	9.10	6.79	7.13	7.15	7.77
Residual Fuel	.64	1.97	3.97	4.39	3.02	2.90	3.20	3.13
Electricity	7.12	11.41	17.60	23.36	24.24	22.31	22.48	23.20
Industrial Sector	1.01	2.53	5.01	7.02	6.48	6.93	6.52	6.74
Primary Energy	.71	1.80	3.69	4.76	4.09	4.25	4.08	4.25
Coal	.54	1.82	2.04	2.03	1.94	1.76	1.73	1.70
Coking Coal	.55	2.07	2.27	2.08	1.95	1.85	1.73	1.75
Steam Coal	.53	1.49	1.82	1.99	1.93	1.73	1.73	1.68
Natural Gas	.53	1.22	2.87	4.95	4.40	4.29	4.19	4.01
Petroleum	1.26	2.81	6.80	7.96	6.19	6.33	6.07	6.68
Asphalt and Road Oil	.84	2.12	4.04	5.00	3.59	3.40	3.21	2.84
Distillate Fuel	.68	2.27	5.56	6.51	4.24	4.87	4.61	5.63
Kerosene	.74	2.44	6.14	6.91	4.50	5.17	4.90	5.98
LPG	1.39	2.51	5.16	8.32	8.25	7.76	7.73	8.30
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.71	4.72	10.09	9.10	6.79	7.13	7.15	7.77
Residual Fuel	.54	1.98	3.23	4.39	3.02	2.90	3.20	3.13
Other	1.20	2.87	7.84	8.30	5.75	6.50	5.53	6.07
Electricity	3.74	7.83	13.18	16.75	16.88	15.95	15.94	16.28
Transportation Sector	2.50	4.46	9.63	8.96	6.73	6.97	6.93	7.54
Primary Energy	2.50	4.46	9.63	8.96	6.73	6.97	6.93	7.54
Coal	.53	1.49	-	-	-	-	-	-
Petroleum	2.50	4.46	9.63	8.96	6.73	6.97	6.93	7.54
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.27	2.77	7.19	8.55	6.69	6.86	6.50	6.94
Jet Fuel	.74	2.08	6.38	6.09	4.20	4.09	3.85	4.39
LPG	1.39	2.51	5.16	8.32	8.25	7.76	7.73	8.30
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.71	4.72	10.09	9.10	6.79	7.13	7.15	7.77
Residual Fuel	.57	1.76	3.49	4.38	2.45	2.91	2.26	2.49
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.70	3.33	6.61	8.48	7.49	7.61	7.44	7.78
Primary Energy — Four Sectors	1.34	2.65	5.54	6.79	5.54	5.72	5.57	5.88
Electricity	5.55	9.78	15.40	19.88	20.35	19.26	19.39	19.91
Electric Utility Sector	.38	1.02	1.58	1.72	1.66	1.60	1.60	1.52
Coal	.36	.92	1.56	1.88	1.81	1.75	1.76	1.72
Natural Gas	.42	1.28	2.74	4.43	3.64	2.76	2.56	1.75
Petroleum	.63	1.98	4.24	5.15	2.83	3.35	2.79	3.15
Heavy Oil ^b	.63	1.97	4.10	4.64	2.58	3.14	2.64	2.97
Light Oil ^b	.65	2.05	6.07	5.60	3.44	3.98	3.59	4.21
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.36	.28	.49	.80	.77	.77	.88	.78
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.12	2.23	4.39	5.21	4.32	4.28	4.23	4.39

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Michigan 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	939.0	1,732.6	3,000.8	4,349.2	4,100.5	3,925.1	4,241.5	4,459.1
Primary Energy	530.9	925.9	1,727.5	2,704.0	2,361.7	2,166.4	2,368.5	2,544.0
Coal	10.3	10.1	9.8	8.4	7.7	3.6	5.3	5.3
Natural Gas	345.1	542.8	1,236.0	2,143.5	1,894.5	1,716.0	1,861.1	1,877.1
Petroleum	175.5	373.0	481.8	552.2	459.4	446.8	502.1	661.7
Distillate Fuel	135.5	284.4	377.7	266.0	208.2	176.5	197.0	177.8
Kerosene	4.8	5.3	4.0	32.2	13.8	10.8	13.6	17.6
LPG	35.2	83.3	100.1	254.0	237.5	259.5	291.6	466.3
Electricity	408.1	806.7	1,273.3	1,645.1	1,738.9	1,758.7	1,873.0	1,915.0
Commercial Sector	475.7	935.8	1,802.2	2,548.9	2,435.9	2,568.3	2,586.9	2,699.7
Primary Energy	159.3	367.7	795.3	1,080.8	853.0	1,057.1	985.9	999.7
Coal	7.0	9.0	8.8	8.0	8.0	3.3	4.9	4.8
Natural Gas	111.4	269.8	606.7	905.1	708.7	935.4	839.5	854.5
Petroleum	40.9	88.9	179.8	167.7	136.3	118.4	141.5	140.4
Distillate Fuel	21.4	48.7	118.8	85.7	63.1	44.4	57.1	52.3
Kerosene	1.7	3.1	.5	.7	.3	.4	.5	2.1
LPG	4.2	8.6	11.3	38.7	42.4	43.9	51.4	56.5
Motor Gasoline	11.4	23.7	43.6	33.4	25.2	27.2	28.3	27.4
Residual Fuel	2.2	4.8	5.6	9.1	5.3	2.6	4.2	2.3
Electricity	316.4	568.1	1,006.9	1,468.2	1,582.9	1,511.3	1,601.0	1,700.0
Industrial Sector	856.0	2,038.6	3,741.3	4,184.1	3,923.0	3,521.8	3,817.5	3,912.1
Primary Energy	538.9	1,273.7	2,373.9	2,304.2	2,013.5	1,663.8	1,894.0	1,954.8
Coal	172.7	449.1	448.3	344.4	331.2	217.5	226.6	203.6
Coking Coal	73.4	290.3	250.1	149.7	140.2	53.0	39.0	46.4
Steam Coal	99.3	158.8	198.2	194.6	190.9	164.6	187.6	157.2
Natural Gas	136.5	362.3	700.3	884.9	759.6	526.4	800.5	782.2
Petroleum	229.6	462.4	1,225.3	1,074.9	922.8	919.8	867.0	969.1
Asphalt and Road Oil	21.5	54.6	94.0	92.2	80.6	79.0	61.2	72.8
Distillate Fuel	33.3	115.9	155.7	160.5	113.2	120.6	133.6	123.6
Kerosene	9.2	11.4	39.5	4.2	1.5	2.1	1.4	2.5
LPG	4.3	11.2	49.7	262.3	283.9	253.3	236.3	277.6
Lubricants	56.5	64.9	156.5	174.6	151.1	148.8	154.5	194.1
Motor Gasoline	39.2	46.9	51.3	56.9	41.1	42.8	40.0	43.8
Residual Fuel	12.0	32.6	56.3	43.0	36.1	27.4	32.9	33.7
Other	53.5	124.8	622.3	281.2	215.2	245.9	207.1	221.0
Electricity	317.2	764.8	1,367.4	1,880.0	1,909.5	1,858.0	1,923.4	1,957.3
Transportation Sector	1,455.6	2,897.5	5,853.1	5,374.4	4,160.1	4,517.9	4,639.7	5,024.9
Primary Energy	1,455.6	2,897.5	5,853.1	5,374.4	4,160.1	4,517.9	4,639.7	5,024.9
Coal	.3	.1	-	-	-	-	-	-
Petroleum	1,455.4	2,897.5	5,853.1	5,374.4	4,160.1	4,517.9	4,639.7	5,024.9
Aviation Gasoline	7.9	6.0	22.2	10.1	10.6	9.2	9.0	11.2
Distillate Fuel	46.9	144.2	408.1	607.5	488.8	546.8	525.7	558.0
Jet Fuel	30.4	65.8	236.9	223.6	167.7	191.9	185.4	227.7
LPG	.3	.9	2.4	11.3	10.2	10.4	11.7	10.6
Lubricants	40.8	60.0	128.7	143.6	124.3	122.4	127.0	159.6
Motor Gasoline	1,327.5	2,615.8	5,049.8	4,375.0	3,357.5	3,636.2	3,780.3	4,055.9
Residual Fuel	1.5	4.7	5.1	3.3	.9	1.1	.4	1.9
Electricity	-	-	-	-	-	-	-	-
Total Energy*	3,726.4	7,604.5	14,397.5	16,456.7	14,619.6	14,533.1	15,285.6	16,095.8
Primary Energy — Four Sectors	2,684.7	5,464.9	10,749.9	11,463.4	9,388.3	9,405.2	9,888.1	10,523.5
Electricity	1,041.7	2,139.6	3,647.5	4,993.3	5,231.3	5,127.9	5,397.5	5,572.4
Electric Utility Sector	223.6	733.0	1,246.3	1,312.2	1,294.4	1,413.6	1,448.5	1,403.8
Coal	173.4	456.8	832.3	1,138.3	1,149.5	1,250.9	1,222.8	1,163.5
Natural Gas	27.2	60.7	53.2	20.6	13.8	12.0	6.2	3.5
Petroleum	21.5	193.2	275.7	36.3	29.0	31.5	50.5	58.6
Heavy Oil ^b	17.9	174.9	248.2	15.2	18.8	22.1	40.1	47.4
Light Oil ^b	3.6	18.4	27.5	21.1	10.3	9.4	10.4	11.2
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	1.5	22.2	85.1	117.0	102.1	119.2	169.0	178.2
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,908.2	6,197.8	11,996.2	12,775.6	10,682.7	10,818.7	11,336.6	11,927.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Minnesota 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.41	0.83	1.12	1.51	1.44	1.26	1.25	1.26
Coking Coal	.53	1.80	-	-	-	-	-	-
Steam Coal	.40	.69	1.12	1.51	1.44	1.26	1.25	1.26
Natural Gas	.66	1.17	2.85	5.13	4.61	3.72	3.87	3.87
Petroleum	2.02	3.58	7.90	8.45	6.52	6.71	6.79	7.59
Asphalt and Road Oil	.68	2.19	3.31	4.99	3.86	3.53	3.60	3.01
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.08	2.51	6.72	7.55	5.62	5.98	5.81	6.54
Jet Fuel	.75	2.09	6.47	5.93	4.04	4.15	3.94	4.47
Kerosene	1.34	2.78	7.05	8.22	6.06	6.15	5.81	6.76
LPG	1.80	3.67	5.82	8.08	7.91	6.78	7.34	8.73
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.63	9.55	9.73	7.42	7.71	7.81	8.72
Residual Fuel	.59	1.80	3.52	4.06	2.88	2.43	2.36	2.38
Other ^a	2.10	2.73	5.71	7.48	10.53	9.08	6.89	6.94
Nuclear Fuel	-	.24	.44	.50	.50	.51	.49	.49
Wood and Waste at Utilities	.85	.92	1.74	-	-	.95	.87	.82
Primary Energy — Five Sectors	1.29	2.14	4.43	5.31	4.42	4.07	4.02	4.32
Electric Utility Fuel	.34	.52	.91	1.09	1.03	.99	.99	1.01
Electricity Purchased by End Users	6.10	8.64	13.26	15.81	16.07	15.72	15.80	15.57
Total Energy ^b	1.87	3.19	6.92	8.43	7.32	7.31	7.37	7.68
Expenditures in Millions of Dollars								
Coal	74.1	159.8	270.7	341.4	290.7	323.6	378.2	405.5
Coking Coal	8.6	45.4	-	-	-	-	-	-
Steam Coal	65.5	114.4	270.7	341.4	290.7	323.6	378.2	405.5
Natural Gas	220.6	381.4	785.0	1,283.0	1,084.8	856.2	1,051.7	1,108.7
Petroleum	1,005.3	1,920.2	3,810.6	4,053.9	3,184.6	3,166.8	3,303.9	3,666.4
Asphalt and Road Oil	20.0	67.2	78.4	165.1	140.3	137.2	117.1	98.5
Aviation Gasoline	3.0	3.7	8.8	7.8	9.6	6.8	6.2	6.6
Distillate Fuel	140.5	355.7	837.2	852.5	617.2	636.3	672.8	730.9
Jet Fuel	14.7	66.5	188.3	261.4	178.6	132.8	114.7	118.0
Kerosene	12.8	13.5	8.5	13.0	4.3	2.8	4.5	13.4
LPG	60.1	124.8	163.0	246.5	272.7	186.7	219.2	265.5
Lubricants	28.5	45.6	97.5	108.8	94.2	92.7	96.3	120.9
Motor Gasoline	688.9	1,172.9	2,319.4	2,335.5	1,784.2	1,899.3	2,005.6	2,224.8
Residual Fuel	14.9	38.4	56.3	19.2	28.7	14.4	15.9	16.7
Other ^a	21.9	31.8	53.3	44.0	54.8	57.9	51.7	71.1
Nuclear Fuel	-	25.5	48.6	62.5	59.2	63.1	64.2	57.4
Wood and Waste at Utilities	.1	*	*	-	-	.4	1.4	2.1
Primary Energy — Five Sectors	1,300.2	2,487.0	4,915.0	5,740.8	4,619.2	4,410.2	4,799.3	5,240.2
Electric Utility Fuel	-65.3	-144.2	-311.3	-355.5	-307.0	-362.5	-419.5	-432.7
Electricity Purchased by End Users	427.5	769.9	1,481.2	2,062.8	2,097.2	2,211.9	2,433.7	2,409.9
Total Energy ^b	1,662.4	3,112.6	6,084.9	7,448.2	6,409.4	6,259.6	6,813.5	7,217.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than .05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Minnesota 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.17	3.38	6.92	9.29	8.93	8.94	8.71	8.77
Primary Energy	1.29	2.15	4.47	6.29	5.65	5.09	5.03	5.40
Coal	1.55	3.04	4.32	4.10	3.89	3.81	3.51	3.49
Natural Gas	1.09	1.57	3.24	5.78	5.28	4.58	4.61	4.54
Petroleum	1.54	3.12	7.25	7.82	6.66	6.35	6.18	7.74
Distillate Fuel	1.26	2.55	7.20	7.79	6.05	5.70	5.62	6.30
Kerosene	1.52	2.91	8.02	8.82	6.85	6.45	6.36	7.13
LPG	2.03	4.22	7.34	7.79	7.53	7.40	7.03	10.03
Electricity	7.30	9.90	16.06	19.01	19.41	19.38	19.82	19.71
Commercial Sector	1.42	2.56	5.37	7.83	7.60	7.42	7.22	7.07
Primary Energy	.76	1.39	3.47	5.41	4.64	3.99	4.07	4.06
Coal	.47	.87	1.77	2.04	1.96	1.85	1.85	1.86
Natural Gas	.69	1.16	2.89	5.18	4.62	3.89	4.00	3.98
Petroleum	1.13	2.61	6.73	6.66	5.26	5.04	4.97	5.22
Distillate Fuel	1.05	2.34	6.60	6.34	4.21	4.37	3.97	4.72
Kerosene	.89	2.54	-	6.47	4.10	4.71	4.18	4.94
LPG	1.20	2.61	4.87	8.32	8.25	6.15	7.73	7.13
Motor Gasoline	2.97	4.63	9.55	9.73	7.42	7.71	7.81	8.72
Residual Fuel	.58	1.97	4.48	4.10	2.86	2.43	2.37	2.38
Electricity	7.72	10.38	12.95	17.53	17.81	17.19	17.52	17.61
Industrial Sector	1.15	2.36	5.14	7.04	6.37	6.06	6.24	6.23
Primary Energy	.83	1.77	3.68	5.17	4.31	3.76	3.80	3.90
Coal	.49	1.33	1.77	2.04	1.96	1.85	1.85	1.86
Coking Coal	.53	1.80	-	-	-	-	-	-
Steam Coal	.47	.87	1.77	2.04	1.96	1.85	1.85	1.86
Natural Gas	.42	.83	2.51	4.04	3.42	2.55	2.79	2.84
Petroleum	1.26	2.69	5.23	6.66	5.21	4.93	4.94	5.27
Asphalt and Road Oil	.68	2.19	3.31	4.99	3.86	3.53	3.60	3.01
Distillate Fuel	.83	2.39	5.66	6.18	3.92	4.50	4.00	4.72
Kerosene	.89	2.54	5.92	6.47	4.10	4.71	4.18	4.94
LPG	1.20	2.61	4.87	8.32	8.25	6.15	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.63	9.55	9.73	7.42	7.71	7.81	8.72
Residual Fuel	.55	1.74	2.97	4.10	2.86	2.43	2.37	2.38
Other	2.26	2.80	5.71	7.48	10.53	9.08	7.81	11.04
Electricity	4.17	6.73	11.22	12.65	12.76	12.50	12.32	12.02
Transportation Sector	2.64	4.13	8.88	9.16	6.98	7.36	7.48	8.38
Primary Energy	2.64	4.13	8.88	9.16	6.98	7.36	7.48	8.38
Coal	.47	.87	-	-	-	-	-	-
Petroleum	2.64	4.13	8.88	9.16	6.98	7.36	7.48	8.38
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.24	2.67	7.16	8.68	6.78	7.15	7.21	7.83
Jet Fuel	.75	2.09	6.47	5.93	4.04	4.15	3.94	4.47
LPG	1.20	2.61	4.87	8.32	8.25	6.15	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.63	9.55	9.73	7.42	7.71	7.81	8.72
Residual Fuel	.57	1.70	3.81	3.92	3.66	2.25	1.83	1.84
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.87	3.19	6.92	8.43	7.32	7.31	7.37	7.68
Primary Energy — Four Sectors	1.51	2.64	6.00	7.15	5.79	5.66	5.69	6.13
Electricity	6.10	8.64	13.26	15.81	16.07	15.72	15.80	15.57
Electric Utility Sector	.34	.52	.91	1.09	1.03	.99	.99	1.01
Coal	.34	.62	1.04	1.43	1.36	1.21	1.20	1.20
Natural Gas	.26	.64	1.99	3.69	2.95	2.08	1.98	2.15
Petroleum	.73	2.03	4.86	5.96	3.91	4.46	2.07	1.16
Heavy Oil ^b	.74	1.95	4.46	3.99	-	2.39	2.06	2.13
Light Oil ^b	.85	2.26	5.80	5.97	3.91	4.47	3.69	4.42
Petroleum Coke	.28	.54	-	-	-	-	.82	.77
Nuclear Fuel	-	.24	.44	.50	.50	.51	.49	.49
Wood and Waste	.65	.92	1.74	-	-	.95	.87	.82
Primary Energy — Five Sectors	1.29	2.14	4.43	5.31	4.42	4.07	4.02	4.32

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Minnesota 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	455.3	739.9	1,315.8	1,780.4	1,694.1	1,565.4	1,791.0	1,879.7
Primary Energy	230.2	395.8	672.0	920.1	816.0	650.7	777.0	885.7
Coal	6.5	4.8	4.5	6.0	5.0	4.1	5.2	5.9
Natural Gas	111.5	179.5	333.8	618.7	545.1	411.9	508.9	534.3
Petroleum	112.2	211.6	333.7	295.5	266.0	234.7	262.9	345.5
Distillate Fuel	52.9	107.6	249.5	173.6	141.0	129.1	143.2	164.9
Kerosene	10.3	9.2	5.2	10.4	3.4	2.4	3.7	11.8
LPG	48.9	94.8	79.0	111.5	121.6	103.2	116.0	168.8
Electricity	225.0	344.1	643.8	860.3	878.1	914.7	1,014.0	994.0
Commercial Sector	163.0	325.9	522.6	1,000.2	881.3	784.0	904.2	918.1
Primary Energy	79.2	154.3	269.7	553.3	417.9	312.8	390.2	410.1
Coal	3.7	2.5	3.4	5.6	4.7	3.7	5.1	5.9
Natural Gas	53.2	104.2	183.6	400.2	343.8	256.4	322.4	340.7
Petroleum	22.3	47.6	82.7	147.5	69.4	52.7	62.7	63.5
Distillate Fuel	10.7	24.1	55.5	101.1	26.4	25.7	25.5	28.4
Kerosene	1.3	1.7	-	1.3	.1	.1	.1	.1
LPG	5.1	10.3	9.3	21.0	23.5	15.1	22.5	21.2
Motor Gasoline	3.7	8.6	17.1	17.1	12.7	9.7	9.9	8.7
Residual Fuel	1.4	2.8	.9	6.9	6.7	2.1	4.7	5.1
Electricity	83.7	171.6	252.8	446.9	463.3	471.2	514.0	508.0
Industrial Sector	341.0	743.0	1,382.0	1,678.4	1,544.3	1,519.6	1,604.4	1,640.2
Primary Energy	222.2	488.9	797.4	922.7	788.5	693.5	698.7	732.3
Coal	20.8	67.6	31.9	43.3	39.6	31.3	28.0	35.5
Coking Coal	8.6	45.4	-	-	-	-	-	-
Steam Coal	12.2	22.2	31.9	43.3	39.6	31.3	28.0	35.5
Natural Gas	40.6	83.5	251.7	259.4	190.8	176.0	210.1	224.2
Petroleum	160.9	337.8	513.9	620.0	558.1	486.1	460.6	472.6
Asphalt and Road Oil	20.0	67.2	78.4	165.1	140.3	137.2	117.1	98.5
Distillate Fuel	37.5	111.0	188.2	172.5	128.8	124.2	122.7	127.4
Kerosene	1.2	2.5	3.3	1.3	.7	.2	.7	1.5
LPG	5.6	18.8	73.5	109.2	123.0	66.6	78.1	73.5
Lubricants	9.1	11.4	28.2	31.4	27.2	26.8	27.8	35.0
Motor Gasoline	56.3	76.1	67.1	87.8	62.0	60.9	52.3	57.4
Residual Fuel	9.4	19.0	22.0	8.7	21.2	12.2	11.0	11.4
Other	21.6	31.6	53.3	44.0	54.8	57.9	50.8	67.9
Electricity	118.8	254.2	584.6	755.7	755.8	826.1	905.7	907.9
Transportation Sector	703.1	1,303.8	2,864.6	2,989.2	2,289.7	2,390.7	2,514.0	2,779.4
Primary Energy	703.1	1,303.8	2,864.6	2,989.2	2,289.7	2,390.7	2,514.0	2,779.4
Coal	-	-	-	-	-	-	-	-
Petroleum	703.1	1,303.8	2,864.6	2,989.2	2,289.7	2,390.7	2,514.0	2,779.4
Aviation Gasoline	3.0	3.7	8.8	7.8	9.6	6.8	6.2	6.6
Distillate Fuel	36.6	104.1	338.4	403.6	319.6	354.7	378.6	408.2
Jet Fuel	14.7	66.5	188.3	261.4	178.6	132.8	114.7	118.0
LPG	.4	.9	1.2	4.8	4.5	1.7	2.5	2.0
Lubricants	19.4	34.1	69.3	77.4	67.0	65.9	68.4	86.0
Motor Gasoline	628.9	1,088.1	2,235.3	2,230.6	1,709.5	1,828.6	1,943.4	2,158.7
Residual Fuel	.1	6.2	23.2	3.6	.8	.1	.1	*
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,662.4	3,112.6	6,084.9	7,448.2	6,409.4	6,259.6	6,813.5	7,217.4
Primary Energy — Four Sectors	1,234.8	2,342.8	4,603.7	5,385.4	4,312.2	4,047.7	4,379.8	4,807.5
Electricity	427.5	769.9	1,481.2	2,062.8	2,097.2	2,211.9	2,433.7	2,409.9
Electric Utility Sector	65.3	144.2	311.3	355.5	307.0	362.5	419.5	432.7
Coal	43.1	84.9	230.9	286.5	241.4	284.5	339.9	358.3
Natural Gas	15.3	14.2	16.0	4.7	5.1	11.8	10.4	9.5
Petroleum	6.9	19.5	15.8	1.7	1.4	2.6	3.7	5.4
Heavy Oil ^b	3.9	10.4	10.1	-	-	-	.1	.1
Light Oil ^b	2.7	8.9	5.6	1.7	1.4	2.6	2.8	2.1
Petroleum Coke	.2	.2	-	-	-	-	.8	3.2
Nuclear Fuel	-	25.5	48.6	62.5	59.2	63.1	64.2	57.4
Wood and Waste	.1	*	*	-	-	.4	1.4	2.1
Primary Energy — Five Sectors	1,300.2	2,487.0	4,915.0	5,740.8	4,619.2	4,410.2	4,799.3	5,240.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products"

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Mississippi 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.26	0.83	1.84	2.50	2.27	1.94	1.81	1.67
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.26	.83	1.84	2.50	2.27	1.94	1.81	1.67
Natural Gas	.38	.87	2.55	3.76	3.40	3.33	3.19	2.89
Petroleum	2.13	3.10	7.06	7.61	5.11	5.89	5.56	5.84
Asphalt and Road Oil	.66	1.77	3.56	4.81	4.90	3.27	3.03	2.86
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.24	6.89	6.68	5.00	5.44	5.29	5.74
Jet Fuel	.73	2.03	6.39	5.84	3.41	3.97	3.43	3.92
Kerosene	.83	2.03	6.99	8.43	5.52	5.57	4.49	4.48
LPG	1.83	3.42	6.31	7.42	8.10	8.47	8.80	9.10
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.34	10.52	8.75	6.54	6.97	7.27	8.07
Residual Fuel	.45	1.67	2.84	4.10	2.09	2.01	2.28	2.66
Other ^a	.99	1.94	4.54	6.43	3.74	4.33	3.71	4.41
Nuclear Fuel	-	-	-	1.13	1.15	.89	1.40	1.17
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.15	2.27	4.93	5.20	4.01	4.07	3.95	4.18
Electric Utility Fuel	.27	1.24	2.16	2.30	2.05	1.57	1.70	1.56
Electricity Purchased by End Users	4.44	7.58	13.69	17.05	18.01	17.87	18.21	18.25
Total Energy ^b	1.71	3.20	7.33	8.20	6.80	7.33	7.01	7.13
Expenditures in Millions of Dollars								
Coal	3.5	27.5	137.6	273.2	246.6	237.6	234.1	161.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	3.5	27.5	137.6	273.2	246.6	237.6	234.1	161.3
Natural Gas	111.2	154.3	553.4	710.7	581.3	530.0	515.9	525.0
Petroleum	522.4	1,105.2	2,487.3	2,395.7	1,944.1	2,082.5	2,285.6	2,563.1
Asphalt and Road Oil	7.7	30.4	48.1	65.5	61.9	47.2	52.8	37.5
Aviation Gasoline	3.5	3.5	9.4	5.4	5.8	4.3	4.8	6.4
Distillate Fuel	46.2	127.6	383.8	619.3	431.5	530.5	586.0	571.9
Jet Fuel	6.3	16.3	53.3	134.1	93.8	171.0	154.5	144.6
Kerosene	12.5	16.5	9.6	38.5	36.0	39.0	40.8	16.8
LPG	59.4	102.3	125.9	133.3	106.9	117.6	136.6	196.9
Lubricants	16.2	30.9	57.1	63.7	55.1	54.3	56.3	70.8
Motor Gasoline	362.5	633.5	1,481.0	1,267.2	980.8	1,070.9	1,126.9	1,229.4
Residual Fuel	1.9	126.6	284.7	38.1	159.3	32.8	113.8	274.3
Other ^a	6.3	17.6	34.5	30.4	13.1	14.9	12.9	14.6
Nuclear Fuel	-	-	-	53.1	50.6	74.1	143.8	97.9
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	637.1	1,287.0	3,178.3	3,432.7	2,822.6	2,924.1	3,179.5	3,347.4
Electric Utility Fuel	-31.7	-154.7	-438.6	-476.1	-420.1	-381.2	-453.7	-355.7
Electricity Purchased by End Users	225.9	486.0	1,075.9	1,455.8	1,582.5	1,606.2	1,694.2	1,786.8
Total Energy ^b	831.3	1,618.4	3,815.6	4,412.5	3,985.0	4,149.1	4,420.0	4,778.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Mississippi
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.39	4.43	9.08	12.10	12.85	12.91	12.87	13.15
Primary Energy	1.31	2.34	4.45	6.08	6.26	6.70	6.58	6.31
Coal	-	-	2.97	2.74	3.58	2.88	2.62	2.64
Natural Gas	.86	1.38	3.36	5.33	5.47	6.01	5.76	4.95
Petroleum	2.14	3.98	8.41	8.20	8.41	8.54	8.58	9.35
Distillate Fuel	1.24	2.49	6.89	7.07	5.15	4.89	4.42	3.86
Kerosene	2.06	3.79	10.48	10.96	7.99	7.58	6.85	5.99
LPG	2.16	4.10	8.35	7.71	8.61	8.90	9.17	9.77
Electricity	5.06	8.06	14.38	18.12	19.13	19.01	19.15	20.00
Commercial Sector	1.96	3.34	6.70	11.54	11.54	11.74	12.50	12.38
Primary Energy	.70	1.29	3.17	5.51	4.43	5.00	4.84	4.56
Coal	-	-	1.65	1.85	1.78	1.70	1.68	1.70
Natural Gas	.57	.92	2.97	4.95	4.88	5.21	4.94	4.59
Petroleum	1.39	2.17	3.36	6.40	3.69	4.62	4.65	4.53
Distillate Fuel	.96	2.18	6.27	5.74	3.26	3.86	3.08	2.88
Kerosene	-	-	-	7.30	3.57	4.46	3.39	3.67
LPG	1.33	2.66	4.92	7.19	7.60	7.94	8.34	8.42
Motor Gasoline	2.84	4.34	10.53	8.75	6.54	6.97	7.27	8.07
Residual Fuel	.49	1.72	3.02	4.33	2.12	2.18	1.94	2.71
Electricity	5.53	8.59	15.87	19.50	20.66	20.22	21.34	21.18
Industrial Sector	.72	1.95	4.95	6.16	4.69	5.37	4.62	4.44
Primary Energy	.52	1.35	3.67	4.77	3.19	3.44	2.91	3.07
Coal	.33	1.11	1.65	1.85	1.78	1.70	1.68	1.70
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.33	1.11	1.65	1.85	1.78	1.70	1.68	1.70
Natural Gas	.29	.71	2.66	3.68	3.08	2.71	2.50	2.46
Petroleum	.99	2.09	4.72	6.51	3.35	4.38	3.31	3.50
Asphalt and Road Oil	.66	1.77	3.56	4.81	4.90	3.27	3.03	2.86
Distillate Fuel	.74	1.70	5.55	6.24	3.06	3.81	2.90	3.14
Kerosene	.79	1.86	6.21	7.30	3.57	4.46	3.39	3.67
LPG	1.33	2.66	4.92	7.19	7.60	7.94	8.34	8.42
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.34	10.53	8.75	6.54	6.97	7.27	8.07
Residual Fuel	.40	1.77	2.82	4.33	2.12	2.18	1.94	2.71
Other	.99	1.94	4.54	6.43	3.74	4.33	3.71	4.41
Electricity	2.94	6.39	11.42	13.94	14.63	14.74	14.84	14.18
Transportation Sector	2.64	3.91	8.71	7.97	5.95	6.23	6.33	7.17
Primary Energy	2.64	3.91	8.71	7.97	5.95	6.23	6.33	7.17
Coal	.33	1.11	-	-	-	-	-	-
Petroleum	2.64	3.91	8.71	7.97	5.95	6.23	6.33	7.17
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	2.02	2.75	7.67	7.05	5.96	6.44	6.42	7.12
Jet Fuel	.73	2.03	6.39	5.84	3.41	3.97	3.43	3.92
LPG	1.33	2.66	4.92	7.19	7.60	7.94	8.34	8.42
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.34	10.53	8.75	6.54	6.97	7.27	8.07
Residual Fuel	.43	1.49	2.55	4.02	1.90	1.92	2.79	2.14
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.71	3.20	7.33	8.20	6.80	7.33	7.01	7.13
Primary Energy — Four Sectors	1.39	2.56	6.20	6.53	4.82	5.34	5.07	5.23
Electricity	4.44	7.58	13.69	17.05	18.01	17.87	18.21	18.25
Electric Utility Sector	.27	1.24	2.16	2.30	2.05	1.57	1.70	1.56
Coal	.26	.82	1.84	2.54	2.29	1.96	1.81	1.67
Natural Gas	.27	.83	2.11	2.80	2.32	1.85	1.85	1.83
Petroleum	.48	1.70	3.06	4.78	2.13	2.38	3.26	2.65
Heavy Oil ^b	.48	1.69	3.03	4.16	2.06	2.07	3.18	2.48
Light Oil ^b	.61	2.08	5.47	5.97	4.45	3.76	4.99	5.32
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	1.13	1.15	.89	1.40	1.17
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.15	2.27	4.93	5.20	4.01	4.07	3.95	4.18

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Mississippi 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	194.5	334.1	661.9	863.2	930.5	972.3	1,002.1	1,034.8
Primary Energy	75.9	111.5	173.0	217.2	221.1	250.5	256.1	248.8
Coal	-	-	-	-	.1	.1	.3	-
Natural Gas	32.4	41.6	102.6	140.4	141.4	162.3	157.3	134.2
Petroleum	43.5	70.0	70.4	76.8	79.7	88.1	98.5	114.5
Distillate Fuel	.6	2.8	.3	.1	.1	.5	.1	.1
Kerosene	.9	2.7	2.6	15.6	23.0	18.9	19.7	7.8
LPG	42.0	64.4	67.5	61.2	56.6	68.8	78.7	106.5
Electricity	118.7	222.5	488.9	646.0	709.4	721.8	746.0	786.0
Commercial Sector	77.5	161.8	420.3	560.0	569.3	576.8	601.6	637.5
Primary Energy	20.5	45.1	143.5	152.1	122.7	137.0	124.6	124.4
Coal	-	-	-	-	.1	.1	.3	.1
Natural Gas	13.9	22.6	64.1	84.1	84.1	94.8	90.9	83.1
Petroleum	6.7	22.5	79.4	68.0	38.5	42.0	33.4	41.3
Distillate Fuel	.6	3.0	.9	35.7	8.4	17.9	10.7	14.3
Kerosene	-	-	-	15.1	5.0	2.5	1.3	1.0
LPG	4.6	7.4	7.0	10.1	8.8	10.8	12.6	16.2
Motor Gasoline	1.4	2.4	6.8	6.2	7.5	7.7	7.1	6.8
Residual Fuel	.1	9.7	64.7	1.0	8.8	3.1	1.6	3.0
Electricity	57.0	116.7	276.8	407.9	446.7	439.8	477.0	513.0
Industrial Sector	150.1	371.8	815.4	1,175.2	1,044.0	946.1	1,023.2	1,241.8
Primary Energy	99.9	225.1	505.2	773.3	617.5	501.6	552.0	754.0
Coal	.4	.6	2.0	10.7	10.3	11.3	10.5	10.5
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.4	.6	2.0	10.7	10.3	11.3	10.5	10.5
Natural Gas	37.6	63.2	182.6	330.6	241.5	194.7	204.7	223.3
Petroleum	61.9	161.2	320.5	431.9	365.7	295.6	336.8	520.3
Asphalt and Road Oil	7.7	30.4	48.1	65.5	61.9	47.2	52.8	37.5
Distillate Fuel	13.3	43.4	111.3	196.0	79.5	122.7	93.1	90.8
Kerosene	11.6	13.8	7.0	7.9	7.9	17.6	19.8	7.9
LPG	10.5	25.9	48.6	56.5	36.8	33.5	41.2	70.6
Lubricants	7.5	17.0	29.7	33.1	28.7	28.2	29.3	36.8
Motor Gasoline	4.6	5.0	4.1	34.5	21.6	23.0	24.2	23.8
Residual Fuel	.5	8.3	37.3	8.0	116.3	8.5	63.5	238.3
Other	6.3	17.6	34.5	30.4	13.1	14.9	12.9	14.6
Electricity	50.2	146.7	310.2	401.9	426.5	444.6	471.2	487.7
Transportation Sector	409.1	750.7	1,918.0	1,814.0	1,441.2	1,653.9	1,793.1	1,864.4
Primary Energy	409.1	750.7	1,918.0	1,814.0	1,441.2	1,653.9	1,793.1	1,864.4
Coal	-	-	-	-	-	-	-	-
Petroleum	409.1	750.7	1,918.0	1,814.0	1,441.2	1,653.9	1,793.1	1,864.4
Aviation Gasoline	3.5	3.5	9.4	5.4	5.8	4.3	4.8	6.4
Distillate Fuel	31.6	75.1	269.0	385.5	342.3	388.7	480.4	463.9
Jet Fuel	6.3	16.3	53.3	134.1	93.8	171.0	154.5	144.6
LPG	2.4	4.6	2.7	5.6	4.6	4.5	4.2	3.6
Lubricants	8.7	13.9	27.4	30.6	26.5	26.1	27.1	34.0
Motor Gasoline	356.5	626.2	1,470.2	1,226.6	951.8	1,040.3	1,095.6	1,198.8
Residual Fuel	-	11.1	86.0	26.3	16.4	19.2	26.6	13.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	831.3	1,618.4	3,815.6	4,412.5	3,985.0	4,149.1	4,420.0	4,778.4
Primary Energy — Four Sectors	605.4	1,132.4	2,739.7	2,956.7	2,402.5	2,542.9	2,725.8	2,991.6
Electricity	225.9	486.0	1,075.9	1,455.8	1,582.5	1,606.2	1,694.2	1,786.8
Electric Utility Sector	31.7	154.7	438.6	476.1	420.1	381.2	453.7	355.7
Coal	3.1	26.9	135.5	262.4	236.1	226.0	223.0	150.8
Natural Gas	27.3	26.9	204.2	155.6	114.4	78.2	63.0	84.5
Petroleum	1.3	100.8	98.9	4.9	18.9	2.8	23.8	22.6
Heavy Oil ^b	1.2	97.6	96.7	2.8	17.8	2.0	22.2	19.9
Light Oil ^b	-	3.2	2.2	2.1	1.2	.8	1.7	2.7
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	53.1	50.6	74.1	143.8	97.9
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	637.1	1,287.0	3,178.3	3,432.7	2,822.6	2,924.1	3,179.5	3,347.4

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Missouri 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.29	0.62	1.22	1.51	1.46	1.40	1.37	1.35
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.70	-
Steam Coal	.28	.60	1.21	1.51	1.46	1.40	1.37	1.35
Natural Gas	.64	1.16	2.95	4.94	4.52	4.28	4.37	4.50
Petroleum	1.97	3.66	8.03	7.85	5.73	6.19	6.06	6.74
Asphalt and Road Oil	.71	2.05	3.59	4.77	3.81	3.70	3.53	3.12
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.05	2.52	6.61	6.70	5.26	5.61	5.37	6.19
Jet Fuel	.75	2.09	6.47	5.90	3.95	4.13	3.89	4.36
Kerosene	.89	2.45	6.43	7.81	5.81	5.49	5.16	6.67
LPG	1.79	3.06	6.32	8.08	6.57	6.70	6.98	7.42
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.73	4.55	9.33	8.56	6.11	6.81	6.82	7.45
Residual Fuel	.56	1.78	3.33	4.10	2.25	2.60	2.13	2.35
Other ^a	1.24	2.57	7.09	7.43	4.44	4.81	4.08	4.73
Nuclear Fuel	-	-	-	.82	.82	.52	.73	.71
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.16	2.07	4.38	4.59	3.72	3.85	3.77	4.07
Electric Utility Fuel	.26	.57	1.25	1.41	1.38	1.31	1.29	1.26
Electricity Purchased by End Users	6.17	8.64	13.91	17.16	18.45	18.90	18.94	18.92
Total Energy^b	1.83	3.32	7.19	8.28	7.31	7.66	7.60	8.01
Expenditures in Millions of Dollars								
Coal	80.3	266.8	647.4	800.8	750.1	741.4	751.9	740.3
Coking Coal	3.1	11.9	9.6	12.0	10.8	3.4	*	-
Steam Coal	77.2	254.9	637.7	788.8	739.3	738.0	751.9	740.3
Natural Gas	265.4	423.0	928.2	1,284.0	1,089.0	994.0	1,090.0	1,160.6
Petroleum	1,120.8	2,201.4	4,681.5	4,506.2	3,400.3	3,742.6	3,857.4	4,257.3
Asphalt and Road Oil	26.8	73.3	95.3	135.9	116.9	106.8	132.6	94.1
Aviation Gasoline	2.0	3.2	7.4	6.8	6.9	5.1	6.1	8.4
Distillate Fuel	99.1	261.8	708.2	765.2	562.0	629.7	663.8	798.1
Jet Fuel	34.1	98.2	229.5	196.6	149.9	174.6	160.8	179.6
Kerosene	3.2	3.9	11.5	10.1	2.5	2.0	2.6	4.7
LPG	79.5	147.5	211.7	258.9	218.6	211.6	248.8	307.8
Lubricants	35.5	58.3	139.6	155.8	134.8	132.8	137.8	173.1
Motor Gasoline	803.2	1,490.4	2,889.0	2,699.9	2,034.0	2,274.5	2,326.8	2,492.9
Residual Fuel	11.4	21.7	23.2	22.4	9.6	11.6	10.9	10.4
Other ^a	26.1	43.1	366.2	254.6	165.1	194.1	167.3	188.2
Nuclear Fuel	-	-	-	71.3	63.1	34.9	70.3	63.1
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,466.5	2,891.1	6,257.1	6,662.4	5,302.5	5,512.9	5,769.7	6,221.4
Electric Utility Fuel	-76.3	-234.0	-639.6	-811.7	-761.7	-733.5	-781.9	-762.9
Electricity Purchased by End Users	542.4	974.3	2,022.4	2,712.0	3,038.6	3,232.6	3,377.0	3,396.0
Total Energy^b	1,932.6	3,631.4	7,639.9	8,562.7	7,579.5	8,012.0	8,364.8	8,854.5

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Missouri 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.09	3.39	6.88	9.58	9.92	10.32	10.21	10.29
Primary Energy	1.13	1.85	3.80	5.70	5.09	4.91	4.99	5.32
Coal	.86	1.72	1.70	1.73	1.54	1.37	1.25	1.43
Natural Gas	.96	1.48	3.23	5.40	4.98	4.71	4.73	4.80
Petroleum	1.81	3.14	7.01	7.41	5.66	6.14	6.51	7.82
Distillate Fuel	1.19	2.62	6.85	6.70	4.95	4.66	4.71	5.88
Kerosene	1.43	2.88	7.95	8.45	6.24	5.87	5.94	7.41
LPG	1.95	3.26	7.06	7.53	5.81	6.41	6.82	8.02
Electricity	7.86	10.06	15.21	19.27	20.87	21.59	21.49	21.50
Commercial Sector	1.66	2.87	6.87	10.23	10.40	10.45	10.55	10.92
Primary Energy	.69	1.36	3.32	5.14	4.44	4.08	4.14	4.33
Coal	.49	1.17	1.58	1.56	1.38	1.27	1.27	1.29
Natural Gas	.62	1.14	2.88	4.88	4.35	4.06	4.17	4.31
Petroleum	.93	2.38	5.74	6.77	5.13	4.71	4.58	5.44
Distillate Fuel	1.03	2.45	6.49	5.75	3.86	3.66	3.35	4.41
Kerosene	.82	2.40	6.10	6.69	4.41	4.44	4.05	5.56
LPG	1.27	2.49	5.42	9.12	8.17	7.29	7.27	6.32
Motor Gasoline	2.73	4.55	9.33	8.56	6.11	6.81	6.82	7.45
Residual Fuel	.57	1.77	3.47	4.11	2.25	2.61	2.20	2.41
Electricity	7.00	9.46	14.33	17.94	19.02	19.04	19.06	19.03
Industrial Sector	1.11	2.38	5.37	6.34	5.69	5.76	5.55	5.94
Primary Energy	.75	1.73	4.48	4.97	3.84	3.88	3.75	4.12
Coal	.47	1.24	1.61	1.62	1.44	1.29	1.27	1.29
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.70	-
Steam Coal	.49	1.17	1.58	1.56	1.38	1.27	1.27	1.29
Natural Gas	.40	.80	2.61	4.14	3.75	3.61	3.79	4.10
Petroleum	1.16	2.66	6.32	6.80	4.82	4.87	4.45	4.99
Asphalt and Road Oil	.71	2.05	3.59	4.77	3.81	3.70	3.53	3.12
Distillate Fuel	.77	2.25	5.83	6.00	3.96	3.99	3.64	4.99
Kerosene	.82	2.40	6.10	6.69	4.41	4.44	4.05	5.56
LPG	1.27	2.49	5.42	9.12	8.17	7.29	7.27	6.32
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.73	4.55	9.33	8.56	6.11	6.81	6.82	7.45
Residual Fuel	.53	1.82	3.09	4.11	2.25	2.61	2.20	2.41
Other	1.24	2.58	7.17	7.43	4.44	4.81	4.09	4.74
Electricity	4.01	6.46	11.21	13.14	14.02	14.36	14.45	14.50
Transportation Sector	2.32	4.07	8.76	8.19	5.97	6.50	6.52	7.11
Primary Energy	2.32	4.07	8.76	8.19	5.97	6.56	6.52	7.11
Coal	.49	1.17	-	-	-	-	-	-
Petroleum	2.32	4.07	8.76	8.19	5.97	6.56	6.52	7.11
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.24	2.72	6.97	7.04	5.75	6.33	6.10	6.54
Jet Fuel	.75	2.09	6.47	5.90	3.95	4.13	3.89	4.36
LPG	1.27	2.49	5.42	9.12	8.17	7.29	7.27	6.32
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.73	4.55	9.33	8.56	6.11	6.81	6.82	7.45
Residual Fuel	.55	1.73	3.38	3.88	2.24	-	1.80	2.08
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.83	3.32	7.19	8.28	7.31	7.66	7.60	8.01
Primary Energy — Four Sectors	1.44	2.71	6.13	6.68	5.20	5.46	5.41	5.90
Electricity	6.17	8.64	13.91	17.16	18.45	18.90	18.94	18.92
Electric Utility Sector	.26	.57	1.25	1.41	1.38	1.31	1.29	1.26
Coal	.25	.54	1.19	1.50	1.47	1.41	1.38	1.35
Natural Gas	.26	.59	2.22	3.31	2.92	2.96	2.77	2.46
Petroleum	.62	2.05	5.07	5.60	3.38	3.93	3.35	3.90
Heavy Oil ^b	.55	1.74	3.45	3.99	2.32	2.41	1.83	2.12
Light Oil ^b	.69	2.26	6.02	5.76	3.49	4.14	3.55	4.45
Petroleum Coke	-	.65	.87	1.38	-	-	.97	.80
Nuclear Fuel	-	-	-	.82	.82	.52	.73	.71
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.16	2.07	4.38	4.59	3.72	3.85	3.77	4.07

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."
Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Missouri 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	486.6	840.7	1,622.0	2,116.3	2,151.1	2,206.3	2,349.9	2,407.8
Primary Energy	227.1	371.9	654.0	901.0	764.9	709.8	784.9	862.8
Coal	.6	2.0	1.1	2.2	1.3	2.6	2.1	2.8
Natural Gas	150.9	232.0	471.2	703.3	606.9	552.4	610.8	625.1
Petroleum	75.5	137.9	181.7	195.5	156.8	154.8	172.0	235.0
Distillate Fuel	9.1	21.9	49.7	31.8	23.6	17.8	17.4	16.2
Kerosene	.6	.5	2.6	6.9	2.1	1.6	1.8	3.1
LPG	65.9	115.5	129.4	156.7	131.1	135.5	152.8	215.6
Electricity	259.5	468.8	967.9	1,215.3	1,386.2	1,496.5	1,565.0	1,545.0
Commercial Sector	227.1	400.9	943.7	1,333.9	1,396.7	1,444.8	1,537.2	1,559.4
Primary Energy	79.8	154.4	308.8	403.1	353.0	323.8	344.1	341.4
Coal	.6	2.5	1.8	3.6	2.1	4.4	4.1	4.7
Natural Gas	54.9	104.7	222.7	299.5	272.1	239.2	268.1	273.6
Petroleum	24.2	47.2	84.4	100.0	78.7	80.1	72.0	63.2
Distillate Fuel	6.5	16.9	37.9	49.1	33.3	39.6	32.5	23.8
Kerosene	2.0	2.4	5.9	1.9	.2	.1	.3	.4
LPG	7.5	15.5	17.5	33.5	32.5	27.2	28.8	30.0
Motor Gasoline	2.2	3.8	10.9	11.8	10.4	11.2	8.9	8.3
Residual Fuel	6.0	8.5	12.1	3.8	2.2	2.0	1.5	.7
Electricity	147.3	246.5	634.8	930.8	1,043.8	1,121.0	1,193.0	1,218.0
Industrial Sector	340.3	690.4	1,525.7	1,634.0	1,359.7	1,376.9	1,412.4	1,481.5
Primary Energy	204.7	431.4	1,106.1	1,068.1	751.1	761.8	793.4	848.5
Coal	20.4	56.8	58.0	66.7	56.3	45.2	45.3	42.5
Coking Coal	3.1	11.9	9.6	12.0	10.8	3.4	*	-
Steam Coal	17.3	44.9	48.4	54.7	45.5	41.8	45.3	42.5
Natural Gas	42.9	71.3	201.1	276.4	206.6	198.3	206.7	258.9
Petroleum	141.4	303.4	847.0	725.1	488.2	518.3	541.4	547.1
Asphalt and Road Oil	26.8	73.3	95.3	135.9	116.9	106.8	132.6	94.1
Distillate Fuel	25.4	75.7	162.3	139.7	63.1	73.1	79.7	93.9
Kerosene	.7	1.0	3.0	1.3	.2	.3	.5	1.1
LPG	5.6	15.8	63.4	62.8	49.4	45.1	63.9	58.9
Lubricants	12.8	22.3	58.4	65.2	56.4	55.5	57.6	72.4
Motor Gasoline	39.7	64.7	91.4	48.4	30.8	34.2	31.9	30.4
Residual Fuel	4.4	7.5	7.5	17.3	6.4	9.2	7.9	8.1
Other	26.1	43.0	365.8	254.6	165.1	194.1	167.3	188.2
Electricity	135.6	259.0	419.6	565.9	608.6	615.0	619.0	633.0
Transportation Sector	878.6	1,699.5	3,548.5	3,478.4	2,671.9	2,984.0	3,065.3	3,405.8
Primary Energy	878.6	1,699.5	3,548.5	3,478.4	2,671.9	2,984.0	3,065.3	3,405.8
Coal	-	-	-	-	-	-	-	-
Petroleum	878.5	1,699.5	3,548.5	3,478.4	2,671.9	2,984.0	3,065.3	3,405.8
Aviation Gasoline	2.0	3.2	7.4	6.8	6.9	5.1	6.1	8.4
Distillate Fuel	57.5	137.9	439.5	537.8	437.4	494.3	528.0	658.5
Jet Fuel	34.1	98.2	229.5	196.6	149.9	174.6	160.8	179.6
LPG	.4	.7	1.3	5.9	5.6	3.8	3.3	3.3
Lubricants	22.7	36.0	81.2	90.6	78.4	77.2	80.2	100.7
Motor Gasoline	761.4	1,421.9	2,786.6	2,639.7	1,992.9	2,229.1	2,286.0	2,454.2
Residual Fuel	.6	1.5	3.0	1.0	.7	-	1.1	1.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,932.6	3,631.4	7,639.9	8,562.7	7,579.5	8,012.0	8,364.8	8,854.5
Primary Energy — Four Sectors	1,390.2	2,657.2	5,617.5	5,850.7	4,540.9	4,779.4	4,987.8	5,458.5
Electricity	542.4	974.3	2,022.4	2,712.0	3,038.6	3,232.6	3,377.0	3,396.0
Electric Utility Sector	76.3	234.0	639.6	811.7	761.7	733.5	781.9	762.9
Coal	58.6	205.4	586.4	728.4	690.4	689.2	700.4	690.4
Natural Gas	16.6	15.0	33.3	4.8	3.4	4.0	4.5	3.1
Petroleum	1.1	13.5	19.9	7.2	4.8	5.4	6.7	6.3
Heavy Oil ^b	.5	4.1	.6	.4	.3	.4	.4	.5
Light Oil ^b	.6	9.3	18.8	6.8	4.5	5.0	6.3	5.7
Petroleum Coke	-	.1	.4	-	-	-	*	.1
Nuclear Fuel	-	-	-	71.3	63.1	34.9	70.3	63.1
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,466.5	2,891.1	6,257.1	6,662.4	5,302.5	5,512.9	5,769.7	6,221.4

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Montana 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.22	0.33	0.53	0.75	0.74	0.68	0.57	0.61
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.22	.33	.53	.75	.74	.68	.57	.61
Natural Gas	.57	1.07	3.14	4.84	4.32	4.05	3.92	3.95
Petroleum	1.89	3.41	7.13	7.28	5.97	6.38	6.36	6.72
Asphalt and Road Oil	.59	1.84	3.67	4.83	4.35	3.07	3.29	2.75
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.14	2.58	6.59	6.39	5.68	6.40	6.32	6.51
Jet Fuel	.76	2.12	6.59	6.64	4.81	4.38	4.33	4.79
Kerosene	.94	2.63	-	11.09	5.97	6.37	5.73	5.87
LPG	2.10	3.62	6.49	7.61	6.62	6.15	6.15	7.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.89	4.78	9.99	9.16	6.74	7.57	7.75	8.59
Residual Fuel	.39	1.99	3.28	3.03	2.63	2.34	2.12	2.16
Other ^a	.52	1.40	2.38	2.17	1.53	1.50	1.45	1.92
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.26	2.41	4.79	4.68	3.39	3.47	3.02	3.32
Electric Utility Fuel	.23	.34	.72	.72	.68	.66	.55	.59
Electricity Purchased by End Users	2.88	4.05	5.80	10.72	11.18	11.81	12.09	12.00
Total Energy ^b	1.56	2.78	6.02	7.42	6.72	7.04	7.03	7.13
Expenditures in Millions of Dollars								
Coal	2.6	6.2	31.8	74.0	98.1	90.8	103.9	108.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	2.6	6.2	31.8	74.0	98.1	90.8	103.9	108.3
Natural Gas	45.1	78.2	166.0	204.7	157.7	140.4	149.0	164.9
Petroleum	204.2	481.4	1,050.5	1,075.4	741.0	771.6	783.7	907.4
Asphalt and Road Oil	5.3	11.3	24.9	46.9	57.4	33.5	32.2	31.9
Aviation Gasoline	.5	1.4	7.3	4.6	4.4	3.1	4.0	4.0
Distillate Fuel	31.9	114.2	288.2	421.3	231.9	244.3	232.4	291.2
Jet Fuel	2.7	9.7	34.1	25.2	23.3	17.7	19.6	20.0
Kerosene	2.0	1.8	-	.7	.6	.2	.1	.1
LPG	9.9	17.1	41.9	43.8	34.1	34.9	31.0	43.2
Lubricants	6.2	9.4	21.6	24.0	20.8	20.5	21.3	26.7
Motor Gasoline	140.7	266.6	546.8	490.2	359.8	407.0	425.5	464.8
Residual Fuel	.7	17.6	68.3	11.5	3.0	1.7	9.0	13.8
Other ^a	4.4	12.3	17.4	7.1	5.5	8.6	8.7	11.6
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	.5	.1	.3	.5	.2	.5	.5	.6
Primary Energy — Five Sectors	252.4	545.9	1,248.6	1,354.7	996.9	1,003.2	1,037.1	1,181.2
Electric Utility Fuel	-3.4	-6.4	-44.3	-69.2	-87.0	-85.9	-99.1	-102.8
Electricity Purchased by End Users	84.1	119.8	207.7	488.6	515.8	488.8	521.6	519.2
Total Energy ^b	333.2	659.3	1,412.0	1,774.1	1,425.7	1,406.2	1,459.6	1,597.6

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Montana
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.87	2.73	5.36	8.27	8.13	8.74	8.44	8.44
Primary Energy	1.06	1.74	3.91	5.43	4.78	4.68	4.50	4.83
Coal	.80	1.06	1.35	.98	1.37	1.44	.95	1.25
Natural Gas	.88	1.27	3.02	4.82	4.46	4.33	4.20	4.29
Petroleum	2.03	3.37	7.08	8.11	6.10	6.09	5.86	7.07
Distillate Fuel	1.28	2.84	6.92	7.92	4.87	5.15	4.61	5.08
Kerosene	-	-	-	11.40	7.00	7.41	6.62	7.31
LPG	2.35	3.88	7.21	8.18	7.12	6.62	6.55	8.51
Electricity	6.57	7.02	9.04	13.77	14.68	16.19	15.89	15.77
Commercial Sector	1.51	2.39	5.12	7.86	8.77	8.42	8.19	7.78
Primary Energy	.78	1.49	3.76	5.11	4.57	4.46	4.27	4.23
Coal	.48	.79	2.04	1.66	2.05	1.96	1.78	1.76
Natural Gas	.60	1.07	3.12	5.10	4.48	4.26	4.20	4.28
Petroleum	1.64	2.89	6.87	5.17	4.97	5.22	4.77	4.59
Distillate Fuel	1.06	2.49	6.45	6.25	5.45	5.32	3.92	3.83
Kerosene	.94	2.63	-	7.11	4.30	6.15	5.21	5.27
LPG	1.49	2.77	5.85	7.19	6.17	5.77	5.75	5.98
Motor Gasoline	2.89	4.78	9.99	9.16	6.74	7.57	7.75	8.59
Residual Fuel	.34	2.03	4.42	3.03	2.63	2.34	2.12	2.16
Electricity	5.74	6.39	8.50	12.49	13.45	14.04	13.46	13.46
Industrial Sector	.80	1.79	3.73	5.90	4.99	5.32	5.29	5.05
Primary Energy	.64	1.75	3.91	5.49	3.93	3.88	3.47	3.58
Coal	.48	.79	2.04	1.66	2.05	1.96	1.78	1.76
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.48	.79	2.04	1.66	2.05	1.96	1.78	1.76
Natural Gas	.33	.93	3.11	4.71	3.92	3.36	3.01	2.93
Petroleum	.95	2.32	4.23	5.89	4.23	4.19	3.77	3.87
Asphalt and Road Oil	.59	1.84	3.67	4.83	4.35	3.07	3.29	2.75
Distillate Fuel	.87	2.44	5.19	6.02	3.64	5.21	4.41	4.46
Kerosene	.94	2.63	-	7.11	4.30	6.15	5.21	5.27
LPG	1.49	2.77	5.85	7.19	6.17	5.77	5.75	5.98
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.89	4.78	9.99	9.16	6.74	7.57	7.75	8.59
Residual Fuel	.45	1.99	3.28	3.03	2.63	2.34	2.12	2.16
Other	.52	1.40	2.38	2.17	1.53	1.50	1.45	1.92
Electricity	1.33	1.96	3.05	7.35	7.52	8.42	9.33	9.15
Transportation Sector	2.34	4.02	8.92	8.42	6.78	7.35	7.52	8.38
Primary Energy	2.34	4.02	8.92	8.42	6.78	7.35	7.52	8.38
Coal	.48	.79	-	-	-	-	-	-
Petroleum	2.34	4.02	8.92	8.42	6.78	7.35	7.52	8.38
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.24	2.65	7.15	6.80	6.84	7.09	7.31	8.13
Jet Fuel	.76	2.12	6.59	6.64	4.81	4.38	4.33	4.79
LPG	1.49	2.77	5.85	7.19	6.17	5.77	5.75	5.98
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.89	4.78	9.99	9.16	6.74	7.57	7.75	8.59
Residual Fuel	.34	2.01	-	4.01	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.56	2.78	6.02	7.42	6.72	7.04	7.03	7.13
Primary Energy — Four Sectors	1.35	2.59	6.06	6.65	5.48	5.79	5.70	5.97
Electricity	2.88	4.05	5.80	10.72	11.18	11.81	12.09	12.00
Electric Utility Sector	.23	.34	.72	.72	.68	.66	.55	.59
Coal	.19	.30	.44	.71	.67	.65	.55	.58
Natural Gas	.27	.38	3.87	.59	.86	.92	1.26	1.14
Petroleum	.33	2.00	5.01	6.11	4.28	4.11	4.03	4.31
Heavy Oil ^b	.33	1.99	-	-	-	-	-	-
Light Oil ^b	.36	2.30	5.01	6.11	4.28	4.11	4.03	4.31
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.26	2.41	4.79	4.68	3.39	3.47	3.02	3.32

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Montana 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	66.7	106.4	187.8	263.5	263.6	265.4	274.5	301.9
Primary Energy	32.3	55.1	98.0	129.7	102.7	92.0	95.5	115.9
Coal	.1	.1	.1	.	.2	.1	.1	.5
Natural Gas	22.5	31.2	58.9	93.2	74.8	67.7	72.7	79.5
Petroleum	9.7	23.8	38.9	36.4	27.7	24.2	22.8	35.9
Distillate Fuel	1.9	9.7	17.0	15.9	10.0	7.4	6.3	10.8
Kerosene	-	-	-	.7	.5	*	*	*
LPG	7.9	14.0	21.9	19.8	17.3	16.7	16.5	25.1
Electricity	34.4	51.3	89.9	169.8	161.0	173.4	179.0	186.0
Commercial Sector	41.3	73.1	127.1	305.5	282.0	207.0	209.7	211.9
Primary Energy	18.0	37.2	66.4	124.7	77.5	64.2	62.7	70.9
Coal	.1	.1	.4	.2	.5	.2	.2	1.2
Natural Gas	11.5	20.4	44.9	75.5	56.1	47.7	51.8	57.3
Petroleum	6.5	16.7	21.2	49.0	20.8	16.3	10.7	12.4
Distillate Fuel	1.7	9.7	13.0	31.4	12.8	9.5	4.5	4.5
Kerosene	.5	.8	-	*	.1	*	*	*
LPG	.9	1.8	3.1	3.1	2.6	2.6	2.6	3.1
Motor Gasoline	3.3	4.4	4.8	3.5	2.7	3.2	3.1	3.5
Residual Fuel	*	*	.2	11.1	2.6	1.1	.5	1.3
Electricity	23.3	35.9	60.7	180.8	204.5	142.7	147.0	141.0
Industrial Sector	67.2	156.8	329.7	495.4	336.8	343.3	356.6	402.6
Primary Energy	40.7	124.1	272.6	357.4	186.6	170.6	161.1	210.4
Coal	.3	.8	6.0	6.8	11.7	6.7	7.0	6.4
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.3	.8	6.0	6.8	11.7	6.7	7.0	6.4
Natural Gas	10.4	26.1	45.2	35.7	26.3	24.4	24.1	27.6
Petroleum	30.0	97.2	221.4	315.0	148.6	139.5	129.9	176.4
Asphalt and Road Oil	5.3	11.3	24.9	46.9	57.4	33.5	32.2	31.9
Distillate Fuel	6.5	35.5	58.2	203.3	45.1	54.7	41.6	72.3
Kerosene	1.5	1.0	-	*	*	.2	.1	*
LPG	.9	.8	15.9	19.7	13.2	14.9	11.2	14.1
Lubricants	1.4	2.1	4.5	5.0	4.3	4.2	4.4	5.5
Motor Gasoline	9.6	19.4	32.5	32.6	22.6	22.8	23.4	28.4
Residual Fuel	.4	14.9	68.1	.4	.4	.6	8.4	12.6
Other	4.4	12.3	17.4	7.1	5.5	8.6	8.7	11.6
Electricity	26.5	32.6	57.1	138.0	150.2	172.7	195.6	192.2
Transportation Sector	157.9	323.1	767.3	673.7	543.3	590.5	618.8	681.2
Primary Energy	157.9	323.1	767.3	673.7	543.3	590.5	618.8	681.2
Coal	*	*	-	-	-	-	-	-
Petroleum	157.9	323.1	767.3	673.7	543.3	590.5	618.8	681.2
Aviation Gasoline	.5	1.4	7.3	4.6	4.4	3.1	4.0	4.0
Distillate Fuel	21.9	59.2	198.3	169.4	163.5	171.7	178.4	202.0
Jet Fuel	2.7	9.7	34.1	25.2	23.3	17.7	19.6	20.0
LPG	.2	.5	1.0	1.2	1.0	.7	.8	1.0
Lubricants	4.7	7.3	17.1	19.1	16.5	16.3	16.9	21.2
Motor Gasoline	127.7	242.9	509.5	454.2	334.6	381.1	398.9	432.9
Residual Fuel	.3	2.0	-	*	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	333.2	659.3	1,412.0	1,774.1	1,425.7	1,406.2	1,459.6	1,597.6
Primary Energy — Four Sectors	249.0	539.5	1,204.3	1,285.4	910.0	917.3	938.0	1,078.4
Electricity	84.1	119.8	207.7	488.6	515.8	488.8	521.6	519.2
Electric Utility Sector	3.4	6.4	44.3	69.2	87.0	85.9	99.1	102.8
Coal	2.2	5.2	25.3	67.1	85.7	83.8	96.7	100.2
Natural Gas	.7	.5	17.0	.3	.4	.5	.4	.5
Petroleum	.1	.7	1.7	1.4	.6	1.1	1.5	1.5
Heavy Oil ^b	.1	.7	-	-	-	-	-	-
Light Oil ^b	*	*	1.7	1.4	.6	1.1	1.5	1.5
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	.5	.1	.3	.5	.2	.5	.5	.6
Primary Energy — Five Sectors	252.4	545.9	1,248.6	1,354.7	996.9	1,003.2	1,037.1	1,181.2

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Nebraska 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.32	0.86	1.27	1.17	1.08	0.98	0.87	0.85
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.32	.86	1.27	1.17	1.08	.98	.87	.85
Natural Gas	.50	.90	2.40	4.43	4.08	3.71	3.81	3.84
Petroleum	2.12	3.74	8.26	8.29	6.46	6.66	6.25	7.27
Asphalt and Road Oil	.71	2.07	3.89	5.04	3.93	3.85	3.54	3.09
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.95	2.38	6.24	6.86	5.53	5.87	5.37	6.37
Jet Fuel	.75	2.09	6.47	6.19	4.43	4.39	4.14	4.54
Kerosene	1.18	2.63	5.56	9.00	4.37	4.55	4.08	5.74
LPG	1.56	3.07	5.70	7.00	7.20	6.88	6.93	7.37
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.03	4.76	10.06	9.67	7.28	7.58	7.22	8.42
Residual Fuel	.48	1.74	3.21	4.28	2.72	2.53	2.17	2.04
Other ^a	.51	1.40	2.44	-	3.95	4.85	4.00	4.86
Nuclear Fuel	-	.17	.44	.65	.64	.64	.63	.65
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.21	1.95	4.18	4.87	3.79	3.71	3.63	3.94
Electric Utility Fuel	.30	.50	1.00	1.01	.89	.82	.79	.78
Electricity Purchased by End Users	5.12	6.89	11.76	15.70	15.62	15.65	15.52	16.22
Total Energy^b	1.72	2.89	6.51	8.06	7.12	7.13	6.87	7.61
Expenditures in Millions of Dollars								
Coal	9.6	28.4	119.4	135.5	118.5	114.1	121.7	112.7
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	9.6	28.4	119.4	135.5	118.5	114.1	121.7	112.7
Natural Gas	104.1	184.3	354.1	523.7	408.4	383.6	439.0	436.6
Petroleum	404.8	773.8	1,561.0	1,614.4	1,278.7	1,363.2	1,393.0	1,532.9
Asphalt and Road Oil	5.3	10.3	18.6	15.8	24.9	31.7	29.7	23.2
Aviation Gasoline	2.2	2.5	9.7	4.9	5.0	3.4	3.6	3.9
Distillate Fuel	41.4	117.9	332.7	494.9	388.1	420.7	437.4	461.0
Jet Fuel	7.3	19.3	56.2	45.9	32.8	32.9	34.2	37.1
Kerosene	3.9	8.2	2.0	5.7	4.2	2.4	1.6	.8
LPG	33.2	65.4	94.2	106.1	101.8	119.7	136.0	139.2
Lubricants	14.8	22.3	33.9	37.8	32.7	32.2	33.4	42.0
Motor Gasoline	294.4	516.3	1,008.9	901.2	679.4	710.3	706.3	814.2
Residual Fuel	2.3	11.2	4.3	2.0	5.0	4.4	6.0	5.9
Other ^a	.1	.3	.5	-	4.7	5.5	4.8	5.8
Nuclear Fuel	-	11.0	27.7	29.3	52.8	59.0	46.5	56.3
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	518.6	997.4	2,062.2	2,302.9	1,858.4	1,919.8	2,000.2	2,138.6
Electric Utility Fuel	-22.3	-68.1	-164.7	-158.7	-167.8	-169.4	-166.5	-168.9
Electricity Purchased by End Users	170.3	271.2	550.6	841.2	846.3	864.2	914.0	972.0
Total Energy^b	666.6	1,200.5	2,448.1	2,985.4	2,537.0	2,614.5	2,747.7	2,941.7

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Nebraska 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.84	2.95	5.83	8.78	8.55	8.73	8.63	8.96
Primary Energy	1.04	1.74	3.32	5.45	4.70	4.55	4.65	4.97
Coal	1.08	2.16	3.60	2.76	2.40	2.43	2.49	2.42
Natural Gas	.84	1.29	2.78	5.10	4.62	4.43	4.53	4.54
Petroleum	1.69	3.39	6.84	7.42	5.24	5.22	5.31	7.37
Distillate Fuel	1.19	2.62	6.85	7.92	4.88	4.50	4.27	5.37
Kerosene	1.39	2.74	7.55	9.74	6.00	5.54	5.25	6.61
LPG	1.78	3.57	6.82	7.12	5.35	5.35	5.48	7.82
Electricity	6.21	8.13	13.22	17.30	17.27	17.52	17.42	18.05
Commercial Sector	1.36	2.36	5.01	8.33	8.22	8.31	8.03	8.55
Primary Energy	.59	1.17	2.62	4.71	4.09	3.93	3.92	3.97
Coal	.16	.81	1.69	2.46	1.70	1.63	1.56	1.47
Natural Gas	.52	1.00	2.33	4.29	3.95	3.76	3.81	3.82
Petroleum	1.09	2.60	6.81	7.20	5.47	5.49	5.32	5.68
Distillate Fuel	1.03	2.45	6.49	6.79	3.49	3.54	3.04	4.03
Kerosene	.79	2.39	5.17	8.12	4.17	4.41	3.77	5.22
LPG	1.09	2.46	5.19	6.92	8.25	7.76	7.73	7.13
Motor Gasoline	3.03	4.76	10.06	9.67	7.28	7.58	7.22	8.42
Residual Fuel	.50	1.75	3.22	-	-	2.60	2.13	2.02
Electricity	4.87	6.96	12.86	16.78	16.55	16.43	16.22	16.93
Industrial Sector	.88	1.77	4.48	6.41	5.27	5.06	4.87	5.43
Primary Energy	.69	1.47	3.85	5.61	4.22	4.10	3.88	4.23
Coal	.16	.81	1.69	2.46	1.70	1.63	1.56	1.47
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.16	.81	1.69	2.46	1.70	1.63	1.56	1.47
Natural Gas	.32	.69	2.21	3.67	3.28	2.81	2.90	2.96
Petroleum	1.26	2.92	5.84	7.37	4.93	5.14	4.67	5.28
Asphalt and Road Oil	.71	2.07	3.89	5.04	3.93	3.85	3.54	3.09
Distillate Fuel	.73	2.25	4.94	7.09	3.64	3.85	3.30	4.56
Kerosene	.79	2.39	5.17	8.12	4.17	4.41	3.77	5.22
LPG	1.09	2.46	5.19	6.92	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.03	4.76	10.06	9.67	7.28	7.58	7.22	8.42
Residual Fuel	.40	1.74	3.13	4.28	2.81	2.60	2.13	2.02
Other	.51	1.40	2.44	-	3.95	4.85	4.00	4.86
Electricity	3.42	4.96	8.71	11.47	11.42	11.34	11.28	12.34
Transportation Sector	2.51	4.15	9.20	8.70	7.10	7.32	6.90	8.01
Primary Energy	2.51	4.15	9.20	8.70	7.10	7.32	6.90	8.01
Coal	.16	.81	-	-	-	-	-	-
Petroleum	2.51	4.15	9.20	8.70	7.10	7.32	6.90	8.01
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.14	2.50	7.06	6.68	6.79	7.02	6.47	7.39
Jet Fuel	.75	2.09	6.47	6.19	4.43	4.38	4.14	4.54
LPG	1.09	2.46	5.19	6.92	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.03	4.76	10.06	9.67	7.28	7.58	7.22	8.42
Residual Fuel	.50	1.74	-	-	2.32	2.29	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.72	2.89	6.51	8.06	7.12	7.13	6.87	7.61
Primary Energy — Four Sectors	1.40	2.48	5.77	6.77	5.60	5.62	5.38	6.03
Electricity	5.12	6.89	11.76	15.70	15.62	15.65	15.52	16.22
Electric Utility Sector	.30	.50	1.00	1.01	.89	.82	.79	.78
Coal	.35	.87	1.24	1.11	1.04	.95	.84	.83
Natural Gas	.27	.63	1.82	3.58	3.21	2.56	2.69	2.36
Petroleum	.54	1.77	4.14	5.89	3.05	2.87	2.83	3.09
Heavy Oil ^b	.49	1.73	3.21	-	2.32	2.29	2.34	2.15
Light Oil ^b	.63	1.85	6.19	5.89	3.87	3.98	3.47	4.35
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.17	.44	.65	.64	.64	.63	.65
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.21	1.95	4.18	4.87	3.79	3.71	3.63	3.94

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products." Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Expenditure Estimates by Sector, Nebraska
1970, 1975, 1980, and 1985-1989
(Million Dollars)**

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Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	167.4	249.4	433.0	660.6	602.8	590.3	643.1	673.9
Primary Energy	80.3	119.2	184.0	295.1	230.2	208.9	238.1	259.9
Coal	.3	.1	.4	.3	.1	.1	.7	.1
Natural Gas	49.6	68.9	133.5	233.9	194.0	169.5	194.0	200.7
Petroleum	30.4	50.1	50.0	60.9	36.1	39.3	43.4	59.1
Distillate Fuel	1.4	2.6	14.4	15.7	8.0	5.3	4.9	7.8
Kerosene	3.0	5.8	.4	3.4	.6	.4	.4	.3
LPG	26.1	41.7	35.2	41.8	27.5	33.7	38.0	51.0
Electricity	87.0	130.3	249.1	365.5	372.6	381.4	405.0	414.0
Commercial Sector	89.9	143.1	298.5	541.3	490.0	482.0	519.6	534.8
Primary Energy	31.7	56.2	120.0	214.1	162.7	148.2	168.6	160.8
Coal	.1	.1	.4	.4	.1	.1	.8	.1
Natural Gas	24.7	42.9	99.1	166.0	142.8	126.6	147.7	140.8
Petroleum	6.8	13.3	20.5	47.7	19.9	21.5	20.1	19.9
Distillate Fuel	1.2	2.5	6.8	31.7	6.8	7.3	5.3	5.3
Kerosene	.3	1.0	.6	.8	.2	.1	*	.1
LPG	2.8	5.1	4.7	7.2	7.5	8.6	9.5	8.2
Motor Gasoline	1.7	3.0	7.9	8.0	5.4	5.5	5.1	5.6
Residual Fuel	.8	1.7	.5	-	-	*	.2	.7
Electricity	58.3	86.9	178.5	327.2	327.3	333.8	351.0	374.0
Industrial Sector	92.3	229.6	483.5	606.6	465.5	500.2	512.4	550.1
Primary Energy	67.4	175.7	360.5	458.1	319.1	351.2	354.4	366.0
Coal	.8	4.8	8.7	11.9	10.6	9.4	7.8	7.9
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.8	4.8	8.7	11.9	10.6	9.4	7.8	7.9
Natural Gas	17.0	49.2	101.1	119.4	66.3	83.2	92.1	89.2
Petroleum	49.6	121.6	250.7	326.7	242.2	258.6	254.5	269.0
Asphalt and Road Oil	5.3	10.3	18.6	15.8	24.9	31.7	29.7	23.2
Distillate Fuel	14.0	42.3	98.1	177.4	90.4	87.1	83.5	106.1
Kerosene	.6	1.5	.9	1.5	3.4	1.9	1.1	.3
LPG	3.4	16.5	51.0	55.3	65.5	75.8	86.8	77.9
Lubricants	4.9	8.8	3.6	4.0	3.5	3.4	3.5	4.5
Motor Gasoline	21.0	41.1	77.7	70.7	45.5	49.6	40.4	46.8
Residual Fuel	.3	.8	.3	2.0	4.2	3.5	4.6	4.4
Other	.1	.3	.5	-	4.7	5.5	4.8	5.8
Electricity	25.0	54.0	123.0	148.5	146.4	149.0	158.0	184.0
Transportation Sector	317.0	578.3	1,233.1	1,176.9	978.7	1,042.1	1,072.6	1,182.9
Primary Energy	317.0	578.3	1,233.1	1,176.9	978.7	1,042.1	1,072.6	1,182.9
Coal	*	*	-	-	-	-	-	-
Petroleum	317.0	578.3	1,233.1	1,176.9	978.7	1,042.1	1,072.6	1,182.9
Aviation Gasoline	2.2	2.5	9.7	4.9	5.0	3.4	3.6	3.9
Distillate Fuel	24.4	67.2	210.2	268.1	281.8	320.3	342.3	340.4
Jet Fuel	7.3	19.3	56.2	45.9	32.8	32.9	34.2	37.1
LPG	.9	2.1	3.3	1.8	1.4	1.5	1.7	2.1
Lubricants	9.8	13.6	30.3	33.8	29.3	28.8	29.9	37.6
Motor Gasoline	271.7	472.2	923.3	822.4	628.5	655.2	660.8	761.8
Residual Fuel	.7	1.5	-	-	*	*	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	666.6	1,200.5	2,448.1	2,985.4	2,537.0	2,614.5	2,747.7	2,941.7
Primary Energy — Four Sectors	496.3	929.3	1,897.5	2,144.2	1,690.7	1,750.3	1,833.7	1,969.7
Electricity	170.3	271.2	550.6	841.2	846.3	864.2	914.0	972.0
Electric Utility Sector	22.3	68.1	164.7	158.7	167.8	169.4	166.5	168.9
Coal	8.5	23.4	109.8	122.9	107.7	104.5	112.3	104.7
Natural Gas	12.8	23.3	20.5	4.4	5.3	4.4	5.2	5.9
Petroleum	1.0	10.5	6.7	2.1	1.9	1.6	2.4	2.1
Heavy Oil ^b	.6	7.2	3.6	-	.8	.8	1.1	.8
Light Oil ^b	.5	3.3	3.1	2.1	1.1	.8	1.3	1.2
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	11.0	27.7	29.3	52.8	59.0	46.5	56.3
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	518.6	997.4	2,062.2	2,302.9	1,858.4	1,919.8	2,000.2	2,138.6

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Nevada 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.37	0.35	1.06	1.62	1.40	1.40	1.37	1.49
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.37	.35	1.06	1.62	1.40	1.40	1.37	1.49
Natural Gas	.61	1.31	3.10	5.44	4.60	4.25	4.49	3.84
Petroleum	1.95	3.40	7.67	7.79	5.84	5.84	6.05	6.98
Asphalt and Road Oil	.59	1.83	3.69	4.78	4.34	3.27	3.28	2.73
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.29	2.75	6.97	7.32	5.44	5.70	5.83	6.92
Jet Fuel	.76	2.12	6.59	6.22	4.25	4.27	4.08	4.79
Kerosene	.77	2.42	-	14.41	12.71	8.60	9.20	12.04
LPG	2.91	4.03	7.07	11.51	10.95	10.29	10.13	12.60
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.07	4.74	9.95	8.77	6.75	6.79	7.32	8.19
Residual Fuel	.58	1.98	3.58	4.13	2.02	2.38	2.39	2.72
Other ^a	.43	-	4.04	3.39	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.32	1.82	4.69	4.90	3.59	3.69	3.70	4.20
Electric Utility Fuel	.36	.59	1.68	1.79	1.47	1.47	1.47	1.62
Electricity Purchased by End Users	3.89	6.86	13.18	16.75	17.16	15.45	15.93	15.46
Total Energy ^b	1.96	3.52	8.18	9.04	7.82	7.38	7.75	8.22
Expenditures in Millions of Dollars								
Coal	6.4	35.8	99.1	204.2	225.5	217.1	250.5	253.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	6.4	35.8	99.1	204.2	225.5	217.1	250.5	253.1
Natural Gas	34.5	85.5	191.5	222.8	162.3	173.6	213.0	245.9
Petroleum	176.6	393.5	1,125.9	1,056.6	825.9	904.7	1,004.0	1,216.8
Asphalt and Road Oil	2.4	10.2	15.0	26.8	16.3	18.7	20.3	25.3
Aviation Gasoline	2.0	3.4	9.4	5.3	5.2	3.8	4.5	4.9
Distillate Fuel	21.2	41.1	160.9	230.4	172.6	214.8	229.6	299.9
Jet Fuel	19.2	69.2	266.2	197.0	140.5	152.5	145.3	162.6
Kerosene	.1	.4	-	4.6	1.2	.6	2.0	2.9
LPG	9.2	7.4	22.9	44.3	40.5	33.3	37.8	71.9
Lubricants	3.2	5.4	9.4	10.5	9.1	9.0	9.3	11.7
Motor Gasoline	118.7	239.7	587.0	535.6	432.9	465.1	541.6	626.3
Residual Fuel	.5	16.7	55.0	2.1	7.6	6.8	13.7	11.3
Other ^a	*	-	.1	.1	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	217.5	514.7	1,416.5	1,483.5	1,213.7	1,295.4	1,467.5	1,715.8
Electric Utility Fuel	-15.1	-79.8	-226.1	-238.1	-249.1	-239.1	-290.8	-315.8
Electricity Purchased by End Users	75.7	179.0	468.2	634.3	655.8	638.7	717.3	773.1
Total Energy ^b	278.1	613.9	1,658.6	1,879.7	1,620.3	1,695.0	1,894.0	2,173.2

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Nevada
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.70	4.30	8.74	12.59	12.39	11.09	11.70	11.32
Primary Energy	1.76	2.18	4.58	7.69	6.72	6.05	6.57	6.96
Coal	1.31	1.55	5.13	4.54	4.49	4.11	3.83	4.14
Natural Gas	1.39	1.83	3.87	6.63	5.62	5.29	5.89	5.38
Petroleum	2.51	3.72	8.31	10.80	10.26	8.68	9.03	12.74
Distillate Fuel	1.27	2.82	6.92	7.55	7.26	5.79	6.02	8.26
Kerosene	-	-	-	15.04	14.46	11.54	11.99	16.46
LPG	3.52	4.90	9.28	12.40	11.84	11.19	10.98	14.68
Electricity	4.46	7.54	14.21	18.83	19.28	17.05	17.58	16.78
Commercial Sector	2.15	3.88	7.73	11.29	10.75	9.37	10.02	10.09
Primary Energy	.77	1.59	4.29	6.19	4.92	4.49	4.85	4.84
Coal	.52	.82	1.36	1.58	1.66	1.53	1.49	1.62
Natural Gas	.70	1.45	3.68	5.77	4.63	4.27	4.64	4.30
Petroleum	1.34	2.99	6.78	8.17	5.86	5.08	5.76	7.47
Distillate Fuel	1.12	2.62	6.60	7.76	5.32	4.60	5.09	6.73
Kerosene	.77	2.42	-	9.06	4.51	4.65	4.96	6.59
LPG	1.16	2.45	4.99	9.62	9.06	8.52	8.58	10.08
Motor Gasoline	3.07	4.74	9.96	8.77	6.75	6.70	7.32	8.19
Residual Fuel	.62	2.00	3.53	4.80	2.30	2.64	2.32	2.52
Electricity	4.74	8.01	15.39	18.24	18.66	16.59	16.94	16.85
Industrial Sector	1.02	2.18	7.20	8.10	7.59	6.78	6.86	7.18
Primary Energy	.75	1.61	3.67	5.73	4.02	3.80	4.00	4.66
Coal	.52	.82	1.36	1.58	1.66	1.53	1.49	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.52	.82	1.36	1.58	1.66	1.53	1.49	-
Natural Gas	.52	1.06	2.83	4.05	3.76	3.72	3.84	4.83
Petroleum	1.04	2.25	5.10	7.01	4.48	4.18	4.37	5.21
Asphalt and Road Oil	.59	1.83	3.69	4.78	4.34	3.27	3.28	2.73
Distillate Fuel	.96	2.25	5.56	7.97	3.97	4.09	4.37	5.80
Kerosene	.77	2.42	-	9.06	4.51	4.65	4.96	6.59
LPG	1.16	2.45	4.99	9.62	9.06	8.52	8.58	10.08
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.07	4.74	9.96	8.77	6.75	6.79	7.32	8.19
Residual Fuel	.49	1.83	3.75	4.80	2.30	2.64	2.32	2.52
Other	.43	-	4.04	3.39	-	-	-	-
Electricity	2.14	4.23	11.63	12.91	13.36	12.46	13.01	12.99
Transportation Sector	2.08	3.66	8.44	7.79	5.96	6.07	6.40	7.29
Primary Energy	2.08	3.66	8.44	7.79	5.96	6.07	6.40	7.29
Coal	.52	.82	-	-	-	-	-	-
Petroleum	2.08	3.66	8.44	7.79	5.96	6.07	6.40	7.29
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.50	3.01	7.36	6.97	6.01	6.59	6.87	7.76
Jet Fuel	.76	2.12	6.59	6.22	4.25	4.27	4.08	4.79
LPG	1.16	2.45	4.99	9.62	9.06	8.52	8.58	10.08
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.07	4.74	9.96	8.77	6.75	6.79	7.32	8.19
Residual Fuel	.60	2.36	-	-	1.86	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.96	3.52	8.18	9.04	7.82	7.38	7.75	8.22
Primary Energy — Four Sectors	1.65	2.93	7.12	7.33	5.71	5.61	5.90	6.54
Electricity	3.89	6.86	13.18	16.75	17.16	15.45	15.93	15.46
Electric Utility Sector	.36	.59	1.68	1.79	1.47	1.47	1.47	1.62
Coal	.31	.34	1.05	1.62	1.39	1.40	1.36	1.52
Natural Gas	.38	1.09	2.59	4.07	3.04	2.58	2.72	2.11
Petroleum	.62	2.00	3.60	4.91	2.06	2.51	2.51	2.97
Heavy Oil ^b	.61	1.98	3.58	3.71	1.97	2.36	2.40	2.74
Light Oil ^b	.70	2.47	5.58	6.12	3.94	4.41	4.05	5.19
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.32	1.82	4.69	4.90	3.59	3.69	3.70	4.20

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Nevada 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	52.6	104.0	255.1	403.0	383.9	374.4	426.0	449.3
Primary Energy	22.4	31.9	75.9	137.9	114.3	110.5	128.0	153.3
Coal	.7	.1	.2	.1	.1	.1	.1	.1
Natural Gas	10.9	21.6	53.6	88.7	72.9	75.1	89.7	93.0
Petroleum	10.7	10.1	22.1	49.2	41.3	35.4	38.3	60.2
Distillate Fuel	2.4	4.4	7.5	12.5	10.4	11.0	10.2	12.1
Kerosene	-	-	-	4.3	1.1	.4	1.6	2.2
LPG	8.3	5.8	14.6	32.5	29.8	24.0	26.5	45.9
Electricity	30.3	72.1	179.2	265.1	269.5	263.9	298.0	296.0
Commercial Sector	43.7	106.6	151.1	310.4	298.6	296.1	322.4	338.4
Primary Energy	10.3	28.1	57.9	98.3	78.7	84.5	89.4	91.4
Coal	.5	.1	.1	*	.1	*	*	*
Natural Gas	7.3	23.2	39.6	74.9	56.2	59.0	68.7	67.1
Petroleum	2.5	4.8	18.3	23.4	22.4	25.5	20.6	24.2
Distillate Fuel	1.0	2.0	13.6	14.6	15.3	19.2	13.5	14.8
Kerosene	*	.2	-	.2	*	*	.3	.3
LPG	.5	.5	1.4	4.4	4.0	3.2	3.7	5.6
Motor Gasoline	.8	1.7	3.2	3.8	2.9	3.0	3.1	3.5
Residual Fuel	.1	.4	.2	.2	.2	.1	*	*
Electricity	33.4	78.6	93.2	212.0	219.9	211.6	233.0	247.0
Industrial Sector	29.7	66.4	273.4	299.0	247.3	258.3	309.6	420.7
Primary Energy	17.7	38.1	77.6	141.8	81.0	95.1	123.2	190.5
Coal	.9	1.5	4.6	4.1	4.1	4.0	4.2	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.9	1.5	4.6	4.1	4.1	4.0	4.2	-
Natural Gas	5.8	11.4	21.9	24.2	12.1	20.7	24.8	35.3
Petroleum	11.0	25.2	51.1	113.5	64.8	70.4	94.2	155.2
Asphalt and Road Oil	2.4	10.2	15.0	26.8	16.3	18.7	20.3	25.3
Distillate Fuel	4.7	9.3	21.1	71.1	34.4	38.1	58.7	99.7
Kerosene	*	.2	-	.1	*	.1	.1	.4
LPG	.4	1.0	6.9	6.4	5.9	5.5	7.0	19.6
Lubricants	.7	1.2	2.2	2.4	2.1	2.1	2.2	2.7
Motor Gasoline	2.7	2.9	5.8	6.0	4.9	5.5	5.6	6.4
Residual Fuel	.1	.5	*	.7	1.2	.5	.5	.9
Other	*	-	.1	.1	-	-	-	-
Electricity	12.0	28.3	195.8	157.2	166.3	163.2	186.4	230.1
Transportation Sector	152.1	336.9	978.9	867.4	690.6	766.2	836.1	964.8
Primary Energy	152.1	336.9	978.9	867.4	690.6	766.2	836.1	964.8
Coal	*	*	-	-	-	-	-	-
Petroleum	152.1	336.9	978.9	867.4	690.6	766.2	836.1	964.8
Aviation Gasoline	2.0	3.4	9.4	5.3	5.2	3.8	4.5	4.9
Distillate Fuel	13.0	24.7	118.0	130.3	111.9	145.7	145.5	171.2
Jet Fuel	19.2	69.2	266.2	197.0	140.5	152.5	145.3	162.6
LPG	*	.1	.1	1.0	.8	.6	.6	.6
Lubricants	2.6	4.2	7.3	8.1	7.0	6.9	7.2	9.0
Motor Gasoline	115.3	235.2	578.0	525.7	425.0	456.6	532.9	616.5
Residual Fuel	*	.1	-	-	.1	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	278.1	613.9	1,658.6	1,879.7	1,620.3	1,695.0	1,894.0	2,173.2
Primary Energy — Four Sectors	202.5	434.9	1,190.4	1,245.4	964.5	1,056.3	1,176.7	1,400.0
Electricity	75.7	179.0	468.2	634.3	655.8	638.7	717.3	773.1
Electric Utility Sector	15.1	79.8	226.1	238.1	249.1	259.1	290.8	315.8
Coal	4.3	34.1	94.2	199.9	221.2	213.0	246.2	253.0
Natural Gas	10.5	29.3	76.4	35.0	21.1	18.9	29.8	50.4
Petroleum	.4	16.5	55.5	3.1	6.8	7.2	14.8	12.4
Heavy Oil ^b	.3	15.7	54.8	1.2	6.2	6.3	13.2	10.4
Light Oil ^b	.1	.8	.7	1.9	.6	.9	1.6	2.0
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	217.5	514.7	1,416.5	1,483.5	1,213.7	1,295.4	1,467.5	1,715.8

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, New Hampshire 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.37	1.22	1.60	2.03	2.01	1.93	1.79	1.75
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.37	1.22	1.60	2.03	2.01	1.93	1.79	1.75
Natural Gas	1.65	2.24	4.27	6.44	6.53	5.75	5.50	6.06
Petroleum	1.60	3.24	7.31	7.84	5.58	5.99	5.89	6.57
Asphalt and Road Oil	.70	2.05	4.00	5.20	4.86	3.54	3.34	3.17
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.38	2.80	6.97	7.51	5.52	5.54	5.66	6.33
Jet Fuel	.75	2.10	6.51	6.53	4.93	4.18	4.22	4.83
Kerosene	1.50	3.09	8.05	8.70	6.34	6.32	6.47	7.37
LPG	2.06	3.53	6.89	11.40	10.85	10.67	10.55	10.32
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.54	10.11	9.26	7.32	7.60	7.82	8.60
Residual Fuel	.42	1.85	3.82	3.76	1.99	2.65	1.93	2.29
Other ^a	1.89	4.36	8.89	11.55	11.59	11.45	9.75	14.58
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.41	2.89	6.17	6.41	5.15	5.34	5.21	5.81
Electric Utility Fuel	.36	1.43	2.68	2.46	1.95	2.20	1.83	2.01
Electricity Purchased by End Users	6.74	12.68	19.55	23.28	22.14	23.25	24.24	24.49
Total Energy ^b	2.20	4.39	9.60	10.81	9.16	9.21	9.76	10.39
Expenditures in Millions of Dollars								
Coal	10.1	31.9	46.9	80.5	50.4	60.9	58.7	55.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	10.1	31.9	46.9	80.5	50.4	60.9	58.7	55.3
Natural Gas	11.2	17.2	41.0	69.7	68.8	70.7	73.2	86.0
Petroleum	225.4	443.1	975.9	959.2	821.3	940.1	942.1	1,087.7
Asphalt and Road Oil	2.5	5.9	6.7	29.5	17.8	18.3	9.5	15.6
Aviation Gasoline	.4	.6	1.8	1.2	1.6	1.1	1.4	1.4
Distillate Fuel	61.9	116.9	236.1	229.4	185.7	243.5	224.4	278.6
Jet Fuel	4.2	10.3	27.3	18.4	16.5	14.6	16.6	20.0
Kerosene	6.6	8.1	15.5	20.2	6.9	9.6	8.3	11.0
LPG	6.5	18.7	31.3	63.3	67.0	76.7	83.3	99.2
Lubricants	2.2	3.2	7.3	8.1	7.0	6.9	7.2	9.0
Motor Gasoline	124.4	223.4	498.1	502.8	427.7	471.6	506.7	554.9
Residual Fuel	14.7	53.2	135.5	73.4	77.8	84.3	72.6	80.4
Other ^a	1.9	2.9	16.3	13.0	13.2	13.5	12.0	17.7
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	246.7	492.2	1,063.9	1,109.4	940.6	1,071.7	1,074.0	1,229.0
Electric Utility Fuel	-15.6	-58.2	-150.9	-131.5	-104.3	-118.2	-115.5	-127.3
Electricity Purchased by End Users	83.5	207.7	394.5	588.4	594.8	664.3	731.9	759.1
Total Energy ^b	314.6	641.7	1,307.4	1,566.3	1,431.0	1,617.9	1,690.5	1,860.8

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, New Hampshire 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.27	4.65	10.17	12.40	11.33	11.26	11.95	12.05
Primary Energy	1.59	2.98	7.03	7.82	6.41	6.30	6.47	7.15
Coal	1.29	2.62	3.90	4.39	4.93	4.04	4.08	4.09
Natural Gas	1.97	2.62	4.57	6.96	6.88	6.32	6.13	6.72
Petroleum	1.56	3.01	7.48	8.00	6.32	6.31	6.56	7.25
Distillate Fuel	1.51	2.87	7.24	7.38	5.47	5.52	5.64	6.44
Kerosene	1.58	3.16	8.15	8.81	6.53	6.58	6.73	7.68
LPG	2.58	4.70	9.22	11.14	10.35	10.37	10.37	10.37
Electricity	8.29	14.25	20.93	26.15	25.02	26.68	27.75	27.97
Commercial Sector	3.12	6.18	9.46	13.30	10.91	10.52	11.32	12.18
Primary Energy	1.23	2.38	5.36	6.74	5.20	5.10	5.01	5.70
Coal	.95	2.65	1.69	2.40	2.13	2.39	2.56	2.60
Natural Gas	1.42	2.10	4.05	6.13	6.36	5.65	5.52	6.11
Petroleum	1.14	2.54	5.95	7.44	4.64	4.92	4.79	5.51
Distillate Fuel	1.11	2.46	6.44	6.71	4.29	4.51	4.50	5.00
Kerosene	.74	2.54	6.27	6.71	3.82	4.65	4.38	5.25
LPG	1.37	2.43	4.78	11.75	11.70	11.14	10.88	10.22
Motor Gasoline	2.92	4.54	10.11	9.26	7.32	7.60	7.82	8.60
Residual Fuel	.34	1.85	3.76	4.20	2.23	2.86	2.22	2.63
Electricity	8.80	15.39	24.30	25.55	24.03	25.01	25.78	26.23
Industrial Sector	1.21	3.56	8.73	10.95	9.75	9.70	11.07	11.48
Primary Energy	.68	2.09	5.12	6.12	4.68	4.83	4.77	5.58
Coal	.95	2.65	1.69	2.40	2.13	2.39	2.56	2.60
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.95	2.65	1.69	2.40	2.13	2.39	2.56	2.60
Natural Gas	.84	1.44	3.85	5.41	5.04	4.22	3.63	4.12
Petroleum	.67	2.11	5.27	6.40	4.67	4.90	4.95	5.90
Asphalt and Road Oil	.70	2.05	4.00	5.20	4.86	3.54	3.34	3.17
Distillate Fuel	.69	2.29	5.73	5.99	3.41	4.15	3.92	4.69
Kerosene	.74	2.54	6.27	6.71	3.82	4.65	4.38	5.25
LPG	1.37	2.43	4.78	11.75	11.70	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.54	10.11	9.26	7.32	7.60	7.82	8.60
Residual Fuel	.51	1.85	3.95	4.20	2.23	2.86	2.22	2.63
Other	1.89	4.36	8.89	11.55	11.59	11.45	9.75	14.58
Electricity	4.18	9.42	15.82	19.32	18.22	18.71	19.66	19.80
Transportation Sector	2.60	4.27	9.62	9.15	7.18	7.33	7.55	8.34
Primary Energy	2.60	4.27	9.62	9.15	7.18	7.33	7.55	8.34
Coal	.95	2.65	-	-	-	-	-	-
Petroleum	2.60	4.27	9.62	9.15	7.18	7.33	7.55	8.34
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.90	7.38	8.95	7.11	7.48	7.39	7.76
Jet Fuel	.75	2.09	6.51	6.53	4.93	4.18	4.22	4.83
LPG	1.37	2.43	4.78	11.75	11.70	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.54	10.11	9.26	7.32	7.60	7.82	8.60
Residual Fuel	.01	1.90	3.18	-	1.98	2.69	1.91	2.36
Electricity	-	-	-	-	-	-	-	-
Total Energy*	2.20	4.39	9.60	10.81	9.16	9.21	9.76	10.39
Primary Energy — Four Sectors	1.77	3.34	7.87	8.18	6.46	6.48	6.70	7.44
Electricity	6.74	12.68	19.55	23.28	22.14	23.25	24.24	24.49
Electric Utility Sector	.36	1.43	2.68	2.46	1.95	2.20	1.83	2.01
Coal	.36	1.21	1.60	2.01	1.99	1.92	1.78	1.73
Natural Gas	-	1.01	-	-	-	2.93	2.41	3.08
Petroleum	.35	1.84	3.81	3.64	1.92	2.59	1.89	2.28
Heavy Oil ^b	.34	1.84	3.80	3.62	1.91	2.58	1.86	2.26
Light Oil ^b	.40	2.26	6.17	5.80	3.61	4.04	3.68	4.26
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.41	2.89	6.17	6.41	5.15	5.34	5.21	5.81

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Expenditure Estimates by Sector, New Hampshire
1970, 1975, 1980, and 1985-1989
(Million Dollars)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	113.1	229.3	380.5	482.5	449.7	514.7	548.1	618.5
Primary Energy	71.3	124.9	203.6	228.2	187.2	217.7	220.2	280.5
Coal	.1	.1	.2	.5	.9	.6	.7	.5
Natural Gas	7.3	9.9	20.2	33.6	36.1	36.4	37.2	43.1
Petroleum	63.9	114.8	183.2	194.1	150.3	180.7	182.2	236.9
Distillate Fuel	53.0	95.5	148.4	139.4	103.3	126.7	121.3	161.6
Kerosene	6.3	7.3	14.9	19.3	6.6	8.6	7.7	10.0
LPG	4.6	12.1	19.9	35.4	40.4	45.4	53.3	65.3
Electricity	41.8	104.5	177.0	254.4	262.5	296.9	328.0	338.0
Commercial Sector	29.8	63.8	165.4	205.8	211.1	251.8	260.2	279.7
Primary Energy	8.8	17.4	73.3	67.9	70.2	88.8	80.2	89.7
Coal	.1	.1	.	.2	.3	.3	.3	.2
Natural Gas	3.2	5.5	17.0	31.2	29.0	26.7	28.5	33.5
Petroleum	5.5	11.7	56.3	36.5	40.9	61.8	51.4	56.0
Distillate Fuel	4.1	8.5	39.2	21.5	22.4	44.0	30.2	34.6
Kerosene	.1	.2	.3	.7	.2	.6	.5	.8
LPG	.4	1.1	1.8	6.6	8.1	8.6	9.9	11.4
Motor Gasoline	.7	1.2	6.2	6.1	5.6	5.1	5.8	5.8
Residual Fuel	.2	.7	8.8	1.6	4.6	3.6	5.0	3.5
Electricity	21.0	46.4	92.0	137.9	140.9	163.0	180.0	190.0
Industrial Sector	39.8	107.1	205.2	304.0	273.4	302.0	298.2	322.7
Primary Energy	19.1	50.2	79.7	107.9	82.0	97.6	74.2	91.7
Coal	.2	.4	.4	2.4	.2	.2	.1	1.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.2	.4	.4	2.4	.2	.2	.1	1.0
Natural Gas	.7	1.6	3.9	5.0	3.8	7.5	7.3	9.4
Petroleum	18.2	48.3	75.5	100.6	78.0	89.9	66.8	81.3
Asphalt and Road Oil	2.5	5.9	6.7	29.5	17.8	18.3	9.5	15.6
Distillate Fuel	2.0	5.7	18.6	13.4	6.8	12.9	11.3	14.7
Kerosene	.2	.6	.3	.1	.1	.4	.1	.2
LPG	1.4	5.5	8.3	20.6	18.0	22.1	19.7	22.0
Lubricants	.5	1.0	2.0	2.3	2.0	1.9	2.0	2.5
Motor Gasoline	.6	.7	1.4	3.0	2.6	2.6	2.8	4.1
Residual Fuel	9.1	26.1	21.7	18.8	17.5	18.2	9.3	4.4
Other	1.9	2.9	16.3	13.0	13.2	13.5	12.0	17.7
Electricity	20.7	56.9	125.5	196.1	191.4	204.4	224.0	231.0
Transportation Sector	131.9	241.5	556.4	573.9	496.9	549.4	584.0	639.8
Primary Energy	131.9	241.5	556.4	573.9	496.9	549.4	584.0	639.8
Coal	.	.	-	-	-	-	-	-
Petroleum	131.9	241.5	556.4	573.9	496.9	549.4	584.0	639.8
Aviation Gasoline	.4	.6	1.8	1.2	1.6	1.1	1.4	1.4
Distillate Fuel	2.4	7.1	29.5	54.1	52.6	59.3	60.3	66.2
Jet Fuel	4.2	10.2	27.0	18.4	16.5	14.6	16.6	20.0
LPG	.	.	1.3	.8	.5	.6	.5	.4
Lubricants	1.7	2.2	5.2	5.8	5.1	5.0	5.2	6.5
Motor Gasoline	123.1	221.4	490.5	493.6	419.5	463.9	498.1	545.0
Residual Fuel	.	.1	1.0	-	1.1	5.0	1.9	.4
Electricity	-	-	-	-	-	-	-	-
Total Energy*	314.6	641.7	1,307.4	1,566.3	1,431.0	1,617.9	1,690.5	1,860.8
Primary Energy — Four Sectors	231.1	434.0	913.0	977.9	836.3	953.6	958.6	1,101.7
Electricity	83.5	207.7	394.5	588.4	594.3	664.3	731.9	759.1
Electric Utility Sector	15.6	58.2	150.9	131.5	104.3	118.2	115.5	127.3
Coal	9.7	31.3	46.3	77.4	49.1	59.9	57.7	53.5
Natural Gas	-	.2	-	-	-	.	.1	.1
Petroleum	5.9	26.7	104.6	54.1	55.2	58.3	57.7	73.7
Heavy Oil ^b	5.5	26.4	104.0	53.0	54.5	57.6	56.3	72.2
Light Oil ^b	.4	.3	.7	1.1	.7	.7	1.3	1.5
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	246.7	492.2	1,063.9	1,109.4	940.6	1,071.7	1,074.0	1,229.0

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, New Jersey 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.45	1.58	1.81	1.92	1.80	1.76	1.71	1.63
Coking Coal	.58	-	-	-	-	-	-	-
Steam Coal	.44	1.58	1.81	1.92	1.80	1.76	1.71	1.63
Natural Gas	1.28	2.29	4.15	6.18	5.86	5.04	4.97	5.11
Petroleum	1.42	3.27	7.17	7.51	5.58	5.85	5.79	6.44
Asphalt and Road Oil	.68	1.89	3.65	4.89	4.16	3.39	3.07	2.71
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.29	2.73	6.75	7.92	6.23	6.05	6.00	6.49
Jet Fuel	.72	2.03	6.26	5.76	3.84	4.01	3.79	4.34
Kerosene	1.18	2.86	6.35	8.70	6.55	5.86	5.53	6.29
LPG	1.63	3.59	5.72	11.82	11.53	11.04	10.62	9.38
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.99	4.79	9.94	8.95	6.89	7.25	7.58	8.48
Residual Fuel	.45	2.08	4.53	4.33	2.34	3.02	2.42	2.83
Other*	1.11	2.70	7.07	7.92	4.64	5.38	4.50	5.27
Nuclear Fuel	.20	.18	.34	.71	.73	.81	.68	.66
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.31	2.99	6.04	6.20	5.05	4.86	4.78	5.19
Electric Utility Fuel	.42	1.71	2.67	1.90	1.47	1.49	1.30	1.45
Electricity Purchased by End Users	3.24	13.61	21.26	28.18	27.56	25.16	24.97	25.95
Total Energy ^b	1.95	4.26	8.34	9.67	8.29	8.07	8.12	8.68
Expenditures in Millions of Dollars								
Coal	55.6	95.9	124.5	198.1	140.2	158.9	138.5	152.9
Coking Coal	5.3	-	-	-	-	-	-	-
Steam Coal	50.4	95.9	124.5	198.1	140.2	158.9	138.5	152.9
Natural Gas	413.8	556.5	1,434.3	2,371.8	2,097.3	2,150.0	2,087.1	2,360.1
Petroleum	2,001.9	4,088.3	8,944.3	8,651.6	6,777.4	7,042.4	6,979.8	7,739.2
Asphalt and Road Oil	26.3	62.9	105.7	153.6	153.5	119.3	88.4	72.4
Aviation Gasoline	1.7	1.6	3.8	9.3	6.8	7.7	5.7	5.3
Distillate Fuel	468.7	947.8	2,072.7	1,861.2	1,629.6	1,542.6	1,612.5	1,700.8
Jet Fuel	26.9	71.4	308.7	1,430.6	852.8	984.5	876.3	1,084.9
Kerosene	12.2	19.6	61.0	31.4	23.0	25.1	20.0	26.8
LPG	40.9	95.0	134.3	236.0	234.5	259.1	237.3	175.2
Lubricants	60.2	79.1	206.5	230.4	199.5	196.4	203.9	256.1
Motor Gasoline	1,040.8	1,951.3	3,797.7	3,546.4	2,921.4	3,090.8	3,230.9	3,625.8
Residual Fuel	215.4	575.0	1,419.1	554.4	327.8	316.2	273.4	293.4
Other*	108.7	284.7	834.8	598.3	428.5	500.7	431.6	498.4
Nuclear Fuel	7.6	6.1	27.9	135.8	117.2	197.0	175.7	162.2
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,479.0	4,746.7	10,531.1	11,357.3	9,132.1	9,548.3	9,381.1	10,414.5
Electric Utility Fuel	-182.1	-451.6	-881.5	-730.2	-479.1	-655.2	-574.2	-654.6
Electricity Purchased by End Users	799.5	1,966.1	3,538.5	5,148.3	5,228.8	5,017.5	5,265.5	5,583.2
Total Energy ^b	3,096.4	6,261.3	13,188.1	15,775.5	13,881.8	13,910.6	14,072.5	15,343.0

*Includes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, New Jersey
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.28	4.50	8.97	12.10	11.62	10.80	10.66	10.98
Primary Energy	1.62	2.75	6.02	7.68	7.13	6.52	6.35	6.61
Coal	1.13	2.09	3.17	3.07	2.82	2.80	2.82	2.93
Natural Gas	1.84	2.61	4.90	7.33	7.17	6.44	6.17	6.35
Petroleum	1.46	2.86	7.14	8.22	7.12	6.66	6.68	7.14
Distillate Fuel	1.43	2.81	7.06	8.09	6.89	6.44	6.48	7.02
Kerosene	1.72	3.51	9.27	10.06	8.57	8.01	8.05	8.72
LPG	3.00	4.94	9.83	10.95	12.42	11.74	10.21	8.96
Electricity	7.83	15.77	24.08	32.24	31.19	29.01	28.70	29.53
Commercial Sector	2.01	5.19	9.22	14.18	12.97	11.99	11.73	12.29
Primary Energy	.99	2.34	5.14	6.45	5.47	5.06	4.84	5.26
Coal	.23	1.27	1.49	1.74	1.62	1.60	1.56	1.58
Natural Gas	1.38	2.26	4.45	6.49	6.17	5.41	5.11	5.17
Petroleum	.83	2.39	5.51	6.49	4.57	4.53	4.41	5.45
Distillate Fuel	1.14	2.48	6.47	6.94	4.73	4.55	4.59	5.41
Kerosene	.79	2.50	5.81	6.23	4.30	4.50	4.22	4.86
LPG	1.43	3.38	5.15	12.00	11.32	10.90	10.74	9.53
Motor Gasoline	2.99	4.79	9.94	8.95	6.89	7.25	7.58	8.48
Residual Fuel	.45	2.04	4.66	4.56	2.67	3.12	2.54	2.97
Electricity	7.62	14.97	22.49	29.02	28.40	25.49	25.00	25.97
Industrial Sector	1.18	3.43	6.99	9.47	7.81	7.33	7.11	7.67
Primary Energy	.86	2.47	5.59	6.81	5.04	5.08	4.67	5.04
Coal	.40	1.27	1.49	1.74	1.62	1.60	1.56	-
Coking Coal	.58	-	-	-	-	-	-	-
Steam Coal	.23	1.27	1.49	1.74	1.62	1.60	1.56	-
Natural Gas	.68	1.65	3.63	5.39	4.27	3.98	3.78	3.88
Petroleum	.93	2.61	5.97	7.74	5.43	5.65	5.14	5.80
Asphalt and Road Oil	.68	1.89	3.65	4.89	4.16	3.39	3.07	2.71
Distillate Fuel	.76	2.36	5.48	6.16	4.25	4.45	4.17	4.81
Kerosene	.79	2.50	5.81	6.23	4.30	4.50	4.22	4.86
LPG	1.43	3.38	5.15	12.00	11.32	10.90	10.74	9.53
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.99	4.79	9.94	8.95	6.89	7.25	7.58	8.48
Residual Fuel	.48	2.15	4.69	4.56	2.67	3.12	2.54	2.97
Other	1.11	2.70	7.07	7.92	4.64	5.38	4.50	5.27
Electricity	3.89	10.03	16.96	22.54	22.09	19.68	19.83	21.00
Transportation Sector	2.39	4.32	8.60	7.56	5.73	6.03	6.19	6.82
Primary Energy	2.39	4.32	8.60	7.55	5.72	6.01	6.17	6.80
Coal	.23	1.27	-	-	-	-	-	-
Petroleum	2.39	4.32	8.60	7.55	5.72	6.01	6.17	6.80
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.57	3.21	7.34	8.51	6.96	6.83	6.80	7.22
Jet Fuel	.72	2.01	6.27	5.76	3.84	4.01	3.79	4.34
LPG	1.43	3.38	5.15	12.00	11.32	10.90	10.74	9.53
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.99	4.79	9.94	8.95	6.89	7.25	7.58	8.48
Residual Fuel	.41	1.81	3.94	4.17	2.16	2.87	2.17	2.57
Electricity	4.62	11.14	14.91	21.28	18.46	48.18	46.87	47.21
Total Energy^a	1.95	4.26	8.34	9.67	8.29	8.07	8.12	8.68
Primary Energy — Four Sectors	1.57	3.24	6.82	7.34	5.83	5.83	5.79	6.29
Electricity	6.24	13.61	21.26	28.18	27.56	25.16	24.97	25.95
Electric Utility Sector	.42	1.71	2.67	1.90	1.47	1.49	1.30	1.45
Coal	.45	1.59	1.80	1.92	1.81	1.77	1.72	1.76
Natural Gas	.39	.95	3.01	3.97	2.51	2.55	2.25	2.46
Petroleum	.45	2.12	4.98	4.62	2.44	3.29	2.68	3.24
Heavy Oil ^b	.45	2.12	4.79	4.41	2.38	3.12	2.51	3.03
Light Oil ^b	.45	2.14	5.93	6.24	3.20	4.10	3.53	4.08
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.20	.18	.34	.71	.73	.81	.68	.66
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.31	2.99	6.04	6.20	5.05	4.86	4.78	5.19

^aThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, New Jersey 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	882.8	1,657.8	3,062.8	3,937.6	3,848.3	3,739.9	3,893.4	4,068.9
Primary Energy	558.7	877.8	1,721.3	2,048.0	1,923.3	1,828.6	1,870.4	1,983.9
Coal	2.4	2.2	2.4	4.4	2.5	1.3	1.1	.7
Natural Gas	264.7	348.4	691.2	1,130.9	1,163.4	1,113.0	1,147.1	1,273.0
Petroleum	291.6	527.3	1,027.7	912.7	757.4	714.3	722.2	710.3
Distillate Fuel	274.6	501.0	985.9	852.0	693.4	654.5	659.9	650.9
Kerosene	7.5	8.6	13.8	23.4	15.9	13.3	9.9	13.8
LPG	9.5	17.7	28.0	37.3	48.1	46.4	52.3	45.6
Electricity	324.1	780.0	1,341.5	1,889.6	1,925.0	1,911.3	2,023.0	2,085.0
Commercial Sector	478.8	1,085.2	2,259.8	2,955.7	2,999.8	2,857.1	2,990.3	3,316.8
Primary Energy	197.9	378.0	964.5	885.1	850.6	797.5	812.9	936.4
Coal	.3	.9	.8	1.9	1.0	.5	.4	.3
Natural Gas	79.3	124.2	278.0	553.5	543.1	523.3	530.9	622.1
Petroleum	118.2	252.9	685.8	329.7	306.5	273.7	281.6	314.0
Distillate Fuel	74.0	149.4	345.2	227.9	245.0	206.3	211.4	257.4
Kerosene	1.3	2.4	1.3	1.2	1.3	1.6	1.3	3.5
LPG	.8	2.1	2.6	7.2	7.7	7.6	9.7	8.6
Motor Gasoline	9.6	15.9	15.5	31.0	23.6	25.3	25.8	29.8
Residual Fuel	32.5	83.0	321.1	62.3	28.8	32.9	33.5	14.7
Electricity	280.9	707.2	1,295.3	2,070.5	2,149.3	2,059.6	2,177.4	2,380.4
Industrial Sector	561.0	1,277.1	3,001.3	2,932.5	2,497.2	2,492.4	2,342.3	2,446.4
Primary Energy	366.9	799.8	2,101.2	1,750.7	1,348.5	1,461.1	1,290.8	1,342.2
Coal	7.5	2.0	1.2	15.0	10.6	13.0	10.2	-
Coking Coal	5.3	-	-	-	-	-	-	-
Steam Coal	2.2	2.0	1.2	15.0	10.6	13.0	10.2	-
Natural Gas	51.4	75.5	217.5	433.0	294.9	315.7	290.6	324.5
Petroleum	308.0	722.4	1,882.5	1,302.8	1,043.0	1,132.4	990.0	1,017.7
Asphalt and Road Oil	26.3	62.9	105.7	153.6	153.5	119.3	88.4	72.4
Distillate Fuel	38.6	109.5	230.9	89.3	83.3	76.5	77.5	96.8
Kerosene	3.4	8.7	45.9	6.7	5.8	10.2	8.8	9.5
LPG	30.0	73.9	102.9	187.8	175.4	202.3	172.5	118.6
Lubricants	42.5	51.6	144.5	161.2	139.5	137.4	142.6	179.1
Motor Gasoline	6.3	5.9	7.7	21.7	16.9	19.6	20.9	22.3
Residual Fuel	52.1	125.3	410.2	84.1	40.1	66.5	47.7	20.6
Other	108.7	284.7	834.8	598.3	428.5	500.7	431.6	498.4
Electricity	194.0	477.3	900.1	1,181.8	1,148.7	1,031.3	1,051.5	1,104.2
Transportation Sector	1,173.9	2,241.2	4,864.2	5,949.7	4,536.5	4,821.3	4,846.5	5,510.9
Primary Energy	1,173.4	2,239.5	4,862.6	5,943.3	4,530.7	4,805.9	4,832.9	5,497.3
Coal	-	-	-	-	-	-	-	-
Petroleum	1,173.4	2,239.5	4,862.6	5,943.3	4,530.7	4,805.9	4,832.9	5,497.3
Aviation Gasoline	1.7	1.6	3.8	9.3	6.8	7.7	5.7	5.3
Distillate Fuel	78.3	166.5	438.1	667.6	595.0	580.8	629.6	645.2
Jet Fuel	26.9	64.9	284.6	1,430.6	852.8	984.5	876.3	1,084.9
LPG	.6	1.2	.8	3.7	3.3	2.7	2.7	2.4
Lubricants	17.7	27.5	62.1	69.3	60.0	59.0	61.3	77.0
Motor Gasoline	1,024.9	1,929.5	3,774.5	3,493.6	2,880.9	3,045.9	3,184.2	3,573.7
Residual Fuel	23.3	48.3	298.7	269.3	132.0	125.2	73.1	108.7
Electricity	.5	1.7	1.6	6.4	5.8	15.4	13.6	13.7
Total Energy*	3,096.4	6,261.3	13,188.1	15,775.5	13,881.8	13,910.6	14,072.5	15,343.0
Primary Energy — Four Sectors	2,296.9	4,295.2	9,649.5	10,627.2	8,653.0	8,893.1	8,807.0	9,759.8
Electricity	799.5	1,966.1	3,538.5	5,148.3	5,228.8	5,017.5	5,265.5	5,583.2
Electric Utility Sector	182.1	451.6	881.5	730.2	479.1	655.2	574.2	654.6
Coal	45.4	90.8	120.2	176.8	126.1	144.2	126.9	151.9
Natural Gas	18.4	8.4	247.6	254.5	95.9	197.9	118.4	140.5
Petroleum	110.6	346.2	485.8	163.1	139.9	116.1	153.2	199.9
Heavy Oil ^b	107.5	318.4	389.1	138.7	126.9	91.6	119.1	149.5
Light Oil ^b	3.2	27.9	96.7	24.4	13.0	24.5	34.1	50.5
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	7.6	6.1	27.9	135.8	117.2	197.0	175.7	162.2
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	2,479.0	4,746.7	10,531.1	11,357.3	9,132.1	9,548.3	9,381.1	10,414.5

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, New Mexico 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.14	0.23	0.56	1.09	1.14	1.21	1.18	1.23
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.14	.23	.56	1.09	1.14	1.21	1.18	1.23
Natural Gas	.39	.75	2.66	4.60	4.24	3.68	3.44	3.61
Petroleum	1.92	3.43	7.80	7.61	5.83	6.24	6.15	6.73
Asphalt and Road Oil	.58	1.84	3.67	4.79	4.35	3.19	3.39	2.87
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.07	2.42	6.80	6.53	4.87	5.50	5.31	6.34
Jet Fuel	.76	2.12	6.59	6.24	4.39	4.28	4.17	4.79
Kerosene	1.03	2.26	6.91	7.15	4.25	4.85	4.17	5.00
LPG	1.35	3.17	5.84	8.22	6.89	7.21	6.35	6.32
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.94	4.72	9.58	9.14	7.02	7.46	7.44	8.24
Residual Fuel	.34	1.66	3.80	3.99	2.08	2.82	1.82	1.97
Other ^a	.50	1.37	2.65	2.59	2.84	3.26	2.85	3.61
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.85	1.63	3.71	4.05	3.42	3.48	3.38	3.67
Electric Utility Fuel	.20	.45	1.02	1.33	1.31	1.29	1.25	1.32
Electricity Purchased by End Users	5.62	7.99	15.52	21.20	22.14	21.83	21.76	21.55
Total Energy ^b	1.46	2.88	7.08	8.98	7.78	7.90	7.67	8.13
Expenditures in Millions of Dollars								
Coal	14.3	30.0	114.2	293.7	274.3	315.2	312.9	345.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	14.3	30.0	114.2	293.7	274.3	315.2	312.9	345.0
Natural Gas	80.7	134.8	394.1	350.8	303.8	280.8	320.8	355.3
Petroleum	292.3	653.3	1,507.8	1,606.9	1,187.4	1,307.7	1,284.3	1,511.3
Asphalt and Road Oil	4.6	19.9	27.7	47.7	46.7	43.7	47.6	31.7
Aviation Gasoline	1.2	1.4	7.6	4.8	4.4	3.3	2.1	4.0
Distillate Fuel	33.6	94.7	315.6	323.9	275.5	341.2	316.2	331.4
Jet Fuel	12.9	30.9	96.0	97.7	66.8	70.0	64.1	74.7
Kerosene	5.8	8.4	52.5	72.4	22.1	26.0	21.8	20.4
LPG	22.0	41.3	98.6	101.1	45.6	42.2	38.3	168.8
Lubricants	8.3	14.4	28.9	32.2	27.9	27.5	28.5	35.8
Motor Gasoline	202.9	409.2	850.8	859.3	674.8	740.5	755.8	817.1
Residual Fuel	.4	31.0	23.5	65.7	21.1	10.4	7.4	24.3
Other ^a	.5	2.0	6.6	2.0	2.6	2.9	2.6	3.1
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	387.3	818.1	2,016.1	2,251.4	1,765.6	1,903.6	1,918.0	2,211.7
Electric Utility Fuel	-32.0	-95.4	-268.0	-392.6	-342.2	-359.9	-359.3	-407.0
Electricity Purchased by End Users	106.6	179.5	460.2	836.0	874.2	893.3	923.0	958.2
Total Energy ^b	461.9	902.3	2,208.2	2,894.8	2,297.6	2,437.1	2,481.7	2,762.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, New Mexico 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.78	3.06	6.66	10.93	10.83	10.16	10.40	11.06
Primary Energy	1.00	1.64	3.78	6.53	5.56	5.03	5.08	5.81
Coal	.90	-	2.54	2.83	2.78	2.40	2.12	2.43
Natural Gas	.86	1.24	3.17	5.59	5.28	4.61	4.87	5.45
Petroleum	1.60	4.12	7.29	8.60	6.86	7.15	6.34	7.39
Distillate Fuel	.98	2.82	6.79	6.92	5.09	4.81	4.74	5.34
Kerosene	1.49	3.05	7.95	8.62	6.34	5.99	5.91	6.65
LPG	1.61	4.16	7.19	8.62	7.16	7.78	6.51	7.48
Electricity	8.15	10.47	18.89	25.48	26.43	26.39	26.42	26.41
Commercial Sector	1.37	2.74	6.79	12.06	11.41	10.99	9.34	10.45
Primary Energy	.50	.94	3.50	5.72	4.06	3.85	3.26	3.74
Coal	.56	-	.88	1.41	1.38	1.40	1.33	1.18
Natural Gas	.44	.74	2.79	5.34	4.04	3.67	3.08	3.54
Petroleum	1.34	3.03	6.85	6.63	4.23	4.44	4.04	4.92
Distillate Fuel	.92	2.62	6.57	5.62	3.23	3.78	3.34	3.89
Kerosene	1.01	2.22	6.80	6.75	3.33	4.19	3.67	4.73
LPG	1.12	2.60	5.36	7.27	6.51	6.06	6.11	6.00
Motor Gasoline	2.94	4.72	9.58	9.14	7.02	7.46	7.44	8.24
Residual Fuel	-	-	-	4.00	-	-	-	-
Electricity	5.78	7.90	15.95	22.57	23.41	22.49	23.10	22.68
Industrial Sector	.65	1.52	4.95	7.07	5.86	6.10	5.81	5.82
Primary Energy	.49	1.27	4.06	5.28	3.46	3.78	3.52	4.11
Coal	.56	-	.88	1.41	1.38	1.40	1.33	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.56	-	.88	1.41	1.38	1.40	1.33	-
Natural Gas	.25	.58	2.46	3.67	3.04	3.30	3.16	2.97
Petroleum	1.01	2.13	5.34	5.56	3.56	3.89	3.64	4.40
Asphalt and Road Oil	.58	1.84	3.67	4.79	4.35	3.19	3.39	2.87
Distillate Fuel	.95	2.05	6.42	6.11	3.02	3.80	3.32	4.28
Kerosene	1.01	2.22	6.80	6.75	3.33	4.19	3.67	4.73
LPG	1.12	2.60	5.36	7.27	6.51	6.06	6.11	6.00
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.94	4.72	9.58	9.14	7.02	7.46	7.44	8.24
Residual Fuel	.41	1.60	3.82	4.00	2.09	2.86	1.81	1.96
Other	.50	1.37	2.65	2.59	2.84	3.26	2.85	3.61
Electricity	3.44	5.54	12.11	16.01	16.64	16.56	15.56	15.53
Transportation Sector	2.28	4.03	8.69	8.47	6.65	7.03	6.99	7.73
Primary Energy	2.28	4.03	8.69	8.47	6.65	7.03	6.99	7.73
Coal	.56	-	-	-	-	-	-	-
Petroleum	2.28	4.03	8.69	8.47	6.65	7.03	6.99	7.73
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.15	2.62	6.97	6.98	6.29	6.89	6.67	7.30
Jet Fuel	.76	2.12	6.59	6.24	4.39	4.28	4.17	4.79
LPG	1.12	2.60	5.36	7.27	6.51	6.06	6.11	6.00
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.94	4.72	9.58	9.14	7.02	7.46	7.44	8.24
Residual Fuel	.38	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.46	2.88	7.08	8.98	7.78	7.90	7.67	8.13
Primary Energy — Four Sectors	1.20	2.49	6.20	7.14	5.56	5.77	5.54	6.11
Electricity	5.62	7.99	15.52	21.20	22.14	21.83	21.76	21.55
Electric Utility Sector	.20	.45	1.02	1.33	1.31	1.29	1.25	1.32
Coal	.14	.23	.56	1.09	1.13	1.21	1.18	1.24
Natural Gas	.30	.69	2.47	3.48	3.31	2.36	2.14	2.13
Petroleum	.23	1.70	5.21	4.98	2.69	3.58	3.17	3.99
Heavy Oil ^b	.23	1.70	3.70	3.71	1.65	2.14	1.97	2.74
Light Oil ^b	.27	1.89	6.53	6.20	3.79	4.47	4.22	4.98
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.85	1.63	3.71	4.05	3.42	3.48	3.38	3.67

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, New Mexico 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	82.0	127.1	292.1	497.2	459.8	477.5	483.2	512.6
Primary Energy	41.0	57.2	134.1	227.9	176.3	179.8	177.2	200.7
Coal	.	-	.8	.2	.1	.1	.	.2
Natural Gas	28.6	37.0	95.0	133.4	137.3	137.1	145.6	152.4
Petroleum	12.4	20.2	38.3	94.3	38.9	42.6	31.5	48.1
Distillate Fuel	.	.1	.4	.8	1.0	.4	.3	.3
Kerosene	.2	.5	6.0	18.7	10.1	11.7	7.0	3.9
LPG	12.2	19.6	31.9	74.8	27.8	30.5	24.2	43.9
Electricity	41.0	69.9	158.1	269.4	283.5	297.7	306.0	312.0
Commercial Sector	62.7	99.4	296.3	510.1	497.9	506.4	554.1	573.8
Primary Energy	19.0	25.4	112.4	150.9	110.0	109.6	134.1	132.8
Coal	.	-	.5	.1	.1	.1	.1	.1
Natural Gas	15.7	18.2	71.7	97.2	90.2	79.2	102.7	105.9
Petroleum	3.2	7.2	40.1	53.5	19.7	30.3	31.3	26.7
Distillate Fuel	.6	2.7	5.1	14.8	7.6	15.6	10.9	11.5
Kerosene	.	.1	25.4	21.8	3.3	5.8	11.8	3.9
LPG	1.5	2.2	4.2	11.1	4.5	4.2	4.0	6.2
Motor Gasoline	1.1	2.3	5.5	5.4	4.3	4.8	4.6	5.2
Residual Fuel	-	-	-	.3	-	-	-	-
Electricity	43.7	74.0	184.0	359.2	387.8	396.8	420.0	441.0
Industrial Sector	76.8	165.0	436.1	549.4	391.7	402.9	385.7	512.9
Primary Energy	54.9	129.4	318.0	341.9	188.9	204.1	188.7	307.7
Coal	.1	-	.2	2.5	2.8	1.5	1.5	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.1	-	.2	2.5	2.8	1.5	1.5	-
Natural Gas	18.7	32.8	84.5	21.1	6.8	19.8	26.3	36.8
Petroleum	36.0	96.5	233.4	318.3	179.3	182.8	160.9	270.9
Asphalt and Road Oil	4.6	19.9	27.7	47.7	46.7	43.7	47.6	31.7
Distillate Fuel	11.7	27.5	82.1	130.5	66.7	89.0	69.1	55.9
Kerosene	5.5	7.8	21.1	31.9	8.7	8.6	3.1	12.6
LPG	7.3	17.5	61.9	12.9	11.4	5.9	8.5	116.1
Lubricants	3.2	5.4	10.3	11.5	10.0	9.8	10.2	12.8
Motor Gasoline	3.0	3.6	4.2	17.3	12.6	12.9	13.0	15.0
Residual Fuel	.3	12.8	19.4	64.4	20.6	10.0	6.9	23.7
Other	.5	2.0	6.6	2.0	2.6	2.9	2.6	3.1
Electricity	21.9	35.6	118.1	207.5	202.9	198.8	196.9	205.2
Transportation Sector	240.4	510.8	1,183.6	1,138.2	948.1	1,050.3	1,058.8	1,163.5
Primary Energy	240.4	510.8	1,183.6	1,138.2	948.1	1,050.3	1,058.8	1,163.5
Coal	.	-	-	-	-	-	-	-
Petroleum	240.4	510.8	1,183.6	1,138.2	948.1	1,050.3	1,058.8	1,163.5
Aviation Gasoline	1.2	1.4	7.6	4.8	4.4	3.3	2.1	4.0
Distillate Fuel	21.2	64.0	219.7	176.1	199.2	234.9	234.5	262.3
Jet Fuel	12.9	30.9	96.0	97.7	66.8	70.0	64.1	74.7
LPG	1.0	2.0	.6	2.3	1.9	1.5	1.7	2.5
Lubricants	5.1	9.0	18.6	20.7	17.9	17.7	18.3	23.0
Motor Gasoline	198.9	403.4	841.2	836.6	657.9	722.8	738.1	796.9
Residual Fuel	.	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	461.9	902.3	2,208.2	2,694.8	2,297.6	2,437.1	2,481.7	2,762.9
Primary Energy — Four Sectors	355.2	722.7	1,748.0	1,858.8	1,423.3	1,543.7	1,558.7	1,804.7
Electricity	106.6	179.5	460.2	836.0	874.2	893.3	923.0	958.2
Electric Utility Sector	32.0	95.4	268.0	392.6	342.2	359.9	359.3	407.0
Coal	14.2	30.0	112.8	290.9	271.3	313.5	311.3	344.7
Natural Gas	17.7	46.8	142.9	99.1	69.5	44.6	46.2	60.3
Petroleum	.1	18.6	12.3	2.6	1.4	1.8	1.8	2.0
Heavy Oil ^b	.	18.2	4.1	.9	.4	.4	.5	.6
Light Oil ^b	.	.4	8.2	1.6	.9	1.4	1.3	1.4
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	387.3	818.1	2,016.1	2,251.4	1,765.6	1,903.6	1,918.0	2,211.7

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, New York 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.51	1.53	1.78	1.81	1.72	1.61	1.62	1.63
Coking Coal	.58	2.14	2.38	1.88	1.76	1.59	1.61	1.67
Steam Coal	.49	1.27	1.56	1.80	1.71	1.62	1.62	1.62
Natural Gas	1.07	2.16	4.10	5.94	5.65	5.06	5.09	5.38
Petroleum	1.36	2.96	6.93	7.45	5.45	5.76	5.47	6.15
Asphalt and Road Oil	.70	1.84	3.67	4.81	4.34	3.73	3.18	2.81
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.24	2.66	6.78	7.92	6.25	6.09	6.11	6.64
Jet Fuel	.72	2.02	6.27	6.51	4.42	4.55	4.15	4.70
Kerosene	1.39	3.06	7.78	8.22	6.72	6.55	6.68	6.75
LPG	2.24	3.99	7.43	11.39	10.48	10.12	10.00	11.03
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.80	10.26	8.79	6.60	6.99	7.16	7.82
Residual Fuel	.43	1.93	4.10	4.35	2.57	3.09	2.52	2.97
Other ^a	1.11	2.66	7.07	6.55	4.32	5.68	4.81	5.54
Nuclear Fuel	.20	.31	.56	.67	.61	.63	.57	.65
Wood and Waste at Utilities	-	-	1.74	-	-	.95	-	-
Primary Energy — Five Sectors	1.17	2.60	5.45	5.87	4.79	4.77	4.58	5.02
Electric Utility Fuel	.42	1.53	2.68	2.54	1.79	2.01	1.80	2.06
Electricity Purchased by End Users	6.72	14.04	19.64	26.97	26.07	25.56	25.09	26.08
Total Energy ^b	1.81	4.11	8.08	10.49	9.24	9.14	9.11	9.94
Expenditures in Millions of Dollars								
Coal	308.4	477.1	558.6	546.0	435.4	473.5	539.1	589.7
Coking Coal	96.4	197.8	197.6	58.5	58.0	61.6	72.6	74.1
Steam Coal	212.0	279.3	361.0	487.6	377.4	411.9	466.6	515.6
Natural Gas	771.3	1,255.2	3,087.1	4,637.2	4,213.2	3,999.6	4,090.8	4,627.0
Petroleum	3,608.3	7,617.9	14,904.3	11,911.0	9,307.1	10,029.8	9,889.2	10,784.3
Asphalt and Road Oil	26.0	69.9	121.3	230.1	185.3	162.0	168.7	92.7
Aviation Gasoline	2.7	4.8	14.6	11.1	10.9	4.8	3.9	3.7
Distillate Fuel	803.3	1,626.9	2,862.3	2,861.6	2,568.6	2,590.2	2,684.5	2,963.2
Jet Fuel	155.5	441.7	1,275.3	139.0	91.8	72.8	113.6	158.9
Kerosene	55.3	90.3	101.8	112.3	59.1	88.5	92.1	89.7
LPG	37.2	70.3	139.0	203.1	189.1	194.9	195.6	235.6
Lubricants	67.8	88.5	182.2	203.2	175.9	173.2	179.8	225.9
Motor Gasoline	2,005.9	3,368.0	6,865.7	6,299.5	4,740.2	5,234.5	5,018.8	5,480.3
Residual Fuel	409.7	1,740.1	2,964.1	1,631.0	1,125.3	1,335.8	1,284.3	1,366.3
Other ^a	44.8	117.4	378.0	219.9	160.9	173.0	147.9	168.1
Nuclear Fuel	9.2	44.9	118.2	175.2	146.3	154.6	148.3	159.1
Wood and Waste at Utilities	-	-	.2	-	-	-	-	-
Primary Energy — Five Sectors	4,697.1	9,395.1	18,668.6	17,269.4	14,102.0	14,657.6	14,667.4	16,160.1
Electric Utility Fuel	-335.3	-1,326.8	-2,427.3	-2,320.5	-1,558.8	-1,917.7	-1,892.7	-2,303.0
Electricity Purchased by End Users	2,006.4	4,580.0	7,044.4	10,369.9	10,220.2	10,328.0	10,706.6	11,352.8
Total Energy ^b	6,368.1	12,848.2	23,285.7	25,318.8	22,783.5	23,067.9	23,481.3	25,209.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

^cValue less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, New York **1970, 1975, 1980, and 1985-1989** **(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.19	4.40	8.42	12.03	11.14	10.76	10.65	11.55
Primary Energy	1.43	2.70	5.80	7.88	7.14	6.63	6.45	7.18
Coal	1.43	2.78	3.26	3.61	3.39	3.27	3.29	3.36
Natural Gas	1.37	2.50	4.85	7.54	7.26	6.68	6.32	7.01
Petroleum	1.48	2.89	7.22	8.55	7.03	6.61	6.69	7.51
Distillate Fuel	1.43	2.81	7.08	8.35	6.83	6.39	6.47	7.18
Kerosene	1.56	3.28	8.49	9.30	7.61	7.12	7.21	8.00
LPG	2.70	4.48	9.12	11.12	9.96	9.64	9.53	11.54
Electricity	8.83	16.44	23.08	31.84	30.86	30.81	30.67	32.03
Commercial Sector	1.99	5.42	9.27	14.30	12.87	12.48	12.21	13.29
Primary Energy	.80	2.11	4.70	5.95	4.95	4.69	4.67	5.22
Coal	.48	1.36	1.67	1.91	1.74	1.76	1.70	1.75
Natural Gas	1.17	1.97	4.17	5.95	5.61	5.02	5.24	5.46
Petroleum	.67	2.19	5.09	6.09	4.45	4.45	4.12	4.99
Distillate Fuel	1.14	2.48	6.48	7.03	5.34	5.24	5.12	5.53
Kerosene	.73	2.51	5.68	6.56	4.41	4.64	4.67	5.03
LPG	1.45	3.09	5.79	11.95	11.62	11.29	11.21	9.73
Motor Gasoline	2.92	4.80	10.26	8.79	6.60	6.99	7.16	7.82
Residual Fuel	.42	1.90	4.18	4.64	2.92	3.22	2.67	3.12
Electricity	7.80	16.57	23.21	30.86	29.62	27.96	27.13	27.99
Industrial Sector	.96	2.85	5.40	7.06	6.45	6.41	6.29	6.97
Primary Energy	.69	2.06	3.98	4.74	3.98	3.85	3.73	4.01
Coal	.53	1.82	2.08	1.90	1.75	1.68	1.66	1.71
Coking Coal	.58	2.14	2.38	1.88	1.76	1.59	1.61	1.67
Steam Coal	.48	1.36	1.67	1.91	1.74	1.76	1.70	1.75
Natural Gas	.68	1.47	3.43	5.13	4.78	4.16	4.56	4.69
Petroleum	.80	2.35	5.33	6.25	4.78	5.02	4.53	5.33
Asphalt and Road Oil	.70	1.84	3.67	4.81	4.34	3.73	3.18	2.81
Distillate Fuel	.70	2.36	5.36	6.13	4.12	4.33	4.36	4.70
Kerosene	.73	2.51	5.68	6.56	4.41	4.64	4.67	5.03
LPG	1.45	3.09	5.79	11.95	11.62	11.29	11.21	9.73
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.80	10.26	8.79	6.60	6.99	7.16	7.82
Residual Fuel	.49	2.01	3.78	4.64	2.92	3.22	2.67	3.12
Other	1.11	2.66	7.07	6.55	4.32	5.68	4.81	5.54
Electricity	3.51	7.97	12.11	15.34	14.43	14.74	14.47	15.52
Transportation Sector	2.14	4.02	8.86	8.84	6.70	7.06	7.13	7.83
Primary Energy	2.12	3.95	8.82	8.74	6.57	6.92	6.99	7.69
Coal	.48	1.36	-	-	-	-	-	-
Petroleum	2.12	3.95	8.82	8.74	6.57	6.92	6.99	7.69
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.44	2.84	7.45	8.48	6.59	6.74	6.78	7.35
Jet Fuel	.72	2.01	6.27	6.51	4.42	4.55	4.15	4.70
LPG	1.45	3.09	5.79	11.95	11.62	11.29	11.21	9.73
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.80	10.26	8.79	6.60	6.99	7.16	7.82
Residual Fuel	.37	1.67	3.53	4.08	2.27	2.86	2.20	2.66
Electricity	4.82	13.66	15.02	19.65	19.51	22.59	21.39	22.65
Total Energy*	1.81	4.11	8.08	10.49	9.24	9.14	9.11	9.94
Primary Energy — Four Sectors	1.36	2.93	6.44	7.37	6.05	6.01	5.94	6.60
Electricity	6.72	14.04	19.64	26.97	26.07	25.56	25.09	26.08
Electric Utility Sector	.42	1.53	2.68	2.54	1.79	2.01	1.80	2.06
Coal	.47	1.18	1.47	1.72	1.65	1.54	1.58	1.57
Natural Gas	.38	.88	2.67	3.48	2.24	2.44	2.24	2.35
Petroleum	.42	1.95	4.26	4.29	2.50	3.09	2.53	3.03
Heavy Oil ^b	.42	1.94	4.25	4.26	2.47	3.06	2.49	2.95
Light Oil ^b	.44	2.16	5.63	6.11	3.81	4.25	3.97	4.48
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.20	.31	.56	.67	.61	.63	.57	.65
Wood and Waste	-	-	1.74	-	-	.95	-	-
Primary Energy — Five Sectors	1.17	2.60	5.45	5.87	4.79	4.77	4.58	5.02

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."
 Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, New York 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,844.5	3,490.4	5,798.8	7,771.2	7,612.3	7,579.3	7,839.8	8,479.7
Primary Energy	1,076.5	1,879.9	3,390.0	4,212.6	4,056.0	3,869.5	3,919.8	4,339.6
Coal	12.8	14.2	13.7	17.7	17.1	14.6	11.6	12.1
Natural Gas	484.5	830.2	1,654.8	2,478.1	2,511.7	2,300.8	2,322.2	2,633.2
Petroleum	579.2	1,035.4	1,721.5	1,716.7	1,527.2	1,554.2	1,586.0	1,694.3
Distillate Fuel	501.4	914.6	1,554.5	1,506.7	1,355.5	1,347.9	1,373.0	1,455.7
Kerosene	49.4	69.6	82.9	76.9	48.3	74.3	78.6	61.4
LPG	28.3	51.2	84.1	133.1	123.4	132.0	134.4	177.2
Electricity	768.0	1,610.5	2,408.8	3,558.6	3,556.3	3,709.8	3,920.1	4,140.1
Commercial Sector	1,325.0	3,056.9	5,194.8	7,132.6	6,942.0	6,707.0	6,912.1	7,234.8
Primary Energy	439.9	919.0	1,982.8	1,971.9	1,814.2	1,676.0	1,755.8	1,834.8
Coal	3.2	6.2	7.0	10.4	11.1	8.8	7.3	7.2
Natural Gas	166.0	256.7	690.4	1,010.8	966.2	864.3	1,013.5	1,103.7
Petroleum	270.8	656.0	1,285.4	950.7	836.9	802.9	735.1	723.9
Distillate Fuel	135.5	273.8	546.7	484.4	512.3	451.3	439.2	498.8
Kerosene	2.6	6.0	5.4	14.5	2.9	4.8	2.5	7.2
LPG	2.7	6.2	9.4	25.2	25.4	27.3	27.9	26.4
Motor Gasoline	16.1	29.3	55.7	88.3	64.3	50.2	41.6	55.4
Residual Fuel	113.8	340.7	668.1	338.3	232.1	269.3	223.9	136.2
Electricity	885.0	2,137.9	3,212.0	5,160.7	5,127.8	5,031.7	5,156.2	5,400.0
Industrial Sector	899.6	1,960.2	3,376.6	3,158.8	2,618.6	2,621.3	2,663.3	2,848.5
Primary Energy	577.5	1,225.7	2,058.5	1,658.4	1,234.8	1,205.0	1,202.6	1,215.8
Coal	164.5	283.3	304.2	180.4	143.1	141.3	150.7	160.9
Coking Coal	96.4	197.8	197.6	58.5	58.0	61.6	72.6	74.1
Steam Coal	68.1	85.5	106.6	121.9	85.0	79.6	78.1	86.8
Natural Gas	80.0	156.0	398.4	526.2	425.4	398.7	412.8	449.9
Petroleum	333.0	786.3	1,355.9	951.8	666.4	665.0	639.2	605.0
Asphalt and Road Oil	26.0	69.9	121.3	230.1	185.3	162.0	168.7	92.7
Distillate Fuel	68.8	216.9	289.8	172.1	75.5	97.2	93.9	104.8
Kerosene	3.3	14.8	13.4	20.9	7.9	9.5	10.9	21.0
LPG	5.6	11.4	43.8	39.9	36.8	32.6	29.4	27.5
Lubricants	30.9	45.3	89.5	99.8	86.4	85.1	88.3	111.0
Motor Gasoline	50.3	34.1	82.7	56.5	43.4	47.1	53.1	57.0
Residual Fuel	103.2	276.6	337.3	112.6	70.2	58.5	46.9	23.0
Other	44.8	117.4	378.0	219.9	160.9	173.0	147.9	168.1
Electricity	322.1	734.6	1,318.1	1,500.4	1,383.9	1,416.4	1,460.6	1,632.7
Transportation Sector	2,299.1	4,140.7	8,915.6	7,256.3	5,590.5	6,160.3	6,066.2	6,646.9
Primary Energy	2,267.8	4,043.8	8,810.0	7,106.0	5,438.2	5,989.4	5,896.4	6,467.0
Coal	.2	*	-	-	-	-	-	-
Petroleum	2,267.6	4,043.7	8,810.0	7,106.0	5,438.2	5,989.4	5,896.4	6,467.0
Aviation Gasoline	2.7	4.8	14.6	11.1	10.9	4.8	3.9	3.7
Distillate Fuel	89.5	173.7	447.5	669.3	595.4	658.1	728.4	809.0
Jet Fuel	155.5	423.1	1,274.5	139.0	91.8	72.8	113.6	158.9
LPG	.6	1.4	1.7	4.9	3.6	3.1	3.9	4.6
Lubricants	36.9	43.1	92.7	103.4	89.5	88.1	91.5	114.9
Motor Gasoline	1,939.4	3,304.6	6,727.2	6,154.6	4,632.5	5,137.1	4,924.1	5,367.9
Residual Fuel	43.0	93.0	251.7	23.6	14.6	25.4	31.0	8.0
Electricity	31.3	96.9	105.6	150.3	152.3	170.9	169.7	180.0
Total Energy*	6,368.1	12,648.2	23,285.7	25,318.8	22,763.5	23,067.9	23,481.3	25,209.9
Primary Energy — Four Sectors	4,361.7	8,068.3	16,241.3	14,948.9	12,543.2	12,739.9	12,774.7	13,857.2
Electricity	2,006.4	4,580.0	7,044.4	10,369.9	10,220.2	10,328.0	10,706.6	11,352.8
Electric Utility Sector	335.3	1,326.8	2,427.3	2,320.5	1,558.8	1,917.7	1,892.7	2,303.0
Coal	127.6	173.3	233.8	337.5	264.2	308.9	369.5	409.5
Natural Gas	40.9	12.2	343.4	622.1	309.9	435.8	342.3	440.2
Petroleum	157.7	1,096.4	1,731.5	1,185.7	838.4	1,018.3	1,032.6	1,294.1
Heavy Oil ^b	149.6	1,029.8	1,706.9	1,156.5	808.5	982.7	982.6	1,199.2
Light Oil ^b	8.1	66.6	24.5	29.2	29.9	35.7	50.0	94.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	9.2	44.9	118.3	175.2	146.3	154.6	148.3	159.1
Wood and Waste	-	-	.2	-	-	*	-	-
Primary Energy — Five Sectors	4,697.1	9,395.1	18,668.6	17,269.4	14,102.0	14,657.6	14,667.4	16,160.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, North Carolina 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.43	1.12	1.58	1.97	1.85	1.79	1.77	1.77
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.43	1.12	1.58	1.97	1.85	1.79	1.77	1.77
Natural Gas	.69	1.57	3.55	5.29	4.77	4.66	4.46	4.56
Petroleum	1.94	3.68	8.15	8.26	6.18	6.53	6.38	7.27
Asphalt and Road Oil	.67	1.80	3.57	4.94	4.22	3.23	3.18	2.89
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.13	2.74	6.80	7.52	5.75	5.71	5.60	6.37
Jet Fuel	.73	2.03	6.46	5.77	3.85	3.96	3.71	4.30
Kerosene	1.32	2.86	7.67	8.44	6.53	5.55	5.68	6.72
LPG	1.89	3.24	6.11	9.73	9.03	8.71	8.76	8.82
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	.82	4.55	9.91	9.03	6.69	7.33	7.26	8.10
Residual Fuel	.46	1.90	3.72	4.44	2.71	2.94	2.33	2.65
Other ^a	1.12	2.57	7.38	7.10	4.71	5.84	4.91	5.68
Nuclear Fuel	-	.29	.36	.54	.53	.56	.59	.55
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	2.47	4.63	4.75	3.79	3.87	3.82	4.07
Electric Utility Fuel	.41	1.05	1.48	1.56	1.46	1.29	1.30	1.31
Electricity Purchased by End Users	4.17	7.92	11.72	17.46	18.16	18.05	18.03	18.33
Total Energy^b	2.02	4.11	8.02	9.62	8.47	8.69	8.57	9.31
Expenditures in Millions of Dollars								
Coal	210.3	533.2	985.6	1,084.5	1,077.4	894.0	912.8	982.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	210.3	533.2	985.6	1,084.5	1,077.4	894.0	912.8	982.3
Natural Gas	102.8	178.1	529.3	705.5	644.6	677.9	661.9	718.8
Petroleum	1,202.1	2,354.7	5,421.0	5,484.6	4,419.2	4,786.2	4,910.7	5,234.2
Asphalt and Road Oil	16.1	36.4	73.3	113.2	127.0	86.3	94.8	72.3
Aviation Gasoline	1.7	3.8	9.8	8.8	9.6	8.3	8.8	9.6
Distillate Fuel	149.3	339.0	955.5	1,087.3	924.9	943.6	1,028.8	1,003.9
Jet Fuel	18.7	42.3	185.3	213.6	152.9	171.2	172.1	184.0
Kerosene	86.6	94.7	141.7	103.6	73.9	66.0	71.4	62.7
LPG	39.1	77.6	179.1	269.9	245.9	270.5	254.1	311.9
Lubricants	26.2	42.9	105.0	17.2	101.4	99.9	103.7	130.2
Motor Gasoline	835.7	1,599.1	3,448.9	3,362.0	2,601.7	2,947.9	3,015.8	3,306.4
Residual Fuel	19.7	92.9	211.1	121.8	68.9	66.9	53.8	31.2
Other ^a	9.0	26.1	111.2	87.3	112.8	125.6	107.4	121.9
Nuclear Fuel	-	4.4	22.9	111.8	115.7	171.2	183.3	173.4
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,515.2	3,070.4	6,958.8	7,386.4	6,256.9	6,529.3	6,669.7	7,108.6
Electric Utility Fuel	-190.7	-473.6	-967.2	-1,097.2	-1,079.1	-960.0	-989.4	-1,058.0
Electricity Purchased by End Users	576.2	1,393.1	2,553.8	4,305.3	4,797.8	5,051.7	5,228.3	5,479.4
Total Energy^b	1,900.6	3,990.0	8,545.4	10,594.5	9,975.6	10,621.0	10,908.6	11,530.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, North Carolina 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.41	5.15	9.62	14.47	14.61	14.40	14.45	15.33
Primary Energy	1.40	2.69	6.15	7.73	6.81	6.32	6.20	7.00
Coal	1.14	2.06	2.70	2.75	2.60	2.69	2.53	2.87
Natural Gas	1.27	1.99	4.06	6.38	6.41	6.46	6.07	6.35
Petroleum	1.44	2.97	7.30	8.69	7.19	6.33	6.40	7.58
Distillate Fuel	1.31	2.71	6.95	8.02	6.35	5.30	5.54	6.36
Kerosene	1.40	2.96	7.96	8.73	6.91	5.77	6.03	6.92
LPG	2.28	4.32	7.67	10.27	9.44	9.20	8.81	9.63
Electricity	5.45	9.31	13.91	20.48	21.17	21.59	21.89	22.45
Commercial Sector	2.51	5.16	8.50	12.85	13.12	12.54	12.20	12.92
Primary Energy	.98	2.01	4.73	6.14	5.03	4.80	4.48	5.04
Coal	.53	1.53	1.71	1.90	1.83	1.75	1.74	1.71
Natural Gas	.94	1.71	3.67	5.65	5.39	5.05	4.80	4.99
Petroleum	1.23	2.66	6.58	7.28	4.96	4.82	4.41	5.51
Distillate Fuel	1.02	2.34	6.33	6.90	4.14	3.81	3.44	4.45
Kerosene	.77	2.37	6.12	6.99	4.48	4.01	3.72	5.07
LPG	1.41	2.67	5.24	9.33	8.70	8.32	8.71	7.90
Motor Gasoline	2.82	4.55	9.91	9.03	6.69	7.33	7.26	8.10
Residual Fuel	.67	1.79	3.80	4.46	2.74	2.95	2.36	2.75
Electricity	4.60	8.46	12.28	18.18	18.79	18.45	18.35	18.44
Industrial Sector	1.06	2.99	5.34	7.35	6.59	6.55	6.42	6.83
Primary Energy	.68	1.91	4.02	4.88	3.87	3.76	3.53	3.80
Coal	.53	1.53	1.71	1.90	1.83	1.75	1.74	1.71
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.53	1.53	1.71	1.90	1.83	1.75	1.74	1.71
Natural Gas	.50	1.34	3.32	4.75	3.87	3.65	3.47	3.53
Petroleum	.86	2.31	5.02	6.62	4.90	4.96	4.56	5.42
Asphalt and Road Oil	.67	1.80	3.57	4.94	4.22	3.23	3.18	2.89
Distillate Fuel	.71	2.19	5.49	6.92	4.43	3.97	3.68	5.03
Kerosene	.77	2.37	6.12	6.99	4.48	4.01	3.72	5.07
LPG	1.41	2.67	5.24	9.33	8.70	8.32	8.71	7.90
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.55	9.91	9.03	6.69	7.33	7.26	8.10
Residual Fuel	.45	1.92	3.72	4.46	2.74	2.95	2.36	2.75
Other	1.12	2.57	7.38	7.10	4.71	5.84	4.91	5.68
Electricity	2.76	6.36	9.28	13.83	14.39	13.80	13.60	13.83
Transportation Sector	2.52	4.27	9.35	8.62	6.46	6.97	6.84	7.65
Primary Energy	2.52	4.27	9.35	8.62	6.46	6.97	6.84	7.65
Coal	.53	1.53	-	-	-	-	-	-
Petroleum	2.52	4.27	9.35	8.62	6.46	6.97	6.84	7.65
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.30	3.12	7.34	7.66	6.26	6.70	6.41	7.05
Jet Fuel	.73	2.03	6.46	5.77	3.85	3.96	3.71	4.30
LPG	1.41	2.67	5.24	9.33	8.70	8.32	8.71	7.90
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.55	9.91	9.03	6.69	7.33	7.26	8.10
Residual Fuel	.27	1.56	3.43	3.78	1.82	2.86	2.10	2.39
Electricity	-	-	-	-	-	-	-	-
Total Energy*	2.02	4.11	8.02	9.62	8.47	8.69	8.57	9.31
Primary Energy — Four Sectors	1.65	3.27	7.07	7.36	5.66	5.91	5.78	6.44
Electricity	4.17	7.92	11.72	17.46	18.16	18.05	18.03	18.33
Electric Utility Sector	.41	1.05	1.48	1.56	1.46	1.29	1.30	1.31
Coal	.41	1.07	1.57	1.98	1.85	1.79	1.78	1.77
Natural Gas	.37	1.41	3.15	4.78	2.74	3.09	3.37	3.46
Petroleum	.79	1.89	5.82	5.68	3.48	3.91	3.49	3.99
Heavy Oil ^b	.69	1.78	3.82	-	-	-	-	-
Light Oil ^b	.83	2.22	5.82	5.68	3.48	3.91	3.49	3.99
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.29	.36	.54	.53	.56	.59	.55
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	2.47	4.63	4.75	3.79	3.87	3.82	4.07

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, North Carolina 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	483.8	897.9	1,789.6	2,509.9	2,708.2	2,927.1	3,019.8	3,180.3
Primary Energy	211.3	294.6	633.0	633.4	576.8	605.9	613.8	669.3
Coal	4.1	6.3	3.9	4.7	3.5	3.8	4.5	3.8
Natural Gas	35.6	55.6	139.6	189.1	209.8	239.1	239.9	253.2
Petroleum	171.6	232.8	489.4	439.6	363.4	362.9	369.4	412.3
Distillate Fuel	65.9	114.6	285.2	228.0	184.1	175.5	185.0	173.1
Kerosene	79.8	82.2	124.0	89.6	66.0	60.1	64.4	57.7
LPG	25.9	36.0	80.2	121.9	113.3	127.3	120.0	181.4
Electricity	272.5	603.3	1,156.6	1,876.5	2,131.4	2,321.2	2,406.0	2,511.0
Commercial Sector	196.5	420.8	827.5	1,507.7	1,587.9	1,668.9	1,727.6	1,819.6
Primary Energy	44.3	83.8	230.1	318.8	250.7	276.8	280.7	292.7
Coal	3.6	8.6	4.6	6.0	4.6	4.6	5.8	4.2
Natural Gas	20.7	37.7	97.1	146.2	141.7	156.4	160.4	170.4
Petroleum	20.0	37.4	128.3	166.7	104.4	115.9	114.5	118.1
Distillate Fuel	10.1	19.4	61.7	106.4	58.4	65.1	61.9	61.0
Kerosene	1.0	1.6	4.1	4.4	2.2	1.8	2.5	2.5
LPG	2.8	3.9	9.7	19.5	18.4	20.3	20.9	26.3
Motor Gasoline	5.3	9.9	41.1	30.0	22.8	27.8	26.1	26.6
Residual Fuel	.8	2.6	11.7	6.3	2.6	.8	3.1	1.7
Electricity	152.2	337.0	597.4	1,188.9	1,337.2	1,392.0	1,447.0	1,526.9
Industrial Sector	319.6	879.1	1,836.4	2,385.7	2,350.8	2,286.8	2,262.3	2,359.1
Primary Energy	168.2	426.3	1,036.6	1,145.8	1,021.6	948.4	887.0	917.5
Coal	28.7	53.2	57.3	106.1	116.2	110.3	109.4	108.5
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	28.7	53.2	57.3	106.1	116.2	110.3	109.4	108.5
Natural Gas	38.4	84.6	287.1	367.2	289.8	278.7	258.9	289.3
Petroleum	101.0	288.5	692.2	672.5	615.6	559.3	518.7	519.8
Asphalt and Road Oil	16.1	36.4	73.3	113.2	127.0	86.3	94.8	72.3
Distillate Fuel	18.6	54.6	132.0	130.5	118.4	87.6	79.5	103.8
Kerosene	5.8	10.9	13.7	9.6	5.7	4.1	4.5	2.6
LPG	10.1	36.6	88.2	123.7	110.0	119.6	109.5	100.5
Lubricants	10.1	20.2	49.7	55.5	48.0	47.3	49.1	61.7
Motor Gasoline	14.9	18.7	26.8	39.5	28.6	31.6	28.2	35.6
Residual Fuel	16.5	85.1	197.3	113.3	65.0	57.1	45.6	21.4
Other	9.0	26.1	111.2	87.3	112.8	125.6	107.4	121.9
Electricity	151.4	452.8	799.8	1,239.9	1,329.2	1,338.5	1,375.3	1,441.5
Transportation Sector	900.7	1,792.1	4,092.0	4,191.2	3,328.7	3,738.2	3,898.8	4,171.2
Primary Energy	900.7	1,792.1	4,092.0	4,191.2	3,328.7	3,738.2	3,898.8	4,171.2
Coal	-	-	-	-	-	-	-	-
Petroleum	900.7	1,792.1	4,092.0	4,191.2	3,328.7	3,738.2	3,898.8	4,171.2
Aviation Gasoline	1.7	3.8	9.8	8.8	9.6	8.3	8.8	9.6
Distillate Fuel	47.8	149.2	457.5	607.6	556.9	605.5	693.0	653.0
Jet Fuel	18.7	42.3	185.3	213.6	152.9	171.2	172.1	184.0
LPG	.3	1.1	1.0	4.8	4.2	3.2	3.7	3.7
Lubricants	16.1	22.6	55.3	61.7	53.4	52.6	54.6	68.6
Motor Gasoline	815.5	1,570.5	3,381.0	3,292.5	2,550.3	2,888.5	2,961.5	3,244.2
Residual Fuel	.6	2.6	2.1	2.2	1.3	8.9	5.1	8.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,900.6	3,990.0	8,545.4	10,594.5	9,975.6	10,621.0	10,908.6	11,530.1
Primary Energy — Four Sectors	1,324.5	2,596.8	5,991.6	6,289.2	5,177.8	5,569.3	5,680.3	6,050.7
Electricity	576.2	1,393.1	2,553.8	4,305.3	4,797.8	5,051.7	5,228.3	5,479.4
Electric Utility Sector	190.7	473.6	967.2	1,097.2	1,079.1	960.0	989.4	1,058.0
Coal	173.8	465.1	919.7	967.8	953.1	775.2	793.1	865.7
Natural Gas	8.0	.1	5.5	2.9	3.2	3.7	3.7	6.0
Petroleum	8.9	3.9	19.0	14.7	7.1	9.9	9.3	12.9
Heavy Oil ^b	1.9	2.6	-	-	-	-	-	-
Light Oil ^b	6.9	1.2	19.0	14.7	7.1	9.9	9.3	12.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	4.4	22.9	111.8	115.7	171.2	183.3	173.4
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,515.2	3,070.4	6,958.8	7,386.4	6,256.9	6,529.3	6,669.7	7,108.6

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, North Dakota 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.34	0.42	0.67	1.44	1.43	1.35	1.15	1.21
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.34	.42	.67	1.44	1.43	1.35	1.15	1.21
Natural Gas	.78	1.26	3.41	4.97	4.73	4.65	4.34	4.08
Petroleum	1.83	3.55	7.70	7.92	5.86	6.26	6.29	6.93
Asphalt and Road Oil	.79	2.08	3.85	5.17	4.07	3.74	3.53	3.13
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.07	2.66	6.59	6.96	4.90	5.73	5.39	6.12
Jet Fuel	.75	2.09	6.47	6.44	4.90	4.64	4.37	4.77
Kerosene	1.47	2.84	6.30	7.99	4.46	5.53	4.42	5.88
LPG	1.87	3.29	6.12	8.37	7.38	5.28	5.10	5.46
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.69	9.97	9.64	6.92	7.53	8.05	8.88
Residual Fuel	.91	1.80	3.58	3.49	1.93	1.61	2.49	2.58
Other ^a	.51	1.40	2.48	2.31	1.53	1.50	1.45	1.92
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.26	2.23	3.66	3.31	2.73	2.70	2.43	2.63
Electric Utility Fuel	.25	.27	.57	.89	.83	.80	.71	.70
Electricity Purchased by End Users	7.04	8.57	11.96	17.11	17.30	17.15	16.93	16.74
Total Energy ^b	1.97	3.47	7.28	7.07	5.90	5.86	5.90	6.05
Expenditures in Millions of Dollars								
Coal	19.5	28.8	110.2	436.0	444.2	430.8	424.0	436.6
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	19.5	28.8	110.2	436.0	444.2	430.8	424.0	436.6
Natural Gas	14.9	31.1	77.6	118.4	103.3	89.4	103.4	105.4
Petroleum	201.2	393.6	938.4	897.3	676.5	693.3	694.7	771.9
Asphalt and Road Oil	7.3	14.6	19.2	35.9	23.7	22.0	22.4	19.2
Aviation Gasoline	1.0	1.5	2.9	.2	1.6	1.1	1.2	1.3
Distillate Fuel	30.9	68.8	312.6	303.8	210.9	227.5	212.4	249.9
Jet Fuel	8.3	20.9	59.7	58.3	43.5	31.5	31.0	34.5
Kerosene	2.0	1.1	.5	1.0	.4	.2	.3	.4
LPG	12.1	19.3	29.0	23.2	64.9	43.5	42.5	49.3
Lubricants	5.1	7.2	15.5	17.2	14.9	14.7	15.3	19.2
Motor Gasoline	130.2	247.6	480.1	446.7	311.7	348.8	363.7	391.7
Residual Fuel	3.2	10.0	13.6	8.5	4.1	2.8	4.4	4.8
Other ^a	.8	2.6	5.3	2.3	.8	1.3	1.4	1.7
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	235.6	453.5	1,126.3	1,451.7	1,224.0	1,213.5	1,222.1	1,314.0
Electric Utility Fuel	-12.3	-15.8	-87.9	-203.4	-188.0	-183.8	-201.8	-189.4
Electricity Purchased by End Users	67.3	108.0	210.2	407.5	401.2	383.2	407.3	400.6
Total Energy ^b	290.6	545.7	1,248.6	1,655.8	1,437.2	1,412.9	1,427.6	1,525.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, North Dakota 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.54	3.95	7.52	10.16	9.41	9.83	9.35	9.47
Primary Energy	1.37	2.25	5.12	6.02	5.05	5.14	4.78	5.23
Coal	1.56	3.09	1.96	1.74	1.53	1.45	1.15	1.13
Natural Gas	.99	1.51	3.66	5.26	5.08	5.22	4.88	4.46
Petroleum	1.62	3.02	7.04	7.62	5.32	5.26	4.91	6.36
Distillate Fuel	1.28	2.55	6.92	7.48	4.84	5.34	4.66	5.55
Kerosene	1.65	2.69	7.39	8.09	5.24	5.77	5.04	6.00
LPG	2.07	3.51	7.48	8.46	6.13	5.13	5.24	7.32
Electricity	7.80	9.18	13.14	18.02	18.20	18.44	18.26	18.01
Commercial Sector	1.74	2.23	5.39	8.76	8.63	9.10	8.49	7.99
Primary Energy	.89	1.43	4.06	5.03	4.41	4.44	4.16	3.95
Coal	.74	1.26	2.63	3.21	3.11	2.80	2.66	2.74
Natural Gas	.67	1.11	3.26	4.81	4.59	4.53	4.25	3.99
Petroleum	1.45	2.23	5.63	6.44	4.46	4.73	4.50	4.46
Distillate Fuel	1.06	2.34	6.45	6.42	3.47	4.19	3.31	4.17
Kerosene	-	-	-	6.98	3.76	4.76	3.74	4.91
LPG	1.30	2.63	5.23	8.32	8.25	5.37	4.95	3.60
Motor Gasoline	2.83	4.69	9.97	9.64	6.92	7.53	8.05	8.88
Residual Fuel	.84	1.69	3.78	3.49	1.92	1.61	2.49	2.58
Electricity	6.62	7.84	12.16	17.54	17.53	17.25	17.41	16.95
Industrial Sector	1.52	3.12	5.87	4.96	4.19	3.90	3.75	3.85
Primary Energy	1.30	2.73	5.37	4.32	3.59	3.35	3.12	3.28
Coal	.74	1.26	2.63	3.21	3.11	2.80	2.66	2.74
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.74	1.26	2.63	3.21	3.11	2.80	2.66	2.74
Natural Gas	.38	1.00	2.58	4.19	3.92	3.09	3.23	3.38
Petroleum	1.45	3.16	6.07	6.68	4.68	4.84	4.33	4.72
Asphalt and Road Oil	.79	2.08	3.85	5.17	4.07	3.74	3.53	3.13
Distillate Fuel	.79	2.72	5.50	6.70	3.61	4.57	3.60	4.71
Kerosene	.85	2.90	5.76	6.98	3.76	4.76	3.74	4.91
LPG	1.30	2.63	5.23	8.32	8.25	5.37	4.95	3.60
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.69	9.97	9.64	6.92	7.53	8.05	8.88
Residual Fuel	.94	1.94	3.19	3.49	1.92	1.61	2.49	2.58
Other	.51	1.40	2.48	2.31	1.53	1.50	1.45	1.92
Electricity	5.95	8.00	9.94	15.27	15.60	15.05	14.44	14.56
Transportation Sector	2.19	3.95	8.74	8.65	6.64	7.17	7.49	8.24
Primary Energy	2.19	3.95	8.74	8.65	6.64	7.17	7.49	8.24
Coal	.74	1.26	-	-	-	-	-	-
Petroleum	2.19	3.95	8.74	8.65	6.64	7.17	7.49	8.24
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.33	2.67	7.23	7.12	6.46	6.97	7.14	7.73
Jet Fuel	.75	2.09	6.47	6.44	4.90	4.64	4.37	4.77
LPG	1.30	2.63	5.23	8.32	8.25	5.37	4.95	3.60
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.69	9.97	9.64	6.92	7.53	8.05	8.88
Residual Fuel	.83	-	-	-	2.34	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.97	3.47	7.28	7.07	5.90	5.86	5.90	6.05
Primary Energy — Four Sectors	1.62	3.03	6.75	5.93	4.70	4.71	4.68	4.93
Electricity	7.04	8.57	11.96	17.11	17.30	17.15	16.93	16.74
Electric Utility Sector	.25	.27	.57	.89	.83	.80	.71	.70
Coal	.25	.26	.56	.88	.82	.79	.70	.69
Natural Gas	.35	.66	2.47	4.74	5.22	4.43	4.29	4.39
Petroleum	.96	1.94	6.07	5.52	3.71	4.19	3.81	4.41
Heavy Oil ^b	.90	1.93	-	-	-	-	-	-
Light Oil ^b	1.23	2.12	6.07	5.52	3.71	4.19	3.81	4.41
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.26	2.23	3.66	3.31	2.73	2.70	2.43	2.63

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, North Dakota 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	66.8	104.4	210.1	302.8	286.3	265.0	287.1	297.8
Primary Energy	29.6	44.9	100.0	117.7	102.8	89.7	97.1	109.8
Coal	1.2	2.3	1.3	1.6	1.2	.7	.7	.9
Natural Gas	8.4	15.4	37.1	57.9	49.5	44.1	47.1	46.0
Petroleum	20.0	27.3	61.6	58.2	52.1	44.9	49.2	62.9
Distillate Fuel	8.2	11.5	47.3	48.8	29.8	27.8	26.2	29.5
Kerosene	1.8	.3	.2	.9	.2	.2	.2	.4
LPG	10.0	15.4	14.0	8.5	22.1	16.9	22.8	33.0
Electricity	37.2	59.5	110.1	185.1	183.5	175.4	190.0	188.0
Commercial Sector	27.9	49.0	127.8	203.1	183.3	168.3	175.8	174.4
Primary Energy	12.2	27.5	80.3	81.9	63.5	52.3	57.8	59.3
Coal	1.0	1.7	3.2	5.4	4.7	2.5	3.2	4.1
Natural Gas	5.8	13.7	37.8	51.7	43.5	37.6	44.0	44.5
Petroleum	5.4	12.0	39.2	24.8	15.3	12.3	10.7	10.8
Distillate Fuel	1.5	2.4	24.1	18.1	6.3	5.9	3.0	4.5
Kerosene	-	-	-	-	-	-	-	-
LPG	1.1	2.0	1.7	1.5	5.2	3.1	3.8	2.9
Motor Gasoline	2.2	2.3	3.8	3.5	2.6	2.9	3.1	2.8
Residual Fuel	.5	5.2	9.5	1.7	1.1	.4	.8	.6
Electricity	15.7	21.5	47.5	121.2	119.9	116.0	118.0	115.0
Industrial Sector	77.3	143.2	279.1	561.4	524.4	504.6	465.7	512.1
Primary Energy	63.0	116.2	226.5	460.2	426.5	412.8	366.3	414.6
Coal	5.4	9.4	20.2	228.0	251.5	245.1	219.3	244.0
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	5.4	9.4	20.2	228.0	251.5	245.1	219.3	244.0
Natural Gas	.7	1.9	2.6	8.7	10.3	7.7	12.3	15.0
Petroleum	56.9	105.0	203.7	223.5	164.7	159.9	134.7	155.5
Asphalt and Road Oil	7.3	14.6	19.2	35.9	23.7	22.0	22.4	19.2
Distillate Fuel	10.0	25.6	78.8	106.4	64.6	68.4	51.5	76.3
Kerosene	.3	.8	.3	.1	.2	-	.1	-
LPG	1.0	1.8	13.0	12.8	36.8	23.2	15.5	13.1
Lubricants	.9	1.0	2.3	2.5	2.2	2.2	2.2	2.8
Motor Gasoline	34.4	54.1	80.7	54.7	33.6	40.6	37.9	38.2
Residual Fuel	2.3	4.6	4.1	6.8	2.9	2.4	3.6	4.2
Other	.8	2.6	5.3	2.3	.8	1.3	1.4	1.7
Electricity	14.3	27.0	52.6	101.1	97.9	91.8	99.3	97.5
Transportation Sector	118.6	249.1	631.5	588.5	443.1	474.9	499.0	540.8
Primary Energy	118.6	249.1	631.5	588.5	443.1	474.9	499.0	540.8
Coal	-	-	-	-	-	-	-	-
Petroleum	118.6	249.1	631.5	588.5	443.1	474.9	499.0	540.8
Aviation Gasoline	1.0	1.5	2.9	.2	1.6	1.1	1.2	1.3
Distillate Fuel	11.1	29.2	159.9	126.3	108.9	124.1	130.8	137.7
Jet Fuel	8.3	20.9	59.7	58.3	43.5	31.5	31.0	34.5
LPG	-	-	.2	.4	.8	.3	.4	.3
Lubricants	4.2	6.2	13.2	14.7	12.7	12.5	13.0	16.4
Motor Gasoline	93.6	191.2	395.6	388.6	275.5	305.4	322.7	350.6
Residual Fuel	.2	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	290.6	545.7	1,248.6	1,655.8	1,437.2	1,412.9	1,427.6	1,525.1
Primary Energy — Four Sectors	223.3	437.7	1,038.4	1,248.3	1,036.0	1,029.7	1,020.3	1,124.5
Electricity	67.3	108.0	210.2	407.5	401.2	383.2	407.3	400.6
Electric Utility Sector	12.3	15.8	87.9	203.4	188.0	183.8	201.8	189.4
Coal	12.0	15.4	85.5	201.1	186.8	182.5	200.8	187.6
Natural Gas	.1	.1	-	-	-	-	-	-
Petroleum	.2	.2	2.4	2.4	1.2	1.2	1.0	1.9
Heavy Oil ^b	.1	.2	-	-	-	-	-	-
Light Oil ^b	-	-	2.4	2.4	1.2	1.2	1.0	1.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	235.6	453.5	1,126.3	1,451.7	1,224.0	1,213.5	1,222.1	1,314.0

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Ohio 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.35	1.14	1.56	1.72	1.66	1.56	1.53	1.51
Coking Coal	.42	1.57	2.00	2.05	2.04	1.72	1.73	1.75
Steam Coal	.33	1.03	1.47	1.68	1.62	1.55	1.51	1.48
Natural Gas	.74	1.30	3.27	5.32	5.11	4.70	4.55	4.65
Petroleum	2.17	3.80	7.71	8.63	6.52	6.81	6.82	7.44
Asphalt and Road Oil	.74	2.03	3.66	4.43	3.70	3.23	3.23	2.99
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.13	2.53	6.44	7.66	5.81	6.02	5.89	6.62
Jet Fuel	.74	2.09	6.38	6.04	3.85	4.04	3.92	4.49
Kerosene	1.11	2.72	6.87	7.61	6.02	5.90	5.74	6.31
LPG	1.73	3.73	5.48	9.54	8.91	8.42	8.43	9.51
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.73	9.45	9.15	6.78	7.36	7.43	8.18
Residual Fuel	.61	2.14	3.34	4.20	2.60	2.84	2.50	2.61
Other ^a	1.23	2.48	7.11	7.72	6.30	6.51	5.60	6.17
Nuclear Fuel	-	-	.28	1.09	.72	.73	1.33	1.32
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	.98	2.00	4.09	4.84	4.03	3.93	3.88	4.10
Electric Utility Fuel	.30	.98	1.50	1.70	1.63	1.51	1.52	1.48
Electricity Purchased by End Users	4.68	7.94	12.97	16.90	17.23	16.97	16.90	16.83
Total Energy^b	1.50	3.05	6.24	8.26	7.35	7.35	7.24	7.68
Expenditures in Millions of Dollars								
Coal	556.1	1,847.6	2,390.1	2,383.9	2,373.3	2,239.8	2,260.2	2,208.0
Coking Coal	146.6	519.3	549.5	287.8	283.0	246.8	252.4	247.6
Steam Coal	409.5	1,328.3	1,840.7	2,096.1	2,090.3	1,993.0	2,007.9	1,960.4
Natural Gas	769.2	1,243.3	2,887.6	3,944.8	3,711.1	3,382.8	3,688.3	3,826.0
Petroleum	2,230.3	4,368.9	9,944.5	9,284.9	6,896.1	7,387.4	7,338.5	8,332.5
Asphalt and Road Oil	44.3	118.0	178.1	186.3	180.3	193.3	136.4	210.5
Aviation Gasoline	7.8	8.5	21.5	16.6	15.9	9.1	12.4	10.5
Distillate Fuel	224.5	621.6	1,828.0	1,605.0	1,211.8	1,175.1	1,271.1	1,473.4
Jet Fuel	24.4	70.7	259.2	245.3	215.8	246.2	203.8	263.6
Kerosene	40.7	55.5	95.5	112.1	54.0	42.9	51.0	51.8
LPG	56.5	127.6	883.2	1,106.7	566.1	540.7	429.6	560.5
Lubricants	112.0	163.9	332.8	371.3	321.4	316.5	328.5	412.7
Motor Gasoline	1,637.3	2,949.3	5,623.4	5,224.6	3,986.7	4,477.8	4,569.4	4,994.1
Residual Fuel	17.6	117.1	122.1	45.3	31.9	28.6	35.6	37.1
Other ^a	65.3	136.5	600.8	371.6	312.2	357.3	300.8	318.3
Nuclear Fuel	-	-	6.4	23.0	.2	59.0	120.8	179.7
Wood and Waste at Utilities	*	*	*	2.2	.9	3.4	3.1	2.7
Primary Energy — Five Sectors	3,555.6	7,459.7	15,228.7	15,638.6	12,981.6	13,072.5	13,410.9	14,548.9
Electric Utility Fuel	-245.5	-1,046.9	-1,729.9	-1,919.7	-1,870.3	-1,844.1	-1,915.4	-1,983.3
Electricity Purchased by End Users	1,344.2	2,773.5	4,904.7	7,080.8	7,209.8	7,450.9	7,649.7	8,033.5
Total Energy^b	4,654.2	9,186.4	18,403.5	20,799.7	18,321.1	18,679.3	19,145.2	20,599.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Ohio 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.69	3.12	6.37	9.77	9.56	9.45	9.24	9.55
Primary Energy	.98	1.74	3.92	6.11	5.73	5.32	5.22	5.52
Coal	1.05	2.62	3.07	3.00	2.86	2.74	2.65	2.69
Natural Gas	.88	1.47	3.49	5.79	5.55	5.12	5.01	5.11
Petroleum	1.54	2.96	6.94	8.61	7.35	7.06	6.85	8.51
Distillate Fuel	1.41	2.51	6.63	7.55	5.88	5.66	5.66	6.18
Kerosene	1.42	2.90	8.07	8.43	6.57	6.32	6.32	6.90
LPG	2.14	4.53	7.66	10.09	9.59	8.88	8.40	11.42
Electricity	6.99	10.93	16.29	22.49	22.45	22.56	22.24	22.79
Commercial Sector	1.87	3.55	7.07	10.73	10.46	10.25	9.99	10.62
Primary Energy	.76	1.51	3.76	5.28	4.83	4.64	4.63	4.81
Coal	.40	1.31	1.34	1.49	1.45	1.39	1.39	1.39
Natural Gas	.75	1.31	3.26	5.34	5.11	4.68	4.57	4.70
Petroleum	1.26	2.74	7.13	7.06	5.38	5.91	5.98	6.55
Distillate Fuel	1.20	2.33	6.28	6.10	3.72	4.15	3.73	4.32
Kerosene	.84	2.48	6.01	6.59	4.33	4.73	4.25	5.20
LPG	1.39	2.83	5.34	9.43	8.60	8.20	8.46	8.17
Motor Gasoline	2.93	4.73	9.45	9.15	6.78	7.36	7.43	8.18
Residual Fuel	.69	2.20	3.58	4.18	2.60	2.83	2.51	2.60
Electricity	6.33	10.10	15.71	20.91	20.73	20.29	19.97	20.66
Industrial Sector	.84	2.17	4.45	6.22	5.68	5.46	5.23	5.50
Primary Energy	.60	1.61	3.58	4.75	3.92	3.65	3.43	3.72
Coal	.41	1.47	1.79	1.78	1.75	1.56	1.56	1.59
Coking Coal	.42	1.57	2.00	2.05	2.04	1.72	1.73	1.75
Steam Coal	.40	1.31	1.34	1.49	1.45	1.39	1.39	1.39
Natural Gas	.57	1.08	3.01	4.66	4.48	4.09	3.94	4.02
Petroleum	1.23	2.62	5.77	7.97	6.14	5.95	5.70	5.87
Asphalt and Road Oil	.74	2.03	3.66	4.43	3.70	3.23	3.23	2.99
Distillate Fuel	.77	2.31	5.45	6.25	4.11	4.49	4.04	4.94
Kerosene	.84	2.48	6.01	6.59	4.33	4.73	4.25	5.20
LPG	1.39	2.83	5.34	9.43	8.60	8.20	8.46	8.17
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.73	9.45	9.15	6.78	7.36	7.43	8.18
Residual Fuel	.55	2.17	3.31	4.18	2.60	2.83	2.51	2.60
Other	1.23	2.48	7.11	7.72	6.30	6.51	5.60	6.17
Electricity	2.90	5.61	9.73	11.75	12.12	11.80	11.79	11.36
Transportation Sector	2.66	4.39	8.87	8.92	6.61	7.07	7.13	7.84
Primary Energy	2.66	4.38	8.87	8.92	6.61	7.07	7.13	7.84
Coal	.40	1.31	-	-	-	-	-	-
Petroleum	2.66	4.39	8.87	8.92	6.61	7.07	7.13	7.84
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.26	2.76	6.95	8.28	6.47	6.70	6.57	7.22
Jet Fuel	.74	2.08	6.38	6.04	3.85	4.04	3.92	4.49
LPG	1.39	2.83	5.34	9.43	8.60	8.20	8.46	8.17
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.73	9.45	9.15	6.78	7.36	7.43	8.18
Residual Fuel	.64	1.61	3.02	-	2.51	2.84	2.16	2.32
Electricity	4.05	7.63	13.51	22.10	23.15	17.79	17.01	17.59
Total Energy*	1.50	3.05	6.24	8.26	7.35	7.35	7.24	7.68
Primary Energy — Four Sectors	1.18	2.41	5.25	6.54	5.36	5.34	5.24	5.70
Electricity	4.68	7.94	12.97	16.90	17.23	16.97	16.90	16.83
Electric Utility Sector	.30	.98	1.50	1.70	1.63	1.51	1.52	1.48
Coal	.29	.95	1.48	1.69	1.63	1.56	1.52	1.49
Natural Gas	.39	1.19	2.90	5.09	4.67	3.04	3.47	3.13
Petroleum	.72	2.29	5.11	5.71	3.56	3.93	3.19	3.43
Heavy Oil ^b	.69	2.18	3.58	4.43	2.73	3.00	2.45	2.66
Light Oil ^b	.75	2.35	5.72	6.09	3.71	4.10	3.77	4.26
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	.28	1.09	.72	.73	1.33	1.32
Wood and Waste	.65	.92	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	.98	2.00	4.09	4.84	4.03	3.93	3.88	4.10

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Ohio 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,090.9	1,980.1	3,675.4	5,070.6	5,014.5	4,948.5	5,169.1	5,419.8
Primary Energy	559.8	940.4	1,815.5	2,466.2	2,316.2	2,122.4	2,231.1	2,402.8
Coal	13.8	23.3	14.0	21.7	25.3	18.8	16.4	12.4
Natural Gas	414.0	643.4	1,396.3	1,978.7	1,898.7	1,746.7	1,826.7	1,910.7
Petroleum	132.0	273.6	405.3	465.8	392.2	356.9	388.0	479.7
Distillate Fuel	76.5	157.8	286.8	196.7	157.0	137.1	153.4	164.6
Kerosene	24.1	33.8	46.5	68.4	44.4	33.8	40.5	37.0
LPG	31.5	82.0	72.0	200.7	190.7	186.0	194.1	278.1
Electricity	531.1	1,039.7	1,859.9	2,604.3	2,698.4	2,826.2	2,938.0	3,017.0
Commercial Sector	545.7	1,023.2	2,031.3	3,062.9	3,073.4	3,100.7	3,249.1	3,407.8
Primary Energy	176.6	332.5	781.1	980.8	917.9	901.1	978.4	977.2
Coal	9.5	21.5	11.2	19.7	23.7	17.6	15.8	11.7
Natural Gas	140.0	227.6	551.1	799.0	743.7	718.7	754.3	791.4
Petroleum	27.1	83.5	218.8	162.1	150.4	164.7	208.3	174.0
Distillate Fuel	13.0	29.0	94.8	72.4	46.1	51.1	48.5	42.4
Kerosene	.7	1.5	4.4	25.0	4.7	4.5	5.7	7.7
LPG	3.6	9.0	8.9	33.1	30.2	30.3	34.5	35.1
Motor Gasoline	6.2	23.7	102.2	29.0	66.3	77.9	118.2	88.5
Residual Fuel	3.6	20.1	8.5	2.6	3.1	.9	1.3	.4
Electricity	369.2	690.7	1,250.2	2,082.1	2,155.5	2,199.6	2,270.7	2,430.6
Industrial Sector	1,259.7	2,883.2	5,821.9	6,027.0	5,120.0	5,046.3	5,025.7	5,362.4
Primary Energy	816.3	1,841.3	4,029.3	3,635.8	2,767.3	2,623.4	2,587.1	2,779.0
Coal	301.9	815.2	723.6	473.5	470.0	438.4	457.6	407.2
Coking Coal	146.6	519.3	549.5	287.8	283.0	246.8	252.4	247.6
Steam Coal	155.3	296.0	174.1	185.7	187.0	191.6	205.2	159.6
Natural Gas	206.6	366.0	926.5	1,163.5	1,065.9	914.7	1,103.9	1,120.8
Petroleum	307.9	660.1	2,379.2	1,998.8	1,231.4	1,270.2	1,025.7	1,251.0
Asphalt and Road Oil	44.3	118.0	178.1	186.3	180.3	193.3	136.4	210.5
Distillate Fuel	50.5	149.7	396.8	243.0	139.2	138.3	121.7	150.9
Kerosene	15.9	20.2	44.5	18.6	4.9	4.7	4.8	7.1
LPG	20.7	34.7	797.9	856.2	329.7	313.1	188.0	233.6
Lubricants	73.7	90.2	208.6	232.8	201.5	198.4	205.9	258.7
Motor Gasoline	29.7	37.7	57.3	51.6	36.3	39.8	40.1	43.7
Residual Fuel	7.9	73.0	95.1	38.8	27.3	25.4	28.1	28.1
Other	65.3	136.5	600.8	371.6	312.2	357.3	300.8	318.3
Electricity	443.4	1,042.0	1,792.6	2,391.2	2,352.8	2,422.9	2,438.6	2,583.4
Transportation Sector	1,757.9	3,299.8	6,874.9	6,639.3	5,113.2	5,583.8	5,701.2	6,409.1
Primary Energy	1,757.3	3,298.7	6,872.9	6,636.1	5,110.0	5,581.5	5,698.9	6,406.7
Coal	.4	.1	-	-	-	-	-	-
Petroleum	1,756.8	3,298.6	6,872.9	6,636.1	5,110.0	5,581.5	5,698.9	6,406.7
Aviation Gasoline	7.8	8.5	21.5	16.6	15.9	9.1	12.4	10.5
Distillate Fuel	81.2	251.5	994.9	1,074.9	858.8	836.2	935.9	1,102.9
Jet Fuel	24.4	69.2	259.2	245.3	215.8	246.2	203.8	263.6
LPG	.7	1.9	4.4	16.7	15.5	11.3	13.0	13.7
Lubricants	38.3	73.7	124.2	138.5	119.9	118.1	122.5	154.0
Motor Gasoline	1,601.5	2,887.8	5,463.9	5,144.0	3,884.0	4,360.1	4,411.1	4,861.9
Residual Fuel	3.1	6.0	4.8	-	.1	.6	.2	.2
Electricity	.6	1.2	2.0	3.2	3.2	2.3	2.3	2.4
Total Energy*	4,654.2	9,186.4	18,403.5	20,799.7	18,321.1	18,679.3	19,145.2	20,599.1
Primary Energy — Four Sectors	3,310.0	6,412.8	13,498.9	13,718.9	11,111.3	11,228.4	11,495.5	12,565.6
Electricity	1,344.2	2,773.5	4,904.7	7,080.8	7,209.8	7,450.9	7,649.7	8,033.5
Electric Utility Sector	245.5	1,046.9	1,729.9	1,919.7	1,870.3	1,844.1	1,915.4	1,983.3
Coal	230.5	987.4	1,641.4	1,869.0	1,854.3	1,764.9	1,770.4	1,776.7
Natural Gas	8.6	6.3	13.7	3.6	2.9	2.7	3.4	3.1
Petroleum	6.4	53.2	68.3	22.0	12.1	14.1	17.7	21.1
Heavy Oil ^b	3.0	18.0	13.6	3.9	1.4	1.7	6.0	8.5
Light Oil ^b	3.4	35.2	54.7	18.0	10.7	12.4	11.7	12.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	6.4	23.0	.2	59.0	120.8	179.7
Wood and Waste	-	-	-	2.2	.9	3.4	3.1	2.7
Primary Energy — Five Sectors	3,555.6	7,459.7	15,228.7	15,638.6	12,981.6	13,072.5	13,410.9	14,548.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Oklahoma 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.33	0.96	1.25	1.69	1.65	1.58	1.50	1.29
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.33	.96	1.25	1.69	1.65	1.58	1.50	1.29
Natural Gas	.35	.75	1.96	3.41	3.11	2.76	2.80	2.87
Petroleum	1.97	3.52	7.97	7.43	6.04	6.33	6.15	6.77
Asphalt and Road Oil	.68	1.86	3.60	4.20	4.58	3.44	3.24	3.15
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.90	2.36	6.77	5.54	5.36	5.63	5.52	6.21
Jet Fuel	.72	2.01	6.34	5.87	3.94	3.90	3.75	4.27
Kerosene	.66	2.41	6.52	4.19	4.97	4.01	4.89	6.17
LPG	1.42	2.91	6.03	7.26	7.84	7.33	5.59	5.79
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.52	9.79	8.76	6.30	7.08	7.12	7.79
Residual Fuel	.50	1.58	3.23	3.41	2.10	2.18	1.81	2.03
Other ^a	.58	1.45	2.90	3.36	3.04	2.89	2.44	2.99
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.03	1.90	4.04	4.59	3.89	3.75	3.66	3.87
Electric Utility Fuel	.19	.61	1.63	2.30	2.17	2.08	2.04	2.02
Electricity Purchased by End Users	5.76	6.64	11.80	17.23	17.83	16.48	16.20	16.28
Total Energy ^b	1.83	3.06	6.43	7.58	6.97	6.60	6.48	6.73
Expenditures in Millions of Dollars								
Coal	0.1	0.5	132.5	400.2	360.2	379.9	404.1	346.5
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.1	.5	132.5	400.2	360.2	379.9	404.1	346.5
Natural Gas	152.7	392.2	1,209.5	1,633.3	1,416.3	1,305.6	1,307.5	1,352.6
Petroleum	636.9	1,329.1	3,202.7	3,274.6	2,360.9	2,427.0	2,429.3	2,721.9
Asphalt and Road Oil	20.7	69.9	115.1	111.7	99.8	62.4	76.7	57.5
Aviation Gasoline	4.9	5.4	14.9	11.0	10.6	6.8	6.5	6.9
Distillate Fuel	28.7	128.1	478.2	592.0	434.6	457.6	479.1	533.6
Jet Fuel	17.2	43.2	170.5	190.6	129.8	161.8	150.7	220.5
Kerosene	4.1	4.5	12.6	4.1	2.2	1.3	2.2	4.5
LPG	50.3	99.1	196.2	270.5	210.8	169.3	122.9	139.9
Lubricants	19.2	36.8	118.1	131.8	114.1	112.3	116.6	146.5
Motor Gasoline	481.9	913.4	2,038.2	1,940.7	1,342.7	1,436.3	1,454.1	1,590.1
Residual Fuel	2.2	5.7	13.1	3.4	4.2	3.5	5.7	5.0
Other ^a	7.7	23.1	45.7	18.9	12.2	15.7	14.9	17.4
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	789.6	1,721.8	4,544.7	5,308.2	4,137.4	4,112.5	4,140.9	4,420.9
Electric Utility Fuel	-46.8	-190.0	-727.3	-988.5	-883.8	-882.1	-900.4	-891.0
Electricity Purchased by End Users	311.7	509.6	1,211.3	2,141.2	2,158.5	2,014.1	2,047.7	2,040.0
Total Energy ^b	1,054.5	2,041.4	5,028.7	6,460.9	5,412.1	5,244.5	5,288.2	5,569.9

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Oklahoma 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.24	3.19	6.40	10.01	11.06	10.64	10.25	10.34
Primary Energy	.99	1.62	2.84	4.92	5.12	4.67	4.58	4.64
Coal	.90	1.58	2.54	2.83	2.78	2.40	2.12	2.43
Natural Gas	.81	1.22	2.46	4.49	4.90	4.49	4.36	4.40
Petroleum	1.60	3.12	7.29	7.56	6.92	6.28	6.74	6.71
Distillate Fuel	.89	2.22	6.60	3.73	5.41	3.64	4.81	6.14
Kerosene	1.41	2.88	7.95	4.57	6.63	4.45	5.89	7.52
LPG	1.60	3.13	7.29	7.78	6.95	6.33	6.80	6.70
Electricity	7.42	8.22	13.50	19.37	20.69	19.76	19.74	20.02
Commercial Sector	1.68	2.96	6.12	10.52	11.27	10.72	9.35	10.01
Primary Energy	.61	1.24	2.74	4.50	4.51	4.24	4.01	4.10
Coal	-	.94	1.39	1.79	1.84	1.96	1.88	1.42
Natural Gas	.51	.94	2.30	4.32	4.31	4.05	3.92	3.86
Petroleum	1.18	2.58	7.20	5.41	6.07	5.34	4.68	5.35
Distillate Fuel	.82	2.12	6.31	3.20	3.83	2.86	3.42	4.53
Kerosene	.62	2.37	6.42	4.05	4.75	3.77	4.49	5.91
LPG	1.12	2.56	5.72	7.01	8.25	7.76	4.95	5.33
Motor Gasoline	2.82	4.52	9.79	8.76	6.30	7.08	7.12	7.79
Residual Fuel	.47	1.46	3.42	-	-	2.18	1.80	2.01
Electricity	5.50	6.73	11.91	18.02	18.48	17.13	16.67	18.87
Industrial Sector	.76	1.70	3.86	4.92	4.70	3.75	3.53	3.67
Primary Energy	.53	1.39	3.23	3.83	3.49	2.74	2.47	2.65
Coal	-	.94	1.39	1.79	1.84	1.96	1.88	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	.94	1.39	1.79	1.84	1.96	1.88	-
Natural Gas	.25	.72	2.11	3.23	2.57	1.96	1.70	1.93
Petroleum	.82	2.08	4.92	5.05	5.66	5.05	4.30	5.15
Asphalt and Road Oil	.68	1.86	3.60	4.20	4.58	3.44	3.24	3.15
Distillate Fuel	.54	2.09	5.68	3.34	3.92	3.11	3.71	4.88
Kerosene	.62	2.37	6.42	4.05	4.75	3.77	4.49	5.91
LPG	1.12	2.56	5.72	7.01	8.25	7.76	4.95	5.33
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.52	9.79	8.76	6.30	7.08	7.12	7.79
Residual Fuel	.53	1.65	3.22	3.39	2.11	2.18	1.80	2.01
Other	.58	1.45	2.90	3.36	3.04	2.89	2.44	2.99
Electricity	3.13	4.29	9.31	13.33	13.05	11.19	10.75	10.73
Transportation Sector	2.44	4.11	9.12	8.27	6.11	6.62	6.59	7.13
Primary Energy	2.44	4.11	9.12	8.27	6.11	6.62	6.59	7.13
Coal	-	.94	-	-	-	-	-	-
Petroleum	2.44	4.11	9.12	8.27	6.11	6.62	6.59	7.13
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.11	2.61	7.30	7.15	5.92	6.45	6.17	6.64
Jet Fuel	.72	2.01	6.34	5.87	3.94	3.90	3.75	4.27
LPG	1.12	2.56	5.72	7.01	8.25	7.76	4.95	5.33
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.82	4.52	9.79	8.76	6.30	7.08	7.12	7.79
Residual Fuel	.46	1.79	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.83	3.06	6.43	7.58	6.97	6.80	6.48	6.73
Primary Energy — Four Sectors	1.42	2.59	5.62	5.93	4.96	4.80	4.69	5.03
Electricity	5.76	6.64	11.80	17.23	17.83	16.48	16.20	16.28
Electric Utility Sector	.19	.61	1.63	2.30	2.17	2.08	2.04	2.02
Coal	.39	.43	1.23	1.68	1.64	1.56	1.48	1.36
Natural Gas	.19	.61	1.74	2.95	2.68	2.67	2.81	2.93
Petroleum	.50	1.75	5.29	5.34	2.81	3.89	3.35	3.94
Heavy Oil ^b	.46	1.45	3.44	3.73	1.50	2.76	2.50	2.91
Light Oil ^b	.56	1.92	5.30	5.54	2.90	3.91	3.42	4.15
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.03	1.90	4.04	4.59	3.89	3.75	3.66	3.87

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Oklahoma 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	285.3	422.0	804.6	1,396.2	1,375.8	1,291.9	1,354.1	1,340.4
Primary Energy	100.7	163.3	237.8	444.6	394.4	342.3	379.2	378.4
Coal	.	.	.6	.1	.1	.	.1	.
Natural Gas	65.1	97.3	188.5	348.3	333.7	297.1	325.3	323.1
Petroleum	35.5	66.0	48.6	96.3	60.6	45.2	53.7	55.3
Distillate Fuel	.	.2	.6	1.8	.9	.2	.8	.
Kerosene	.4	.4	.9	1.2	.3	.5	.7	.9
LPG	35.1	65.4	47.1	93.3	59.3	44.5	52.2	54.4
Electricity	184.6	258.7	566.8	951.6	981.5	949.6	975.0	962.0
Commercial Sector	115.4	219.6	509.6	944.0	926.0	843.3	918.0	876.9
Primary Energy	32.5	63.1	143.8	224.1	191.3	165.7	228.0	192.8
Coal	-	.	.6	.1	.1	.1	.2	.
Natural Gas	22.9	39.1	108.4	179.8	160.9	135.5	194.8	151.7
Petroleum	9.6	24.0	34.8	44.2	30.3	30.0	32.9	41.2
Distillate Fuel	.5	5.0	11.6	13.1	6.3	6.8	12.4	16.8
Kerosene	.8	1.4	.5	.7	.1	.1	1.0	3.2
LPG	4.3	9.4	6.5	14.8	12.4	9.6	6.7	7.6
Motor Gasoline	3.4	6.3	15.5	15.6	11.4	13.3	12.8	12.8
Residual Fuel	.6	1.8	.6	-	-	.2	.1	.7
Electricity	82.9	156.5	365.8	719.9	734.7	677.6	690.0	684.0
Industrial Sector	122.6	352.2	1,110.5	1,519.3	1,253.1	1,084.8	981.5	1,062.6
Primary Energy	78.3	257.7	831.9	1,049.7	810.9	697.9	598.8	668.6
Coal	-	.4	7.8	32.6	30.2	25.3	22.5	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	-	.4	7.8	32.6	30.2	25.3	22.5	-
Natural Gas	18.1	66.6	310.6	486.9	369.8	346.9	269.4	334.7
Petroleum	60.2	190.6	513.5	530.1	410.9	325.8	307.0	333.8
Asphalt and Road Oil	20.7	69.9	115.1	111.7	99.8	62.4	76.7	57.5
Distillate Fuel	6.3	49.3	122.5	134.9	79.2	53.0	68.2	78.9
Kerosene	2.9	2.7	11.1	2.2	1.7	.7	.5	.4
LPG	8.7	19.7	137.7	158.1	135.2	112.4	61.7	75.8
Lubricants	5.1	12.4	50.4	56.3	48.7	48.0	49.8	62.6
Motor Gasoline	7.6	10.4	18.4	44.9	30.0	30.5	29.7	37.1
Residual Fuel	1.2	3.2	12.5	3.2	4.1	3.2	5.6	4.1
Other	7.7	23.1	45.7	18.9	12.2	15.7	14.9	17.4
Electricity	44.2	94.5	278.6	469.7	442.2	386.9	382.7	394.0
Transportation Sector	531.2	1,047.7	2,604.0	2,601.3	1,857.1	2,024.4	2,034.5	2,290.1
Primary Energy	531.2	1,047.7	2,604.0	2,601.3	1,857.1	2,024.4	2,034.5	2,290.1
Coal	-	.	-	-	-	-	-	-
Petroleum	531.2	1,047.7	2,604.0	2,601.3	1,857.1	2,024.4	2,034.5	2,290.1
Aviation Gasoline	4.9	5.4	14.9	11.0	10.6	6.8	6.5	6.9
Distillate Fuel	21.7	73.0	341.7	439.7	346.3	396.1	396.7	436.5
Jet Fuel	17.2	43.2	170.5	190.6	129.8	161.8	150.7	220.5
LPG	2.2	4.5	4.9	4.4	3.8	2.8	2.2	2.0
Lubricants	14.1	24.4	67.7	75.5	65.4	64.4	66.8	84.0
Motor Gasoline	470.9	896.7	2,004.2	1,880.2	1,301.2	1,392.6	1,411.7	1,540.2
Residual Fuel	.2	.5	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,054.5	2,041.4	5,028.7	6,460.9	5,412.1	5,244.5	5,288.2	5,569.9
Primary Energy — Four Sectors	742.8	1,531.8	3,817.5	4,319.7	3,253.6	3,230.4	3,240.5	3,529.9
Electricity	311.7	509.6	1,211.3	2,141.2	2,158.5	2,014.1	2,047.7	2,040.0
Electric Utility Sector	46.8	190.0	727.3	988.5	883.8	882.1	900.4	891.0
Coal	.	.	123.5	367.4	329.8	354.5	381.3	346.5
Natural Gas	46.5	189.1	602.0	618.3	551.9	526.0	518.0	543.1
Petroleum	.4	.9	1.8	2.7	2.0	1.6	1.2	1.5
Heavy Oil ^b	.2	.3	.	.2	.1	.	.1	.2
Light Oil ^b	.2	.6	1.8	2.5	1.9	1.5	1.1	1.3
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	789.6	1,721.8	4,544.7	5,308.2	4,137.4	4,112.5	4,140.9	4,420.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Oregon 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.41	1.04	1.72	2.15	2.47	2.43	2.43	1.25
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.41	1.04	1.72	2.15	2.47	2.43	2.43	1.25
Natural Gas	.81	1.44	4.69	5.60	4.94	4.55	4.80	4.17
Petroleum	1.88	3.50	7.88	8.05	5.86	6.08	6.21	7.02
Asphalt and Road Oil	.58	1.78	3.60	4.42	4.47	4.27	3.95	3.19
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.21	2.62	6.62	7.98	5.32	5.75	5.88	6.77
Jet Fuel	.73	2.04	6.21	6.16	4.24	4.33	4.04	4.76
Kerosene	1.48	2.84	7.61	8.51	6.20	6.28	5.76	7.46
LPG	2.21	4.17	7.09	9.16	9.65	8.75	8.55	10.19
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.45	9.75	8.87	6.92	7.12	7.48	8.50
Residual Fuel	.51	2.06	3.92	4.91	2.60	2.61	2.31	2.54
Other ^a	.81	2.44	6.53	9.99	2.80	2.43	2.19	2.55
Nuclear Fuel	-	.20	.36	.54	.52	.45	.46	.46
Wood and Waste at Utilities	.65	.92	1.74	-	-	-	.87	.82
Primary Energy — Five Sectors	1.63	2.98	6.30	6.34	4.85	5.23	5.17	5.65
Electric Utility Fuel	.48	2.04	.59	.67	.52	.45	.47	.99
Electricity Purchased by End Users	2.90	4.13	7.59	13.08	12.95	12.88	12.61	12.49
Total Energy^b	1.87	3.23	7.36	8.83	7.35	7.46	7.50	7.92
Expenditures in Millions of Dollars								
Coal	1.2	2.8	20.8	21.6	7.2	9.0	7.6	8.5
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.2	2.8	20.8	21.6	7.2	9.0	7.6	8.5
Natural Gas	68.7	139.9	320.9	432.9	340.2	337.2	388.0	429.7
Petroleum	541.4	1,050.5	2,609.2	2,511.9	1,922.8	2,033.0	2,174.7	2,465.3
Asphalt and Road Oil	8.3	38.0	59.2	83.3	65.9	60.6	63.5	59.4
Aviation Gasoline	3.3	3.0	11.8	7.1	8.2	4.8	3.7	4.2
Distillate Fuel	89.2	199.4	643.9	715.0	461.1	543.0	563.9	640.6
Jet Fuel	8.6	24.0	86.5	74.3	62.5	71.4	72.7	90.9
Kerosene	1.8	3.6	4.8	3.5	.4	.2	.9	3.4
LPG	10.2	10.0	31.7	47.0	60.1	49.0	49.4	60.3
Lubricants	23.7	30.8	65.4	73.0	63.2	62.2	64.6	81.1
Motor Gasoline	371.2	675.3	1,562.9	1,353.9	1,088.0	1,144.3	1,263.3	1,423.0
Residual Fuel	18.5	45.4	100.0	125.5	93.4	70.9	69.0	75.8
Other ^a	6.6	20.9	42.7	29.3	20.0	26.6	23.8	26.5
Nuclear Fuel	-	*	21.4	40.6	39.5	21.1	31.4	26.1
Wood and Waste at Utilities	.3	*	2.9	-	-	-	.9	.2
Primary Energy — Five Sectors	611.6	1,193.2	2,975.1	3,006.9	2,309.7	2,400.2	2,602.4	2,929.8
Electric Utility Fuel	-.8	-.4	-41.1	-54.5	-39.6	-21.1	-32.3	-75.6
Electricity Purchased by End Users	248.3	458.4	950.4	1,573.1	1,549.2	1,657.4	1,692.0	1,774.0
Total Energy^b	859.1	1,651.1	3,884.5	4,525.5	3,819.3	4,036.5	4,262.2	4,628.2

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Oregon 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.47	3.78	8.04	10.77	10.67	10.93	10.87	10.81
Primary Energy	1.53	2.42	6.20	6.95	6.24	6.23	6.24	6.30
Coal	.95	1.14	4.26	3.67	3.79	3.76	3.37	3.66
Natural Gas	1.45	2.11	5.36	6.73	6.47	6.44	6.64	5.98
Petroleum	1.63	3.03	7.35	7.27	5.92	5.89	5.54	6.90
Distillate Fuel	1.41	2.80	7.02	7.00	5.08	5.23	5.11	5.78
Kerosene	2.79	3.82	9.80	9.85	7.14	7.36	7.19	8.14
LPG	2.66	5.27	9.00	8.73	10.89	9.83	9.16	15.93
Electricity	3.65	5.27	9.37	13.72	13.84	14.07	14.02	13.97
Commercial Sector	2.29	3.67	7.29	10.98	10.52	10.53	10.15	10.03
Primary Energy	1.16	2.21	5.56	6.29	5.14	4.84	4.96	4.69
Coal	.35	1.04	2.24	2.48	2.47	2.42	2.42	2.37
Natural Gas	1.22	1.79	4.88	6.06	5.47	5.17	5.24	4.64
Petroleum	1.14	2.68	6.39	6.74	4.63	4.36	4.50	4.83
Distillate Fuel	1.22	2.60	6.71	6.42	4.59	3.96	4.16	4.77
Kerosene	.93	2.58	6.54	6.50	3.96	4.66	4.47	5.18
LPG	1.12	2.76	5.40	9.45	9.06	8.28	8.38	8.55
Motor Gasoline	2.83	4.45	9.75	8.87	6.92	7.12	7.48	8.50
Residual Fuel	.79	2.45	4.90	4.12	2.10	2.65	2.55	2.39
Electricity	3.90	5.20	8.86	14.96	14.82	15.00	14.19	14.17
Industrial Sector	.78	1.77	4.67	7.17	5.70	5.80	5.81	5.82
Primary Energy	.67	1.65	4.68	5.84	3.85	3.84	3.92	3.91
Coal	.35	1.04	2.24	2.48	2.47	2.42	2.42	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.35	1.04	2.24	2.48	2.47	2.42	2.42	-
Natural Gas	.46	.92	4.21	4.65	3.73	3.30	3.64	3.40
Petroleum	.83	2.25	5.06	7.01	4.00	4.32	4.21	4.42
Asphalt and Road Oil	.58	1.78	3.60	4.42	4.47	4.27	3.95	3.19
Distillate Fuel	.80	2.29	5.62	8.72	2.84	4.18	4.00	4.64
Kerosene	.93	2.58	6.54	6.50	3.96	4.66	4.47	5.18
LPG	1.12	2.76	5.40	9.45	9.06	8.28	8.38	8.55
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.45	9.75	8.87	6.92	7.12	7.48	8.50
Residual Fuel	.33	1.85	3.39	4.12	2.10	2.65	2.55	2.39
Other	.81	2.44	6.53	9.99	2.80	2.43	2.19	2.55
Electricity	1.26	2.13	4.65	10.32	10.08	9.91	9.82	9.69
Transportation Sector	2.41	3.98	8.81	8.36	6.32	6.53	6.71	7.64
Primary Energy	2.41	3.98	8.81	8.36	6.32	6.53	6.71	7.64
Coal	.35	1.04	-	-	-	-	-	-
Petroleum	2.41	3.98	8.81	8.36	6.32	6.53	6.71	7.64
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.34	2.69	6.96	8.27	6.16	6.63	6.81	7.77
Jet Fuel	.73	2.04	6.21	6.16	4.24	4.33	4.04	4.76
LPG	1.12	2.76	5.40	9.45	9.06	8.28	8.38	8.55
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.83	4.45	9.75	8.87	6.92	7.12	7.48	8.50
Residual Fuel	.71	2.21	4.14	5.02	2.85	2.61	2.26	2.57
Electricity	-	-	-	-	-	17.04	13.54	14.24
Total Energy*	1.87	3.23	7.36	8.83	7.35	7.46	7.50	7.92
Primary Energy — Four Sectors	1.63	2.98	7.29	7.53	5.88	5.77	5.92	6.46
Electricity	2.90	4.13	7.59	13.08	12.95	12.88	12.81	12.49
Electric Utility Sector	.48	2.04	.59	.67	.52	.45	.47	.99
Coal	-	-	1.41	2.00	-	-	-	1.56
Natural Gas	.37	1.27	4.29	-	2.81	-	-	2.92
Petroleum	.80	2.31	6.53	5.67	3.24	4.10	4.03	4.53
Heavy Oil ^b	.80	-	-	-	-	-	-	-
Light Oil ^b	.83	2.31	6.53	5.67	3.24	4.10	4.03	4.53
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.20	.36	.54	.52	.45	.46	.46
Wood and Waste	.65	.92	1.74	-	-	-	.87	.82
Primary Energy — Five Sectors	1.63	2.98	6.30	6.34	4.85	5.23	5.17	5.65

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Oregon 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	188.1	327.8	640.2	946.3	856.4	852.8	894.2	945.9
Primary Energy	65.4	110.3	207.3	266.2	208.6	194.4	208.1	227.0
Coal	.2	.1	.6	.1	*	.1	.1	.2
Natural Gas	29.8	63.1	103.1	148.8	126.1	124.1	141.4	139.3
Petroleum	35.3	47.1	103.5	117.4	82.5	70.2	66.6	87.5
Distillate Fuel	25.6	39.0	82.5	96.8	60.5	53.2	54.9	63.6
Kerosene	1.0	1.0	2.1	2.4	.3	.1	.5	2.9
LPG	8.7	7.1	19.0	18.1	21.8	16.9	11.2	21.0
Electricity	122.8	217.4	432.9	680.0	647.8	658.3	686.0	719.0
Commercial Sector	126.0	225.8	509.3	715.3	668.4	691.4	697.8	705.8
Primary Energy	37.3	69.7	193.4	187.7	145.2	139.4	149.2	144.2
Coal	.2	.2	.6	.1	*	.1	.2	.2
Natural Gas	14.5	29.6	77.5	118.9	94.2	88.8	98.7	97.2
Petroleum	22.6	39.8	115.3	68.6	50.9	50.5	50.4	46.8
Distillate Fuel	11.5	18.8	70.0	51.8	35.8	37.4	36.8	29.9
Kerosene	.2	.5	1.4	1.0	.1	*	.3	.3
LPG	.6	.7	2.0	3.5	3.2	2.5	1.8	2.0
Motor Gasoline	3.7	5.1	14.9	10.8	8.5	9.1	9.3	9.8
Residual Fuel	6.6	14.8	27.0	1.6	3.3	1.5	2.1	4.7
Electricity	88.7	156.1	316.0	527.6	523.2	552.0	548.6	561.6
Industrial Sector	119.0	278.9	674.9	854.0	720.4	812.1	843.6	895.7
Primary Energy	82.1	194.1	473.3	488.6	342.2	365.5	386.6	402.7
Coal	.8	2.5	8.5	7.5	7.1	8.8	7.2	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.8	2.5	8.5	7.5	7.1	8.8	7.2	-
Natural Gas	23.9	47.2	138.8	165.2	119.9	124.3	147.9	154.0
Petroleum	57.4	144.4	326.0	315.9	215.2	232.4	231.4	248.7
Asphalt and Road Oil	8.3	38.0	59.2	83.3	65.9	60.6	63.5	59.4
Distillate Fuel	14.8	35.1	128.4	128.5	41.0	74.1	67.9	78.4
Kerosene	.6	2.1	1.4	.1	*	*	.1	.2
LPG	.8	2.1	9.5	19.5	29.6	24.0	30.7	32.4
Lubricants	8.7	8.6	19.3	21.5	18.6	18.3	19.0	23.9
Motor Gasoline	10.7	13.1	21.4	22.4	18.2	18.0	16.4	21.3
Residual Fuel	7.0	24.5	44.2	11.3	21.9	10.8	10.0	6.5
Other	6.6	20.9	42.7	29.3	20.0	26.6	23.8	26.5
Electricity	36.8	84.8	201.6	365.4	378.2	446.7	457.0	493.0
Transportation Sector	426.0	818.7	2,060.1	2,009.9	1,574.1	1,680.2	1,826.6	2,080.8
Primary Energy	426.0	818.7	2,060.1	2,009.9	1,574.1	1,679.8	1,826.3	2,080.4
Coal	*	*	-	-	-	-	-	-
Petroleum	426.0	818.7	2,060.1	2,009.9	1,574.1	1,679.8	1,826.3	2,080.4
Aviation Gasoline	3.3	3.0	11.8	7.1	8.2	4.8	3.7	4.2
Distillate Fuel	37.4	106.2	358.9	437.8	323.8	378.3	404.2	466.7
Jet Fuel	8.6	24.0	86.5	74.3	62.5	71.4	72.7	90.9
LPG	.1	.1	1.3	5.9	5.5	5.6	5.7	4.9
Lubricants	15.0	22.3	46.1	51.5	44.6	43.9	45.5	57.2
Motor Gasoline	356.7	657.1	1,526.7	1,320.7	1,061.3	1,117.2	1,237.5	1,391.9
Residual Fuel	4.8	6.1	28.8	112.6	68.2	58.6	57.0	64.6
Electricity	-	-	-	-	-	.4	.4	.4
Total Energy*	859.1	1,651.1	3,884.5	4,525.5	3,819.3	4,036.5	4,262.2	4,628.2
Primary Energy — Four Sectors	610.8	1,192.8	2,934.1	2,952.4	2,270.1	2,379.2	2,570.2	2,854.2
Electricity	248.3	458.4	950.4	1,573.1	1,019.2	1,657.4	1,692.0	1,774.0
Electric Utility Sector	.8	.4	41.1	54.5	39.6	21.1	32.3	75.8
Coal	-	-	11.2	13.9	-	-	-	8.1
Natural Gas	.4	*	1.4	-	*	-	-	39.2
Petroleum	.1	.4	4.2	.1	.1	*	*	2.0
Heavy Oil ^b	.1	-	-	-	-	-	-	-
Light Oil ^b	*	.4	4.2	.1	.1	*	*	2.0
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	*	21.4	40.6	39.5	21.1	31.4	26.1
Wood and Waste	.3	*	2.9	-	-	-	.9	.2
Primary Energy — Five Sectors	611.6	1,193.2	2,975.1	3,006.9	2,309.7	2,400.2	2,602.4	2,929.8

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Pennsylvania 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.39	1.21	1.59	1.64	1.55	1.49	1.50	1.50
Coking Coal	.44	1.52	2.20	1.88	1.76	1.59	1.61	1.67
Steam Coal	.35	1.03	1.35	1.58	1.52	1.47	1.47	1.47
Natural Gas	.87	1.53	3.37	5.74	5.38	4.84	4.70	4.96
Petroleum	1.71	3.45	7.67	8.09	5.94	6.16	6.08	6.79
Asphalt and Road Oil	.78	1.97	3.72	4.95	4.01	3.25	3.04	2.81
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.17	2.65	6.70	7.73	5.87	5.88	5.84	6.32
Jet Fuel	.72	2.01	6.27	5.84	3.91	4.02	3.85	4.44
Kerosene	1.39	2.88	7.75	8.28	6.34	6.04	6.15	6.85
LPG	1.82	3.39	6.16	9.85	8.87	8.49	8.86	9.33
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.72	9.71	9.01	6.54	7.03	7.01	7.79
Residual Fuel	.47	2.02	4.30	4.36	2.44	2.96	2.34	2.81
Other ^a	1.20	2.28	6.56	7.25	5.79	5.77	4.94	5.82
Nuclear Fuel	.21	.25	.42	.92	.78	.78	.84	.88
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.97	2.02	4.04	4.44	3.56	3.57	3.48	3.76
Electric Utility Fuel	.34	.93	1.55	1.61	1.35	1.36	1.35	1.38
Electricity Purchased by End Users	5.23	10.37	15.17	21.24	21.86	21.48	20.92	21.68
Total Energy ^b	1.47	3.25	6.41	8.49	7.72	7.52	7.35	7.88
Expenditures in Millions of Dollars								
Coal ^c	656.6	1,991.7	2,594.6	2,307.2	2,042.7	2,051.5	2,193.0	2,199.6
Coking Coal	317.5	913.7	1,005.0	492.9	330.9	357.1	437.4	442.2
Steam Coal	339.1	1,078.1	1,589.6	1,814.4	1,711.8	1,694.3	1,755.6	1,757.4
Natural Gas	653.4	964.8	2,489.5	3,444.8	3,147.9	2,944.4	3,012.8	3,294.7
Petroleum	2,449.7	4,716.0	10,487.6	9,187.0	6,965.9	7,487.2	7,502.9	8,310.1
Asphalt and Road Oil	34.0	74.2	127.1	161.3	158.5	141.9	110.4	125.1
Aviation Gasoline	7.3	7.4	15.3	10.5	10.7	5.6	7.1	7.4
Distillate Fuel	429.1	1,039.9	2,665.1	2,418.9	1,850.0	1,976.3	1,996.8	2,258.4
Jet Fuel	36.9	97.3	360.1	334.6	219.3	239.6	255.1	242.5
Kerosene	33.6	55.5	121.5	75.7	69.5	57.2	59.5	58.3
LPG	32.7	76.5	163.8	243.1	268.8	249.3	195.5	235.2
Lubricants	118.5	152.1	354.4	395.4	342.3	337.0	349.8	439.5
Motor Gasoline	1,559.6	2,695.2	5,507.0	4,825.9	3,576.6	3,927.4	4,084.0	4,453.3
Residual Fuel	157.4	441.3	798.1	443.4	288.4	345.6	267.4	286.6
Other ^a	40.7	76.8	375.1	278.3	181.8	207.1	177.3	203.9
Nuclear Fuel	1.1	44.3	55.4	262.2	336.6	293.8	342.6	369.7
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	3,760.8	7,716.9	15,627.1	15,201.2	12,493.1	12,776.9	13,051.3	14,174.1
Electric Utility Fuel	-296.5	-1,047.7	-1,997.2	-2,233.1	-2,058.5	-2,014.1	-2,092.5	-2,169.5
Electricity Purchased by End Users	1,330.2	3,060.5	5,096.8	7,203.2	7,568.9	7,789.5	7,994.3	8,360.8
Total Energy ^b	4,794.5	9,729.7	18,726.7	20,171.3	18,003.5	18,552.3	18,953.1	20,365.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Pennsylvania
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.98	3.97	7.17	10.79	10.54	10.45	10.25	10.62
Primary Energy	1.26	2.32	4.92	6.91	6.12	5.79	5.66	6.09
Coal	1.03	2.57	2.70	2.83	2.76	2.72	2.69	2.79
Natural Gas	1.20	1.89	3.73	6.50	6.17	5.82	5.59	5.92
Petroleum	1.41	2.89	7.10	8.09	6.48	6.19	6.21	6.85
Distillate Fuel	1.35	2.81	6.95	7.82	6.22	5.88	5.95	6.50
Kerosene	1.57	3.12	8.05	8.68	6.90	6.52	6.60	7.22
LPG	2.47	4.42	9.00	11.63	9.88	10.30	9.26	11.08
Electricity	7.15	12.80	17.42	25.05	25.96	25.96	25.44	26.09
Commercial Sector	1.90	4.48	7.57	11.47	11.15	10.76	10.46	10.89
Primary Energy	.90	1.94	3.95	5.77	5.00	4.69	4.48	4.85
Coal	.32	1.25	1.33	1.61	1.52	1.46	1.45	1.44
Natural Gas	.93	1.67	3.49	5.99	5.61	5.23	4.91	5.16
Petroleum	1.12	2.56	6.08	6.67	4.75	4.73	4.41	5.28
Distillate Fuel	1.09	2.48	6.39	6.78	4.72	4.69	4.31	5.16
Kerosene	.74	2.52	6.01	6.65	4.33	4.67	4.45	5.12
LPG	1.40	2.84	5.36	8.92	8.54	7.82	8.59	8.20
Motor Gasoline	2.92	4.72	9.71	9.01	6.54	7.03	7.01	7.79
Residual Fuel	.47	2.02	4.43	4.70	2.71	3.05	2.54	3.02
Electricity	6.71	11.88	16.63	23.28	23.66	22.76	22.37	23.26
Industrial Sector	.79	2.24	4.30	6.08	6.00	5.47	5.23	5.53
Primary Energy	.55	1.62	3.13	3.94	3.57	3.18	2.99	3.26
Coal	.41	1.47	2.03	1.81	1.68	1.55	1.57	1.61
Coking Coal	.44	1.52	2.20	1.88	1.76	1.59	1.61	1.67
Steam Coal	.32	1.25	1.33	1.61	1.52	1.46	1.45	1.44
Natural Gas	.57	1.07	3.00	4.77	4.21	3.52	3.50	3.76
Petroleum	.99	2.54	6.04	7.89	6.14	5.72	5.64	6.38
Asphalt and Road Oil	.78	1.97	3.72	4.95	4.01	3.25	3.04	2.81
Distillate Fuel	.70	2.38	5.67	6.45	4.20	4.53	4.32	4.97
Kerosene	.74	2.52	6.01	6.65	4.33	4.67	4.45	5.12
LPG	1.40	2.84	5.36	8.92	8.54	7.82	8.59	8.20
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.72	9.71	9.01	6.54	7.03	7.01	7.79
Residual Fuel	.50	2.07	4.07	4.70	2.71	3.05	2.54	3.02
Other	1.20	2.28	6.76	8.08	6.75	6.82	5.97	7.01
Electricity	3.55	7.99	12.87	17.07	17.31	16.91	16.18	16.86
Transportation Sector	2.48	4.16	8.86	8.68	6.34	6.73	6.65	7.43
Primary Energy	2.48	4.15	8.85	8.66	6.32	6.70	6.62	7.40
Coal	.32	1.25	-	-	-	-	-	-
Petroleum	2.48	4.15	8.85	8.66	6.32	6.70	6.62	7.40
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.35	2.64	7.05	8.35	6.52	6.73	6.66	7.05
Jet Fuel	.72	2.01	6.27	5.84	3.91	4.02	3.85	4.44
LPG	1.40	2.84	5.36	8.92	8.54	7.82	8.59	8.20
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.72	9.71	9.01	6.54	7.03	7.01	7.79
Residual Fuel	.42	1.80	3.76	4.14	2.23	2.78	2.08	2.48
Electricity	3.66	8.41	15.14	21.08	20.55	29.63	29.15	29.79
Total Energy*	1.47	3.25	6.41	8.49	7.72	7.52	7.35	7.88
Primary Energy — Four Sectors	1.15	2.48	5.27	6.37	5.26	5.12	4.99	5.46
Electricity	5.23	10.37	15.17	21.24	21.86	21.48	20.92	21.68
Electric Utility Sector	.34	.93	1.55	1.61	1.35	1.36	1.35	1.38
Coal	.31	.96	1.33	1.56	1.49	1.44	1.45	1.45
Natural Gas	.41	1.47	3.60	5.08	3.61	3.35	3.33	3.48
Petroleum	.47	2.12	4.60	4.30	2.47	2.95	2.39	2.87
Heavy Oil ^b	.47	2.07	4.52	4.32	2.42	2.99	2.37	2.87
Light Oil ^b	.49	2.27	5.85	5.85	3.79	4.01	3.57	4.07
Petroleum Coke	-	-	.72	1.27	1.09	1.05	1.02	.94
Nuclear Fuel	.21	.25	.42	.92	.78	.78	.84	.88
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.97	2.02	4.04	4.44	3.56	3.57	3.48	3.76

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Pennsylvania 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,269.9	2,383.3	4,325.2	5,630.3	5,526.8	5,515.9	5,701.5	6,104.9
Primary Energy	708.4	1,174.8	2,437.1	2,836.9	2,494.4	2,348.9	2,418.5	2,710.0
Coal	48.4	59.9	51.3	42.7	48.5	53.5	48.2	52.3
Natural Gas	367.4	527.3	1,098.2	1,644.9	1,629.4	1,514.6	1,551.9	1,662.4
Petroleum	292.7	587.6	1,287.5	1,149.2	816.6	780.9	818.4	995.2
Distillate Fuel	245.1	517.2	1,127.1	986.4	683.8	652.8	685.1	835.2
Kerosene	29.9	35.8	107.8	63.6	59.0	45.5	50.5	50.6
LPG	17.6	34.7	52.6	99.2	73.8	82.5	82.9	109.3
Electricity	561.5	1,208.5	1,888.1	2,793.4	3,032.4	3,166.9	3,283.0	3,395.0
Commercial Sector	507.0	1,111.1	1,969.1	2,958.8	2,992.1	2,958.1	3,034.0	3,340.7
Primary Energy	198.6	356.8	734.4	1,003.5	899.7	856.6	864.2	999.7
Coal	12.3	23.3	23.0	24.3	27.0	29.8	26.3	27.2
Natural Gas	95.9	169.1	422.8	714.6	665.6	622.2	648.4	708.9
Petroleum	90.4	164.3	288.6	264.6	207.1	204.5	189.6	263.6
Distillate Fuel	34.4	79.4	218.2	194.8	164.9	154.4	140.2	219.3
Kerosene	1.2	2.5	6.6	6.1	4.9	5.0	4.9	4.0
LPG	1.8	3.9	5.5	13.4	11.3	11.1	13.6	14.3
Motor Gasoline	37.6	32.5	16.0	21.2	15.8	17.9	17.4	18.5
Residual Fuel	15.4	46.0	42.4	29.1	10.2	16.2	13.4	7.6
Electricity	308.4	754.2	1,234.7	1,955.3	2,092.4	2,101.5	2,169.7	2,340.9
Industrial Sector	1,311.7	3,119.2	5,470.9	5,306.3	4,744.6	4,837.3	4,773.2	5,086.0
Primary Energy	853.3	2,027.0	3,506.1	2,875.9	2,324.7	2,349.0	2,266.0	2,496.1
Coal	381.8	1,085.7	1,155.8	647.4	483.5	509.3	583.8	590.2
Coking Coal	317.5	913.7	1,005.0	492.9	330.9	357.1	437.4	442.2
Steam Coal	64.3	172.0	150.8	154.6	152.5	152.2	146.4	148.0
Natural Gas	186.2	266.6	957.9	1,077.2	850.2	800.7	803.4	909.0
Petroleum	285.3	674.7	1,392.4	1,151.2	991.0	1,039.0	878.8	996.9
Asphalt and Road Oil	34.0	74.2	127.1	161.3	158.5	141.9	110.4	125.1
Distillate Fuel	38.9	144.8	358.4	212.3	158.0	202.6	171.5	182.3
Kerosene	2.5	17.1	7.1	5.9	5.5	6.7	4.1	3.6
LPG	12.6	36.2	102.8	124.3	179.1	152.0	94.7	107.4
Lubricants	77.6	102.4	240.1	267.9	231.9	228.3	237.0	297.8
Motor Gasoline	18.1	27.2	29.9	60.4	43.2	48.4	51.1	54.9
Residual Fuel	60.9	196.0	153.1	46.9	38.8	58.8	40.2	28.5
Other	40.7	76.8	373.8	272.3	176.0	200.3	169.8	197.4
Electricity	458.4	1,092.1	1,964.8	2,430.3	2,419.9	2,488.3	2,507.3	2,589.8
Transportation Sector	1,705.9	3,116.1	6,961.5	6,275.9	4,740.0	5,241.1	5,444.4	5,833.8
Primary Energy	1,704.0	3,110.5	6,952.3	6,251.8	4,715.8	5,208.3	5,410.1	5,798.7
Coal	.4	.1	-	-	-	-	-	-
Petroleum	1,703.6	3,110.4	6,952.3	6,251.8	4,715.8	5,208.3	5,410.1	5,798.7
Aviation Gasoline	7.3	7.4	15.3	10.5	10.7	5.6	7.1	7.4
Distillate Fuel	99.5	254.4	885.1	977.0	811.7	929.9	965.3	974.6
Jet Fuel	36.9	96.2	360.1	334.6	219.3	239.6	255.1	242.5
LPG	.7	1.7	2.9	6.2	4.6	3.7	4.4	4.3
Lubricants	40.9	49.7	114.3	127.5	110.4	108.7	112.8	141.8
Motor Gasoline	1,503.8	2,635.5	5,461.1	4,744.3	3,517.6	3,861.1	4,015.4	4,379.9
Residual Fuel	14.6	65.5	113.4	51.7	41.4	59.6	50.0	48.2
Electricity	1.9	5.6	9.2	24.1	24.2	32.8	34.3	35.1
Total Energy*	4,794.5	9,729.7	18,726.7	20,171.3	18,003.5	18,552.3	18,953.1	20,365.4
Primary Energy — Four Sectors	3,464.3	6,669.2	13,629.9	12,968.1	10,434.6	10,762.8	10,958.8	12,004.6
Electricity	1,330.2	3,060.5	5,096.8	7,203.2	7,568.9	7,789.5	7,994.3	8,360.8
Electric Utility Sector	296.5	1,047.7	1,997.2	2,233.1	2,058.5	2,014.1	2,092.5	2,169.5
Coal	213.6	822.7	1,364.4	1,592.7	1,483.7	1,458.8	1,534.8	1,529.8
Natural Gas	4.0	1.8	10.5	8.0	2.7	6.9	9.1	14.4
Petroleum	77.8	178.9	566.8	370.2	235.5	254.5	206.0	255.6
Heavy Oil ^b	66.6	133.8	489.2	315.7	198.0	211.0	163.7	202.2
Light Oil ^b	11.3	45.2	76.2	48.5	31.7	36.6	34.7	47.0
Petroleum Coke	-	-	1.4	6.0	5.8	6.8	7.5	6.4
Nuclear Fuel	1.1	44.3	55.4	262.2	336.6	293.8	342.6	369.7
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	3,760.8	7,716.9	15,627.1	15,201.2	12,493.1	12,776.9	13,051.3	14,174.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products"

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Rhode Island 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.94	2.64	2.37	3.03	2.30	3.09	2.54	2.70
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.94	2.64	2.37	3.03	2.30	3.09	2.54	2.70
Natural Gas	1.38	2.74	5.09	6.66	6.77	5.49	5.94	6.21
Petroleum	1.41	3.16	7.58	7.72	6.15	6.45	6.43	7.32
Asphalt and Road Oil	.66	1.86	3.58	5.18	4.86	3.54	3.34	3.17
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.35	2.76	7.06	8.06	6.37	6.24	6.37	7.06
Jet Fuel	.75	2.09	6.51	6.10	4.25	4.18	4.04	4.75
Kerosene	1.50	2.98	7.44	8.89	6.88	6.80	6.70	7.65
LPG	1.77	3.50	6.57	11.69	10.60	11.19	11.00	9.25
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.90	4.50	9.72	9.13	7.36	7.96	8.40	9.11
Residual Fuel	.43	1.92	4.03	4.59	2.61	3.02	2.43	2.82
Other ^a	1.65	3.71	7.67	8.68	10.73	10.73	10.84	10.00
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.40	3.10	7.04	7.48	6.25	6.21	6.22	7.02
Electric Utility Fuel	.43	1.84	3.91	3.82	2.39	2.50	2.28	2.65
Electricity Purchased by End Users	6.85	13.78	20.67	24.73	23.40	23.93	23.28	24.24
Total Energy^b	1.91	4.16	9.05	9.77	8.70	8.69	8.63	9.59
Expenditures in Millions of Dollars								
Coal	0.2	0.4	0.4	0.6	1.6	0.4	11.1	1.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.2	.4	.4	.6	1.6	.4	11.1	1.8
Natural Gas	35.2	64.3	142.7	204.6	182.9	202.3	187.0	215.8
Petroleum	233.7	432.8	790.5	840.0	689.4	737.4	765.4	779.1
Asphalt and Road Oil	4.1	16.5	24.7	102.3	47.7	41.7	38.6	33.7
Aviation Gasoline	1.6	5.0	12.2	1.5	1.5	1.6	1.7	1.9
Distillate Fuel	67.9	128.5	207.0	209.6	196.7	220.1	220.3	242.8
Jet Fuel	.6	3.2	12.8	17.1	9.3	12.5	14.5	19.4
Kerosene	3.7	2.2	3.5	3.1	3.3	2.4	2.0	1.3
LPG	2.5	6.5	7.1	20.9	22.5	25.5	22.8	17.6
Lubricants	3.9	4.4	11.5	12.8	11.1	10.9	11.3	14.2
Motor Gasoline	122.0	211.9	429.7	415.5	345.4	381.1	409.6	424.3
Residual Fuel	25.7	52.9	63.9	51.0	48.0	37.2	40.9	20.8
Other ^a	1.8	1.9	18.0	6.2	4.0	4.4	3.5	3.1
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	269.1	497.4	933.6	1,045.2	874.0	940.1	963.6	996.7
Electric Utility Fuel	-9.3	-18.1	-47.5	-27.4	-22.3	-26.8	-22.4	-17.7
Electricity Purchased by End Users	90.7	209.3	361.9	458.2	451.6	485.1	494.0	526.0
Total Energy^b	350.5	688.6	1,248.0	1,476.0	1,303.3	1,398.4	1,435.1	1,505.0

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Rhode Island 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.19	4.33	9.08	10.91	9.93	9.82	9.59	10.43
Primary Energy	1.59	2.94	6.60	8.02	6.86	6.60	6.52	7.10
Coal	.98	2.62	4.47	4.39	4.19	3.85	3.99	3.96
Natural Gas	1.79	3.04	5.58	7.62	7.25	6.63	6.43	6.94
Petroleum	1.52	2.90	7.33	8.33	6.52	6.58	6.61	7.25
Distillate Fuel	1.49	2.85	7.29	8.15	6.33	6.31	6.39	7.18
Kerosene	1.70	3.16	8.15	8.93	6.93	6.91	7.00	7.86
LPG	2.55	5.49	8.57	11.44	9.82	11.25	11.14	8.50
Electricity	8.44	15.43	22.64	26.77	25.42	25.93	25.28	26.34
Commercial Sector	2.08	5.23	10.70	12.94	10.87	10.99	11.18	12.47
Primary Energy	1.00	2.39	5.44	6.47	5.20	5.27	5.18	5.97
Coal	.90	2.65	1.67	2.38	2.08	2.36	2.53	2.60
Natural Gas	1.44	2.71	5.00	6.45	6.21	5.38	5.65	6.24
Petroleum	.85	2.28	6.05	6.54	4.48	5.15	4.69	5.58
Distillate Fuel	1.10	2.44	6.46	7.45	5.69	5.57	5.45	5.93
Kerosene	.78	2.59	-	7.74	5.62	5.58	5.18	5.52
LPG	1.20	2.66	5.29	12.03	11.26	11.14	10.88	10.22
Motor Gasoline	2.90	4.50	9.72	9.13	7.36	7.96	8.40	9.11
Residual Fuel	.44	1.81	3.96	4.96	2.85	3.42	2.83	3.06
Electricity	7.02	13.84	20.45	24.56	23.01	23.26	22.62	23.52
Industrial Sector	1.05	3.18	7.21	7.63	7.76	7.33	6.53	7.61
Primary Energy	.65	2.13	4.80	5.65	5.07	4.63	4.00	4.37
Coal	.90	2.65	1.67	2.38	2.08	2.36	2.53	2.60
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.90	2.65	1.67	2.38	2.08	2.36	2.53	2.60
Natural Gas	.85	2.10	4.45	5.70	5.58	5.23	4.70	5.03
Petroleum	.61	2.13	4.93	5.66	5.06	4.51	4.17	4.24
Asphalt and Road Oil	.66	1.86	3.58	5.18	4.86	3.54	3.34	3.17
Distillate Fuel	.71	2.34	5.65	7.28	5.29	5.25	4.88	5.20
Kerosene	.78	2.59	6.18	7.74	5.62	5.58	5.18	5.52
LPG	1.20	2.66	5.29	12.03	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.90	4.50	9.72	9.13	7.36	7.96	8.40	9.11
Residual Fuel	.42	2.05	4.24	4.96	2.85	3.42	2.83	3.06
Other	1.65	3.71	7.67	8.68	10.73	10.73	10.84	10.00
Electricity	4.83	11.36	18.39	21.93	20.90	21.89	21.10	21.98
Transportation Sector	2.17	4.19	9.40	9.02	7.28	7.56	7.89	8.62
Primary Energy	2.17	4.19	9.40	9.02	7.28	7.56	7.89	8.62
Coal	-	2.65	-	-	-	-	-	-
Petroleum	2.17	4.19	9.40	9.02	7.28	7.56	7.89	8.62
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.36	2.90	7.41	8.89	7.26	6.96	7.36	7.81
Jet Fuel	.75	2.09	6.51	6.10	4.25	4.18	4.04	4.75
LPG	1.20	2.66	5.29	12.03	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.90	4.50	9.72	9.13	7.36	7.96	8.40	9.11
Residual Fuel	.41	1.71	3.34	-	2.20	2.55	2.07	2.52
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.91	4.16	9.05	9.77	8.70	8.69	8.63	9.59
Primary Energy — Four Sectors	1.52	3.18	7.36	7.68	6.53	6.50	6.49	7.24
Electricity	6.85	13.78	20.67	24.73	23.40	23.93	23.28	24.24
Electric Utility Sector	.43	1.84	3.91	3.82	2.39	2.50	2.28	2.65
Coal	-	-	-	-	-	-	-	-
Natural Gas	.39	1.15	3.32	3.37	-	2.32	2.09	2.41
Petroleum	.44	1.84	4.00	4.08	2.39	2.70	2.28	2.77
Heavy Oil ^b	.44	1.84	3.97	4.03	2.37	2.68	2.25	2.70
Light Oil ^b	.48	2.00	6.03	5.83	3.55	3.39	3.71	4.23
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.40	3.10	7.04	7.48	6.25	6.21	6.22	7.02

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Rhode Island 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	117.5	223.2	367.9	475.5	422.7	439.5	463.8	486.7
Primary Energy	77.5	134.5	225.8	295.5	243.7	246.1	263.8	273.7
Coal	.1	.1	.2	.3	.3	.2	.2	.2
Natural Gas	21.9	40.2	79.5	118.0	120.2	114.0	116.7	130.4
Petroleum	55.5	94.1	146.1	177.2	123.2	131.8	146.9	143.2
Distillate Fuel	50.7	89.6	140.0	162.4	110.5	117.4	134.1	132.9
Kerosene	3.2	1.6	2.5	3.0	3.2	2.3	1.8	1.2
LPG	1.5	3.0	3.6	11.8	9.5	12.2	11.1	9.0
Electricity	40.0	88.7	142.1	180.0	179.0	193.4	200.0	213.0
Commercial Sector	51.1	113.5	197.1	266.6	264.1	282.5	281.7	301.9
Primary Energy	20.3	39.1	65.1	85.6	86.1	92.4	85.8	90.8
Coal	.1	.1	.1	.1	.1	.1	.1	.1
Natural Gas	7.5	11.6	34.5	50.6	42.9	52.0	48.4	56.2
Petroleum	12.8	27.3	30.6	34.9	43.0	40.3	37.2	34.6
Distillate Fuel	9.4	19.3	23.2	19.2	26.7	28.9	25.6	26.9
Kerosene	.1	.1	.1	.1	.1	.1	.1	.1
LPG	.1	.3	.4	2.2	1.9	2.1	1.9	1.9
Motor Gasoline	.6	1.0	2.5	1.5	1.3	1.5	1.6	1.8
Residual Fuel	2.7	6.9	4.5	12.0	12.9	7.7	8.1	3.8
Electricity	30.8	74.4	132.0	171.0	178.1	190.2	196.0	211.0
Industrial Sector	44.6	113.1	194.3	278.2	206.4	217.8	204.6	192.2
Primary Energy	24.7	67.0	106.6	180.9	111.8	116.2	106.6	90.2
Coal	.1	.1	.2	.2	1.2	.1	10.9	1.6
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.1	.1	.2	.2	1.2	.1	10.9	1.6
Natural Gas	5.0	12.4	23.1	27.2	19.8	23.6	21.5	23.9
Petroleum	19.7	54.4	83.3	153.5	90.7	92.5	74.2	64.8
Asphalt and Road Oil	4.1	16.5	24.7	102.3	47.7	41.7	38.6	33.7
Distillate Fuel	2.8	6.0	13.6	10.5	8.8	16.6	7.7	9.4
Kerosene	.4	.6	1.1	.1	.1	.1	.2	.1
LPG	.7	2.9	2.9	6.2	10.5	10.8	9.1	6.0
Lubricants	1.5	1.8	5.4	6.0	5.2	5.1	5.3	6.7
Motor Gasoline	.1	.1	.1	1.3	1.2	1.2	1.5	1.7
Residual Fuel	8.3	24.7	17.4	21.1	13.2	12.6	8.3	4.2
Other	1.8	1.9	18.0	6.2	4.0	4.4	3.5	3.1
Electricity	19.9	46.2	87.8	97.3	94.6	101.6	98.0	102.0
Transportation Sector	137.4	238.7	488.7	455.7	410.1	458.6	485.0	524.2
Primary Energy	137.4	238.7	488.7	455.7	410.1	458.6	485.0	524.2
Coal	-	.1	-	-	-	-	-	-
Petroleum	137.4	238.7	488.7	455.7	410.1	458.6	485.0	524.2
Aviation Gasoline	1.6	5.0	12.2	1.5	1.5	1.6	1.7	1.9
Distillate Fuel	4.8	13.3	29.2	16.9	50.0	56.7	52.0	72.7
Jet Fuel	.6	3.2	12.8	17.1	9.3	12.5	14.5	19.4
LPG	.1	.3	.2	.7	.6	.3	.6	.6
Lubricants	2.4	2.6	6.1	6.8	5.9	5.8	6.0	7.6
Motor Gasoline	121.4	210.8	427.1	412.7	342.8	378.4	406.6	420.8
Residual Fuel	6.5	3.5	1.2	-	.1	3.4	3.5	1.2
Electricity	-	-	-	-	-	-	-	-
Total Energy*	350.5	688.6	1,248.0	1,476.0	1,303.3	1,398.4	1,435.1	1,505.0
Primary Energy — Four Sectors	259.8	479.3	886.1	1,017.8	851.7	913.2	941.1	979.0
Electricity	90.7	209.3	361.9	458.2	451.6	485.1	494.0	526.0
Electric Utility Sector	9.3	18.1	47.5	27.4	22.3	26.8	22.4	17.7
Coal	-	-	-	-	-	-	-	-
Natural Gas	.9	.1	5.7	8.8	-	12.8	.4	5.3
Petroleum	8.4	18.1	41.8	18.6	22.3	14.1	22.0	12.4
Heavy Oil ^b	8.2	17.8	40.8	17.9	21.7	13.6	21.1	11.5
Light Oil ^b	.2	.3	1.0	.7	.6	.5	.9	.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	269.1	497.4	933.6	1,045.2	874.0	940.1	963.6	996.7

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, South Carolina 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.47	1.25	1.60	1.88	1.82	1.74	1.75	1.71
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.47	1.25	1.60	1.88	1.82	1.74	1.75	1.71
Natural Gas	.57	1.16	3.07	5.06	4.40	4.60	4.25	4.22
Petroleum	1.88	3.43	8.08	8.04	6.08	6.35	6.21	7.05
Asphalt and Road Oil	.67	1.78	3.58	4.99	4.18	3.20	3.17	2.90
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.03	2.68	6.84	7.06	5.76	5.82	5.69	6.15
Jet Fuel	.73	2.03	6.46	6.11	4.23	4.35	4.19	4.74
Kerosene	1.43	3.02	7.92	7.90	7.18	5.77	6.51	6.44
LPG	2.04	3.56	5.77	9.87	9.80	8.30	10.17	9.27
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.35	10.18	8.84	6.40	7.08	7.08	7.84
Residual Fuel	.42	1.40	3.43	4.32	2.49	2.94	2.30	2.65
Other ^a	1.23	3.62	6.90	6.38	4.94	4.94	4.24	5.76
Nuclear Fuel	.19	.19	.44	.62	.61	.64	.59	.58
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	1.87	4.09	3.78	3.00	3.01	2.92	3.21
Electric Utility Fuel	.42	.56	1.14	1.11	1.03	1.03	1.00	.99
Electricity Purchased by End Users	3.98	7.72	11.11	15.99	16.25	16.41	16.40	16.53
Total Energy ^b	1.82	3.79	7.26	8.89	7.92	8.16	8.02	8.52
Expenditures in Millions of Dollars								
Coal	65.3	174.7	392.2	493.6	480.6	513.0	526.9	514.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	65.3	174.7	392.2	493.6	480.6	513.0	526.9	514.1
Natural Gas	91.4	143.3	441.2	495.3	435.6	488.0	479.3	495.2
Petroleum	568.3	1,172.2	2,946.2	2,762.9	2,162.3	2,314.8	2,314.0	2,722.1
Asphalt and Road Oil	9.9	28.9	36.4	45.3	57.4	51.6	69.3	44.5
Aviation Gasoline	2.5	2.5	6.8	6.9	6.6	4.6	4.7	5.0
Distillate Fuel	56.7	130.7	424.9	482.8	392.7	401.8	417.9	447.8
Jet Fuel	12.4	29.5	107.1	105.3	72.7	75.4	73.4	80.3
Kerosene	19.3	17.5	60.7	30.1	24.4	25.5	25.3	25.4
LPG	22.6	42.3	67.4	113.5	104.4	104.9	135.1	131.8
Lubricants	11.9	21.0	47.3	52.8	45.7	45.0	46.7	58.7
Motor Gasoline	415.8	809.3	1,899.0	1,751.7	1,321.6	1,448.6	1,393.6	1,754.5
Residual Fuel	14.2	67.5	155.3	59.3	24.7	30.7	35.0	24.7
Other ^a	3.0	23.0	141.3	115.2	112.1	126.8	113.1	149.3
Nuclear Fuel	*	40.6	83.4	214.5	233.9	269.0	257.5	251.7
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	725.1	1,530.8	3,863.1	3,966.2	3,312.4	3,584.9	3,577.7	3,983.1
Electric Utility Fuel	-65.0	-205.4	-467.6	-601.3	-598.7	-670.6	-677.1	-672.7
Electricity Purchased by End Users	294.7	782.8	1,412.5	2,523.7	2,741.1	2,909.0	2,955.0	3,038.0
Total Energy ^b	954.7	2,108.1	4,808.0	5,888.6	5,454.8	5,823.4	5,855.6	6,348.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, South Carolina
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.82	5.78	9.73	15.19	15.42	14.95	15.34	15.48
Primary Energy	1.51	2.71	5.76	7.36	7.04	6.33	7.16	7.15
Coal	1.20	2.47	3.19	3.48	3.31	3.20	3.26	3.34
Natural Gas	1.32	2.08	4.06	6.44	6.35	6.41	6.55	6.56
Petroleum	1.64	3.29	7.50	8.43	8.25	6.42	8.16	7.83
Distillate Fuel	1.30	2.69	6.95	7.19	6.66	5.29	6.01	5.90
Kerosene	1.58	3.16	8.27	8.25	7.64	6.07	6.90	6.77
LPG	2.46	4.28	7.47	9.72	10.26	7.93	10.62	10.02
Electricity	5.64	9.60	13.69	20.54	20.89	21.03	20.89	21.08
Commercial Sector	2.35	4.84	7.65	12.89	12.66	12.73	12.52	13.26
Primary Energy	.93	1.58	3.57	5.93	4.98	5.08	5.05	5.41
Coal	.50	1.53	1.70	1.77	1.77	1.70	1.67	1.69
Natural Gas	.86	1.22	3.11	5.60	5.47	5.45	5.44	5.51
Petroleum	1.28	2.58	6.70	7.13	5.50	5.11	5.03	5.35
Distillate Fuel	1.01	2.32	6.33	6.18	4.35	3.80	3.74	4.14
Kerosene	.63	2.29	5.15	6.36	4.76	4.06	4.09	4.78
LPG	1.39	2.68	4.24	10.09	9.12	8.76	9.59	8.27
Motor Gasoline	2.75	4.35	10.18	8.84	6.40	7.08	7.08	7.84
Residual Fuel	.46	1.15	3.41	4.50	2.67	2.97	2.40	2.81
Electricity	4.85	8.55	12.07	18.01	18.37	18.33	18.03	18.11
Industrial Sector	.87	2.49	4.42	6.45	5.99	6.02	5.73	6.07
Primary Energy	.56	1.59	3.38	4.19	3.46	3.45	3.18	3.50
Coal	.50	1.53	1.70	1.77	1.77	1.70	1.67	1.69
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.50	1.53	1.70	1.77	1.77	1.70	1.67	1.69
Natural Gas	.45	1.00	2.89	4.57	3.62	3.82	3.34	3.37
Petroleum	.81	2.32	4.95	6.47	5.02	4.73	4.27	5.28
Asphalt and Road Oil	.67	1.78	3.58	4.99	4.18	3.20	3.17	2.90
Distillate Fuel	.58	2.12	4.62	6.21	4.65	3.96	4.00	4.67
Kerosene	.63	2.29	5.15	6.36	4.76	4.06	4.09	4.78
LPG	1.39	2.68	4.24	10.09	9.12	8.76	9.59	8.27
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.35	10.18	8.84	6.40	7.08	7.08	7.84
Residual Fuel	.40	1.82	3.53	4.50	2.67	2.97	2.40	2.81
Other	1.23	3.62	6.90	6.38	4.94	4.94	4.24	5.76
Electricity	2.41	5.80	8.56	12.02	12.00	12.27	12.42	12.48
Transportation Sector	2.34	4.04	9.42	8.39	6.21	6.80	6.72	7.48
Primary Energy	2.34	4.04	9.42	8.39	6.21	6.80	6.72	7.48
Coal	.50	1.53	-	-	-	-	-	-
Petroleum	2.34	4.04	9.42	8.39	6.21	6.80	6.72	7.48
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	3.01	7.63	7.36	6.00	6.48	6.27	6.82
Jet Fuel	.73	2.03	6.46	6.11	4.23	4.35	4.19	4.74
LPG	1.39	2.68	4.24	10.09	9.12	8.76	9.59	8.27
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.35	10.18	8.84	6.40	7.08	7.08	7.84
Residual Fuel	.41	1.52	2.90	3.81	2.02	2.81	1.99	2.40
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.82	3.79	7.26	8.89	7.92	8.16	8.02	8.52
Primary Energy — Four Sectors	1.47	2.91	6.34	6.67	5.22	5.43	5.27	5.90
Electricity	3.98	7.72	11.11	15.99	16.25	16.41	16.40	16.53
Electric Utility Sector	.42	.56	1.14	1.11	1.03	1.03	1.00	.99
Coal	.43	1.14	1.56	1.91	1.83	1.74	1.76	1.71
Natural Gas	.37	.71	2.41	4.54	2.03	3.35	1.81	2.22
Petroleum	.52	1.17	3.91	5.72	3.61	3.98	3.72	4.07
Heavy Oil ^b	.46	1.14	3.44	3.94	2.16	2.93	2.22	2.71
Light Oil ^b	.70	2.41	5.78	5.73	3.64	4.00	3.74	4.26
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.19	.19	.44	.62	.61	.64	.59	.58
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.20	1.87	4.09	3.78	3.00	3.01	2.92	3.21

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, South Carolina 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	222.0	435.8	833.8	1,279.2	1,401.8	1,471.9	1,509.1	1,542.3
Primary Energy	80.7	113.5	246.2	251.7	252.8	258.1	285.2	286.3
Coal	2.5	4.9	5.4	2.0	6.3	3.4	3.6	.5
Natural Gas	25.6	38.8	79.1	108.7	114.1	133.1	139.9	137.8
Petroleum	52.6	69.8	161.7	141.0	132.3	121.6	141.6	148.0
Distillate Fuel	18.2	26.6	64.0	48.3	45.6	43.2	39.2	44.1
Kerosene	18.0	15.4	56.3	25.7	21.8	22.8	23.1	22.2
LPG	16.5	27.9	41.5	67.0	65.0	55.7	79.3	81.7
Electricity	141.3	322.3	587.6	1,027.5	1,149.0	1,213.8	1,224.0	1,256.0
Commercial Sector	93.5	251.5	473.4	746.3	791.3	829.2	855.3	884.7
Primary Energy	23.4	43.7	115.0	145.5	132.9	140.1	146.2	137.7
Coal	1.9	5.7	5.3	1.9	6.3	3.3	3.4	.5
Natural Gas	12.3	21.5	73.5	88.0	89.5	96.3	97.7	93.4
Petroleum	9.2	16.5	36.2	55.6	37.1	40.5	45.1	43.9
Distillate Fuel	4.2	6.8	17.8	30.3	17.8	19.2	23.0	22.3
Kerosene	.2	.3	.7	.8	.8	.7	.3	.9
LPG	1.6	3.1	4.1	12.3	10.2	10.9	12.6	11.9
Motor Gasoline	3.0	5.1	12.8	10.7	8.1	9.2	8.7	8.5
Residual Fuel	.2	1.2	.7	1.6	.3	.4	.5	.3
Electricity	70.1	207.8	358.4	600.8	658.4	689.1	709.0	747.0
Industrial Sector	182.1	504.4	1,193.7	1,662.8	1,575.2	1,693.3	1,707.4	1,758.0
Primary Energy	98.8	251.8	727.3	767.4	641.5	687.2	685.4	723.0
Coal	22.0	43.2	75.0	111.3	108.6	109.3	108.9	105.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	22.0	43.2	75.0	111.3	108.6	109.3	108.9	105.1
Natural Gas	36.4	72.3	275.2	296.3	229.1	256.8	237.3	257.9
Petroleum	40.4	136.2	377.1	359.8	303.8	321.1	339.2	360.0
Asphalt and Road Oil	9.9	28.9	36.4	45.3	57.4	51.6	69.3	44.5
Distillate Fuel	8.9	25.2	50.4	61.4	41.5	32.2	38.9	51.9
Kerosene	1.1	1.9	3.7	3.7	1.8	2.0	1.9	2.3
LPG	4.1	10.6	21.3	30.2	27.2	36.4	40.7	36.0
Lubricants	4.6	11.3	24.6	27.4	23.8	23.4	24.3	30.5
Motor Gasoline	4.8	4.8	5.1	32.6	21.3	24.7	23.9	30.2
Residual Fuel	4.0	30.7	94.2	43.9	18.7	24.1	27.1	15.4
Other	3.0	23.0	141.3	115.2	112.1	126.8	113.1	149.3
Electricity	83.3	252.6	466.5	895.4	933.7	1,006.1	1,022.0	1,035.0
Transportation Sector	457.0	916.4	2,307.2	2,200.4	1,686.5	1,828.9	1,783.8	2,163.3
Primary Energy	457.0	916.4	2,307.2	2,200.4	1,686.5	1,828.9	1,783.8	2,163.3
Coal	-	-	-	-	-	-	-	-
Petroleum	457.0	916.4	2,307.2	2,200.4	1,686.5	1,828.9	1,783.8	2,163.3
Aviation Gasoline	2.5	2.5	6.8	6.9	6.6	4.6	4.7	5.0
Distillate Fuel	22.3	70.5	273.6	336.7	285.4	304.5	312.6	323.2
Jet Fuel	12.4	29.5	107.1	105.3	72.7	75.4	73.4	80.3
LPG	.3	.8	.5	3.9	2.0	1.9	2.4	2.3
Lubricants	7.3	9.7	22.7	25.3	21.9	21.6	22.4	28.2
Motor Gasoline	408.0	799.5	1,881.0	1,708.4	1,292.2	1,414.7	1,360.9	1,715.9
Residual Fuel	4.1	4.0	15.4	13.8	5.6	6.2	7.3	8.4
Electricity	-	-	-	-	-	-	-	-
Total Energy*	954.7	2,108.1	4,808.0	5,888.6	5,454.8	5,823.4	5,855.6	6,348.4
Primary Energy — Four Sectors	660.0	1,325.4	3,395.6	3,364.9	2,713.7	2,914.3	2,900.6	3,310.4
Electricity	294.7	782.8	1,412.5	2,523.7	2,741.1	2,909.0	2,955.0	3,038.0
Electric Utility Sector	65.0	205.4	467.6	601.3	598.7	670.6	677.1	672.7
Coal	39.0	120.9	306.6	378.4	359.5	397.0	410.9	408.0
Natural Gas	17.1	10.7	13.4	2.3	2.9	1.8	4.4	6.1
Petroleum	9.0	33.3	64.1	6.1	2.5	2.7	4.2	6.8
Heavy Oil ^b	5.9	31.6	45.0	.	.	.	.	.6
Light Oil ^b	3.1	1.7	19.1	6.1	2.4	2.7	4.2	6.3
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.	40.6	83.4	214.5	233.9	269.0	257.5	251.7
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	725.1	1,530.8	3,863.1	3,966.2	3,312.4	3,584.9	3,577.7	3,983.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, South Dakota 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.41	0.53	0.85	1.37	1.36	1.41	1.27	1.07
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.41	.53	.85	1.37	1.36	1.41	1.27	1.07
Natural Gas	.69	1.04	2.83	5.01	4.62	4.27	4.18	4.12
Petroleum	2.05	3.77	8.19	8.14	6.13	6.20	6.03	7.36
Asphalt and Road Oil	.76	2.09	3.82	5.06	3.99	3.73	3.58	3.14
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.97	2.60	6.53	6.98	5.07	5.12	4.48	5.85
Jet Fuel	.75	2.09	6.47	6.29	4.57	4.39	4.36	4.76
Kerosene	1.47	2.84	7.20	9.03	5.83	5.34	4.37	5.89
LPG	1.61	3.05	5.50	7.89	7.54	6.41	6.43	8.50
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.70	10.14	9.26	6.83	7.16	7.46	8.51
Residual Fuel	.70	2.15	3.28	4.43	2.33	2.83	2.32	2.15
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.65	2.72	5.74	6.16	5.00	5.41	4.78	5.67
Electric Utility Fuel	.41	.58	.83	1.22	1.27	1.28	1.25	1.27
Electricity Purchased by End Users	7.38	8.21	12.95	17.38	17.35	17.64	17.54	17.71
Total Energy^b	2.13	3.64	7.77	8.62	7.23	7.31	7.23	8.03
Expenditures in Millions of Dollars								
Coal	2.3	12.9	30.9	47.3	39.8	20.5	43.0	34.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	2.3	12.9	30.9	47.3	39.8	20.5	43.0	34.8
Natural Gas	25.2	33.7	67.7	125.9	107.4	90.1	102.3	105.9
Petroleum	212.9	389.2	833.6	800.1	623.9	643.3	638.9	820.5
Asphalt and Road Oil	4.5	11.9	16.1	28.3	21.6	16.7	20.8	16.2
Aviation Gasoline	1.1	1.3	4.4	4.4	3.6	3.1	3.3	3.7
Distillate Fuel	24.8	58.2	182.6	203.4	179.1	176.5	162.3	185.4
Jet Fuel	4.7	11.9	46.0	34.6	12.9	16.0	20.6	26.3
Kerosene	.1	.1	.6	3.2	1.2	.5	.4	.5
LPG	16.5	33.2	51.2	58.4	68.1	77.8	56.4	162.4
Lubricants	5.1	7.3	13.9	15.5	13.4	13.2	13.7	17.2
Motor Gasoline	154.6	262.4	516.3	451.2	323.0	338.5	359.8	407.6
Residual Fuel	1.4	2.9	2.5	1.2	1.1	1.0	1.3	1.1
Other ^a	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	240.5	435.9	932.2	973.3	771.1	753.9	784.1	961.3
Electric Utility Fuel	-4.7	-16.0	-28.7	-36.2	-31.5	-13.7	-38.5	-36.0
Electricity Purchased by End Users	70.6	113.6	224.7	335.0	335.9	343.8	373.0	383.1
Total Energy^b	306.4	533.5	1,128.1	1,272.1	1,075.5	1,084.0	1,118.6	1,308.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, South Dakota 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.41	3.82	7.89	10.51	9.81	9.45	9.44	10.54
Primary Energy	1.30	2.23	4.84	6.53	5.66	4.93	4.81	6.71
Coal	1.75	3.61	3.48	2.65	3.05	2.97	2.58	2.65
Natural Gas	1.04	1.40	3.14	5.69	5.24	4.81	4.81	4.77
Petroleum	1.60	3.14	6.89	7.66	6.11	5.03	4.80	8.44
Distillate Fuel	1.28	2.55	6.92	7.64	5.45	4.64	3.95	5.35
Kerosene	1.57	2.91	7.83	9.27	6.61	5.63	4.78	6.49
LPG	1.78	3.41	6.85	7.56	6.92	5.31	5.64	10.56
Electricity	7.76	8.97	14.52	19.13	19.44	19.93	19.62	19.95
Commercial Sector	1.94	2.71	5.99	9.16	8.53	8.50	8.64	8.81
Primary Energy	.76	1.31	3.69	5.16	4.62	4.55	4.27	4.48
Coal	.49	1.04	1.79	2.42	1.96	1.85	1.76	1.76
Natural Gas	.63	.99	2.72	4.56	4.32	4.17	4.02	3.92
Petroleum	1.22	2.54	6.24	7.35	5.69	5.32	4.85	5.95
Distillate Fuel	1.06	2.34	6.45	6.56	3.85	3.65	2.80	4.02
Kerosene	-	-	-	7.54	4.35	4.37	3.35	5.00
LPG	1.13	2.28	4.36	8.32	8.25	7.76	7.73	7.13
Motor Gasoline	2.97	4.70	10.14	9.26	6.83	7.16	7.46	8.51
Residual Fuel	.66	2.21	3.08	4.44	2.33	2.84	2.35	2.15
Electricity	7.53	8.82	13.11	17.53	17.68	17.52	17.66	17.57
Industrial Sector	1.42	2.95	6.02	6.56	5.27	5.50	4.97	5.70
Primary Energy	1.34	2.63	5.53	5.88	4.32	4.37	3.68	4.58
Coal	.49	1.04	1.79	2.42	1.96	1.85	1.76	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.49	1.04	1.79	2.42	1.96	1.85	1.76	-
Natural Gas	.32	.60	2.35	4.11	3.53	3.04	3.12	3.04
Petroleum	1.56	3.15	6.44	6.95	4.79	4.92	4.02	5.51
Asphalt and Road Oil	.76	2.09	3.82	5.06	3.99	3.73	3.58	3.14
Distillate Fuel	.73	2.57	5.65	6.85	3.95	3.97	3.04	4.54
Kerosene	.78	2.74	5.92	7.54	4.35	4.37	3.35	5.00
LPG	1.13	2.28	4.36	8.32	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.70	10.14	9.26	6.83	7.16	7.46	8.51
Residual Fuel	.70	2.02	3.34	4.44	2.33	2.84	2.35	2.15
Other	-	-	-	-	-	-	-	-
Electricity	4.72	6.00	9.70	12.34	12.59	13.41	13.51	13.82
Transportation Sector	2.56	4.23	9.21	8.64	6.77	7.03	7.17	8.10
Primary Energy	2.56	4.23	9.21	8.64	6.77	7.03	7.17	8.10
Coal	.49	1.04	-	-	-	-	-	-
Petroleum	2.56	4.23	9.21	8.64	6.77	7.03	7.17	8.10
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.72	7.12	6.93	6.38	6.83	6.66	7.44
Jet Fuel	.75	2.09	6.47	6.29	4.57	4.39	4.36	4.76
LPG	1.13	2.28	4.36	8.32	8.25	7.76	7.73	7.13
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.97	4.70	10.14	9.26	6.83	7.16	7.46	8.51
Residual Fuel	.65	1.82	-	-	-	-	-	2.07
Electricity	-	-	-	-	-	-	-	-
Total Energy*	2.13	3.64	7.77	8.62	7.23	7.31	7.23	8.03
Primary Energy — Four Sectors	1.75	3.16	7.07	7.30	5.72	5.75	5.59	6.55
Electricity	7.38	8.21	12.95	17.38	17.35	17.64	17.54	17.71
Electric Utility Sector	.41	.58	.83	1.22	1.27	1.28	1.25	1.27
Coal	.35	.48	.76	1.18	1.24	1.23	1.21	1.24
Natural Gas	.33	.64	1.97	3.73	3.49	2.43	2.28	2.58
Petroleum	.74	2.22	6.03	5.75	3.64	4.23	3.65	4.50
Heavy Oil ^b	.70	2.19	3.07	3.99	2.33	2.39	2.06	-
Light Oil ^b	.97	2.29	6.50	5.81	3.68	4.34	4.02	4.50
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.65	2.72	5.74	6.16	5.00	5.41	4.78	5.87

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, South Dakota 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	76.0	114.4	223.8	313.9	306.3	286.7	300.0	363.3
Primary Energy	34.0	51.1	93.9	133.2	123.6	104.5	104.9	164.3
Coal	.4	.5	.4	.3	.5	.1	.1	*
Natural Gas	14.3	16.7	33.1	65.3	55.6	45.2	52.5	55.0
Petroleum	19.4	33.9	60.5	67.6	67.5	59.2	52.4	109.2
Distillate Fuel	5.7	8.5	30.7	33.1	33.0	23.1	21.1	28.1
Kerosene	.1	*	.4	2.8	.9	.4	.3	.3
LPG	13.5	25.3	29.3	31.7	33.6	35.6	30.9	80.8
Electricity	42.0	63.3	129.9	180.7	182.7	182.3	195.0	199.0
Commercial Sector	35.7	49.4	95.3	180.2	155.8	155.0	158.9	163.8
Primary Energy	11.6	19.5	44.4	68.7	59.1	57.7	52.9	55.7
Coal	.2	.3	.4	.5	.6	.1	.1	.1
Natural Gas	7.2	11.4	23.1	46.0	39.8	34.6	34.4	35.2
Petroleum	4.2	7.8	20.9	22.2	18.7	23.0	18.4	20.4
Distillate Fuel	1.9	3.1	13.7	10.6	6.1	8.8	5.6	5.2
Kerosene	-	-	-	*	*	*	*	*
LPG	1.5	3.0	3.3	6.2	7.1	9.2	7.5	9.6
Motor Gasoline	.8	1.4	3.5	4.8	5.4	4.9	4.9	5.3
Residual Fuel	.1	.3	.4	.6	.1	.1	.4	.4
Electricity	24.1	29.9	51.0	111.5	96.7	97.4	106.0	108.1
Industrial Sector	57.5	107.6	227.6	218.6	206.0	210.2	201.0	258.4
Primary Energy	53.0	87.3	183.9	175.7	149.5	146.1	129.0	182.4
Coal	*	1.2	4.4	11.7	8.2	7.4	6.1	-
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	*	1.2	4.4	11.7	8.2	7.4	6.1	-
Natural Gas	2.2	3.5	11.0	14.6	11.9	10.1	14.8	15.3
Petroleum	50.7	82.6	168.5	149.5	129.4	128.6	108.1	167.1
Asphalt and Road Oil	4.5	11.9	16.1	28.3	21.6	16.7	20.8	16.2
Distillate Fuel	9.9	24.5	54.0	66.6	58.6	55.4	47.3	54.1
Kerosene	*	*	.2	.3	.3	.1	.1	.2
LPG	1.3	4.5	17.5	19.6	26.5	31.6	17.4	71.4
Lubricants	.4	.9	.3	.3	.3	.3	.3	.4
Motor Gasoline	34.5	40.1	78.5	33.8	21.3	23.7	21.3	24.2
Residual Fuel	.2	.7	2.0	.5	.9	.9	.8	.7
Other	-	-	-	-	-	-	-	-
Electricity	4.5	20.4	43.8	42.9	56.5	64.1	72.0	76.0
Transportation Sector	137.2	262.1	581.3	559.5	407.4	432.0	458.7	522.9
Primary Energy	137.2	262.1	581.3	559.5	407.4	432.0	458.7	522.9
Coal	*	*	-	-	-	-	-	-
Petroleum	137.2	262.1	581.3	559.5	407.4	432.0	458.7	522.9
Aviation Gasoline	1.1	1.3	4.4	4.4	3.6	3.1	3.3	3.7
Distillate Fuel	7.1	21.1	82.0	91.8	80.6	88.7	87.2	97.2
Jet Fuel	4.7	11.9	46.0	34.6	12.9	16.0	20.6	26.3
LPG	.2	.5	1.1	.9	.9	1.4	.7	.6
Lubricants	4.7	6.3	13.6	15.2	13.1	12.9	13.4	16.8
Motor Gasoline	119.3	220.8	431.3	412.7	296.3	310.0	333.6	378.2
Residual Fuel	*	*	-	-	-	-	-	*
Electricity	-	-	-	-	-	-	-	-
Total Energy*	306.4	533.5	1,128.1	1,272.1	1,075.5	1,084.0	1,118.6	1,308.4
Primary Energy — Four Sectors	235.8	419.9	903.5	937.1	739.6	740.2	745.6	925.3
Electricity	70.6	113.6	224.7	335.0	335.9	343.8	373.0	383.1
Electric Utility Sector	4.7	16.0	28.7	36.2	31.5	13.7	38.5	36.0
Coal	1.8	11.0	25.8	34.8	30.5	12.9	36.7	34.7
Natural Gas	1.5	2.1	.5	.1	.1	.2	.5	.3
Petroleum	1.5	2.9	2.4	1.3	.8	.6	1.3	.9
Heavy Oil ^b	1.2	2.0	.2	*	*	*	.1	-
Light Oil ^b	.3	.9	2.2	1.3	.8	.5	1.1	.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	240.5	435.9	932.2	973.3	771.1	753.9	784.1	961.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

TENNESSEE

Energy Price and Expenditure Estimates by Source, Tennessee 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.26	0.91	1.54	1.55	1.44	1.38	1.35	1.36
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.70	1.74
Steam Coal	.25	.91	1.54	1.55	1.44	1.38	1.35	1.35
Natural Gas	.54	.93	2.69	4.46	4.20	3.69	3.75	3.87
Petroleum	2.06	3.76	8.37	7.89	6.40	6.69	6.60	7.27
Asphalt and Road Oil	.67	1.79	3.56	4.76	4.89	3.24	3.05	2.86
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.11	2.68	6.80	6.44	5.85	6.23	6.00	6.63
Jet Fuel	.73	2.03	6.39	5.83	3.81	4.01	5.82	4.34
Kerosene	1.19	2.93	7.21	6.68	5.15	5.25	5.31	6.02
LPG	1.92	3.44	6.42	8.98	8.68	8.73	8.93	9.48
Lubricants	5.08	7.49	14.36	17.51	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.58	9.89	8.85	7.01	7.44	7.43	8.25
Residual Fuel	.36	1.78	3.36	4.80	2.83	2.88	2.64	2.68
Other ^a	.80	2.28	6.31	6.96	4.17	4.83	3.99	4.84
Nuclear Fuel	-	-	.38	.78	-	-	.83	.89
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.13	4.43	4.28	3.90	3.96	3.77	3.91
Electric Utility Fuel	.23	.89	1.57	1.41	1.43	1.38	1.30	1.23
Electricity Purchased by End Users	2.85	5.83	10.67	14.65	15.59	15.98	16.19	15.91
Total Energy^b	1.71	3.54	7.30	8.15	7.51	7.67	7.73	8.03
Expenditures in Millions of Dollars								
Coal	103.1	431.0	888.2	929.3	876.0	825.7	822.4	765.2
Coking Coal	2.5	8.9	5.0	8.0	8.1	6.8	3.6	3.5
Steam Coal	100.7	422.1	883.2	921.3	867.9	819.0	818.8	761.7
Natural Gas	123.6	186.1	570.9	813.4	742.6	689.5	747.2	797.4
Petroleum	831.3	1,873.0	4,370.7	4,307.9	3,655.4	3,911.5	3,747.3	4,227.4
Asphalt and Road Oil	16.2	44.8	79.8	139.3	134.9	98.3	81.8	108.1
Aviation Gasoline	1.3	1.2	13.2	7.8	8.5	7.1	6.8	7.6
Distillate Fuel	70.8	272.8	759.3	835.9	771.9	818.9	823.4	901.5
Jet Fuel	13.6	45.1	149.8	160.1	127.8	129.0	91.3	106.8
Kerosene	27.9	38.0	62.7	63.8	14.1	17.6	27.0	29.8
LPG	23.0	48.8	65.3	114.8	124.6	110.4	144.7	163.7
Lubricants	25.4	60.3	108.1	120.6	104.4	102.8	106.7	134.0
Motor Gasoline	625.1	1,292.7	2,853.4	2,698.2	2,221.8	2,460.3	2,316.9	2,600.6
Residual Fuel	1.1	4.3	28.2	12.9	9.3	4.7	6.1	7.9
Other ^a	26.9	64.9	250.9	154.5	138.1	162.4	142.6	167.4
Nuclear Fuel	-	-	2.1	81.1	-	-	34.9	149.2
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,058.0	2,490.0	5,831.9	6,131.6	5,274.0	5,426.7	5,351.8	5,939.3
Electric Utility Fuel	-60.9	-376.4	-804.8	-846.9	-716.0	-682.9	-718.6	-773.6
Electricity Purchased by End Users	504.6	1,357.0	2,656.5	3,409.7	3,559.5	3,754.3	3,975.4	4,030.7
Total Energy^b	1,481.7	3,470.6	7,683.7	8,694.4	8,117.5	8,498.1	8,608.6	9,196.5

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Tennessee
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.15	4.46	7.79	10.87	11.57	11.93	12.06	12.06
Primary Energy	1.15	1.93	3.73	5.70	5.45	5.14	5.23	5.58
Coal	.74	1.75	1.97	1.85	1.67	1.79	1.52	1.61
Natural Gas	.89	1.25	2.85	4.96	4.81	4.53	4.51	4.68
Petroleum	1.82	3.56	7.95	8.07	8.09	7.90	8.07	8.93
Distillate Fuel	1.24	2.49	6.89	6.59	5.30	5.25	5.53	5.90
Kerosene	1.62	3.38	9.09	7.09	5.71	5.65	5.95	6.35
LPG	2.16	3.84	7.65	9.23	8.96	9.09	9.06	10.25
Electricity	3.34	6.62	10.43	14.28	15.26	16.03	16.74	16.65
Commercial Sector	1.87	3.48	7.97	8.92	9.38	9.31	9.29	9.91
Primary Energy	.75	1.38	3.57	5.06	4.51	4.30	4.33	4.48
Coal	.35	1.17	1.39	1.60	1.54	1.43	1.40	1.40
Natural Gas	.70	1.09	2.95	4.75	4.53	4.20	4.25	4.35
Petroleum	1.46	2.88	7.05	6.05	4.73	5.16	5.33	6.19
Distillate Fuel	1.06	2.29	6.49	5.66	3.80	4.12	3.93	4.43
Kerosene	.78	2.32	6.16	5.87	3.93	4.46	4.23	4.97
LPG	1.27	2.39	4.96	8.66	8.30	8.25	8.71	8.23
Motor Gasoline	2.84	4.58	9.89	8.85	7.01	7.44	7.43	8.25
Residual Fuel	.42	1.77	3.44	4.80	2.83	2.88	2.62	2.69
Electricity	4.97	8.27	13.29	17.05	17.96	17.67	18.03	18.03
Industrial Sector	.93	2.56	5.11	6.82	6.52	6.35	6.36	6.24
Primary Energy	.54	1.39	3.37	3.91	3.35	3.06	2.97	3.14
Coal	.35	1.22	1.41	1.61	1.55	1.44	1.40	1.41
Coking Coal	.38	1.60	1.81	1.93	1.75	1.63	1.70	1.74
Steam Coal	.35	1.17	1.39	1.60	1.54	1.43	1.40	1.40
Natural Gas	.38	.73	2.54	4.11	3.77	3.05	3.16	3.27
Petroleum	.86	2.29	5.54	6.42	4.92	4.76	4.42	4.75
Asphalt and Road Oil	.67	1.79	3.56	4.76	4.89	3.24	3.05	2.86
Distillate Fuel	.72	2.11	5.50	5.91	3.96	4.49	4.26	5.01
Kerosene	.78	2.32	6.16	5.87	3.93	4.46	4.23	4.97
LPG	1.27	2.39	4.96	8.66	8.30	8.25	8.71	8.23
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.58	9.89	8.85	7.01	7.44	7.43	8.25
Residual Fuel	.36	1.89	3.36	4.80	2.83	2.88	2.62	2.69
Other	.80	2.28	6.31	6.96	4.17	4.83	3.99	4.84
Electricity	2.05	4.87	9.71	14.22	15.12	15.39	15.15	14.51
Transportation Sector	2.49	4.19	9.20	8.29	6.73	7.10	7.07	7.80
Primary Energy	2.49	4.19	9.20	8.29	6.73	7.10	7.07	7.80
Coal	.35	1.17	-	-	-	-	-	-
Petroleum	2.49	4.19	9.20	8.29	6.73	7.10	7.07	7.80
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.28	3.02	7.25	6.73	6.47	6.75	6.49	6.96
Jet Fuel	.73	2.03	6.39	5.83	3.81	4.01	3.82	4.34
LPG	1.27	2.39	4.96	8.66	8.30	8.25	8.71	8.23
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.84	4.58	9.89	8.85	7.01	7.44	7.43	8.25
Residual Fuel	.42	1.67	3.45	-	-	1.92	3.01	2.37
Electricity	4.97	8.27	13.29	17.05	17.96	19.96	20.34	19.95
Total Energy*	1.71	3.54	7.30	8.15	7.51	7.67	7.73	8.03
Primary Energy — Four Sectors	1.42	2.82	6.25	6.34	5.35	5.43	5.33	5.80
Electricity	2.85	5.83	10.67	14.65	15.59	15.98	16.19	15.91
Electric Utility Sector	.23	.89	1.57	1.41	1.43	1.38	1.30	1.23
Coal	.23	.87	1.56	1.54	1.42	1.37	1.34	1.34
Natural Gas	.25	-	2.33	-	-	-	2.39	2.74
Petroleum	-	2.19	6.39	5.85	3.37	3.93	3.51	3.95
Heavy Oil ^b	-	-	-	-	-	-	-	-
Light Oil ^b	-	2.19	6.39	5.85	3.37	3.93	3.51	3.95
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	.38	.78	-	-	.83	.89
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.13	4.43	4.28	3.90	3.96	3.77	3.91

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Tennessee 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	288.7	650.3	1,149.1	1,570.9	1,638.2	1,792.0	1,939.4	1,993.1
Primary Energy	84.5	129.7	216.5	326.3	290.6	290.5	342.5	382.1
Coal	3.3	4.7	3.9	2.7	1.1	1.5	2.5	3.1
Natural Gas	42.5	56.8	129.8	202.0	199.9	203.5	221.7	237.3
Petroleum	38.7	68.1	82.8	121.6	89.6	85.5	118.3	141.7
Distillate Fuel	1.2	3.4	12.4	9.9	5.1	7.0	7.3	8.4
Kerosene	18.6	25.3	28.3	45.1	10.8	12.7	19.0	24.0
LPG	18.9	39.5	42.2	66.5	73.7	65.9	92.1	109.3
Electricity	204.2	520.6	932.6	1,244.6	1,347.6	1,501.5	1,597.0	1,611.0
Commercial Sector	153.4	289.4	853.7	931.1	859.7	865.4	917.6	1,032.3
Primary Energy	45.6	79.4	209.2	357.8	263.8	250.5	272.7	279.3
Coal	2.9	5.8	5.1	4.3	1.9	2.2	4.2	4.8
Natural Gas	30.4	47.9	132.1	213.2	199.0	191.1	200.8	213.6
Petroleum	12.2	25.7	72.0	140.3	62.8	57.1	67.6	60.8
Distillate Fuel	2.6	7.9	38.4	101.7	31.2	27.9	25.2	17.1
Kerosene	1.8	3.4	3.6	8.5	2.0	2.8	5.2	4.7
LPG	2.0	4.3	4.8	11.0	12.1	10.6	15.6	15.5
Motor Gasoline	5.9	10.1	24.2	15.6	14.8	14.6	20.2	22.3
Residual Fuel	.	.	1.0	3.5	2.8	1.3	1.3	1.1
Electricity	107.8	210.0	644.5	573.3	595.9	614.9	644.9	753.0
Industrial Sector	339.7	977.9	2,073.2	2,702.7	2,587.0	2,534.6	2,615.2	2,626.5
Primary Energy	147.1	351.6	993.8	1,110.9	971.0	896.7	881.7	959.8
Coal	20.3	60.8	94.4	164.6	161.6	144.2	140.0	141.2
Coking Coal	2.5	8.9	5.0	8.0	8.1	6.8	3.6	3.5
Steam Coal	17.8	52.0	89.4	156.6	153.5	137.5	136.4	137.6
Natural Gas	46.3	81.4	306.4	398.1	343.7	294.8	324.1	346.4
Petroleum	80.5	209.4	593.1	548.2	465.7	457.7	417.5	472.2
Asphalt and Road Oil	16.2	44.8	79.8	139.3	134.9	98.3	81.8	108.1
Distillate Fuel	13.3	57.6	136.3	119.5	84.5	90.8	83.9	68.7
Kerosene	7.5	9.4	30.8	10.3	1.3	2.1	2.8	1.1
LPG	1.7	3.9	17.1	30.5	31.5	30.1	31.4	33.1
Lubricants	10.3	23.7	49.2	54.9	47.5	46.8	48.6	61.0
Motor Gasoline	3.5	2.8	1.9	29.9	21.3	23.8	21.9	28.2
Residual Fuel	1.1	2.3	27.0	9.4	6.5	3.4	4.5	6.5
Other	26.9	64.9	250.9	154.5	138.1	162.4	142.6	167.4
Electricity	192.6	626.3	1,079.4	1,591.8	1,616.0	1,637.9	1,733.5	1,666.7
Transportation Sector	699.9	1,553.0	3,607.6	3,489.7	3,032.7	3,306.2	3,136.4	3,544.5
Primary Energy	699.9	1,553.0	3,607.6	3,489.7	3,032.7	3,306.1	3,136.4	3,544.5
Coal	.	.	-	-	-	-	-	-
Petroleum	699.9	1,553.0	3,607.6	3,489.7	3,032.7	3,306.1	3,136.4	3,544.5
Aviation Gasoline	1.3	1.2	13.2	7.8	8.5	7.1	6.8	7.6
Distillate Fuel	53.6	187.1	557.1	596.7	646.5	688.2	699.5	799.1
Jet Fuel	13.6	45.1	149.8	160.1	127.8	129.0	91.3	106.8
LPG	.5	1.1	1.1	6.7	7.3	3.9	5.6	5.7
Lubricants	15.1	36.6	58.9	65.7	56.9	56.0	58.1	73.0
Motor Gasoline	615.7	1,279.8	2,827.3	2,652.7	2,185.7	2,422.0	2,274.8	2,552.1
Residual Fuel	.	2.0	.1	-	-	.	.3	.2
Electricity	.	.	.	.	.	.	.	.
Total Energy*	1,481.7	3,470.6	7,683.7	8,694.4	8,117.5	8,498.1	8,608.6	9,196.5
Primary Energy — Four Sectors	977.1	2,113.6	5,027.2	5,284.7	4,558.1	4,743.9	4,633.2	5,165.7
Electricity	504.6	1,357.0	2,656.5	3,409.7	3,559.5	3,754.3	3,975.4	4,030.7
Electric Utility Sector	80.9	376.4	804.8	846.9	716.0	682.9	718.6	773.6
Coal	76.5	359.6	784.9	757.7	711.4	677.8	675.7	616.1
Natural Gas	4.4	-	2.6	-	-	-	.6	.1
Petroleum	-	16.7	15.1	8.1	4.5	5.1	7.5	8.2
Heavy Oil ^b	-	-	-	-	-	-	-	-
Light Oil ^b	-	16.7	15.1	8.1	4.5	5.1	7.5	8.2
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	2.1	81.1	-	-	34.9	149.2
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,058.0	2,490.0	5,831.9	6,131.6	5,274.0	5,426.7	5,351.8	5,939.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Texas 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.39	0.61	1.22	1.60	1.55	1.54	1.47	1.44
Coking Coal	.38	1.60	1.81	1.93	1.75	-	-	-
Steam Coal	.86	.46	1.19	1.59	1.55	1.54	1.47	1.44
Natural Gas	.29	.89	2.17	3.38	2.62	2.38	2.44	2.52
Petroleum	1.55	3.03	6.63	6.55	4.81	5.08	4.87	5.15
Asphalt and Road Oil	.74	1.77	3.79	4.20	4.58	3.35	3.21	2.84
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	.94	2.35	6.73	6.43	4.74	5.44	5.07	6.04
Jet Fuel	.72	2.01	6.34	5.67	3.56	3.85	3.57	4.16
Kerosene	.76	2.24	6.91	7.26	3.43	4.20	3.73	4.99
LPG	1.07	2.49	5.29	4.46	4.28	3.71	3.59	2.76
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.66	4.36	9.26	8.79	6.47	7.19	7.32	7.92
Residual Fuel	.42	1.61	2.49	3.95	1.65	2.63	1.86	2.40
Other ^a	.79	2.49	6.59	6.97	3.95	4.79	3.98	4.81
Nuclear Fuel	-	-	-	-	-	-	.37	.42
Wood and Waste at Utilities	.65	.92	1.74	.79	.32	.95	-	.82
Primary Energy — Five Sectors	.85	1.93	4.22	4.62	3.52	3.58	3.44	3.54
Electric Utility Fuel	.25	.73	1.65	2.44	1.92	1.80	1.74	1.73
Electricity Purchased by End Users	4.52	6.81	12.69	18.58	16.91	16.32	16.58	16.79
Total Energy^b	1.28	2.80	6.00	7.06	5.71	5.67	5.53	5.70
Expenditures in Millions of Dollars								
Coal	11.9	120.2	892.5	1,832.9	1,798.1	1,850.9	1,852.4	1,910.4
Coking Coal	11.6	41.0	47.9	20.9	3.6	-	-	-
Steam Coal	.2	79.2	844.6	1,812.0	1,794.5	1,850.9	1,852.4	1,910.4
Natural Gas	804.9	2,361.3	6,838.0	9,815.8	7,021.2	6,513.9	7,247.2	7,820.7
Petroleum	3,376.9	8,320.6	23,992.1	24,103.2	17,612.2	19,356.3	18,923.7	20,062.0
Asphalt and Road Oil	58.0	95.7	274.5	329.2	414.4	279.8	307.9	182.7
Aviation Gasoline	22.0	22.8	57.5	66.4	65.4	43.8	37.9	34.3
Distillate Fuel	176.6	735.9	2,823.7	3,522.2	2,382.8	2,796.5	2,550.8	3,090.2
Jet Fuel	97.4	306.2	1,098.5	2,383.1	1,614.0	1,839.5	1,911.9	2,189.7
Kerosene	32.5	91.3	601.2	299.7	177.5	220.4	89.6	202.8
LPG	611.9	1,452.4	3,670.4	3,537.4	3,364.9	3,449.4	3,447.5	2,807.7
Lubricants	129.6	196.3	465.1	518.9	449.2	442.3	459.1	576.8
Motor Gasoline	1,976.0	4,020.6	8,805.7	9,479.5	7,119.0	7,735.2	8,038.9	8,458.3
Residual Fuel	36.0	383.7	969.9	1,032.9	353.4	598.3	376.6	506.0
Other ^a	236.9	1,015.8	5,225.5	2,933.9	1,671.6	1,951.0	1,703.4	2,013.4
Nuclear Fuel	-	-	-	-	-	-	15.1	44.6
Wood and Waste at Utilities	.7	.9	1.4	2.4	1.0	2.3	-	1.6
Primary Energy — Five Sectors	4,194.4	10,802.9	31,724.0	35,754.3	26,432.5	27,723.4	28,038.4	29,839.3
Electric Utility Fuel	-267.6	-1,099.3	-3,576.1	-5,652.8	-4,302.1	-4,036.4	-4,073.9	-4,246.3
Electricity Purchased by End Users	1,421.0	2,895.0	7,434.5	13,119.7	11,920.6	11,645.3	12,325.5	12,782.0
Total Energy^b	5,347.8	12,598.6	35,582.4	43,221.3	34,051.0	35,332.3	36,290.0	38,375.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Texas 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.48	4.08	8.55	13.78	13.03	12.53	12.99	13.14
Primary Energy	1.06	1.79	3.69	5.96	5.42	5.29	5.44	5.89
Coal	.90	-	2.54	2.83	2.78	2.40	2.12	2.43
Natural Gas	.90	1.48	3.31	5.55	5.09	5.00	5.16	5.34
Petroleum	1.70	3.45	7.43	8.50	7.75	7.24	7.37	9.72
Distillate Fuel	.98	2.24	6.51	6.99	4.57	4.69	4.41	5.42
Kerosene	1.29	3.01	8.35	8.40	5.50	5.63	5.30	6.51
LPG	1.71	3.50	7.39	8.53	8.08	7.60	7.88	10.02
Electricity	6.31	8.74	14.92	21.99	20.18	19.74	20.16	20.45
Commercial Sector	1.91	3.92	7.77	11.98	10.80	9.92	10.20	10.29
Primary Energy	.56	1.41	3.89	5.30	3.86	3.96	3.82	4.04
Coal	.86	-	.89	1.60	1.50	1.27	1.31	1.27
Natural Gas	.44	1.02	2.90	4.70	4.00	4.09	4.03	3.95
Petroleum	1.01	2.37	6.24	6.34	3.55	3.78	3.38	4.22
Distillate Fuel	.90	2.14	6.23	6.15	3.13	3.70	3.07	4.04
Kerosene	.76	2.23	6.89	7.07	3.28	4.04	3.21	4.87
LPG	1.00	2.42	5.22	4.30	4.15	3.59	3.47	2.53
Motor Gasoline	2.66	4.36	9.26	8.79	6.47	7.19	7.32	7.92
Residual Fuel	.48	1.87	2.53	3.87	2.00	2.67	1.90	2.33
Electricity	5.19	7.59	14.12	20.06	18.28	17.45	17.76	17.92
Industrial Sector	.63	1.95	4.74	5.09	4.03	3.76	3.57	3.50
Primary Energy	.53	1.73	4.34	4.31	3.28	3.10	2.91	2.85
Coal	.38	1.20	1.28	1.64	1.51	1.27	1.31	1.27
Coking Coal	.38	1.60	1.81	1.93	1.75	-	-	-
Steam Coal	.86	1.01	.89	1.60	1.50	1.27	1.31	1.27
Natural Gas	.20	.92	2.24	3.07	2.36	1.98	2.11	2.17
Petroleum	.96	2.41	5.92	5.44	4.05	4.01	3.66	3.54
Asphalt and Road Oil	.74	1.77	3.79	4.20	4.58	3.35	3.21	2.84
Distillate Fuel	.66	2.02	6.09	6.39	2.97	3.65	2.90	4.40
Kerosene	.76	2.23	6.89	7.07	3.28	4.04	3.21	4.87
LPG	1.00	2.42	5.22	4.30	4.15	3.59	3.47	2.53
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.66	4.36	9.26	8.79	6.47	7.19	7.32	7.92
Residual Fuel	.37	1.51	3.69	3.87	2.00	2.67	1.90	2.33
Other	.79	2.49	6.59	6.97	3.95	4.79	3.98	4.81
Electricity	2.51	4.70	9.99	14.15	12.51	11.82	11.87	11.96
Transportation Sector	2.07	3.54	7.42	7.46	5.43	6.06	5.92	6.49
Primary Energy	2.07	3.54	7.42	7.46	5.43	6.06	5.92	6.49
Coal	.86	1.01	-	-	-	-	-	-
Petroleum	2.07	3.54	7.42	7.46	5.43	6.06	5.92	6.49
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.05	2.49	7.09	6.50	5.84	6.60	6.44	6.97
Jet Fuel	.72	2.01	6.34	5.67	3.56	3.85	3.57	4.16
LPG	1.00	2.42	5.22	4.30	4.15	3.59	3.47	2.53
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.66	4.36	9.26	8.79	6.47	7.19	7.32	7.92
Residual Fuel	.42	1.63	2.15	4.02	1.42	2.58	1.83	2.41
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.28	2.80	6.00	7.06	5.71	5.67	5.53	5.70
Primary Energy — Four Sectors	1.02	2.38	5.26	5.56	4.21	4.29	4.12	4.28
Electricity	4.52	6.81	12.69	18.58	16.91	16.32	16.58	16.79
Electric Utility Sector	.25	.73	1.65	2.44	1.92	1.80	1.74	1.73
Coal	-	.23	1.21	1.59	1.55	1.55	1.47	1.45
Natural Gas	.24	.76	1.84	3.15	2.27	2.06	2.09	2.15
Petroleum	.51	1.89	3.35	4.90	2.35	3.26	2.69	3.51
Heavy Oil ^b	.47	1.89	2.59	4.36	1.55	2.76	2.08	2.74
Light Oil ^b	.63	2.03	3.83	5.57	3.03	3.87	3.43	4.20
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	.37	.42
Wood and Waste	.65	.92	1.74	.79	.32	.95	-	.82
Primary Energy — Five Sectors	.85	1.93	4.22	4.62	3.52	3.58	3.44	3.54

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Texas **1970, 1975, 1980, and 1985-1989** **(Million Dollars)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1,015.6	1,726.1	3,852.3	6,915.1	6,244.9	6,345.9	6,676.7	7,166.7
Primary Energy	314.3	506.5	942.0	1,533.2	1,260.2	1,337.0	1,362.7	1,610.7
Coal	.	-	.	.2	.3	.6	.8	.3
Natural Gas	213.8	353.8	765.9	1,226.8	1,032.8	1,097.7	1,127.5	1,277.1
Petroleum	100.5	152.7	176.1	306.3	227.0	238.7	234.4	333.4
Distillate Fuel	.8	3.5	.3	1.6	.6	2.2	.8	.4
Kerosene	.2	.7	9.4	50.2	19.3	29.9	31.9	18.5
LPG	99.5	148.5	166.4	254.5	207.2	206.5	201.7	314.4
Electricity	701.2	1,219.6	2,910.3	5,381.8	4,984.7	5,009.0	5,314.0	5,556.0
Commercial Sector	511.7	1,115.4	3,079.0	5,428.3	4,695.7	4,787.1	4,980.7	5,255.2
Primary Energy	106.4	238.3	956.5	1,312.3	868.7	1,067.3	1,010.7	1,132.1
Coal	.	-	.	.2	.3	.6	.9	.2
Natural Gas	66.3	122.6	504.3	741.3	613.0	666.7	734.8	757.0
Petroleum	40.1	115.7	452.2	570.8	255.4	400.0	275.0	374.9
Distillate Fuel	4.4	20.8	103.1	343.3	98.7	176.2	99.9	91.6
Kerosene	15.6	53.1	126.9	94.1	44.3	29.7	13.6	114.3
LPG	10.3	18.1	20.7	22.6	18.8	17.2	15.7	14.0
Motor Gasoline	9.7	15.7	160.5	90.2	70.9	86.5	94.0	97.0
Residual Fuel	.2	7.9	40.9	20.7	22.6	90.4	51.8	58.1
Electricity	405.2	877.2	2,122.5	4,116.0	3,827.0	3,719.8	3,970.0	4,123.0
Industrial Sector	1,515.0	4,523.8	16,082.6	16,414.1	12,388.1	12,336.8	12,536.4	12,729.7
Primary Energy	1,200.5	3,725.6	13,681.0	12,792.2	9,279.2	9,420.3	9,494.8	9,626.7
Coal	11.8	93.3	80.9	138.5	108.7	78.4	68.3	79.1
Coking Coal	11.6	41.0	47.9	20.9	3.6	-	-	-
Steam Coal	.2	52.3	32.9	117.6	105.1	78.4	68.3	79.1
Natural Gas	258.3	834.9	2,840.6	3,940.8	2,775.0	2,507.9	3,131.1	3,507.5
Petroleum	930.4	2,797.4	10,759.5	8,712.9	6,395.5	6,833.9	6,295.4	6,040.1
Asphalt and Road Oil	58.0	95.7	274.5	329.2	414.4	279.8	307.9	182.7
Distillate Fuel	33.9	168.1	701.9	1,016.2	474.3	558.1	466.0	644.2
Kerosene	16.7	37.5	464.9	155.4	113.9	160.8	44.1	70.0
LPG	481.0	1,241.2	3,470.9	3,251.4	3,128.9	3,219.9	3,224.0	2,474.9
Lubricants	79.6	117.3	298.8	333.4	288.6	284.2	295.0	370.6
Motor Gasoline	19.7	22.8	22.9	217.1	154.3	159.1	158.8	187.7
Residual Fuel	4.5	99.0	300.1	476.4	149.4	221.0	96.1	96.5
Other	236.9	1,015.8	5,225.5	2,933.9	1,671.6	1,951.0	1,703.4	2,013.4
Electricity	314.5	798.2	2,401.7	3,621.9	3,108.9	2,916.5	3,041.6	3,103.0
Transportation Sector	2,305.6	5,233.4	12,568.5	14,463.9	10,722.4	11,862.4	12,096.3	13,223.5
Primary Energy	2,305.6	5,233.4	12,568.5	14,463.9	10,722.4	11,862.4	12,096.3	13,223.5
Coal	.	.	-	-	-	-	-	-
Petroleum	2,305.5	5,233.3	12,568.5	14,463.9	10,722.4	11,862.4	12,096.3	13,223.5
Aviation Gasoline	22.0	22.8	57.5	66.4	65.4	43.8	37.9	34.3
Distillate Fuel	137.5	542.6	1,993.2	2,136.1	1,800.9	2,048.6	1,971.0	2,297.4
Jet Fuel	97.4	306.2	1,098.5	2,383.1	1,614.0	1,839.5	1,911.9	2,189.7
LPG	21.1	44.6	12.4	8.8	10.0	5.8	6.0	4.4
Lubricants	50.0	78.9	166.3	185.5	160.6	158.2	164.2	206.3
Motor Gasoline	1,946.6	3,982.0	8,622.3	9,172.2	6,893.7	7,489.6	7,786.0	8,173.6
Residual Fuel	30.9	256.2	618.1	511.6	177.7	277.0	219.2	318.0
Electricity	-	-	-	-	-	-	-	-
Total Energy*	5,347.8	12,598.6	35,582.4	43,221.3	34,051.0	35,332.3	36,290.0	38,375.1
Primary Energy — Four Sectors	3,926.8	9,703.7	28,147.9	30,101.5	22,130.4	23,687.0	23,964.5	25,593.1
Electricity	1,421.0	2,895.0	7,434.5	13,119.7	11,920.6	11,645.3	12,325.5	12,782.0
Electric Utility Sector	267.6	1,099.3	3,576.1	5,652.8	4,302.1	4,036.4	4,073.9	4,246.3
Coal	-	26.9	811.7	1,694.0	1,688.7	1,771.4	1,782.4	1,830.8
Natural Gas	266.5	1,050.0	2,727.1	3,907.0	2,600.4	2,241.5	2,253.8	2,279.2
Petroleum	.5	21.5	35.9	49.3	12.0	21.3	22.6	90.0
Heavy Oil ^b	.3	20.6	10.7	24.2	3.6	9.9	9.6	33.4
Light Oil ^b	.2	.9	25.1	25.1	8.3	11.4	13.1	56.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	15.1	44.6
Wood and Waste	.7	.9	1.4	2.4	1.0	2.3	-	1.6
Primary Energy — Five Sectors	4,194.4	10,802.9	31,724.0	35,754.3	26,432.5	27,723.4	28,038.4	29,839.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Utah 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.38	0.92	1.35	1.48	1.46	1.25	1.34	1.31
Coking Coal	.43	1.38	1.97	1.93	1.75	-	2.02	1.92
Steam Coal	.28	.55	1.16	1.39	1.42	1.25	1.26	1.25
Natural Gas	.57	1.07	2.33	4.01	4.41	4.16	3.94	3.99
Petroleum	1.67	3.28	7.48	7.72	5.87	6.09	6.35	6.75
Asphalt and Road Oil	.57	1.79	3.65	4.85	4.38	3.23	3.32	2.73
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.09	2.61	6.54	6.69	5.43	5.78	5.85	6.67
Jet Fuel	.76	2.12	6.59	6.25	4.05	4.19	3.95	4.60
Kerosene	.76	2.42	5.82	10.38	4.70	5.75	5.57	8.89
LPG	2.12	4.37	5.68	8.69	6.84	6.70	6.81	8.48
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.52	9.80	9.09	6.78	7.44	7.71	8.24
Residual Fuel	.39	1.71	3.70	3.94	2.40	2.16	1.98	1.66
Other ^a	.51	1.41	2.85	3.68	1.53	1.50	1.45	1.92
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.04	4.05	4.28	3.77	3.37	3.26	3.33
Electric Utility Fuel	.25	.51	1.20	1.39	1.42	1.27	1.27	1.25
Electricity Purchased by End Users	5.31	7.06	13.11	19.05	19.56	19.15	18.41	17.10
Total Energy ^b	1.31	2.59	5.77	7.16	6.86	7.18	6.69	6.69
Expenditures in Millions of Dollars								
Coal	30.1	107.0	227.1	295.0	275.0	342.0	451.3	452.0
Coking Coal	22.7	71.7	77.9	64.8	36.9	-	63.8	60.6
Steam Coal	7.4	35.3	149.2	230.2	238.1	342.0	387.5	391.4
Natural Gas	61.5	113.6	255.6	439.9	365.0	348.4	376.3	406.0
Petroleum	252.9	612.1	1,399.3	1,318.2	1,076.1	1,153.6	1,197.3	1,251.1
Asphalt and Road Oil	6.0	14.5	35.8	50.8	37.7	30.6	23.5	30.3
Aviation Gasoline	1.9	2.8	6.3	4.7	4.7	3.8	4.2	4.4
Distillate Fuel	32.4	137.5	319.7	231.5	231.3	227.9	249.6	239.9
Jet Fuel	7.6	22.4	96.4	133.0	98.4	116.8	110.4	131.7
Kerosene	1.1	2.0	3.4	2.1	.5	.8	.7	.3
LPG	6.7	15.4	23.8	47.3	36.0	36.6	32.6	43.4
Lubricants	7.9	10.5	26.1	29.1	25.2	24.8	25.7	32.3
Motor Gasoline	177.5	357.3	799.6	775.3	624.7	687.1	735.7	749.2
Residual Fuel	10.3	43.5	74.8	34.7	14.6	21.7	11.6	14.6
Other ^a	1.5	6.2	13.4	9.7	3.0	3.5	3.3	4.9
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	344.5	832.7	1,882.0	2,053.0	1,716.1	1,844.0	2,024.8	2,109.1
Electric Utility Fuel	-6.4	-26.2	-141.2	-208.0	-222.5	-331.1	-367.6	-367.7
Electricity Purchased by End Users	92.0	186.9	469.3	830.7	852.9	861.6	895.9	853.9
Total Energy ^b	430.2	993.4	2,210.1	2,675.8	2,346.5	2,374.5	2,553.0	2,595.3

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

**Energy Price Estimates by Sector, Utah
1970, 1975, 1980, and 1985-1989
(Dollars per Million Btu)**

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.62	2.37	4.64	7.70	8.37	8.73	8.75	8.42
Primary Energy	.99	1.49	2.69	4.69	4.93	4.68	4.77	4.92
Coal	.76	1.33	3.02	3.46	3.42	2.62	2.63	3.01
Natural Gas	.91	1.28	2.51	4.52	4.89	4.60	4.73	4.73
Petroleum	2.06	4.31	8.08	9.10	6.50	6.63	6.59	9.58
Distillate Fuel	1.28	2.84	6.89	7.25	4.04	3.73	3.86	5.43
Kerosene	2.62	5.16	-	16.24	9.06	8.35	8.63	12.17
LPG	2.31	5.77	8.68	9.25	6.93	7.34	7.49	12.23
Electricity	6.69	8.84	16.92	22.80	23.27	23.28	22.88	21.68
Commercial Sector	1.78	3.30	7.70	11.59	12.61	10.01	9.63	9.83
Primary Energy	.70	1.94	4.30	4.37	4.00	3.94	3.45	3.56
Coal	.29	.74	1.07	1.28	1.29	1.08	1.12	1.19
Natural Gas	.63	1.60	5.12	4.57	4.99	4.61	3.77	3.83
Petroleum	.84	2.22	5.14	6.23	4.47	3.38	3.53	4.39
Distillate Fuel	1.06	2.49	6.42	6.42	4.52	3.85	3.28	4.09
Kerosene	.71	2.35	5.82	7.84	3.74	4.66	4.56	5.89
LPG	1.20	2.30	4.36	8.22	6.76	6.22	6.21	6.68
Motor Gasoline	2.75	4.52	9.80	9.09	6.78	7.44	7.71	8.24
Residual Fuel	.27	1.55	3.69	3.94	2.40	2.16	1.98	1.66
Electricity	5.32	7.15	13.22	20.09	20.49	20.06	19.91	18.87
Industrial Sector	.56	1.60	3.46	4.47	4.61	5.10	4.14	3.91
Primary Energy	.46	1.38	2.74	3.21	2.88	2.97	2.62	2.69
Coal	.40	1.26	1.77	1.77	1.62	1.08	1.75	1.68
Coking Coal	.43	1.38	1.97	1.93	1.75	-	2.02	1.92
Steam Coal	.29	.74	1.07	1.28	1.29	1.08	1.12	1.19
Natural Gas	.32	.73	2.08	3.01	3.16	2.96	2.87	3.04
Petroleum	.76	2.04	4.44	5.49	3.86	3.67	3.71	3.71
Asphalt and Road Oil	.57	1.79	3.65	4.85	4.38	3.23	3.32	2.73
Distillate Fuel	.66	2.18	5.49	6.34	3.02	3.77	3.69	4.77
Kerosene	.71	2.35	5.82	7.84	3.74	4.66	4.56	5.89
LPG	1.20	2.30	4.36	8.22	6.76	6.22	6.21	6.68
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.52	9.80	9.09	6.78	7.44	7.71	8.24
Residual Fuel	.60	1.78	3.71	3.94	2.40	2.16	1.98	1.66
Other	.51	1.41	2.85	3.68	1.53	1.50	1.45	1.92
Electricity	3.75	5.39	10.22	14.36	14.90	14.35	13.27	11.77
Transportation Sector	2.28	3.97	8.82	8.28	6.39	6.78	6.98	7.52
Primary Energy	2.28	3.97	8.82	8.28	6.39	6.78	6.98	7.52
Coal	.29	.74	-	-	-	-	-	-
Petroleum	2.28	3.97	8.82	8.28	6.39	6.78	6.98	7.52
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.97	7.02	6.82	6.80	6.97	7.27	7.82
Jet Fuel	.76	2.12	6.59	6.25	4.05	4.19	3.95	4.60
LPG	1.20	2.30	4.36	8.22	6.76	6.22	6.21	6.68
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.75	4.52	9.80	9.09	6.78	7.44	7.71	8.24
Residual Fuel	.26	1.84	-	-	-	-	-	2.73
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.31	2.59	5.77	7.16	6.86	7.18	6.69	6.69
Primary Energy — Four Sectors	1.08	2.26	5.01	5.59	5.00	5.29	4.98	5.15
Electricity	5.31	7.06	13.11	19.05	19.56	19.15	18.41	17.10
Electric Utility Sector	.25	.51	1.20	1.39	1.42	1.27	1.27	1.25
Coal	.23	.48	1.14	1.37	1.41	1.25	1.27	1.24
Natural Gas	.31	.61	2.00	4.12	5.10	5.07	2.83	3.14
Petroleum	.26	1.59	5.00	5.02	3.55	4.12	3.98	4.45
Heavy Oil ^b	.26	1.54	3.69	3.71	2.09	-	-	-
Light Oil ^b	.32	2.31	6.23	5.67	3.62	4.12	3.98	4.45
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.02	2.04	4.05	4.28	3.77	3.37	3.26	3.33

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Utah 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	84.4	167.5	359.4	629.9	607.5	544.8	564.1	571.9
Primary Energy	45.9	92.3	179.4	319.8	290.8	228.7	240.1	263.9
Coal	.7	1.5	5.8	7.2	5.3	2.7	4.2	5.6
Natural Gas	37.9	72.8	158.0	285.3	267.4	206.4	215.9	232.2
Petroleum	7.2	18.1	15.6	27.3	18.1	19.6	20.1	26.2
Distillate Fuel	1.1	5.9	4.5	3.1	1.8	2.2	3.0	5.8
Kerosene	.1	.1	-	1.0	.2	.3	.3	.2
LPG	6.0	12.1	11.1	23.2	16.2	17.0	16.9	20.3
Electricity	38.5	75.2	179.9	310.1	316.7	316.1	324.0	308.0
Commercial Sector	49.0	106.9	216.4	395.8	385.7	441.0	440.5	423.7
Primary Energy	14.8	46.4	74.7	80.8	58.4	108.2	98.5	90.7
Coal	.5	1.5	3.8	4.9	3.7	2.0	3.3	4.1
Natural Gas	6.0	9.2	1.8	41.7	21.9	73.8	73.1	68.7
Petroleum	8.2	35.8	69.0	34.2	32.8	32.4	22.1	17.9
Distillate Fuel	3.2	18.8	38.4	20.2	24.0	16.5	13.3	10.9
Kerosene	.2	.4	1.1	.9	.1	.4	.1	.1
LPG	.6	.9	1.0	3.6	2.8	2.5	2.5	2.0
Motor Gasoline	2.9	5.0	4.1	4.2	3.2	3.6	3.6	3.9
Residual Fuel	1.4	10.7	24.4	5.2	2.7	9.3	2.6	1.0
Electricity	34.3	60.5	141.7	315.0	327.3	332.9	342.0	333.0
Industrial Sector	89.2	268.0	524.1	565.3	449.7	404.4	502.7	526.5
Primary Energy	70.0	216.8	376.4	359.6	240.8	191.9	272.8	313.5
Coal	26.4	81.2	89.9	78.3	47.6	12.1	79.1	71.7
Coking Coal	22.7	71.7	77.9	64.8	36.9	-	63.8	60.6
Steam Coal	3.6	9.5	12.0	13.5	10.7	12.1	15.3	18.4
Natural Gas	16.5	29.9	86.0	111.8	74.4	66.7	86.8	103.0
Petroleum	27.1	105.7	200.6	169.5	118.9	113.0	106.9	131.5
Asphalt and Road Oil	6.0	14.5	35.8	50.8	37.7	30.6	23.5	30.3
Distillate Fuel	6.0	40.9	70.9	40.8	34.2	33.7	41.2	42.8
Kerosene	.8	1.5	2.2	.2	.2	.1	.3	*
LPG	.1	2.3	11.5	18.4	15.5	15.9	12.0	20.0
Lubricants	2.9	3.3	9.2	10.3	8.9	8.8	9.1	11.4
Motor Gasoline	3.8	6.3	8.5	10.5	7.5	7.9	8.5	8.4
Residual Fuel	6.0	30.5	49.1	28.9	11.8	12.4	8.9	13.6
Other	1.5	6.2	13.4	9.7	3.0	3.5	3.3	4.9
Electricity	19.2	51.2	147.7	205.7	208.9	212.6	229.9	212.9
Transportation Sector	207.5	451.0	1,110.3	1,084.8	903.5	984.2	1,045.8	1,073.3
Primary Energy	207.5	451.0	1,110.3	1,084.8	903.5	984.2	1,045.8	1,073.3
Coal	*	*	-	-	-	-	-	-
Petroleum	207.5	451.0	1,110.3	1,084.8	903.5	984.2	1,045.8	1,073.3
Aviation Gasoline	1.9	2.8	6.3	4.7	4.7	3.8	4.2	4.4
Distillate Fuel	22.1	71.7	203.5	165.5	168.6	170.9	189.7	178.1
Jet Fuel	7.6	22.4	96.4	133.0	98.4	116.8	110.4	131.7
LPG	*	.1	.2	2.0	1.5	1.1	1.2	1.1
Lubricants	5.0	7.2	16.9	18.8	16.3	16.0	16.6	20.9
Motor Gasoline	170.9	346.0	787.0	760.7	614.0	675.5	723.6	736.9
Residual Fuel	*	.8	-	-	-	-	-	*
Electricity	-	-	-	-	-	-	-	-
Total Energy^a	430.2	993.4	2,210.1	2,675.8	2,346.5	2,374.5	2,553.0	2,595.3
Primary Energy — Four Sectors	338.2	806.5	1,740.8	1,845.0	1,493.6	1,512.9	1,657.1	1,741.4
Electricity	92.0	186.9	469.3	830.7	852.9	861.6	895.9	853.9
Electric Utility Sector	6.4	26.2	141.2	208.0	222.5	331.1	367.6	367.7
Coal	2.5	22.8	127.6	204.6	218.4	325.1	364.7	363.3
Natural Gas	1.0	1.8	9.8	1.0	1.3	1.4	.6	2.2
Petroleum	2.9	1.6	3.8	2.4	2.8	4.5	2.4	2.2
Heavy Oil ^b	2.8	1.5	1.4	.6	.1	-	-	-
Light Oil ^b	*	.1	2.4	1.8	2.7	4.5	2.4	2.2
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	344.5	832.7	1,882.0	2,053.0	1,716.1	1,844.0	2,024.8	2,109.1

^aThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

*No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Vermont 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.72	2.35	2.46	2.84	2.62	3.37	3.40	3.12
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.72	2.35	2.46	2.84	2.62	3.37	3.40	3.12
Natural Gas	1.41	1.87	5.62	5.59	5.00	4.92	4.51	4.56
Petroleum	1.97	3.63	8.39	8.87	6.97	6.94	7.08	8.03
Asphalt and Road Oil	.68	1.91	3.66	5.20	4.86	3.55	3.39	3.17
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.37	2.77	7.01	8.13	6.36	6.22	6.23	6.74
Jet Fuel	.75	2.22	6.55	6.10	4.25	4.18	4.04	5.33
Kerosene	1.53	3.03	7.82	8.79	6.63	6.57	6.26	7.11
LPG	2.15	4.12	7.56	11.71	10.37	10.36	9.37	12.20
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.09	4.69	10.12	9.53	7.47	7.58	7.87	8.84
Residual Fuel	.66	1.92	4.05	4.54	2.92	3.15	2.54	2.82
Other*	4.14	-	-	-	10.73	10.73	10.84	10.00
Nuclear Fuel	-	.31	.58	.64	.70	.69	.71	.62
Wood and Waste at Utilities	-	-	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.91	2.40	5.64	5.86	5.28	4.70	4.65	5.35
Electric Utility Fuel	.72	.36	.69	.72	.73	.73	.74	.66
Electricity Purchased by End Users	6.05	10.33	14.33	20.81	22.51	24.16	23.69	23.46
Total Energy^b	2.39	4.40	9.28	10.57	9.24	9.51	9.60	10.34
Expenditures in Millions of Dollars								
Coal	1.5	1.7	1.3	5.6	1.7	1.1	1.0	0.7
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.5	1.7	1.3	5.6	1.7	1.1	1.0	.7
Natural Gas	3.8	7.5	22.2	27.7	24.7	25.1	24.8	27.6
Petroleum	144.8	248.3	512.9	564.6	451.0	491.8	520.9	590.3
Asphalt and Road Oil	1.2	.4	1.0	11.4	13.5	11.6	8.9	9.5
Aviation Gasoline	.2	.2	1.1	1.1	1.2	.8	.6	.7
Distillate Fuel	45.7	75.0	167.3	198.5	147.1	158.4	169.5	181.7
Jet Fuel	.5	2.2	5.6	6.7	3.1	4.2	3.2	6.6
Kerosene	4.4	5.4	12.5	13.0	7.2	6.7	7.5	7.1
LPG	4.4	12.8	18.5	34.0	33.3	40.0	41.0	71.3
Lubricants	2.0	2.5	5.9	6.5	5.7	5.6	5.8	7.3
Motor Gasoline	82.5	140.2	288.9	290.9	234.0	259.4	281.3	304.2
Residual Fuel	3.7	9.6	12.0	2.4	5.5	4.7	2.8	1.6
Other*	.3	-	-	-	.4	.5	.4	.3
Nuclear Fuel	-	12.0	18.7	20.8	15.5	26.3	31.3	24.1
Wood and Waste at Utilities	-	-	.9	2.3	.3	1.5	.9	1.6
Primary Energy — Five Sectors	150.2	269.5	556.0	621.0	493.3	545.9	578.9	644.3
Electric Utility Fuel	-2.2	-14.5	-23.4	-26.1	-17.3	-29.2	-33.9	-27.0
Electricity Purchased by End Users	53.9	105.6	193.1	285.1	286.2	337.8	357.0	366.0
Total Energy^b	201.9	360.5	725.7	880.0	762.2	854.4	902.1	983.4

*Includes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Vermont 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.24	4.52	9.65	11.22	10.27	11.64	11.38	12.06
Primary Energy	1.58	3.04	7.43	8.37	7.02	6.89	6.70	8.05
Coal	1.37	2.62	4.42	4.91	4.71	4.37	4.51	4.48
Natural Gas	1.97	2.62	6.30	6.33	6.36	6.31	5.71	5.70
Petroleum	1.57	3.07	7.56	8.65	7.12	6.99	6.84	8.33
Distillate Fuel	1.51	2.87	7.32	8.08	6.49	6.23	6.19	6.79
Kerosene	1.63	3.16	8.15	8.98	7.22	6.92	6.88	7.54
LPG	2.55	4.72	9.28	11.79	10.02	10.04	8.95	12.77
Electricity	6.68	11.47	15.76	21.20	23.15	27.72	26.66	26.24
Commercial Sector	2.18	4.51	9.00	12.81	12.73	13.35	13.38	13.41
Primary Energy	1.06	2.33	5.90	6.80	5.69	5.51	5.60	6.02
Coal	.87	2.60	1.65	2.38	2.12	2.36	2.53	2.60
Natural Gas	1.43	2.10	6.22	5.76	5.19	4.94	4.72	4.81
Petroleum	1.04	2.35	5.93	7.97	5.97	5.78	5.98	6.49
Distillate Fuel	1.11	2.46	6.48	7.56	5.77	5.29	5.42	5.91
Kerosene	.92	2.65	6.39	7.24	4.71	5.21	4.95	5.69
LPG	1.37	2.92	5.59	11.46	11.26	11.14	10.88	10.22
Motor Gasoline	3.09	4.69	10.12	9.53	7.47	7.58	7.87	8.84
Residual Fuel	.79	1.91	4.09	4.54	2.92	3.15	2.54	2.84
Electricity	6.78	11.34	15.56	24.02	25.65	24.53	24.44	24.23
Industrial Sector	1.68	3.68	7.51	10.90	10.08	9.14	9.10	9.48
Primary Energy	.90	2.26	5.31	6.18	4.80	4.68	4.34	4.71
Coal	.87	2.60	1.65	2.38	2.12	2.36	2.53	2.60
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.87	2.60	1.65	2.38	2.12	2.36	2.53	2.60
Natural Gas	.85	1.44	4.94	4.91	3.57	3.52	3.00	3.05
Petroleum	.90	2.45	5.45	6.64	5.07	4.91	4.64	5.15
Asphalt and Road Oil	.68	1.91	3.66	5.20	4.86	3.55	3.39	3.17
Distillate Fuel	.84	2.38	5.84	6.70	4.36	4.82	4.58	5.26
Kerosene	.92	2.65	6.39	7.24	4.71	5.21	4.95	5.69
LPG	1.37	2.92	5.59	11.46	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.09	4.69	10.12	9.53	7.47	7.58	7.87	8.84
Residual Fuel	.53	1.93	4.01	4.54	2.92	3.15	2.54	2.84
Other	4.14	-	-	-	10.73	10.73	10.84	10.00
Electricity	4.52	7.61	11.37	18.40	20.05	19.79	19.39	19.21
Transportation Sector	2.94	4.49	9.72	9.46	7.48	7.50	7.78	8.64
Primary Energy	2.94	4.49	9.72	9.46	7.48	7.50	7.78	8.64
Coal	.87	2.60	-	-	-	-	-	-
Petroleum	2.94	4.49	9.72	9.46	7.48	7.50	7.78	8.64
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.43	2.90	7.41	9.30	7.51	7.35	7.51	7.88
Jet Fuel	.75	2.09	6.51	6.10	4.25	4.18	4.04	5.33
LPG	1.37	2.92	5.59	11.46	11.26	11.14	10.88	10.22
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	3.09	4.69	10.12	9.53	7.47	7.58	7.87	8.84
Residual Fuel	.76	1.84	-	-	-	2.64	-	2.60
Electricity	-	-	-	-	-	-	-	-
Total Energy^a	2.39	4.40	9.28	10.57	9.24	9.51	9.60	10.34
Primary Energy — Four Sectors	1.96	3.55	8.23	8.55	6.83	6.81	6.91	7.76
Electricity	6.05	10.33	14.33	20.81	22.51	24.16	23.69	23.46
Electric Utility Sector	.72	.36	.69	.72	.73	.73	.74	.66
Coal	.49	2.05	1.73	2.03	1.88	-	-	-
Natural Gas	-	1.17	4.50	4.84	2.26	-	-	2.39
Petroleum	.91	2.41	6.28	5.83	3.55	3.39	3.71	4.23
Heavy Oil ^b	.83	1.95	-	-	-	-	-	-
Light Oil ^b	.92	2.42	6.28	5.83	3.55	3.39	3.71	4.23
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	.31	.58	.64	.70	.69	.71	.62
Wood and Waste	-	-	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.91	2.40	5.64	5.86	5.28	4.70	4.65	5.35

^aThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Vermont 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	71.8	125.1	219.8	265.3	201.0	245.4	260.4	310.4
Primary Energy	44.1	69.3	124.1	154.1	109.7	112.2	117.5	161.4
Coal	.6	.5	.7	2.3	.7	.7	.6	.3
Natural Gas	2.1	3.0	8.1	9.1	10.0	10.4	10.6	11.9
Petroleum	41.4	65.8	115.3	142.7	98.9	101.1	106.3	149.2
Distillate Fuel	34.0	51.9	92.5	104.5	69.9	68.1	70.0	85.5
Kerosene	4.0	4.2	10.6	11.9	6.0	5.6	5.5	5.8
LPG	3.4	9.7	12.1	26.3	23.0	27.4	30.8	57.9
Electricity	27.7	55.8	95.8	111.2	91.3	133.3	143.0	149.0
Commercial Sector	23.2	45.0	88.3	120.1	122.6	157.3	165.8	173.3
Primary Energy	9.1	17.6	39.3	41.5	35.5	38.1	40.8	46.3
Coal	.2	.4	.2	1.6	.2	.2	.2	.1
Natural Gas	.8	1.6	5.1	9.0	8.6	8.9	9.1	9.9
Petroleum	8.1	15.6	34.1	31.0	26.6	28.9	31.5	36.3
Distillate Fuel	5.1	9.1	23.4	23.3	18.1	20.1	21.8	24.9
Kerosene	.1	.2	1.6	.7	.8	.6	.8	.9
LPG	.3	1.1	1.3	4.5	4.6	5.4	6.6	8.2
Motor Gasoline	.4	.7	1.7	2.0	1.6	1.6	1.6	1.7
Residual Fuel	2.1	4.5	6.1	.5	1.6	1.3	.7	.7
Electricity	14.1	27.4	49.0	78.6	87.1	119.2	125.0	127.1
Industrial Sector	20.9	40.5	88.1	146.2	156.5	133.5	131.9	135.0
Primary Energy	8.8	18.2	39.7	50.8	48.7	48.2	43.0	45.0
Coal	.1	.1	.1	.3	.2	.1	.2	.3
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.1	.1	.1	.3	.2	.1	.2	.3
Natural Gas	.9	2.2	7.9	9.1	6.1	5.8	5.2	5.7
Petroleum	7.8	15.8	31.7	41.4	42.5	42.2	37.6	39.0
Asphalt and Road Oil	1.2	.4	1.0	11.4	13.5	11.6	8.9	9.5
Distillate Fuel	2.3	5.1	17.1	17.5	12.8	13.3	15.4	15.4
Kerosene	.2	1.0	.3	.5	.4	.6	1.1	.4
LPG	.6	1.9	5.0	2.8	5.4	6.8	3.3	4.9
Lubricants	.5	.5	1.3	1.5	1.3	1.3	1.3	1.6
Motor Gasoline	1.1	1.9	1.0	5.8	4.7	4.8	5.1	5.9
Residual Fuel	1.5	5.1	5.9	2.0	3.9	3.4	2.1	.8
Other	.3	-	-	-	.4	.5	.4	.3
Electricity	12.1	22.3	48.4	95.3	107.8	85.3	89.0	90.0
Transportation Sector	86.0	149.9	329.5	348.4	282.1	318.2	343.8	364.7
Primary Energy	86.0	149.9	329.5	348.4	282.1	318.2	343.8	364.7
Coal	*	*	-	-	-	-	-	-
Petroleum	86.0	149.9	329.5	348.4	282.1	318.2	343.8	364.7
Aviation Gasoline	.2	.2	1.1	1.1	1.2	.8	.6	.7
Distillate Fuel	2.9	8.5	32.7	52.0	45.4	55.5	60.6	54.7
Jet Fuel	.5	1.5	4.9	6.7	3.1	4.2	3.2	6.6
LPG	*	*	*	.4	.3	.4	.3	.3
Lubricants	1.5	2.1	4.5	5.1	4.4	4.3	4.5	5.6
Motor Gasoline	81.0	137.6	286.2	283.1	227.7	253.0	274.6	296.6
Residual Fuel	*	*	-	-	-	.1	-	.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	201.9	360.5	725.7	880.0	762.2	854.4	902.1	983.4
Primary Energy — Four Sectors	147.9	255.0	532.6	594.9	476.0	516.6	545.1	617.4
Electricity	53.9	105.6	193.1	285.1	286.2	337.8	357.0	366.0
Electric Utility Sector	2.2	14.5	23.4	26.1	17.3	29.2	33.9	27.0
Coal	.7	.7	.4	1.4	.6	-	-	-
Natural Gas	-	.7	1.1	.5	*	-	-	.1
Petroleum	1.6	1.2	2.3	1.1	.9	1.4	1.6	1.2
Heavy Oil ^b	.1	*	-	-	-	-	-	-
Light Oil ^b	1.4	1.2	2.3	1.1	.9	1.4	1.6	1.2
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	12.0	18.7	20.8	15.5	26.3	31.3	24.1
Wood and Waste	-	-	.9	2.3	.3	1.5	.9	1.6
Primary Energy — Five Sectors	150.2	269.5	556.0	621.0	493.3	545.9	578.9	644.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

VIRGINIA

Energy Price and Expenditure Estimates by Source, Virginia 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.41	1.30	1.72	1.80	1.70	1.60	1.57	1.57
Coking Coal	.40	-	1.86	1.93	1.75	1.72	1.73	1.75
Steam Coal	.41	1.30	1.71	1.78	1.69	1.59	1.56	1.56
Natural Gas	.96	1.71	3.62	5.68	5.06	4.53	4.40	4.95
Petroleum	1.49	3.16	7.47	8.16	5.96	6.41	6.43	6.97
Asphalt and Road Oil	.68	1.82	3.60	4.93	4.21	3.29	3.25	2.96
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.14	2.60	6.84	7.77	5.91	6.09	6.00	6.54
Jet Fuel	.73	2.03	6.46	5.79	3.83	4.05	3.77	4.34
Kerosene	1.36	2.93	7.59	8.12	6.50	6.00	6.03	6.58
LPG	1.95	3.63	6.33	9.90	9.26	9.20	9.06	8.44
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.77	9.97	9.33	6.97	7.60	7.85	8.55
Residual Fuel	.31	1.80	3.75	4.25	2.13	3.01	2.23	2.68
Other ^a	.73	2.66	7.25	8.26	5.75	6.47	5.53	6.05
Nuclear Fuel	-	.28	.74	.55	.53	.56	.53	.39
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.17	2.52	5.31	5.12	4.04	4.27	4.21	4.68
Electric Utility Fuel	.35	1.24	2.00	1.18	1.14	1.23	1.11	1.28
Electricity Purchased by End Users	4.91	9.63	15.77	17.06	16.97	17.03	16.64	17.26
Total Energy^b	1.80	3.97	8.02	8.82	7.60	7.74	7.71	8.39
Expenditures in Millions of Dollars								
Coal	113.6	220.7	398.1	531.3	512.0	538.9	537.5	569.1
Coking Coal	.3	-	33.0	45.7	42.0	43.4	42.8	44.0
Steam Coal	113.3	220.7	365.1	485.5	470.0	495.5	494.7	525.1
Natural Gas	126.6	205.0	548.0	783.7	706.0	707.2	701.7	851.4
Petroleum	1,105.2	2,590.3	5,723.9	5,384.6	4,232.8	4,763.9	4,953.0	5,293.4
Asphalt and Road Oil	10.2	28.1	62.6	132.0	124.2	96.2	77.6	82.4
Aviation Gasoline	3.9	4.4	9.9	6.6	6.6	2.8	2.8	3.1
Distillate Fuel	163.6	344.3	980.1	1,139.9	976.9	1,039.6	1,138.9	1,106.3
Jet Fuel	44.9	131.9	444.2	357.1	283.6	327.8	331.6	383.1
Kerosene	38.9	37.7	73.9	84.1	52.5	48.8	48.1	49.0
LPG	17.8	41.2	70.2	136.4	113.2	132.1	142.0	142.3
Lubricants	22.2	33.3	82.9	92.5	80.1	78.9	81.8	102.8
Motor Gasoline	727.8	1,484.6	3,092.9	3,086.1	2,387.4	2,782.4	2,936.2	3,183.1
Residual Fuel	65.0	462.4	575.1	191.9	122.6	157.1	111.2	152.6
Other ^a	11.0	22.4	332.0	157.9	85.8	98.4	82.8	88.6
Nuclear Fuel	-	27.7	92.8	131.5	120.4	108.9	119.0	60.1
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,345.4	3,043.6	6,762.6	6,831.0	5,571.4	6,118.9	6,311.2	6,774.1
Electric Utility Fuel	-101.4	-455.1	-726.4	-514.6	-510.6	-538.8	-522.4	-568.3
Electricity Purchased by End Users	494.4	1,280.5	2,581.5	3,343.0	3,643.1	3,868.1	3,964.8	4,307.7
Total Energy^b	1,738.5	3,869.0	8,617.8	9,659.4	8,703.9	9,448.2	9,753.7	10,513.5

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Virginia 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.45	5.19	10.23	12.71	12.30	12.10	11.96	12.97
Primary Energy	1.45	2.60	5.75	7.43	6.49	5.98	5.97	6.69
Coal	1.34	2.73	3.85	3.92	3.59	3.53	3.49	3.59
Natural Gas	1.45	2.20	4.20	6.76	6.24	5.63	5.58	6.33
Petroleum	1.45	2.88	7.32	8.35	6.87	6.50	6.52	7.26
Distillate Fuel	1.37	2.69	7.10	7.89	6.43	5.93	6.01	6.49
Kerosene	1.44	2.99	7.96	8.30	6.76	6.24	6.32	6.83
LPG	2.27	4.43	8.07	10.48	9.86	10.08	9.81	11.03
Electricity	6.11	11.05	17.80	19.49	19.48	19.62	19.29	20.33
Commercial Sector	2.53	5.50	10.06	12.16	11.62	11.33	11.12	11.81
Primary Energy	.94	1.93	4.30	5.82	4.70	4.31	4.21	4.75
Coal	.42	1.47	1.64	1.69	1.61	1.55	1.53	1.56
Natural Gas	.94	1.69	3.71	5.76	5.07	4.46	4.28	4.74
Petroleum	1.18	2.60	6.32	6.81	4.64	4.65	4.67	5.31
Distillate Fuel	1.08	2.37	6.46	6.54	4.62	4.31	4.12	4.72
Kerosene	.65	2.36	5.94	6.58	4.55	4.38	4.20	5.22
LPG	1.48	2.79	4.60	9.35	8.72	8.45	8.49	6.02
Motor Gasoline	2.85	4.77	9.97	9.33	6.97	7.60	7.85	8.55
Residual Fuel	.32	1.85	3.91	4.29	2.40	3.05	2.32	2.72
Electricity	4.84	9.49	15.79	17.35	17.21	17.12	16.55	16.89
Industrial Sector	.81	2.50	4.83	5.40	4.72	4.56	4.48	4.81
Primary Energy	.57	1.74	3.77	4.08	3.25	3.10	2.95	3.18
Coal	.42	1.47	1.69	1.74	1.64	1.59	1.57	1.60
Coking Coal	.40	-	1.86	1.93	1.75	1.72	1.73	1.75
Steam Coal	.42	1.47	1.64	1.69	1.61	1.55	1.53	1.56
Natural Gas	.49	1.08	2.99	4.60	3.81	3.50	3.22	3.76
Petroleum	.78	2.18	5.58	6.59	4.95	4.86	4.69	4.98
Asphalt and Road Oil	.68	1.82	3.60	4.93	4.21	3.29	3.25	2.96
Distillate Fuel	.60	2.19	5.33	6.10	4.22	4.06	3.89	4.84
Kerosene	.65	2.36	5.94	6.58	4.55	4.38	4.20	5.22
LPG	1.48	2.79	4.60	9.35	8.72	8.45	8.49	6.02
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.77	9.97	9.33	6.97	7.60	7.85	8.55
Residual Fuel	.34	1.81	3.58	4.29	2.40	3.05	2.32	2.72
Other	.93	2.66	7.25	8.26	5.75	6.47	5.53	6.05
Electricity	3.08	7.37	12.19	12.47	12.08	12.12	11.95	12.33
Transportation Sector	1.95	3.91	8.73	8.55	6.33	6.90	6.94	7.59
Primary Energy	1.95	3.91	8.73	8.54	6.33	6.90	6.93	7.59
Coal	.42	1.47	-	-	-	-	-	-
Petroleum	1.95	3.91	8.73	8.54	6.33	6.90	6.93	7.59
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.25	2.72	7.27	8.34	6.34	6.93	6.74	7.26
Jet Fuel	.73	2.03	6.46	5.79	3.83	4.05	3.77	4.34
LPG	1.48	2.79	4.60	9.35	8.72	8.45	8.49	6.02
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.85	4.77	9.97	9.33	6.97	7.60	7.85	8.55
Residual Fuel	.30	1.61	3.32	4.18	1.92	2.83	1.99	2.35
Electricity	-	-	14.65	17.33	18.20	16.57	16.10	15.09
Total Energy*	1.80	3.97	8.02	8.82	7.60	7.74	7.71	8.39
Primary Energy — Four Sectors	1.44	3.08	6.62	7.03	5.44	5.62	5.64	6.18
Electricity	4.91	9.63	15.77	17.06	16.97	17.03	16.64	17.26
Electric Utility Sector	.35	1.24	2.00	1.18	1.14	1.23	1.11	1.28
Coal	.38	1.14	1.71	1.80	1.71	1.58	1.55	1.55
Natural Gas	.29	.99	2.89	3.44	1.93	2.42	2.05	2.48
Petroleum	.32	1.85	4.03	4.60	2.16	3.11	2.38	2.88
Heavy Oil ^b	.31	1.84	3.94	4.37	2.09	3.06	2.30	2.78
Light Oil ^b	.35	2.18	5.86	5.57	3.39	3.73	3.38	4.01
Petroleum Coke	.35	-	-	-	-	-	-	-
Nuclear Fuel	-	.28	.74	.55	.53	.56	.53	.39
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1.17	2.52	5.31	5.12	4.04	4.27	4.21	4.68

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Virginia 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	446.8	918.4	1,851.9	2,235.8	2,368.0	2,475.1	2,559.0	2,810.3
Primary Energy	206.2	319.8	653.6	735.2	690.4	675.7	703.0	783.2
Coal	5.3	7.3	6.4	9.3	7.7	10.1	9.0	6.1
Natural Gas	73.8	109.5	233.9	342.4	334.3	324.8	340.1	406.7
Petroleum	127.1	203.0	413.3	383.5	348.4	340.9	353.8	370.4
Distillate Fuel	77.7	142.4	305.3	236.3	243.3	229.4	243.9	237.7
Kerosene	37.1	34.9	63.4	77.0	48.1	44.2	43.5	42.9
LPG	12.3	25.7	44.7	70.2	57.0	67.2	66.4	89.8
Electricity	240.5	598.6	1,198.3	1,500.6	1,677.6	1,799.3	1,856.0	2,027.0
Commercial Sector	228.6	557.1	1,161.9	1,622.4	1,684.8	1,763.0	1,771.5	1,924.4
Primary Energy	50.2	103.5	247.7	349.7	304.0	302.6	294.7	324.3
Coal	3.1	7.2	5.0	7.4	6.4	8.2	7.2	4.9
Natural Gas	28.9	55.5	144.9	203.3	186.8	182.8	187.0	217.8
Petroleum	18.2	40.8	97.8	139.0	110.8	111.6	100.5	101.6
Distillate Fuel	13.1	26.8	61.5	93.7	76.1	65.2	62.4	64.7
Kerosene	.3	.6	1.5	3.6	1.9	2.8	3.0	4.1
LPG	1.4	2.9	4.5	11.0	8.9	10.0	10.1	8.6
Motor Gasoline	3.1	7.8	19.4	22.4	14.5	20.3	20.7	22.6
Residual Fuel	.2	2.9	10.9	8.3	9.3	13.3	4.3	1.6
Electricity	178.4	453.5	914.2	1,272.8	1,380.7	1,460.4	1,476.8	1,600.1
Industrial Sector	207.4	577.1	1,474.8	1,564.4	1,364.8	1,409.6	1,386.4	1,481.5
Primary Energy	131.9	348.8	1,007.3	997.9	784.3	805.4	758.6	804.9
Coal	42.1	97.0	148.4	183.7	175.8	184.4	185.0	181.9
Coking Coal	.3	-	33.0	45.7	42.0	43.4	42.8	44.0
Steam Coal	41.8	97.0	115.4	138.0	133.8	141.0	142.2	137.9
Natural Gas	22.5	39.4	161.9	232.5	183.2	195.3	172.3	217.1
Petroleum	67.2	212.4	697.0	581.8	425.3	425.7	401.3	405.8
Asphalt and Road Oil	10.2	28.1	62.6	132.0	124.2	96.2	77.6	82.4
Distillate Fuel	15.3	36.8	111.0	105.7	80.7	82.3	87.8	97.1
Kerosene	1.5	2.2	9.0	3.5	2.5	1.8	1.6	2.0
LPG	3.8	12.0	20.3	52.5	46.0	52.7	63.1	42.2
Lubricants	8.9	13.9	36.8	41.0	35.5	35.0	36.3	45.6
Motor Gasoline	9.8	11.5	14.6	33.6	25.2	29.5	28.5	34.5
Residual Fuel	8.6	85.4	110.9	55.5	25.5	29.9	23.6	13.4
Other	9.2	22.4	332.0	157.9	85.8	98.4	82.8	88.6
Electricity	75.5	228.3	467.5	566.4	580.5	604.1	627.8	676.6
Transportation Sector	855.8	1,816.5	4,129.1	4,236.8	3,286.3	3,800.5	4,036.8	4,297.3
Primary Energy	855.8	1,816.5	4,127.6	4,233.6	3,282.1	3,796.3	4,032.6	4,293.4
Coal	.1	-	-	-	-	-	-	-
Petroleum	855.7	1,816.5	4,127.6	4,233.6	3,282.1	3,796.3	4,032.6	4,293.4
Aviation Gasoline	3.9	4.4	9.9	6.6	6.6	2.8	2.8	3.1
Distillate Fuel	56.0	130.4	475.3	693.2	571.4	655.5	738.2	692.9
Jet Fuel	44.9	131.9	444.2	357.1	283.6	327.8	331.6	383.1
LPG	.3	.6	.8	2.7	1.4	2.2	2.4	1.7
Lubricants	13.3	19.4	46.1	51.5	44.6	43.9	45.5	57.2
Motor Gasoline	714.9	1,485.4	3,058.9	2,030.1	2,347.6	2,732.6	2,887.0	3,126.0
Residual Fuel	22.4	64.4	92.3	92.3	27.0	31.5	25.1	29.3
Electricity	-	-	1.5	3.2	4.2	4.2	4.2	3.9
Total Energy*	1,738.5	3,869.0	8,617.8	9,659.4	8,703.9	9,448.2	9,753.7	10,513.5
Primary Energy — Four Sectors	1,244.1	2,588.6	6,036.3	6,316.4	5,060.8	5,580.1	5,788.9	6,205.8
Electricity	494.4	1,280.5	2,581.5	3,343.0	3,643.1	3,868.1	3,964.8	4,307.7
Electric Utility Sector	101.4	455.1	726.4	514.6	510.6	538.8	522.4	568.3
Coal	63.1	109.3	238.2	330.9	322.1	336.2	336.3	376.2
Natural Gas	1.3	.5	7.3	5.5	1.7	4.3	2.4	9.8
Petroleum	37.0	317.6	388.1	46.7	66.3	89.4	64.8	122.2
Heavy Oil ^b	33.8	309.7	361.0	35.7	60.8	82.3	58.2	108.3
Light Oil ^b	1.5	7.9	27.1	11.0	5.4	7.0	6.6	13.9
Petroleum Coke	1.8	-	-	-	-	-	-	-
Nuclear Fuel	-	27.7	92.8	131.5	120.4	108.9	119.0	60.1
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	1,345.4	3,043.6	6,762.6	6,831.0	5,571.4	6,118.9	6,311.2	6,774.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Washington 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.54	0.61	1.15	1.74	1.78	1.73	1.62	1.62
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.54	.61	1.15	1.74	1.78	1.73	1.62	1.62
Natural Gas	.71	1.60	4.48	5.23	4.53	3.81	3.96	4.02
Petroleum	1.71	3.24	7.10	7.78	5.67	5.85	5.72	6.23
Asphalt and Road Oil	.66	1.77	3.70	4.17	3.94	3.21	3.41	3.29
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.18	2.55	6.68	7.80	5.95	6.22	6.31	7.06
Jet Fuel	.73	2.04	6.21	6.03	4.01	4.02	3.79	4.50
Kerosene	1.62	3.07	8.53	6.82	4.25	4.49	4.62	5.72
LPG	2.50	4.46	6.78	9.09	9.23	8.98	9.01	9.30
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.62	9.92	9.31	7.29	7.36	7.40	8.03
Residual Fuel	.32	1.93	3.24	4.82	2.64	2.60	2.23	2.20
Other ^a	.56	1.45	2.83	3.24	2.83	2.06	1.87	2.24
Nuclear Fuel	.18	.24	.43	.71	.70	.70	.49	.48
Wood and Waste at Utilities	.65	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.42	2.51	5.83	5.96	4.72	4.76	4.65	5.03
Electric Utility Fuel	.18	.46	.91	1.17	1.06	1.28	1.13	1.31
Electricity Purchased by End Users	2.02	2.77	4.16	9.18	9.41	9.80	10.13	10.34
Total Energy^b	1.59	2.81	5.98	7.75	6.44	6.55	6.63	6.98
Expenditures in Millions of Dollars								
Coal	3.2	46.9	104.2	163.4	112.7	165.3	160.9	157.5
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	3.2	46.9	104.2	163.4	112.7	165.3	160.9	157.5
Natural Gas	97.2	242.3	530.5	686.4	510.2	476.0	551.3	627.7
Petroleum	811.5	1,628.6	3,933.8	4,132.9	3,481.3	3,595.2	3,601.9	4,173.9
Asphalt and Road Oil	10.2	34.1	50.3	56.4	62.9	48.3	43.5	57.1
Aviation Gasoline	3.8	4.8	16.2	10.2	9.7	10.5	8.0	7.9
Distillate Fuel	123.0	248.4	715.7	923.8	801.8	766.2	772.8	864.4
Jet Fuel	43.3	160.7	419.5	522.2	385.1	421.2	440.3	522.5
Kerosene	2.2	6.0	5.8	49.4	5.9	7.1	34.3	37.9
LPG	15.3	11.5	33.4	72.9	76.0	92.9	74.7	98.3
Lubricants	20.5	28.2	61.2	68.3	59.1	58.2	60.4	75.9
Motor Gasoline	553.3	994.2	2,222.4	2,151.5	1,798.4	1,977.9	1,974.4	2,268.1
Residual Fuel	17.9	82.8	327.7	241.0	260.8	172.4	154.5	187.0
Other ^a	22.0	57.9	81.5	37.2	21.7	40.5	39.0	54.8
Nuclear Fuel	5.2	8.7	9.6	61.4	63.7	41.8	31.6	31.7
Wood and Waste at Utilities	*	-	-	2.3	.6	3.4	3.4	3.2
Primary Energy — Five Sectors	917.2	1,926.4	4,578.1	5,046.3	4,168.6	4,281.7	4,349.0	4,993.9
Electric Utility Fuel	-5.2	-46.5	-25.7	-203.6	-155.9	-194.0	-182.5	-221.6
Electricity Purchased by End Users	316.8	523.9	953.4	2,331.7	2,312.1	2,427.3	2,800.5	2,983.8
Total Energy^b	1,228.8	2,403.8	5,435.7	7,174.4	6,324.8	6,515.1	6,966.9	7,756.1

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Washington 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.12	3.23	5.73	9.53	9.45	9.83	9.90	10.18
Primary Energy	1.47	2.54	5.99	6.83	5.96	5.80	5.73	6.03
Coal	.95	1.14	4.26	3.67	3.79	3.76	3.37	3.66
Natural Gas	1.33	2.18	5.05	6.35	5.76	5.25	5.36	5.32
Petroleum	1.57	2.97	7.40	7.89	6.34	6.67	6.50	7.61
Distillate Fuel	1.40	2.80	7.27	7.76	5.95	6.10	6.03	6.71
Kerosene	2.47	3.61	9.80	9.92	7.61	7.80	7.70	8.58
LPG	3.05	5.73	8.12	8.46	9.77	10.26	10.31	13.86
Electricity	3.12	3.94	5.56	11.14	11.45	12.20	12.45	12.69
Commercial Sector	1.90	2.94	5.35	8.03	8.24	8.14	7.92	8.42
Primary Energy	1.12	2.06	5.03	5.69	4.83	4.51	4.50	4.80
Coal	.52	.90	2.28	2.30	2.22	2.36	2.34	2.38
Natural Gas	1.05	1.75	4.59	5.24	4.91	4.36	4.47	4.54
Petroleum	1.21	2.87	6.76	6.61	4.87	4.89	4.68	5.54
Distillate Fuel	1.21	2.60	6.90	6.53	4.63	4.55	4.53	5.31
Kerosene	.84	2.31	7.04	6.59	4.01	4.33	4.42	5.48
LPG	1.19	2.67	5.60	9.34	9.06	8.52	8.58	8.09
Motor Gasoline	2.92	4.62	9.92	9.31	7.29	7.36	7.40	8.03
Residual Fuel	.33	2.45	3.61	4.05	2.07	2.58	2.01	2.33
Electricity	3.21	4.10	5.67	10.57	10.95	10.92	11.01	11.47
Industrial Sector	.67	1.51	3.39	5.52	4.68	4.66	5.24	5.35
Primary Energy	.55	1.57	4.06	5.00	3.61	3.35	3.27	3.53
Coal	.52	.90	2.28	2.30	2.22	2.36	2.34	2.38
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.52	.90	2.28	2.30	2.22	2.36	2.34	2.38
Natural Gas	.38	1.29	4.09	4.58	3.49	2.78	2.89	2.84
Petroleum	.65	1.84	4.16	5.58	3.80	3.86	3.67	4.13
Asphalt and Road Oil	.66	1.77	3.70	4.17	3.94	3.21	3.41	3.29
Distillate Fuel	.73	2.05	6.06	6.20	3.78	4.08	4.16	5.16
Kerosene	.84	2.31	7.04	6.59	4.01	4.33	4.42	5.48
LPG	1.19	2.67	5.60	9.34	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.62	9.92	9.31	7.29	7.36	7.40	8.03
Residual Fuel	.33	1.78	3.36	4.05	2.07	2.58	2.01	2.33
Other	.58	1.45	2.83	3.24	2.83	2.06	1.87	2.24
Electricity	.97	1.37	2.26	6.23	6.29	6.71	7.68	7.77
Transportation Sector	2.23	3.73	7.86	8.19	5.97	6.16	6.02	6.55
Primary Energy	2.23	3.73	7.86	8.19	5.97	6.16	6.02	6.55
Coal	.52	.90	-	-	-	-	-	-
Petroleum	2.23	3.73	7.86	8.19	5.97	6.16	6.02	6.55
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.32	2.65	6.72	8.77	6.71	7.22	7.24	7.92
Jet Fuel	.73	2.04	6.21	6.03	4.01	4.02	3.79	4.50
LPG	1.19	2.67	5.60	9.34	9.06	8.52	8.58	8.09
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.92	4.62	9.92	9.31	7.29	7.36	7.40	8.03
Residual Fuel	.30	2.14	3.15	5.01	2.86	2.60	2.27	2.18
Electricity	2.16	3.20	4.26	8.28	8.39	7.63	8.49	9.19
Total Energy*	1.59	2.81	5.98	7.75	6.44	6.55	6.63	6.98
Primary Energy — Four Sectors	1.48	2.83	6.58	7.21	5.45	5.47	5.38	5.80
Electricity	2.02	2.77	4.16	9.18	9.41	9.80	10.13	10.34
Electric Utility Sector	.18	.46	.91	1.17	1.06	1.28	1.13	1.31
Coal	-	.57	.96	1.65	1.69	1.67	1.55	1.56
Natural Gas	-	-	3.43	4.54	2.81	2.50	3.05	5.02
Petroleum	.33	2.49	3.93	5.72	2.79	4.03	3.98	2.95
Heavy Oil ^b	.32	2.50	3.58	-	3.16	2.82	2.66	2.54
Light Oil ^b	.37	2.41	6.40	5.72	2.76	4.10	4.03	4.52
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	.18	.24	.43	.71	.70	.70	.49	.48
Wood and Waste	.65	-	-	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.42	2.51	5.83	5.96	4.72	4.76	4.65	5.03

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Washington 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	280.8	427.3	794.5	1,450.0	1,343.4	1,372.2	1,482.5	1,596.6
Primary Energy	117.3	169.4	330.6	388.2	308.1	299.4	326.5	355.6
Coal	.3	.2	5.5	6.5	2.6	1.5	3.0	2.5
Natural Gas	44.8	78.1	158.0	217.8	179.1	161.5	192.4	210.6
Petroleum	72.2	91.1	167.2	163.9	126.4	136.3	131.1	142.5
Distillate Fuel	57.4	78.3	144.9	140.0	106.4	107.7	106.2	107.3
Kerosene	1.6	4.2	3.6	5.1	.7	.6	3.6	4.3
LPG	13.2	8.6	18.7	18.8	19.2	28.0	21.3	30.9
Electricity	163.5	258.0	463.8	1,061.8	1,035.3	1,072.8	1,156.0	1,241.0
Commercial Sector	116.7	242.3	502.6	1,082.4	949.5	966.3	1,064.8	1,092.3
Primary Energy	43.0	97.0	234.8	398.7	246.6	232.2	287.2	284.6
Coal	.3	.2	5.4	7.6	2.8	1.8	3.9	3.1
Natural Gas	20.4	58.2	148.7	193.3	161.7	145.6	168.3	180.2
Petroleum	22.3	38.6	80.7	197.8	82.0	84.7	114.9	101.3
Distillate Fuel	15.7	23.0	43.1	162.4	65.2	61.7	69.8	52.8
Kerosene	.1	.3	.7	8.1	.4	6.4	30.1	33.2
LPG	.9	.7	2.3	3.7	3.1	4.1	3.1	3.2
Motor Gasoline	4.7	9.1	24.9	17.4	11.8	12.1	10.8	11.0
Residual Fuel	1.0	5.5	9.7	6.2	1.4	.4	1.1	1.2
Electricity	73.6	145.3	267.8	683.8	702.9	734.1	777.7	807.6
Industrial Sector	197.4	443.7	898.4	1,228.0	1,068.5	1,103.6	1,323.0	1,498.9
Primary Energy	117.7	323.2	676.7	642.2	494.9	483.6	456.6	564.1
Coal	2.7	9.8	16.2	10.3	16.4	13.9	12.3	11.8
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	2.7	9.8	16.2	10.3	16.4	13.9	12.3	11.8
Natural Gas	32.0	106.0	220.5	274.9	169.0	168.6	185.1	193.8
Petroleum	83.0	207.3	440.0	357.0	309.5	301.1	259.2	358.5
Asphalt and Road Oil	10.2	34.1	50.3	56.4	62.9	48.3	43.5	57.1
Distillate Fuel	19.6	44.8	150.7	99.4	75.3	86.6	68.6	110.1
Kerosene	.5	1.5	1.5	36.2	4.8	.1	.6	.3
LPG	1.1	1.8	10.5	40.4	43.6	52.8	42.4	58.1
Lubricants	8.2	8.7	17.6	19.6	17.0	16.7	17.3	21.8
Motor Gasoline	8.4	10.6	14.5	33.8	28.4	28.4	26.3	29.4
Residual Fuel	13.1	47.9	113.3	34.0	55.9	27.8	21.5	27.0
Other	22.0	57.9	81.5	37.2	21.7	40.5	39.0	54.8
Electricity	79.7	120.6	221.7	585.8	573.5	620.0	866.5	934.8
Transportation Sector	634.0	1,290.3	3,240.3	3,414.0	2,963.4	3,072.9	3,096.6	3,568.3
Primary Energy	633.9	1,290.3	3,240.3	3,413.6	2,963.1	3,072.6	3,096.3	3,568.0
Coal	-	-	-	-	-	-	-	-
Petroleum	633.9	1,290.3	3,240.3	3,413.6	2,963.1	3,072.6	3,096.3	3,568.0
Aviation Gasoline	3.8	4.8	16.2	10.2	9.7	10.5	8.0	7.9
Distillate Fuel	30.3	102.2	375.8	521.4	554.4	509.7	527.9	593.1
Jet Fuel	43.3	160.7	419.5	522.2	385.1	421.2	440.3	522.5
LPG	.2	.4	1.9	10.0	10.1	8.0	8.0	6.2
Lubricants	12.3	19.4	43.6	48.7	42.2	41.5	43.1	54.1
Motor Gasoline	540.2	974.5	2,183.1	2,100.2	1,758.2	1,937.4	1,937.2	2,227.8
Residual Fuel	3.8	28.3	200.3	200.8	203.5	144.2	131.9	156.3
Electricity	-	-	-	.4	.3	.3	.3	.4
Total Energy*	1,228.8	2,403.8	5,435.7	7,174.4	6,324.8	6,515.1	6,966.9	7,756.1
Primary Energy — Four Sectors	911.9	1,879.9	4,482.4	4,842.7	4,012.7	4,087.8	4,166.5	4,772.3
Electricity	316.8	523.9	953.4	2,331.7	2,312.1	2,427.3	2,800.5	2,983.8
Electric Utility Sector	5.2	46.5	95.7	203.6	155.9	194.0	182.5	221.6
Coal	-	36.7	77.1	139.0	90.9	148.1	141.6	140.0
Natural Gas	-	-	3.3	.4	.4	.2	5.5	43.2
Petroleum	-	1.2	5.7	.6	.3	.4	.4	3.5
Heavy Oil ^b	-	1.1	4.5	-	-	-	-	2.4
Light Oil ^b	-	.1	1.1	.6	.3	.4	.4	1.1
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	5.2	8.7	9.6	61.4	63.7	41.8	31.6	31.7
Wood and Waste	-	-	-	2.3	.6	3.4	3.4	3.2
Primary Energy — Five Sectors	917.2	1,926.4	4,578.1	5,046.3	4,168.6	4,281.7	4,349.0	4,993.9

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, West Virginia 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.31	1.02	1.46	1.61	1.50	1.43	1.44	1.43
Coking Coal	.40	1.51	1.86	1.93	1.75	1.72	1.73	1.75
Steam Coal	.28	.94	1.41	1.59	1.49	1.41	1.42	1.41
Natural Gas	.62	1.16	3.18	5.28	4.99	4.48	4.08	4.07
Petroleum	1.77	3.62	8.06	8.41	5.87	6.31	6.12	6.97
Asphalt and Road Oil	.68	1.81	3.58	4.91	4.19	3.23	3.35	3.13
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.40	3.36	7.24	8.01	5.87	5.97	5.88	6.62
Jet Fuel	.73	2.05	6.46	6.87	5.14	4.72	4.45	4.99
Kerosene	1.49	2.83	8.19	7.93	6.34	6.09	6.08	6.90
LPG	1.67	3.25	6.16	9.08	7.97	8.18	10.20	7.77
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.61	9.96	9.19	7.00	7.34	7.52	8.52
Residual Fuel	.58	1.89	3.33	4.01	2.57	2.81	2.38	2.65
Other ^a	.87	2.87	7.19	7.37	3.95	4.81	3.98	4.82
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	.65	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.68	1.58	3.16	3.20	2.61	2.64	2.58	2.74
Electric Utility Fuel	.26	.88	1.43	1.62	1.50	1.43	1.45	1.43
Electricity Purchased by End Users	3.96	8.30	10.58	14.19	14.81	14.77	14.10	14.04
Total Energy ^b	1.13	2.79	5.78	7.35	6.00	6.10	5.78	6.13
Expenditures in Millions of Dollars								
Coal	187.2	833.9	1,253.8	1,399.0	1,315.2	1,241.8	1,319.5	1,326.2
Coking Coal	55.3	178.3	190.2	72.4	89.0	81.0	94.3	91.5
Steam Coal	131.9	655.6	1,063.6	1,326.6	1,226.2	1,160.8	1,225.2	1,234.7
Natural Gas	108.3	171.0	415.1	510.6	472.4	444.9	434.9	474.7
Petroleum	383.5	927.6	2,380.6	1,915.1	1,352.0	1,501.6	1,517.7	1,757.6
Asphalt and Road Oil	3.9	11.3	17.0	14.0	15.7	11.5	19.5	16.9
Aviation Gasoline	.9	1.0	3.0	1.9	2.1	1.3	1.4	1.6
Distillate Fuel	31.9	114.2	441.1	451.7	261.1	312.3	310.6	388.4
Jet Fuel	1.2	2.8	12.9	9.0	6.3	5.6	6.2	10.6
Kerosene	2.7	5.2	23.0	14.2	10.7	10.3	9.3	9.7
LPG	7.8	18.1	77.7	27.2	26.1	27.3	38.1	36.5
Lubricants	21.1	31.2	58.4	65.2	56.4	55.5	57.6	72.4
Motor Gasoline	237.6	467.7	1,014.2	894.0	686.3	743.9	781.3	871.5
Residual Fuel	7.5	26.2	24.8	14.8	8.5	5.3	5.8	5.0
Other ^a	69.0	250.0	708.4	423.1	278.8	328.6	287.8	345.0
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	*	-	-	-	-	-	-	-
Primary Energy — Five Sectors	679.1	1,932.5	4,049.5	3,824.6	3,139.7	3,188.2	3,272.1	3,558.5
Electric Utility Fuel	-89.9	-531.0	-997.7	-1,261.8	-1,156.2	-1,093.2	-1,148.1	-1,155.4
Electricity Purchased by End Users	204.3	477.3	748.8	1,000.4	1,029.6	1,053.0	1,068.2	1,084.9
Total Energy ^b	793.5	1,878.8	3,800.5	3,563.2	3,013.1	3,148.1	3,192.2	3,488.0

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, West Virginia 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.76	3.51	6.39	9.96	9.96	9.87	9.54	9.61
Primary Energy	.91	1.57	4.11	6.13	5.83	5.51	5.26	5.39
Coal	.66	1.22	1.59	1.66	1.37	1.23	1.24	1.29
Natural Gas	.87	1.40	3.48	5.99	5.90	5.57	5.11	5.32
Petroleum	1.75	3.27	7.36	8.13	6.16	6.04	7.07	6.69
Distillate Fuel	1.37	2.69	6.65	7.42	5.65	5.78	5.67	6.34
Kerosene	1.64	3.17	8.48	8.82	6.72	6.88	6.74	7.54
LPG	2.49	4.97	8.94	9.61	7.27	6.08	11.03	6.99
Electricity	6.41	10.47	12.64	17.38	17.84	17.87	17.39	17.31
Commercial Sector	1.83	3.36	6.28	9.89	9.63	9.50	8.69	8.70
Primary Energy	.69	1.29	3.44	5.82	5.11	4.88	4.70	4.84
Coal	.35	1.33	1.44	1.43	1.33	1.25	1.23	1.23
Natural Gas	.69	1.18	3.24	5.64	5.47	5.10	4.81	4.87
Petroleum	1.57	2.77	7.04	7.42	5.20	5.83	5.42	6.36
Distillate Fuel	1.08	2.37	6.24	6.62	4.42	4.75	4.56	5.34
Kerosene	.77	2.46	6.85	6.79	5.06	4.58	4.66	5.55
LPG	1.45	2.76	5.80	8.87	8.22	9.03	9.78	8.15
Motor Gasoline	2.86	4.61	9.96	9.19	7.00	7.34	7.52	8.52
Residual Fuel	.86	1.82	4.02	4.01	2.57	2.81	2.38	2.65
Electricity	5.81	10.00	12.59	16.64	16.95	16.61	16.04	16.06
Industrial Sector	.66	2.11	4.32	5.21	3.95	4.04	3.65	3.91
Primary Energy	.53	1.76	3.90	4.35	3.04	3.15	2.78	3.08
Coal	.38	1.43	1.70	1.64	1.53	1.46	1.46	1.46
Coking Coal	.40	1.51	1.86	1.93	1.75	1.72	1.73	1.75
Steam Coal	.35	1.33	1.44	1.43	1.33	1.25	1.23	1.23
Natural Gas	.45	.98	2.91	4.39	3.85	3.24	2.66	2.71
Petroleum	.96	2.80	6.75	7.36	4.43	5.00	4.41	5.23
Asphalt and Road Oil	.68	1.81	3.58	4.91	4.19	3.23	3.35	3.13
Distillate Fuel	.71	2.27	6.15	6.43	4.78	4.33	4.41	5.25
Kerosene	.77	2.46	6.85	6.79	5.06	4.58	4.66	5.55
LPG	1.45	2.76	5.80	8.87	8.22	9.03	9.78	8.15
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.61	9.96	9.19	7.00	7.34	7.52	8.52
Residual Fuel	.48	1.92	3.33	4.01	2.57	2.81	2.38	2.65
Other	.87	2.87	7.19	7.37	3.95	4.81	3.98	4.82
Electricity	2.63	6.56	8.58	10.77	11.26	11.26	10.57	10.52
Transportation Sector	2.67	4.50	9.61	9.14	7.05	7.32	7.42	8.31
Primary Energy	2.67	4.50	9.61	9.14	7.05	7.32	7.42	8.31
Coal	.35	1.33	-	-	-	-	-	-
Petroleum	2.68	4.50	9.61	9.14	7.05	7.32	7.42	8.31
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.72	3.97	8.36	8.76	6.85	7.04	6.86	7.50
Jet Fuel	.73	2.03	6.46	6.87	5.14	4.72	4.45	4.99
LPG	1.45	2.76	5.80	8.87	8.22	9.03	9.78	8.15
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.86	4.61	9.96	9.19	7.00	7.34	7.52	8.52
Residual Fuel	.85	-	-	4.29	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.13	2.79	5.78	7.35	6.00	6.10	5.78	6.13
Primary Energy — Four Sectors	.90	2.28	5.20	6.19	4.58	4.71	4.46	4.89
Electricity	3.96	8.30	10.58	14.19	14.81	14.77	14.10	14.04
Electric Utility Sector	.26	.88	1.43	1.62	1.50	1.43	1.45	1.43
Coal	.25	.87	1.41	1.60	1.50	1.42	1.44	1.43
Natural Gas	.32	.60	2.99	4.78	4.03	3.94	3.89	4.59
Petroleum	.94	1.84	6.30	6.00	3.71	4.36	3.96	4.51
Heavy Oil ^b	.94	1.83	-	-	-	-	-	-
Light Oil ^b	.94	2.44	6.30	6.00	3.71	4.36	3.96	4.51
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	.65	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.68	1.58	3.16	3.20	2.61	2.64	2.58	2.74

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, West Virginia 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	135.3	273.1	538.5	670.8	689.7	691.5	696.5	707.3
Primary Energy	59.7	95.2	253.6	272.8	264.6	249.5	248.5	256.3
Coal	1.1	2.4	2.1	1.2	1.4	1.5	1.2	1.7
Natural Gas	51.7	74.5	173.6	234.7	229.8	213.1	207.3	212.7
Petroleum	7.0	18.3	77.9	36.8	33.4	34.9	40.0	41.8
Distillate Fuel	2.0	9.1	45.3	20.0	18.4	21.4	18.9	23.8
Kerosene	2.5	3.1	19.6	8.9	8.8	7.7	7.0	7.2
LPG	2.5	6.1	13.0	8.0	6.3	5.9	14.0	10.8
Electricity	75.6	177.9	284.9	398.1	425.1	442.0	448.0	451.0
Commercial Sector	62.5	137.8	252.4	400.6	397.1	391.9	414.1	433.3
Primary Energy	18.1	40.3	95.2	147.2	130.0	122.3	145.1	158.4
Coal	1.0	4.9	3.5	1.8	2.4	2.9	2.3	3.0
Natural Gas	15.3	30.2	73.4	103.7	94.2	92.0	116.1	122.1
Petroleum	1.8	5.2	18.3	41.7	33.4	27.4	26.7	33.3
Distillate Fuel	.6	2.9	9.5	23.3	19.3	12.5	9.5	15.4
Kerosene	.1	.1	1.4	2.2	.8	.9	1.0	1.2
LPG	.3	.6	1.5	1.3	1.2	1.5	2.2	2.2
Motor Gasoline	.8	1.4	5.7	14.8	12.0	12.4	12.2	13.8
Residual Fuel	*	.1	.1	.1	.1	*	1.9	.6
Electricity	44.4	97.5	157.1	253.4	267.0	269.6	269.0	275.0
Industrial Sector	327.8	905.7	1,731.5	1,262.0	1,066.8	1,109.2	1,084.3	1,201.2
Primary Energy	243.5	703.8	1,424.9	913.1	729.3	767.8	733.1	842.3
Coal	97.9	304.0	275.7	147.6	164.7	154.9	176.4	177.2
Coking Coal	55.3	178.3	190.2	72.4	89.0	81.0	94.3	91.5
Steam Coal	42.6	125.7	85.6	75.2	75.7	73.9	82.1	85.7
Natural Gas	41.2	66.1	167.9	171.6	147.3	138.8	111.2	139.3
Petroleum	104.5	333.7	981.2	593.8	417.4	474.0	445.5	525.7
Asphalt and Road Oil	3.9	11.3	17.0	14.0	15.7	11.5	19.5	16.9
Distillate Fuel	4.5	19.1	125.3	69.7	51.4	63.6	66.2	78.8
Kerosene	.2	2.0	2.0	3.1	1.1	1.8	1.3	1.4
LPG	5.0	11.2	62.9	17.4	18.2	19.5	21.3	22.9
Lubricants	15.4	20.3	36.6	40.9	35.4	34.8	36.1	45.4
Motor Gasoline	1.7	1.9	4.3	11.1	8.4	9.1	9.3	11.1
Residual Fuel	4.8	17.9	24.7	14.7	8.4	5.2	3.9	4.3
Other	69.0	250.0	708.4	423.1	278.8	328.6	287.8	345.0
Electricity	84.3	201.9	306.7	348.9	337.5	341.4	351.2	358.9
Transportation Sector	267.9	562.1	1,278.1	1,229.7	859.5	955.5	997.3	1,146.2
Primary Energy	267.9	562.1	1,278.1	1,229.7	859.5	955.5	997.3	1,146.2
Coal	.1	*	-	-	-	-	-	-
Petroleum	267.7	562.1	1,278.1	1,229.7	859.5	955.5	997.3	1,146.2
Aviation Gasoline	.9	1.0	3.0	1.9	2.1	1.3	1.4	1.6
Distillate Fuel	24.8	83.0	236.1	325.9	163.8	205.2	207.7	259.9
Jet Fuel	1.2	2.7	12.8	9.0	6.3	5.6	6.2	10.6
LPG	.1	.1	.3	.5	.5	.4	.6	.5
Lubricants	5.7	10.9	21.8	24.3	21.0	20.7	21.5	27.0
Motor Gasoline	235.1	464.3	1,004.2	868.1	665.9	722.3	759.8	846.6
Residual Fuel	*	-	-	*	-	-	-	-
Electricity	-	-	-	-	-	-	-	-
Total Energy*	793.5	1,878.8	3,800.5	3,563.2	3,013.1	3,148.1	3,192.2	3,488.0
Primary Energy — Four Sectors	589.2	1,401.5	3,051.8	2,562.8	1,983.5	2,095.1	2,124.0	2,403.1
Electricity	204.3	477.3	748.8	1,000.4	1,029.6	1,053.0	1,068.2	1,084.9
Electric Utility Sector	89.9	531.0	997.7	1,261.8	1,156.2	1,093.2	1,148.1	1,155.4
Coal	87.1	522.5	972.5	1,248.3	1,146.7	1,082.5	1,139.6	1,144.3
Natural Gas	.2	.1	.2	.6	1.2	.9	.3	.6
Petroleum	2.6	8.3	25.1	12.9	8.2	9.7	8.2	10.6
Heavy Oil ^b	2.5	8.2	-	-	-	-	-	-
Light Oil ^b	*	.2	25.1	12.9	8.2	9.7	8.2	10.6
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	*	-	-	-	-	-	-	-
Primary Energy — Five Sectors	679.1	1,932.5	4,049.5	3,824.6	3,139.7	3,188.2	3,272.1	3,558.5

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Wisconsin 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.51	1.05	1.44	1.76	1.68	1.53	1.53	1.50
Coking Coal	.53	1.80	2.27	2.08	-	-	-	-
Steam Coal	.51	1.03	1.43	1.76	1.68	1.53	1.53	1.50
Natural Gas	.79	1.30	3.43	5.37	5.14	5.03	4.88	4.61
Petroleum	1.89	3.65	8.14	8.70	6.69	6.97	6.85	7.72
Asphalt and Road Oil	.76	2.05	3.85	4.87	4.09	3.37	3.34	2.94
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.07	2.47	6.59	7.66	5.78	6.15	5.96	6.66
Jet Fuel	.74	2.08	6.38	6.19	4.45	4.28	4.11	4.63
Kerosene	1.17	2.71	7.05	8.15	5.95	6.26	5.84	6.41
LPG	1.88	3.60	6.51	8.56	8.13	7.36	7.07	10.31
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.65	4.54	9.43	9.33	7.00	7.49	7.55	8.29
Residual Fuel	.57	1.79	3.48	4.57	2.97	2.55	2.45	2.40
Other ^a	1.89	3.36	9.30	9.71	8.93	9.20	8.02	10.19
Nuclear Fuel	.15	.32	.47	.58	.51	.48	.43	.45
Wood and Waste at Utilities	.65	-	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.16	2.12	4.43	5.07	4.20	4.18	4.18	4.47
Electric Utility Fuel	.39	.71	1.25	1.42	1.33	1.23	1.21	1.21
Electricity Purchased by End Users	6.02	8.88	13.34	16.87	16.97	16.41	16.14	15.99
Total Energy ^b	1.75	3.29	6.86	8.62	7.73	7.70	7.52	7.80
Expenditures in Millions of Dollars								
Coal	196.2	285.6	472.2	636.0	623.8	590.9	601.6	589.5
Coking Coal	5.0	12.0	12.3	.1	-	-	-	-
Steam Coal	191.2	273.6	459.9	635.9	623.8	590.9	601.6	589.5
Natural Gas	267.1	474.2	1,184.8	1,634.5	1,408.5	1,374.5	1,515.0	1,491.3
Petroleum	955.4	1,899.8	3,853.2	3,917.5	3,028.1	3,123.8	3,337.4	3,800.9
Asphalt and Road Oil	23.6	41.1	77.1	54.6	55.8	53.5	75.8	74.3
Aviation Gasoline	3.6	3.0	5.6	5.1	4.6	3.2	3.5	5.4
Distillate Fuel	161.6	382.3	863.2	1,007.8	738.9	756.9	838.7	942.2
Jet Fuel	6.7	26.0	86.1	57.8	39.1	34.8	30.9	34.9
Kerosene	19.9	15.0	8.9	16.4	3.2	3.6	2.1	2.5
LPG	54.3	112.5	143.2	263.7	242.9	204.6	228.6	366.7
Lubricants	30.6	41.9	88.8	99.0	85.7	84.4	87.6	110.1
Motor Gasoline	633.6	1,230.6	2,457.8	2,280.9	1,743.8	1,864.8	1,967.6	2,139.3
Residual Fuel	8.8	19.3	27.6	10.3	18.1	14.6	14.1	16.4
Other ^a	12.6	28.0	94.7	121.8	96.0	103.3	88.5	109.1
Nuclear Fuel	.3	36.6	50.3	69.2	62.2	59.1	52.7	52.1
Wood and Waste at Utilities	.1	-	1.1	.7	.4	1.5	1.5	1.5
Primary Energy — Five Sectors	1,419.1	2,696.2	5,561.7	6,257.9	5,122.9	5,149.8	5,508.1	5,935.3
Electric Utility Fuel	-109.2	-245.2	-494.9	-612.9	-595.6	-571.4	-574.9	-565.8
Electricity Purchased by End Users	501.0	932.2	1,669.5	2,601.0	2,674.4	2,491.2	2,609.1	2,613.8
Total Energy ^b	1,810.9	3,383.2	6,736.3	8,246.0	7,201.7	7,069.6	7,542.4	7,983.3

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Wisconsin 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	2.06	3.48	6.85	9.99	9.73	9.50	9.14	9.57
Primary Energy	1.33	2.24	4.78	6.88	6.25	6.07	5.95	6.55
Coal	1.63	3.10	3.92	4.26	3.86	3.72	3.83	3.84
Natural Gas	1.22	1.71	3.81	6.41	6.14	5.94	5.84	5.61
Petroleum	1.42	2.94	6.82	7.88	6.47	6.37	6.18	8.72
Distillate Fuel	1.21	2.57	6.60	7.44	5.72	5.69	5.59	6.14
Kerosene	1.47	2.97	8.11	8.45	6.50	6.45	6.35	6.97
LPG	2.07	4.15	7.69	8.72	8.05	7.69	7.29	12.12
Electricity	6.75	10.04	15.04	19.73	20.07	19.69	19.52	19.56
Commercial Sector	2.05	3.55	6.92	9.49	10.02	9.45	9.06	8.82
Primary Energy	.84	1.50	3.80	5.54	4.98	4.79	4.67	4.62
Coal	.66	1.51	1.47	2.11	2.02	1.90	1.95	1.87
Natural Gas	.82	1.29	3.43	5.14	4.96	4.74	4.64	4.42
Petroleum	1.08	2.43	6.21	6.80	5.11	5.22	4.96	5.36
Distillate Fuel	1.04	2.39	6.30	6.43	4.29	4.63	4.40	5.15
Kerosene	.83	2.41	5.72	6.63	4.34	4.90	4.15	5.45
LPG	1.35	2.63	5.33	8.32	8.25	6.78	6.69	6.59
Motor Gasoline	2.65	4.54	9.43	9.33	7.00	7.49	7.55	8.29
Residual Fuel	.59	1.66	4.31	4.50	2.90	2.55	2.46	2.40
Electricity	7.28	10.13	15.25	18.90	18.78	17.93	17.63	17.33
Industrial Sector	1.01	2.18	4.61	6.44	6.06	5.94	5.66	5.63
Primary Energy	.76	1.66	3.67	4.84	4.26	4.27	4.01	4.00
Coal	.65	1.55	1.55	2.11	2.02	1.90	1.95	1.87
Coking Coal	.53	1.80	2.27	2.08	-	-	-	-
Steam Coal	.66	1.51	1.47	2.11	2.02	1.90	1.95	1.87
Natural Gas	.54	1.03	3.12	4.44	4.18	4.32	4.05	3.71
Petroleum	1.16	2.71	6.09	7.85	6.11	5.83	5.24	5.81
Asphalt and Road Oil	.76	2.05	3.85	4.87	4.09	3.37	3.34	2.94
Distillate Fuel	.76	2.23	5.18	6.30	4.13	4.66	3.94	5.19
Kerosene	.83	2.41	5.72	6.63	4.34	4.90	4.15	5.45
LPG	1.35	2.63	5.33	8.32	8.25	6.78	6.69	6.59
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.65	4.54	9.43	9.33	7.00	7.49	7.55	8.29
Residual Fuel	.57	2.06	3.31	4.50	2.90	2.55	2.46	2.40
Other	2.31	3.43	9.34	9.81	8.93	9.20	8.02	10.19
Electricity	4.23	6.63	10.10	12.64	12.71	12.31	12.01	11.91
Transportation Sector	2.49	4.24	8.99	9.18	6.95	7.41	7.42	8.12
Primary Energy	2.49	4.24	8.99	9.18	6.95	7.41	7.42	8.12
Coal	.66	1.51	-	-	-	-	-	-
Petroleum	2.49	4.24	8.99	9.18	6.95	7.41	7.42	8.12
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.26
Distillate Fuel	1.33	2.62	7.28	8.69	6.69	7.15	7.00	7.51
Jet Fuel	.74	2.08	6.38	6.19	4.45	4.28	4.11	4.63
LPG	1.35	2.63	5.33	8.32	8.25	6.78	6.69	6.59
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.65	4.54	9.43	9.33	7.00	7.49	7.55	8.29
Residual Fuel	.55	1.44	3.80	4.71	3.60	-	2.37	2.66
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.75	3.29	6.86	8.62	7.73	7.70	7.52	7.80
Primary Energy — Four Sectors	1.38	2.65	5.91	7.04	5.85	5.97	5.86	6.25
Electricity	6.02	8.88	13.34	16.87	16.97	16.41	16.14	15.99
Electric Utility Sector	.39	.71	1.25	1.42	1.33	1.23	1.21	1.21
Coal	.39	.86	1.42	1.71	1.62	1.47	1.46	1.45
Natural Gas	.42	.82	2.94	4.11	3.74	3.92	3.25	3.10
Petroleum	.54	1.93	5.35	5.12	3.60	3.97	3.65	4.10
Heavy Oil ^b	.56	1.65	4.28	-	-	-	-	-
Light Oil ^b	.67	2.30	5.58	5.48	3.60	3.97	3.65	4.10
Petroleum Coke	.36	.72	1.17	1.38	-	-	-	-
Nuclear Fuel	.15	.32	.47	.58	.51	.48	.43	.45
Wood and Waste	.65	-	1.74	.79	.32	.95	.87	.82
Primary Energy — Five Sectors	1.16	2.12	4.43	5.07	4.20	4.18	4.18	4.47

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Wisconsin 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	512.5	882.0	1,575.9	2,301.2	2,181.1	1,987.0	2,169.8	2,286.8
Primary Energy	286.3	478.4	878.3	1,203.5	1,047.6	950.2	1,078.8	1,201.8
Coal	15.5	11.9	1.7	1.0	1.1	2.9	2.6	.6
Natural Gas	131.2	209.5	473.2	751.6	687.3	617.9	714.7	716.3
Petroleum	139.5	257.0	403.4	450.9	359.2	329.4	361.6	484.8
Distillate Fuel	82.3	164.8	313.4	278.4	214.2	191.5	212.4	193.0
Kerosene	13.4	8.9	5.7	14.2	2.6	3.3	1.7	1.7
LPG	43.9	83.2	84.3	158.2	142.3	134.7	147.5	290.2
Electricity	226.2	403.6	697.6	1,097.7	1,133.5	1,036.7	1,091.0	1,085.0
Commercial Sector	229.6	425.5	868.0	1,322.7	1,152.8	1,106.2	1,179.4	1,194.1
Primary Energy	76.1	137.1	346.5	543.0	363.0	361.4	401.4	418.1
Coal	11.7	10.7	1.2	.9	1.1	2.8	2.4	.5
Natural Gas	45.5	88.6	266.9	378.3	277.1	276.0	313.3	311.2
Petroleum	18.8	37.8	78.5	163.9	84.8	82.6	85.7	106.4
Distillate Fuel	11.5	24.9	61.8	118.8	43.1	48.4	46.2	60.5
Kerosene	.6	.6	1.8	1.0	.1	.1	.1	.2
LPG	5.0	9.3	10.3	26.6	25.7	21.0	23.9	27.9
Motor Gasoline	.8	1.2	3.8	13.9	10.3	11.2	11.4	12.1
Residual Fuel	.9	1.8	.8	3.6	5.5	1.9	4.1	5.7
Electricity	153.5	288.4	521.5	779.6	789.8	744.8	778.0	776.0
Industrial Sector	410.3	747.8	1,411.1	1,796.4	1,685.1	1,648.4	1,692.5	1,729.4
Primary Energy	289.0	507.6	960.7	1,072.7	934.0	938.7	952.3	976.5
Coal	78.0	84.6	84.6	104.7	100.6	86.9	89.7	86.7
Coking Coal	5.0	12.0	12.3	.1	-	-	-	-
Steam Coal	73.0	72.6	72.3	104.6	100.6	86.9	89.7	86.7
Natural Gas	77.3	159.5	404.2	499.2	437.5	472.1	478.2	457.3
Petroleum	133.6	263.5	471.9	468.8	395.9	379.7	384.5	432.6
Asphalt and Road Oil	23.6	41.1	77.1	54.6	55.8	53.5	75.8	74.3
Distillate Fuel	35.1	92.9	108.3	112.5	82.5	83.8	79.6	101.5
Kerosene	5.9	5.5	1.3	1.2	.5	.2	.2	.6
LPG	5.0	19.1	47.0	71.7	69.8	45.7	53.2	45.1
Lubricants	13.6	19.3	43.3	48.3	41.8	41.1	42.7	53.6
Motor Gasoline	34.4	48.4	80.9	55.7	39.2	39.3	34.5	37.8
Residual Fuel	3.9	9.3	19.4	3.2	10.3	12.7	9.9	10.6
Other	12.1	27.9	94.7	121.7	96.0	103.3	88.5	109.1
Electricity	121.3	240.2	450.4	723.7	751.0	709.7	740.1	752.9
Transportation Sector	658.5	1,328.0	2,881.3	2,825.7	2,182.7	2,328.1	2,500.6	2,773.1
Primary Energy	658.5	1,328.0	2,881.3	2,825.7	2,182.7	2,328.1	2,500.6	2,773.1
Coal	.1	-	-	-	-	-	-	-
Petroleum	658.4	1,328.0	2,881.3	2,825.7	2,182.7	2,328.1	2,500.6	2,773.1
Aviation Gasoline	3.6	3.0	5.6	5.1	4.6	3.2	3.5	5.4
Distillate Fuel	32.3	92.4	363.6	490.1	393.6	429.2	495.5	583.3
Jet Fuel	6.7	25.5	86.1	57.8	39.1	34.8	30.9	34.9
LPG	.4	.9	1.6	7.2	5.0	3.3	4.0	3.6
Lubricants	17.0	22.6	45.5	50.8	44.0	43.3	44.9	56.5
Motor Gasoline	598.4	1,181.0	2,373.2	2,211.3	1,694.2	1,814.3	1,921.7	2,089.4
Residual Fuel	-	2.6	5.6	3.5	2.2	-	.1	.1
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1,810.9	3,383.2	6,736.3	8,246.0	7,201.7	7,069.6	7,542.4	7,983.3
Primary Energy — Four Sectors	1,309.9	2,451.0	5,066.8	5,644.9	4,527.3	4,578.4	4,933.2	5,369.5
Electricity	501.0	932.2	1,669.5	2,601.0	2,674.4	2,491.2	2,609.1	2,613.8
Electric Utility Sector	109.2	245.2	494.9	612.9	595.6	571.4	574.9	565.8
Coal	90.8	178.3	384.7	529.4	520.9	498.4	506.9	501.7
Natural Gas	13.1	16.7	40.6	5.4	6.7	8.5	8.9	6.4
Petroleum	5.0	13.6	18.1	8.2	5.4	4.0	4.9	4.0
Heavy Oil ^b	4.0	5.7	1.8	-	-	-	-	-
Light Oil ^b	.5	7.7	16.2	8.0	5.4	4.0	4.9	4.0
Petroleum Coke	.5	.2	.1	.2	-	-	-	-
Nuclear Fuel	.3	36.6	50.3	69.2	62.2	59.1	52.7	52.1
Wood and Waste	.1	-	1.1	.7	.4	1.5	1.5	1.5
Primary Energy — Five Sectors	1,419.1	2,696.2	5,561.7	6,257.9	5,122.9	5,149.8	5,508.1	5,935.3

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price and Expenditure Estimates by Source, Wyoming 1970, 1975, 1980, and 1985-1989

Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Coal	0.16	0.31	0.70	1.00	0.98	0.91	0.88	0.89
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.16	.31	.70	1.00	.98	.91	.88	.89
Natural Gas	.38	.71	2.45	4.28	4.01	3.93	3.75	3.82
Petroleum	1.73	3.28	7.16	7.49	5.95	5.73	5.80	6.85
Asphalt and Road Oil	.58	1.80	3.66	4.82	4.36	3.21	3.40	2.88
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.11	2.51	6.44	7.32	5.81	5.53	5.80	6.66
Jet Fuel	.76	2.12	6.59	6.53	4.56	4.61	4.62	5.06
Kerosene	.96	2.47	5.76	9.88	5.00	4.15	4.53	5.40
LPG	1.64	3.46	5.77	8.13	7.21	6.34	6.21	7.46
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.77	10.28	8.87	6.72	6.88	6.84	7.79
Residual Fuel	.55	1.71	3.56	3.14	2.06	1.83	1.65	1.63
Other ^a	.51	1.39	2.53	2.37	1.53	1.50	1.45	1.92
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.84	1.51	3.00	2.55	2.29	2.05	2.02	2.29
Electric Utility Fuel	.14	.26	.59	.93	.93	.88	.85	.85
Electricity Purchased by End Users	4.53	4.63	7.45	12.54	13.13	12.91	12.81	12.66
Total Energy^b	1.31	2.53	5.79	6.80	6.05	5.92	5.96	6.45
Expenditures in Millions of Dollars								
Coal	10.2	39.8	187.2	406.6	328.3	389.3	390.6	374.6
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	10.2	39.8	187.2	406.6	328.3	389.3	390.6	374.6
Natural Gas	28.4	36.4	91.6	176.5	148.5	125.2	131.2	135.2
Petroleum	152.0	359.5	1,097.6	844.1	619.9	667.7	690.1	805.3
Asphalt and Road Oil	4.2	7.2	28.2	53.6	46.5	31.3	23.6	17.6
Aviation Gasoline	2.8	3.8	4.9	2.6	2.1	1.9	2.0	1.6
Distillate Fuel	32.7	111.2	496.4	326.9	233.4	282.4	318.0	379.4
Jet Fuel	.5	1.5	6.0	5.6	3.7	5.2	5.0	4.5
Kerosene	1.8	2.4	2.0	1.3	.2	.2	.2	.1
LPG	10.8	21.6	42.7	55.5	52.3	57.0	42.5	63.1
Lubricants	3.5	7.0	18.1	20.2	17.5	17.2	17.9	22.5
Motor Gasoline	90.8	184.4	458.9	357.2	252.3	262.6	267.0	309.1
Residual Fuel	2.7	13.6	24.0	15.4	8.6	5.9	9.8	1.7
Other ^a	2.1	6.9	16.4	5.8	3.3	4.0	4.1	5.6
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste at Utilities	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	190.6	435.7	1,376.3	1,427.2	1,096.7	1,182.2	1,211.8	1,315.1
Electric Utility Fuel	-8.9	-30.3	-140.7	-346.3	-283.5	-345.3	-350.0	-328.6
Electricity Purchased by End Users	46.9	70.0	176.1	427.3	433.6	449.3	465.3	466.9
Total Energy^b	228.5	475.4	1,411.7	1,508.2	1,246.8	1,286.2	1,327.2	1,453.4

^aIncludes petroleum coke used at electric utilities.

^bThere are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Note: Expenditure totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Price Estimates by Sector, Wyoming 1970, 1975, 1980, and 1985-1989 (Dollars per Million Btu)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	1.45	2.78	5.58	8.12	8.13	8.13	7.84	8.57
Primary Energy	.89	1.83	3.42	5.21	4.94	4.89	4.45	5.11
Coal	.66	.99	.87	2.29	1.37	1.44	.95	1.25
Natural Gas	.67	1.09	2.66	4.92	4.69	4.45	4.25	4.46
Petroleum	1.93	4.13	7.23	7.95	6.70	6.33	6.09	10.04
Distillate Fuel	1.28	2.84	6.94	10.07	5.72	3.73	4.29	5.43
Kerosene	1.70	3.17	-	12.66	7.20	4.69	5.40	6.83
LPG	1.96	4.20	7.25	7.51	6.75	6.44	6.20	10.48
Electricity	7.52	7.58	11.66	16.60	17.66	17.90	17.11	17.71
Commercial Sector	1.10	1.86	5.94	8.47	8.09	8.02	7.24	8.22
Primary Energy	.55	1.08	3.95	5.07	4.26	3.94	3.32	3.93
Coal	.42	.90	1.72	1.89	1.47	1.35	1.34	1.36
Natural Gas	.43	.72	2.50	4.83	4.43	4.23	3.90	4.10
Petroleum	1.32	2.77	6.70	6.22	4.54	4.06	2.95	5.03
Distillate Fuel	1.06	2.49	6.47	7.95	6.40	3.85	3.65	4.09
Kerosene	.86	2.42	5.76	8.15	4.56	4.02	4.38	5.08
LPG	1.22	2.48	5.07	8.38	7.52	6.22	6.21	6.47
Motor Gasoline	2.93	4.77	10.28	8.87	6.72	6.88	6.84	7.79
Residual Fuel	.55	2.03	3.59	3.14	2.06	1.83	1.65	1.62
Electricity	5.28	5.48	11.21	15.38	16.02	15.72	15.84	15.45
Industrial Sector	.75	1.66	3.79	5.29	4.64	4.43	4.62	4.71
Primary Energy	.54	1.46	3.62	4.21	3.17	2.74	2.78	3.02
Coal	.42	.90	1.72	1.89	1.47	1.35	1.34	1.36
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	.42	.90	1.72	1.89	1.47	1.35	1.34	1.36
Natural Gas	.24	.55	2.32	3.38	3.17	3.20	3.19	3.06
Petroleum	.95	2.27	4.91	6.46	4.68	3.86	4.03	4.74
Asphalt and Road Oil	.58	1.80	3.66	4.82	4.36	3.21	3.40	2.88
Distillate Fuel	.80	2.30	5.44	7.65	4.28	3.77	4.11	4.77
Kerosene	.86	2.42	5.76	8.15	4.56	4.02	4.38	5.08
LPG	1.22	2.48	5.07	8.38	7.52	6.22	6.21	6.47
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.77	10.28	8.87	6.72	6.88	6.84	7.79
Residual Fuel	.55	1.65	3.55	3.14	2.06	1.83	1.65	1.62
Other	.51	1.39	2.53	2.37	1.53	1.50	1.45	1.92
Electricity	3.23	3.44	5.12	10.15	10.68	10.68	10.67	10.49
Transportation Sector	2.19	3.95	8.94	8.25	6.84	6.74	6.72	7.68
Primary Energy	2.19	3.95	8.94	8.25	6.84	6.74	6.72	7.68
Coal	.42	.90	-	-	-	-	-	-
Petroleum	2.19	3.95	8.94	8.25	6.84	6.74	6.72	7.68
Aviation Gasoline	2.17	3.45	9.02	9.99	8.41	7.55	7.41	8.28
Distillate Fuel	1.31	2.70	7.39	7.05	6.77	6.46	6.48	7.41
Jet Fuel	.76	2.12	6.59	6.53	4.56	4.61	4.62	5.06
LPG	1.22	2.48	5.07	8.38	7.52	6.22	6.21	6.47
Lubricants	5.08	7.49	14.36	17.61	15.59	13.58	14.61	17.90
Motor Gasoline	2.93	4.77	10.28	8.87	6.72	6.88	6.84	7.79
Residual Fuel	.54	-	-	4.01	-	-	-	2.73
Electricity	-	-	-	-	-	-	-	-
Total Energy*	1.31	2.53	5.79	6.80	6.05	5.92	5.96	6.45
Primary Energy — Four Sectors	1.11	2.35	5.61	5.76	4.70	4.59	4.63	5.24
Electricity	4.53	4.63	7.45	12.54	13.13	12.91	12.81	12.66
Electric Utility Sector	.14	.26	.59	.93	.93	.88	.85	.85
Coal	.14	.25	.57	.92	.92	.87	.84	.85
Natural Gas	.22	.94	4.61	4.33	3.80	3.26	3.68	3.48
Petroleum	.67	2.01	6.98	6.00	3.87	4.10	3.80	4.15
Heavy Oil ^b	.58	1.99	-	-	-	-	-	-
Light Oil ^b	.76	2.44	6.98	6.00	3.87	4.10	3.80	4.15
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	.84	1.51	3.00	2.55	2.29	2.05	2.02	2.29

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Energy Expenditure Estimates by Sector, Wyoming 1970, 1975, 1980, and 1985-1989 (Million Dollars)

Sector and Energy Source	1970	1975	1980	1985	1986	1987	1988	1989
Residential Sector	35.7	51.3	102.2	196.8	185.4	181.8	176.2	183.6
Primary Energy	20.2	28.3	46.1	94.0	84.3	82.0	73.2	79.6
Coal	.1	.3	.6	1.5	.8	.9	.8	1.0
Natural Gas	12.3	12.3	27.5	74.2	62.8	49.9	52.2	55.5
Petroleum	7.9	15.6	18.1	18.3	20.7	31.2	20.2	23.0
Distillate Fuel	.1	.4	.9	3.0	.9	.7	.8	1.1
Kerosene	.4	.2	-	.7	*	*	*	*
LPG	7.4	15.0	17.1	14.7	19.7	30.4	19.4	22.0
Electricity	15.5	23.0	56.1	102.8	101.1	99.8	103.0	104.0
Commercial Sector	21.2	27.9	84.0	203.5	190.7	172.2	175.1	167.2
Primary Energy	9.4	13.4	40.4	81.7	67.8	55.4	55.1	50.1
Coal	.1	.5	2.1	2.3	1.7	1.6	2.2	2.1
Natural Gas	6.1	6.9	13.2	46.4	37.4	37.7	35.8	37.0
Petroleum	3.2	5.9	25.1	33.0	28.7	16.1	17.2	11.0
Distillate Fuel	.2	.9	16.1	20.4	14.6	6.1	5.7	5.9
Kerosene	.7	.6	.8	.3	*	*	.1	*
LPG	.8	1.6	2.1	2.9	3.9	5.2	3.4	2.4
Motor Gasoline	1.3	1.8	5.5	3.1	4.3	2.6	2.4	2.6
Residual Fuel	.2	1.1	.6	6.3	6.0	2.1	5.5	*
Electricity	11.8	14.5	43.5	121.8	122.9	116.8	120.0	117.0
Industrial Sector	59.2	154.8	490.1	578.4	466.8	453.4	451.3	486.8
Primary Energy	39.7	122.4	413.6	375.7	257.2	220.7	209.0	240.9
Coal	1.7	10.6	49.6	62.2	45.6	44.6	41.0	46.1
Coking Coal	-	-	-	-	-	-	-	-
Steam Coal	1.7	10.6	49.6	62.2	45.6	44.6	41.0	46.1
Natural Gas	9.5	16.7	50.0	55.3	47.8	37.3	42.5	42.4
Petroleum	28.5	95.0	314.0	258.2	163.8	138.9	125.5	152.5
Asphalt and Road Oil	4.2	7.2	28.2	53.6	46.5	31.3	23.6	17.6
Distillate Fuel	8.9	47.3	198.0	122.6	61.2	58.3	53.2	63.6
Kerosene	.8	1.6	1.3	.3	.1	.1	.1	*
LPG	2.1	4.0	22.0	36.7	27.5	20.4	18.7	38.1
Lubricants	.9	2.1	5.0	5.6	4.8	4.8	4.9	6.2
Motor Gasoline	8.5	14.8	19.7	24.7	17.7	16.3	16.6	19.7
Residual Fuel	.9	11.1	23.4	9.1	2.6	3.8	4.3	1.7
Other	2.1	6.9	16.4	5.8	3.3	4.0	4.1	5.6
Electricity	19.6	32.5	76.5	202.7	209.6	232.7	242.3	245.9
Transportation Sector	112.4	241.4	735.4	529.5	403.9	478.8	524.5	615.9
Primary Energy	112.4	241.4	735.4	529.5	403.9	478.8	524.5	615.9
Coal	*	*	-	-	-	-	-	-
Petroleum	112.3	241.4	735.4	529.5	403.9	478.8	524.5	615.9
Aviation Gasoline	2.8	3.8	4.9	2.6	2.1	1.9	2.0	1.8
Distillate Fuel	23.4	62.4	276.4	176.1	154.0	214.5	255.6	305.9
Jet Fuel	.5	1.5	6.0	5.6	3.7	5.2	5.0	4.5
LPG	.4	1.1	1.4	1.2	1.1	1.0	1.0	.7
Lubricants	2.6	4.9	13.1	14.6	12.7	12.5	12.9	16.3
Motor Gasoline	81.0	167.8	433.7	329.4	230.3	243.7	248.0	286.8
Residual Fuel	1.6	-	-	*	-	-	-	*
Electricity	-	-	-	-	-	-	-	-
Total Energy*	228.5	475.4	1,411.7	1,508.2	1,246.8	1,286.2	1,327.2	1,453.4
Primary Energy — Four Sectors	181.7	405.4	1,235.6	1,080.9	813.2	836.9	861.9	986.5
Electricity	46.9	70.0	176.1	427.3	433.6	449.3	465.3	466.9
Electric Utility Sector	8.9	30.3	140.7	346.3	283.5	345.3	350.0	328.6
Coal	8.3	28.4	134.9	340.7	280.2	342.2	346.6	325.4
Natural Gas	.5	.4	.9	.6	.5	.3	.7	.3
Petroleum	.1	1.5	5.0	5.0	2.8	2.8	2.7	2.9
Heavy Oil ^b	*	1.4	-	-	-	-	-	-
Light Oil ^b	.1	.1	5.0	5.0	2.8	2.8	2.7	2.9
Petroleum Coke	-	-	-	-	-	-	-	-
Nuclear Fuel	-	-	-	-	-	-	-	-
Wood and Waste	-	-	-	-	-	-	-	-
Primary Energy — Five Sectors	190.6	435.7	1,376.3	1,427.2	1,096.7	1,182.2	1,211.8	1,315.1

*There are no direct fuel costs for hydroelectric, geothermal, centralized solar, or wind energy. Wood and other biomass fuels are not included, except those consumed at electric utilities.

^bHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils. Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

—No consumption, including cases where adjustments were made. See "Consumption Adjustments for Process Fuel and Intermediate Products."

*Value less than 0.05 million dollars.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the "Documentation" section of this report.

Documentation

This section documents data sources and procedures used to develop the estimates presented in the data tables. Information is provided for each of the four major energy sources: coal, natural gas, petroleum, and electricity. A section is included to describe adjustments for consumption of process fuel and intermediate products, and the last section summarizes the changes incorporated into this report since its previous release.

Energy consumption estimates used in the State Energy Price and Expenditure Data System (SEPEDS) are from the Energy Information Administration (EIA) *State Energy Data Report, Consumption Estimates, 1960-1989*, DOE/EIA-0214(89), published in May 1991. The data system from which the consumption report is developed is called the State Energy Data System (SEDS). Full documentation of SEDS data sources and the methods used to estimate energy consumption are described in the consumption report. The methods used to estimate corresponding prices and expenditures are discussed in the following paragraphs and in the remaining documentation of this report. Many of the price estimates used in SEPEDS were developed by the Battelle Pacific Northwest Laboratories under contract to EIA.

Price data in the *State Energy Price and Expenditure Report* are expressed in dollars per million Btu. If the source data are in physical units, they are divided by the appropriate conversion factors to generate the Btu prices. Estimated prices are used only when specific State-level prices are not available for a given energy source and sector. In some cases, prices for energy consumed in one sector in a State are assigned to another sector in the same State. Specific examples are: commercial and transportation steam coal use industrial steam coal prices; commercial kerosene uses industrial kerosene prices; commercial and transportation liquefied petroleum gases (LPG), including ethane,

use industrial LPG prices; transportation lubricants uses industrial lubricants prices; and commercial and industrial motor gasoline use transportation motor gasoline prices.

In addition, there are a few cases where State-level prices could not be identified for any economic sector for a given energy source for some or all years. In these instances, a national-level price is used for all States for a given year. The procedures for estimating these national-level prices are presented in the body of the documentation under each energy source as appropriate. The cases where a national-level price is assigned to all States in all years are: transportation use of aviation gasoline; industrial and transportation use of lubricants; wood and waste used at electric utilities; and the components of other petroleum products.

Finally, within a given energy source and sector where price data are usually available, there are some cases of missing prices. Two general approaches are used to assign or estimate prices in cases where consumption occurs but no price is directly available from the data sources. The first approach is to assign an adjacent State price or the simple average of adjacent States' prices. When this approach is not feasible, the consumption-weighted price from the Census division or Census region in which the State is located is assigned. Nuclear fuel price estimation procedures are unique and are described in the nuclear fuel documentation.

Three State groupings used in the report--U.S. Census regions and divisions, Federal regions, and Petroleum Administration for Defense districts--are shown in Figures 9, 10, and 11, respectively, on the following pages. Throughout the documentation, the term "States" includes the District of Columbia. States are often designated by the two-letter postal code abbreviations shown on the maps.

Figure 9. U.S. Census Regions and Divisions

Region 1
Northeast

Division 1
(New England)

Connecticut (CT)
Maine (ME)
Massachusetts (MA)
New Hampshire (NH)
Rhode Island (RI)
Vermont (VT)

Division 2
(Middle Atlantic)
New Jersey (NJ)
New York (NY)
Pennsylvania (PA)

Region 2
Midwest

Division 3
(East North Central)

Illinois (IL)
Indiana (IN)
Michigan (MI)
Ohio (OH)
Wisconsin (WI)

Division 4
(West North Central)
Iowa (IA)
Kansas (KS)
Minnesota (MN)
Missouri (MO)
Nebraska (NE)
North Dakota (ND)
South Dakota (SD)

Region 3
South

Division 5
(South Atlantic)

Delaware (DE)
District of Columbia (DC)
Florida (FL)
Georgia (GA)
Maryland (MD)
North Carolina (NC)
South Carolina (SC)
Virginia (VA)
West Virginia (WV)

Division 6
(East South Central)
Alabama (AL)
Kentucky (KY)
Mississippi (MS)
Tennessee (TN)

Division 7
(West South Central)
Arkansas (AR)
Louisiana (LA)
Oklahoma (OK)
Texas (TX)

Region 4
West

Division 8
(Mountain)

Arizona (AZ)
Colorado (CO)
Idaho (ID)
Montana (MT)
Nevada (NV)
New Mexico (NM)
Utah (UT)
Wyoming (WY)

Division 9
(Pacific)
Alaska (AK)
California (CA)
Hawaii (HI)
Oregon (OR)
Washington (WA)

Figure 10. Federal Regions

Region 1**New England**

Connecticut (CT)
 Maine (ME)
 Massachusetts (MA)
 New Hampshire (NH)
 Rhode Island (RI)
 Vermont (VT)

Region 2**New York/****New Jersey**

New Jersey (NJ)
 New York (NY)

Region 3**Mid Atlantic**

Delaware (DE)
 District of Columbia (DC)
 Maryland (MD)
 Pennsylvania (PA)
 Virginia (VA)
 West Virginia (WV)

Region 4**South Atlantic**

Alabama (AL)
 Florida (FL)
 Georgia (GA)
 Kentucky (KY)
 Mississippi (MS)
 North Carolina (NC)
 South Carolina (SC)
 Tennessee (TN)

Region 5**Midwest**

Illinois (IL)
 Indiana (IN)
 Michigan (MI)
 Minnesota (MN)
 Ohio (OH)
 Wisconsin (WI)

Region 6**Southwest**

Arkansas (AR)
 Louisiana (LA)
 New Mexico (NM)
 Oklahoma (OK)
 Texas (TX)

Region 7**Central**

Iowa (IA)
 Kansas (KS)
 Missouri (MO)
 Nebraska (NE)

Region 8**North Central**

Colorado (CO)
 Montana (MT)
 North Dakota (ND)
 South Dakota (SD)
 Utah (UT)
 Wyoming (WY)

Region 9**West**

Arizona (AZ)
 California (CA)
 Hawaii (HI)
 Nevada (NV)

Region 10**Northwest**

Alaska (AK)
 Idaho (ID)
 Oregon (OR)
 Washington (WA)

Figure 11. Petroleum Administration for Defense Districts

District IA

Connecticut (CT)
 Maine (ME)
 Massachusetts (MA)
 New Hampshire (NH)
 Rhode Island (RI)
 Vermont (VT)

District IB

Delaware (DE)
 District of Columbia (DC)
 Maryland (MD)
 New Jersey (NJ)
 New York (NY)
 Pennsylvania (PA)

District IC

Florida (FL)
 Georgia (GA)
 North Carolina (NC)
 South Carolina (SC)
 Virginia (VA)
 West Virginia (WV)

District II

Illinois (IL)
 Indiana (IN)
 Iowa (IA)
 Kansas (KS)
 Kentucky (KY)
 Michigan (MI)
 Minnesota (MN)
 Missouri (MO)
 Nebraska (NE)
 North Dakota (ND)
 Ohio (OH)
 Oklahoma (OK)
 South Dakota (SD)
 Tennessee (TN)
 Wisconsin (WI)

District III

Alabama (AL)
 Arkansas (AR)
 Louisiana (LA)
 Mississippi (MS)
 New Mexico (NM)
 Texas (TX)

District IV

Colorado (CO)
 Idaho (ID)
 Montana (MT)
 Utah (UT)
 Wyoming (WY)

District V

Alaska (AK)
 Arizona (AZ)
 California (CA)
 Hawaii (HI)
 Nevada (NV)
 Oregon (OR)
 Washington (WA)

Coal

Coal prices are developed for the following categories: coking coal; steam coal (all noncoking coal); and coal coke, imports and exports.

Coking coal, used in the industrial sector only, is a high-quality bituminous coal that is used to make coal coke. Steam coal includes anthracite, bituminous coal not used for coking, subbituminous coal, and lignite. Steam coal may be used in all sectors. In the industrial sector, coal consumption is the sum of coking coal and steam coal. The industrial coal price is the quantity-weighted average price of these two components.

Imports and exports of coal coke are confined to the national level and are accounted for in the industrial sector. Coal coke imports and exports are reported separately, and their prices and expenditures are not merged with other coal prices and expenditures.

Coking Coal

Coking coal is generally more expensive than steam coal; therefore, it is identified separately in developing the price estimates. Coking coal prices are those paid at coke plants for coal received, and probably include any taxes (although this is not clear from the sources' data collection forms).

Physical Unit Prices: All Years

Source publications contain physical unit prices for States or for groups of States. Individual State prices are used directly for their respective States. Group prices are assigned to each State within the group as shown in Table 15.

Wherever individual State prices or State group prices are unavailable, prices are assigned from an adjacent or nearby State as shown in Table 16.

Table 15. Coking Coal Group Price Assignments

State	Years	Assigned Group Price
CA	1970-1982	CA, CO, UT
CO	1970-1982	CA, CO, UT
KY	1970-1987	KY, MO, TN, TX
MD	1970, 1971	MD, NJ, NY
	1972-1982	MD, NY
MI	1979	MI, MN, WI
	1980-1987	MI, WI
MN	1970-1978	MN, WI
	1979	MI, MN, WI
MO	1970-1987	KY, MO, TN, TX
NJ	1970	MD, NJ, NY
NY	1970, 1971	MD, NJ, NY
	1972-1982	MD, NY
TN	1970-1987	KY, MO, TN, TX
TX	1970-1986	KY, MO, TN, TX
UT	1970-1982	CA, CO, UT
VA	1978-1982	VA, WV
WI	1970-1978	MN, WI
	1979	MI, MN, WI
	1980-1986	MI, WI
WV	1978-1982	VA, WV

Table 16. Coking Coal Adjacent State Price Assignments

State	Years	Assigned Prices
IL	1986, 1988, 1989	IN
KY	1988, 1989	OH
MD	1983-1989	PA
MI	1988, 1989	OH
MO	1988	AL
NY	1983-1989	PA
TN	1988, 1989	AL
UT	1983-1986	TX
	1988, 1989	IN
VA	1983-1986	KY
	1987-1989	OH
WV	1983-1986	KY
	1987-1989	OH

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the constant conversion factor for coking coal. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from the State Energy Data System (SEDS).

Data Sources**Prices**

1981 forward: Energy Information Administration, *Quarterly Coal Report*, October-December issue, Table A3.

1977-1980: Energy Information Administration, *Coke and Coal Chemicals*, Table 19 (1977), Table 15 (1978), and Table 7 (1979, 1980).

1970-1976: Bureau of Mines, U.S. Department of the Interior, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter, Table 22.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, coking coal consumption.

Conversion Factor: All Years

26.80 million Btu per short ton

Steam Coal

Steam coal is used in all sectors. Price data are generally available in the electric utility, residential, and industrial sectors. However, no price data are directly available in the transportation and commercial sectors. The industrial sector steam coal prices are assigned as price estimates in these two sectors. Data sources and computational procedures for estimating coal prices are discussed by sector. Estimates of the amount of steam coal consumed by sector are from SEDS and are adjusted for process fuel consumption in the industrial sector. See the "Consumption Adjustments for Process Fuel and Intermediate Products" section in this documentation.

Electric Utility Sector**Btu Prices: 1973 Forward**

State Btu prices, including all taxes, are from *Cost and Quality of Fuels (C&Q)* for 1973 forward and are converted from cents to dollars per million Btu. Where individual State prices are unavailable, quantity-weighted Census division prices are assigned as follows: CT/1975-1979; OK/1973, 1974; OR/1983, 1989; and VT/1980, 1983-1986. In addition, the RI/1974 price is assigned from MA, the OK/1975 price is assigned from the simple average of CO, KS, MO, NM, TX, and the DC/1976 price is assigned from the simple average of MD, VA.

Btu Prices: 1970-1972

Btu prices for States are from the *Statistical Yearbook* and are converted from cents to dollars. Delaware, DC, and MD are each assigned the combined price for the three States. The steam coal electric utility sector AK price for 1971 is estimated as discussed below.

Alaska Prices: All Years

Since *C&Q* data do not cover AK, Btu prices for AK are from other sources or estimated for 1971 and for 1973 forward. For the years 1970, 1972, 1974, 1976, 1977, and 1979-1988, prices are directly from the *Statistical Yearbook*. Prices for 1971, 1973, 1975, and 1978 are estimated from the *Statistical Yearbook* prices for the United States and the average ratio of AK-to-U.S. prices for the years when AK prices are available. The 1971 and 1973 estimated prices are based on the average ratio for 1970 and 1972, while the 1975 and 1978 estimated prices are based on the average ratio for 1974, 1976, 1977, and 1979.

U.S. Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources**Prices**

1973 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, Table 3 (1973-1979), Table 51 (1980-1982), Table 50 (1983, 1984), Table 40 (1985 forward).

1970 forward: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, table titled,

"Analysis of Fuel for Electric Generation: Total Electric Utility Industry."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electric utility sector coal consumption.

Conversion Factors: All Years

Btu prices are directly from the data sources; no explicit conversion factors are used.

Residential Sector

Residential sector steam coal prices are the average delivered prices for coal purchased by residential customers and include taxes.

Prices: 1979 Forward

Residential steam coal Btu prices for 1979 and subsequent years are computed using an equation estimated by regressing the residential steam coal prices generated for 1974-1978 from *Gas Househeating Survey (GHS)* on average spot coal Btu prices from *C&Q*. The *C&Q* prices in cents per million Btu must be changed to dollars per million Btu before they are used to estimate the prices for 1979 forward.

Several States are missing *C&Q* coal spot prices, both in the 1974-1978 data and in the 1979 forward data used to calculate prices. For these missing data, *C&Q* prices are assigned from other States for use in the regression as shown in Table 17.

Wherever individual State prices are unavailable, prices are assigned from adjacent or nearby States, as follows:

State	Years	Assigned Prices
AR	1980, 1982, 1984, 1985, 1987-1989	AL
AZ	1987-1989	UT
CA	1979-1985 1987-1989	NV WA
FL	1980-1985, 1987-1989	GA
LA	1980, 1982, 1984	AL
MS	1979, 1980, 1983, 1984, 1987-1989	AL
MT	1986-1989	WY
NM	1979-1989	CO
OK	1979-1989	CO
OR	1979, 1980, 1982-1989	WA
TX	1980-1982, 1985-1989	CO

Table 17. Residential Sector Spot Coal Price Assignments for Prices Missing in *C&Q*

State	Years	Assigned Prices
CO	1979, 1981	KS
CT	1975 1976-1979 1980-1987	NY NH MA
DC	1976-1989	MD
ID	1974, 1979-1982 1975-1977 1978 1983-1989	NV SD ND CO
MA	1975 1976-1979	VT NH
ME	1974, 1975, 1981, 1983 1976-1980, 1982 1984-1989	VT NH MA
MT	1974, 1975, 1978 1976, 1977 1979-1982	ND SD NV
ND	1976, 1977 1979-1988	SD MN
NH	1974, 1975, 1981, 1983 1984, 1985	VT MA
NV	1975-1978, 1983-1985, 1987-1989	CO
RI	1974 1975 1976-1979 1980-1989	CT VT NH MA
SD	1978, 1984 1979-1983, 1986, 1987, 1989	ND MN
UT	1975-1978, 1980, 1983 1979	CO NV
VT	1976, 1980 1984-1989	NH MA
WA	1974-1978, 1983-1985 1979-1982	CO NV
WY	1974-1976, 1978, 1982, 1983, 1985	CO

In addition, the following States are assigned the simple average of the prices of adjacent States:

State	Years	Averaged Prices
AR	1981 1983	MO, OK, TN, TX MO, MS, OK, TN
AZ	1982, 1984, 1985	CA, NM, NV, UT
MS	1985	AL, AR, TN
OR	1981	CA, ID, NV, WA

AK's Btu prices for 1981-1986 are estimated from the WA State prices during that period. The average ratio

of AK-to-WA prices during 1970-1979 is applied to the WA price each year to estimate the AK price for the year.

Prices: 1971-1978

For 1971-1978, Btu steam coal prices are calculated using data from *GHS*. The price for a State is equal to the simple average of the city/utility price observations for that State. For 1971 and 1972, *GHS* reports physical unit prices rather than Btu prices, (as published for 1973-1978) and therefore, the State-level conversion factors for this sector from SEDS are used to convert to Btu prices for those years.

The combined DC, DE and MD price is assigned to each of the three States. A simple average of price observations in CT, MA, ME, NH, RI, and VT is assigned to each of these States. To impute other missing prices in the 1971-1978 period, simple averages of adjacent State prices are used as listed here:

State	Years	Assigned or Averaged Prices
AL	1971	TN
GA	1971	NC, TN
	1972	AL, NC, TN
ID	1977	MT, UT, WY
KS	1971, 1972	CO, MO
MN	1971	IA, ND, WI
	1972	IA, WI
MT	1971	ID, ND, WY
	1972, 1973	ID, WY
ND	1972	IA, WI
	1973	MN, SD
	1974	MN, MT, SD
NE	1971, 1972	CO, IA, MO, WY
	1975	CO, IA, KS, MO, SD, WY
NJ	1971, 1972, 1974, 1977, 1978	DE, NY, PA
NV	1971, 1972, 1975	ID, UT
	1973	ID, OR, UT
SC	1971, 1972	NC
SD	1971	IA, ND, WY
	1972	IA, WY
UT	1974, 1978	CO, ID, NV, WY
WA	1971, 1972, 1974	ID
	1977	MT, UT, WY
WV	1971, 1972	KY, MD, OH, PA, VA

Wherever individual State prices are still unavailable, prices are assigned from adjacent or nearby States as follows:

State	Years	Assigned Prices
AR	1977, 1978	AL
CA	1971, 1972, 1974, 1978	NV
DE	1971, 1972	MD
MS	1978	AL
NM	1971	CO
OK	1971-1978	CO
OR	1971-1978	WA
TX	1971-1974, 1977	CO

AK physical unit prices for 1971-1977 are estimated using the ratio of AK-to-U.S. utility sector prices.

Prices: 1970

Since State-level coal price data for 1970 are not available from either *GHS* or *C&Q*, the 1970 residential sector coal prices are calculated using the 1971-1978 data from the *Statistical Yearbook* for the 39 States with some reported coal use from 1971-1983 and regression analysis.

For estimating the 1970 prices, States missing *Statistical Yearbook* data are assigned prices as follows: ID/1970-1978 from MT; MA/1976-1978 from CT; ME/1970-1978 from NH; RI/1973, 1975-1978 from CT; and WA/1970-1972 from OR. DC, DE, and MD are all assigned the combined *Statistical Yearbook* price for those States. Wherever individual State prices are unavailable, prices are assigned from an adjacent or nearby State as follows: CA from NV; NM from CO; OK from CO; OR from WA; and TX from CO.

AK physical unit prices are estimated using the ratio of AK-to-U.S. utility sector prices.

U.S. Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1974 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Plants*, average spot coal prices, Table 2 (1974-1979); Table 44 (1980-1982); Table 49 (1983, 1984); and Table 39 (1985 forward).

1971-1978: American Gas Association, *Gas Househeating Survey*, table titled, "Competitive Fuel Prices."

1970-1978: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, Table 43S.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, residential sector coal consumption.

Conversion Factors: 1971, 1972

Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Table D8.

Commercial Sector

Commercial sector prices are assigned from industrial steam coal prices. Although there was no industrial steam coal consumption in 1989 in NJ, NM, NV, OK, OR, or SD, industrial sector prices are calculated from physical unit prices available in the source documents to be assigned to the commercial sector consumption in those States. Physical unit industrial steam coal prices are not available for DC/1980-1989 so the MD/1980-1989 prices are assigned. Physical unit industrial prices are not available for RI/1982, 1983, and MA prices are assigned for those years. The Btu price for RI/1982 is calculated using a conversion factor that is the simple average of the 1981 and 1983 conversion factors. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Industrial Sector

For 1980 forward, prices are based on the average price of coal receipts at manufacturing plants. For 1970-1979, prices are based on the average cost of coal sold to manufacturing firms.

Physical Unit Prices: 1980 Forward

For 1984 forward, State prices are from the *Quarterly Coal Report (QCR)*. The annual price is estimated as the average of the quarterly prices weighted by the quarterly receipts. For 1980-1983, prices are directly from EIA-3 data. Published prices in average cost per ton are used directly when available, while missing prices are estimated using simple averages or price assignments from adjacent States. Although it is not clear from the data sources, the prices probably include taxes.

Missing State data are estimated using simple averages of the published data for adjacent States. In a few cases, only a single adjacent State price is available for the estimation. The adjacent States used for estimations are shown in Table 18 on page 184.

Physical Unit Prices: 1971, 1974-1979

For 1971 and 1974-1979, available cost and quantity of bituminous coal, lignite, and anthracite from *Annual Survey of Manufactures (ASM)* or *Census of Manufactures (CM)* are used to calculate prices as average cost per unit of sales for covered States. (States with undisclosed data are not considered covered). It is not clear from the data sources whether the prices include taxes.

For States with industrial steam coal use and for which *ASM* or *CM* data are not available in 1971 and 1974-1979, adjacent State simple averages of available *ASM/CM* data are used to impute prices. The assigned prices from adjacent States are shown in Table 19 on page 184.

Physical Unit Prices: 1970, 1972, 1973

Steam coal industrial sector prices for 1970, 1972, and 1973 (years for which no *ASM/CM* prices are available) are estimated using regression techniques. Values for the independent variable are steam coal electric utility sector physical unit prices and values for the dependent variable are the steam coal industrial physical unit prices (from *ASM* or estimated as described above) for 1971, and 1974-1977. A few States are assigned electric utility prices for the dependent variable in the regression as shown below:

State	Years	Assigned Prices
AR	1972	MO, TN
	1973, 1976, 1977	MO
CA	1970-1977	NV
CT	1975-1977	NY
DC	1976, 1977	MD
ID	1970-1977	MT
MA	1976, 1977	NH
ME	1970-1977	NH
OK	1973-1975	KS
OR	1973-1977	WA
TX	1970	NM
WA	1970-1972	OR

Table 18. Industrial Sector Steam Coal Price Estimates for 1980 Forward

State	Years	Prices Used in the Estimation
AZ	1980	CA, UT
	1981, 1984, 1985	CA, CO, UT
CO	1980	KS, UT
CT	1981-1989	New England
DC	1980-1981	MD
DE	1980-1989	MD
FL	1980	AL, GA
HI	1982-1989	CA
LA	1980-1985, 1989	AR, TX
MA	1980-1983	NY
	1984-1989	New England
ME	1980-1983	NY
	1984-1989	New England
MS	1980-1989	AL, AR, TN
MT	1983	ID, WY
	1984-1989	ID
ND	1980-1982	MN, MT
	1983-1988	MN
NE	1980	IA, KS, MO
	1982, 1983, 1986-1989	CO, IA, KS, MO, WY
NH	1980-1983	NY
	1984-1989	New England
NJ	1980-1989	NY, PA
NM	1980	TX, UT
	1981, 1984-1988	CO, OK, TX
	1982, 1983	AZ, CO, OK, TX
	1989	AZ, CO, TX
NV	1980, 1981, 1984-1989	CA, ID, UT
	1983	AZ, CA, ID, UT
OK	1980, 1989	AR, KS, MO, TX
OR	1980, 1981, 1983-1989	CA, ID, WA
	1982	CA, ID, NV, WA
RI	1980, 1981, 1984-1989	New England
SD	1980	IA, MN, MT
	1981	IA, MN, MT, NE
	1982	IA, MN, MT, WY
	1983, 1986-1989	IA, MN, WY
VT	1984, 1985	IA, MN, NE
	1980-1983	NY
WV	1984-1989	New England
	1980	KY, MD, OH, PA, VA
WY	1980	ID, MT, UT
	1981	CO, ID, MT, NE, UT
	1984, 1985	CO, ID, NE, UT

Table 19. Industrial Sector Steam Coal Price Estimates for 1971 and 1974-1979

State	Years	Prices Used in the Estimation
AR	1971, 1974, 1975	MO, TN
	1979	MO, TN, TX
AZ	1971	CA, NV, UT
	1974-1978	CA, UT
CO	1974-1978	KS, NE, UT
	1979	UT
CT	1974-1978	MA, NY
	1979	NY
DC	1971, 1974-1979	MD, VA
DE	1971, 1974-1979	MD, NJ, PA
FL	1979	AL, GA
ID	1974	OR, UT
	1975-1978	UT
	1979	UT, WA
KS	1979	MO
LA	1978	AR
MA	1979	TX
	1979	NY
ME	1975-1978	MA
	1979	NY
MS	1971, 1974-1975, 1979	AL, TN
	1976-1978	AL, AR, TN
MT	1974-1978	MN, NE, UT
	1979	MN, UT
ND	1974-1979	MN
NE	1979	IA, MO
NH	1971, 1974-1979	MA
NM	1971	CO, OK, TX, UT
	1974, 1976-1978	KS, UT
	1979	UT
NV	1974	CA, OR, UT
	1975-1979	CA, UT
OK	1974, 1975	KS, MO
	1976-1978	AR, KS, MO
OR	1979	MO, TX
	1975-1978	CA
RI	1979	CA, WA
	1971, 1974-1979	MA
SD	1971, 1974	IA
	1975-1978	IA, MN, NE
TX	1979	IA, MN
	1974, 1975	KS
VT	1976-1978	AR, KS
	1971, 1974-1979	MA
WA	1974	CA, OR
WY	1975-1978	CA
	1974-1978	NE, UT
	1979	UT

Wherever individual State prices remain unavailable after the estimation using the above regression techniques, prices are assigned from adjacent or nearby States as follows:

State	Years	Assigned Prices
NH	1970, 1972, 1973	MA
RI	1970, 1972, 1973	MA
SD	1970, 1972, 1973	IA
VT	1970, 1972, 1973	MA

Steam coal industrial sector prices are estimated for Alaska based on the assumption that the ratio of the State price to the U.S. price for the industrial sector is the same as the ratio found in the electric utility sector for each respective year from 1970-1979.

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the conversion factors, which vary by State and by year. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS, adjusted for process fuel and coking coal consumption.

Data Sources

Prices

1984 forward: Energy Information Administration, *Quarterly Coal Report*, Tables 16 and 17 (1984 1st quarter through 1985 2nd quarter and 1986, 1987, and 1988 1st quarters); Tables 18 and 19 (1985 3rd and 4th quarters, 1986, 1987, and 1988 2nd quarters through 4th quarters, and 1989 1st quarter through 4th quarter).

1980-1983: Energy Information Administration, "Quarterly Coal Consumption Report: Manufacturing Plants," (Form EIA-3). Only published data are used from Table 25 (1980), Table 11 (1981, 1982), and Table 2 (1983).

1971, 1974-1979: Bureau of the Census, U.S. Department of Commerce, *Annual Survey of Manufactures and Census of Manufactures*, Table 4 (1971) and Table 3 (1974-1979).

1970, 1972, 1973: Steam coal electric utility physical unit prices.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector coal consumption.

Conversion Factors: All Years

Energy Information Administration, *State Energy Data Report, Consumption Estimates 1960-1989*, Tables D10 and D11.

The NH/1976 conversion factor is assigned from NH/1975, and the VT/1986 conversion factor is assigned from VT/1985.

Transportation Sector

Transportation sector steam coal prices are assigned from industrial sector steam coal prices. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from the State Energy Data System (SEDS).

Coal Coke, Imports and Exports

Imports and exports of coal coke are components of total U.S. energy consumption and are accounted for in the industrial sector. Prices and values of imports and exports are developed only for the United States; no attempt is made to estimate State-level prices or expenditures. Prices are f.a.s. (free alongside ship) values and do not include taxes. The quantities of U.S. coal coke imports and exports are from SEDS.

Physical Unit Prices: All Years

For 1980 forward, the *Coke Plant Report*, the *Quarterly Coal Report*, and Bureau of the Census computer tapes provide physical unit coal coke import and export prices in dollars per short ton. For 1970-1979, *Coke and Coal Chemicals*, *International Coal*, and the *Minerals Yearbook* provide coal coke import and export physical unit quantities and values in short tons and dollars, respectively. Values are equivalent to expenditures.

Btu Prices: All Years

For 1980 forward, Btu prices are computed by dividing the physical unit prices by the conversion factor. For 1970-1979, physical unit prices are computed by dividing the import and export values by their respective quantities, and Btu prices are computed by dividing the physical unit prices by the conversion factor.

Data Sources**Prices**

1989: Bureau of the Census, U.S. Department of Commerce, computer tapes for "Monthly Report IM 145" and "Monthly Report EM 522."

1981-1988: Energy Information Administration, *Quarterly Coal Report*, October-December issue, Tables A11 and A13 (1981-1985) and Tables A10 and A12 (1986-1988).

1980: Energy Information Administration, *Coke Plant Report*, Tables 7 and 8.

1978-1979: Energy Information Administration, *Coke and Coal Chemicals 1979*, Tables 5 and 6.

1977: National Coal Association, *International Coal 1980*, tables titled, "U.S. Imports of Solid Fuels and

Customs Value" and "U.S. Exports of Coke and Value."

1976: Energy Information Administration, *Coke and Coal Chemicals*, Tables 19 and 20.

1970-1975: Bureau of Mines, U.S. Department of the Interior, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter, Tables 19 and 20.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, U.S. imports and exports of coal coke.

Conversion Factor: All Years

24.8 million Btu per short ton

Natural Gas

Natural gas prices are developed for the residential, commercial, industrial, and electric utility sectors. The transportation sector is not covered here because natural gas used for transportation is consumed solely in pipeline operations and is discussed in the section called "Consumption Adjustments for Process Fuel and Intermediate Products." Reported natural gas prices are retail prices for sales of natural gas to ultimate users. In general, taxes are included in the prices. However, taxes collected by a utility from an end user and turned over to a government authority are not included in the revenues reported in the *Natural Gas Annual* or *Natural Gas Production and Consumption* and are not included in the prices. Taxes paid by the utility (rather than the end user) are considered operating costs and are passed on to the end user as part of the rate. Therefore, Federal, State, business, and property taxes are typically included in the prices, while sales and other point-of-purchase taxes are not.

Estimates of the amount of natural gas consumed by the residential, commercial, industrial, and electric utility sectors are from the State Energy Data System (SEDS). Estimates for the industrial sector are adjusted to remove estimated refinery consumption and lease and plant use of natural gas in each State. See the discussion under "Consumption Adjustments for Process Fuel and Intermediate Products" in this report.

Residential, Commercial, and Industrial Sectors

Prices: 1987 Forward

All natural gas physical unit prices by State for the residential, commercial, and industrial sectors are from the *Natural Gas Annual* (NGA).

Prices: 1970-1986

All natural gas physical unit prices for the residential, commercial, and industrial sectors are calculated from value and quantity of sales data from the *Natural Gas Annual* or its predecessor report *Natural Gas Production and Consumption*. State prices are calculated directly from the data sources as average revenue per

unit of sales by natural gas utilities. Prices for each of the three sectors are calculated by dividing the value of natural gas, reported in thousands of dollars, by the quantity of natural gas sold, as reported in million cubic feet.

For 1970-1979, both the value and quantity of sales data from the NGA are reported as composites for MD and DC and for ME, NH, and VT. In each case, the combined prices are assigned to each of the States in the composite.

Btu Prices: All Years

State Btu prices for all years are calculated using the physical unit price series and the State-level non-electric utility conversion factors. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS, adjusted for process fuel consumption in the industrial sector.

Data Sources

Prices

1980 forward: Energy Information Administration, *Natural Gas Annual Volume 1*, Table 11 (1980), Table 14 (1981-1985), Table 15 (1986), Table 19 (1987), and Table 22 (1988, 1989).

1970-1979: Bureau of Mines, U.S. Department of the Interior, *Natural Gas Production and Consumption*, Table 6 (1970, 1979) and Table 7 (1971-1978).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, residential, commercial, and industrial natural gas consumption.

Conversion Factors: All Years

Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Tables D4 and D5.

Electric Utility Sector

Prices: 1973, 1974, 1983 Forward

Prices for States are reported by *Cost and Quality of Fuels for Electric Utility Plants (C&Q)* for gas consumed at steam-electric plants only. Btu prices are from *C&Q*, converted from cents to dollars per million Btu.

Where individual State prices are unavailable from *C&Q*, they are developed from the *NGA*. Prior to 1987, physical unit prices are calculated by dividing the value of natural gas, reported in thousands of dollars, by the quantity of natural gas sold, reported in million cubic feet. For 1987 forward, physical unit prices are directly from the *NGA*. Table 20 lists the States and years for which *NGA* data are used. Btu prices are calculated from the physical unit prices using State-level electric utility conversion factors.

Table 20. Natural Gas Electric Utility Sector Prices from *NGA*, 1973-1988

State	Years
AK	1973-1989
CT	1974-1976
ID	1983-1986
MD	1973, 1974, 1983-1985
NC	1983-1989
ND	1973, 1974, 1976-1986
NH	1973, 1974, 1977, 1987-1989
PA	1973
RI	1976, 1980
SC	1977
SD	1983-1989
TN	1976, 1980, 1981, 1983, 1988, 1989
UT	1988, 1989
VT	1983-1985
WA	1978, 1983-1985, 1988, 1989
WY	1973, 1975

Note: *NGA* includes predecessor publications.

Prices are not available from either *C&Q* or *NGA* for CT/1973; ID/1974, 1987; NH/1983; OR/1983, 1984, 1986, 1989; and VT/1989. In these cases, quantity-weighted Census division prices from *C&Q* are assigned. In addition, prices for VT/1986 and WA/1986, 1987 use quantity-weighted Census division prices from *C&Q* for a more consistent price level than available from the *NGA*.

Prices: 1980-1982

State Btu and physical unit prices for 1980-1982 are from *C&Q* for all reporting plants. Physical unit prices are directly from the data source, while Btu prices are converted from cents to dollars per million Btu.

Prices: 1975-1979

State prices are reported separately by *C&Q* for gas consumed at steam-electric plants and gas consumed at combustion turbine and internal combustion units. Weighted-average Btu prices are calculated using the two *C&Q* prices and the respective gas deliveries for steam-electric and combustion use. The NH/1977 price is not available from *C&Q*. A combined price is computed from value and quantity of sales data from the *NGA* for ME, NH, and VT and assigned to NH/1977.

Prices: 1970-1972

State prices for 1970-1972 are from *Natural Gas Production and Consumption* and are calculated similarly to prices for the residential, commercial, and industrial sectors. Prices, as average revenue per unit of sales, are computed from value and quantity of sales data from the source reports. A combined price is reported for NH and VT for 1971 and 1972, and each of these States is assigned the combined price. State Btu prices are calculated from the physical unit prices using the State-level electric utility conversion factors.

U.S. Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1973 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, tables numbered as listed here:

Years	Price Data	Volume Data
1973, 1974	Table 10	Table 9
1975-1979	Table 10, 16	Table 9, 15
1980-1982	Table 48	-
1983, 1984	Table 53	-
1985-1987	Table 43	-
1988, 1989	Table 44	-

1980 forward: Energy Information Administration, *Natural Gas Annual Volume 1*, Table 11 (1980), Table

14 (1981-1985), Table 15 (1986), Table 19 (1987), and Table 22 (1988, 1989).

1976-1979: Energy Information Administration, Energy Data Reports, *Natural Gas Production and Consumption*, Table 7 (1976-1978) and Table 6 (1979).

1970-1975: Bureau of Mines, U.S. Department of the Interior, *Natural Gas Production and Consumption*, Table 6 (1970) and Table 7 (1971-1975).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electric utility natural gas consumption.

Conversion Factors

Btu prices that are calculated directly from *Cost and Quality of Fuels for Electric Utility Plants (C&Q)* require no conversion factors. When *Natural Gas Annual (NGA)* data are used to develop prices that are missing from *C&Q* (Table 9), conversion factors are used from the following source.

1970 forward: Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Tables D2 and D3.

Petroleum

Asphalt and Road Oil

Asphalt and road oil prices are developed for the industrial sector only. Estimates of the amount of asphalt and road oil consumed by the industrial sector are from SEDS. The asphalt and road oil prices reflect construction use of asphalt and road oil, defined as part of the industrial sector. Taxes are included.

Physical Unit Prices: All Years

Asphalt prices in physical units are developed from monthly reports in the *Engineering News Record*, a construction industry weekly magazine published by McGraw-Hill, Inc. The source data consist of monthly reports from correspondents in 20 U.S. cities with price quotes for tank cars, drums, or both, for the three major types of asphalt products: asphalt cement (AC-20), asphalt emulsion, and asphalt cutback.

When only one price is available, that price is used. For 1986 forward, the tank car price is used. For 1970-1985, when both tank car and drum prices are available, a simple average of the two prices is used.

Asphalt prices are developed by calculating a simple average annual price from the monthly prices for each city for the three products. City prices are assigned to States. CA, OH, and PA have prices from two cities; in these cases, simple averages of the two city prices are used. No States have prices from more than two cities. States with no prices are assigned a Census division simple average price. State average asphalt prices are calculated as the quantity-weighted average prices of the three products for each State. If there is no Census division price, the simple average of the prices for the other Census divisions within that Census region is used. Quantity data for 1970-1980 are from the Bureau of Mines and EIA reports on sales of asphalt. Quantity data for 1981 forward are from the *Report on Sales of Asphalt in the U.S.* published by the Asphalt Institute. Non-paving asphalts are assumed to have the price of asphalt cement.

For 1970-1982, asphalt and road oil are estimated as separate data series. Asphalt prices are estimated as discussed above. Road oil prices are assumed to equal asphalt emulsion prices because specific prices are not available from any source.

Btu Prices: All Years

Asphalt prices in dollars per ton are converted to dollars per gallon by dividing by 235 gallons per ton for asphalt cement, 241 gallons per ton for emulsion, or 248.6 gallons per ton for cutback. These prices are then multiplied by 42 gallons per barrel and divided by 6.636 million Btu per barrel to get dollars per million Btu. Road oil unit prices of dollars per ton are converted to dollars per million Btu using the constant conversion factors of 5.5 barrels per ton and 6.636 million Btu per barrel.

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1970 forward: McGraw-Hill Inc., *Engineering News Record*.

Quantities for Calculating Weighted Average Prices

1981 forward: Asphalt Institute, *Report on Sales of Asphalt in the U.S.*

1978-1980: Energy Information Administration, *Energy Data Reports, Sales of Asphalt*, Table 2.

1977: Energy Information Administration, *Energy Data Reports, Asphalt Sales, Annual*, Table 2.

1971-1976: Bureau of Mines, U.S. Department of the Interior, Mineral Industry Survey, *Asphalt Sales, Annual*, Table 2.

1970: Bureau of Mines, U.S. Department of the Interior, Mineral Industry Survey, *Asphalt Shipments, Annual*, Table 2.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector, asphalt and road oil consumption.

Conversion Factors: All Years

235 gallons per ton of asphalt cement; 241 gallons per ton of emulsion; 248.6 gallons per ton of cutback; 42 gallons per barrel; 5.5 barrels per ton of road oil; 6.636 million Btu per barrel.

Aviation Gasoline

Aviation gasoline prices are developed for the transportation sector. Estimates of the amount of aviation gasoline consumed by the transportation sector are from SEDS. Aviation gasoline prices are national averages, excluding taxes, developed from several sources, depending on the years. In all cases, physical unit prices are developed and then converted to Btu prices.

Physical Unit Prices: 1976 Forward

Aviation gasoline prices for 1978 forward are assumed to be the national average refiners sales prices to end users published in the EIA's *Annual Energy Review*. The 1976 and 1977 prices are assumed to be the national average retail prices published in the EIA's *Monthly Energy Review*.

Physical Unit Prices: 1970-1975

For 1970-1975, aviation gasoline prices are not available and are estimated by calculating the percent difference between the 1976 national aviation gasoline price and the national average motor gasoline price. That percent difference is applied to the motor gasoline prices for 1970-1975 to derive an aviation gasoline price estimate for each year.

Btu Prices: All Years

Aviation gasoline Btu prices are calculated by converting the physical unit prices from cents per gallon to dollars per barrel (42 gallons per barrel) and, then, to dollars per million Btu (5.048 million Btu per barrel).

Data Sources**Prices**

1978 forward: Energy Information Administration, *Annual Energy Review 1990*, Table 71, row titled "Sales Prices to End Users: Aviation Gasoline."

1976, 1977: Energy Information Administration, *Monthly Energy Review*, April 1984, page 106, column titled "Aviation Gasoline, Retail."

1970-1975: Energy Information Administration, *Annual Energy Review 1989*, Table 70, column titled "Motor Gasoline, Leaded Regular, Nominal."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, transportation sector, aviation gasoline consumption.

5.048 million Btu per barrel

Distillate Fuel

Distillate fuel prices are developed for all sectors. Distillate fuel in the transportation sector is assumed to be diesel fuel. Estimates of the amount of distillate fuel consumed in each sector are from SEDS. Estimated consumption for the industrial sector is adjusted to remove the estimated refinery consumption of distillate fuel in each State. See the discussion under "Consumption Adjustments for Process Fuel and Intermediate Products" in this report.

Residential Sector

Residential distillate prices are developed from a variety of data sources, depending on the years involved. In all cases, physical unit prices for States are developed first, then Btu prices are calculated using the physical unit prices and the conversion factor. The prices contained in this series are the retail prices paid by consumers for residential heating oil. Beginning with 1983, taxes are added to the prices. It is not clear from the data sources whether taxes are included in the prices for previous years.

Physical Unit Prices: 1983 Forward

For 1983 forward, physical unit distillate prices in cents per gallon (excluding taxes) are directly available for 24 States from the *Petroleum Marketing Annual (PMA)*. State-level prices for the remaining 27 States are estimated using price data from the *Gas Househeating Survey (GHS)*, SEDS consumption data, and *PMA* Petroleum Administration for Defense (PAD) district prices. The estimation procedures are described below.

1. State prices in cents per gallon are generally available from the *PMA* for the following 24 States: AK, CT, DC, DE, ID, IL, IN, MA, MD, ME, MI, MN, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, and WV. In 1986, IL is assigned the PAD District II price. Prices for these States are converted from cents to dollars per gallon, and State general sales taxes from the Bureau of the Census, *State Government Tax Collections (SGTC)* are added.
2. For the remaining 27 States that do not have prices in the *PMA*, prices are estimated using *GHS* fuel oil prices, SEDS consumption data, and *PMA* PAD District prices for Districts II, III, IV, and V and Subdistrict IC (all the States in PAD Subdistricts IA and IB have published prices). The following steps are used to estimate the prices:

- a. Distillate prices from the *PMA* for PAD Districts II, III, IV, and V and Subdistrict IC are converted from cents per gallon to dollars per gallon.
- b. The *GHS* lists fuel oil prices by company for the principal city served in dollars per million Btu, including State sales taxes. A simple average of the city-level prices is used to derive a State-level price for each of the 27 States without *PMA* prices. These *GHS* State averages are converted from dollars per million Btu to dollars per gallon using the *GHS* conversion factor of 7.194 gallons per million Btu. State general sales taxes from *SGTC* are subtracted to give State averages comparable to the *PMA* prices.
- c. The *GHS* State prices derived in Step b. are combined into PAD district averages using SEDS consumption to weight each State's values. This procedure gives *GHS* consumption-weighted average prices for PAD Districts II, III, IV, and V and Subdistrict IC that are comparable to the volume-weighted PAD district prices published in the *PMA*. The *GHS* PAD district averages are calculated using only the available States; if a State does not appear in the survey, it is not included in the PAD calculation.
- d. Adjustment factors, ratios of the *PMA* PAD district price divided by the *GHS* derived PAD district price, are calculated for PAD Districts II, III, IV, and V, and Subdistrict IC.
- e. Prices for the 27 States not published in the *PMA* are calculated by multiplying the *GHS* State prices derived in Step b. by the appropriate PAD district adjustment factor from Step d. and adding State general sales taxes from the *SGTC*.
- f. States that do not have prices in either the *PMA* or the *GHS* are assigned a *PMA* PAD district price, and State general sales taxes from the *SGTC* are added. The States with assigned prices are as follows:

State	Years	Prices Assigned
KS	1986, 1989	PAD District II
OK	1985, 1989	PAD District II
SD	1986	PAD District II
LA	1985	PAD District III
MS	1983, 1985, 1986	PAD District III
NM	1984-1989	PAD District III
AR	1988	PAD District III
UT	1985	PAD District IV
CA	1984	PAD District V
HI	1983-1989	PAD District V

Physical Unit Prices: 1978-1982

Procedures for the 1978-1982 period are similar to those for 1983 forward except for changes in data sources. Annual physical unit prices are either directly from the *Monthly Energy Review (MER)* or are calculated from monthly regional price data, also from the *MER*. These data were collected on EIA Form 9A (formerly EIA Form 9 and FEA Form P112-M-1). Price data from *Platt's Oil Price Handbook and Oilmanac (Platt's)* and SEDS consumption data for 1978-1982 are used to compute State prices when only regional data are available. These calculations are described step-by-step below.

1. Annual State physical unit prices are available from the *MER* for the same 24 States covered by the *PMA* in 1983 forward. These 24 States compose all of Federal Regions 1, 2, 3, 5, and 10 (see Figure 10 on page 177). Prices for these States exclude taxes and are converted to dollars per gallon.
2. Of the remaining 27 States, the 22 in Federal Regions 4, 7, 8, and 9 have annual prices estimated from the monthly Federal regional prices published in the *MER*. No regional prices are available for Federal Region 6 for the 1978-1982 period, and some monthly prices are missing in regions 7, 8, and 9 in 1980, 1981, and 1982.
 - a. Missing monthly prices for Federal regions are estimated with assigned prices as follows: the Region 9 November 1980 price is assigned for December 1980; an average of the Region 7 July and October 1982 prices is assigned to August and September 1982; an average of Region 8 June and September 1982 prices is assigned to July and August 1982; and an average of Region 3 August and October 1982 prices is assigned for the missing September 1982 price. Imputation of missing Region 6 prices for 1978-1982 and missing Region 9 prices for 1981 and 1982 is discussed later.
 - b. The simple average of monthly State-level normal heating degree-day data is averaged for all the States within each of the 10 Federal regions and used to estimate average Federal region heating degree-days. AK, DC, and HI are assigned the monthly heating degree-days from MN, MD, and FL, respectively.
 - c. Weighted average annual physical unit distillate prices for the residential sector are calculated for Federal Regions 4, 7, 8, and 9 (except for Region 9 in 1981 and 1982) using the regional normal heating degree-days and the monthly regional prices from the *MER*.
 - d. In 1981, only March and May prices are available for Federal Region 9. To estimate the average annual price for this region, the relationship between the U.S. annual heating oil

price (from the *MER*) and the U.S. March and May prices is expressed as a ratio and used with the Region 9 March and May prices to estimate the 1981 annual Region 9 price.

- e. City-level prices from *Platt's* are assigned to States as shown in Table 21 on page 196. The assigned State-level *Platt's* prices for States are consumption-weighted into Federal regions using residential sector consumption data from SEDS.
- f. Adjustment factors, ratios of the regional *MER* distillate prices to the regional *Platt's*-based distillate prices, are calculated for Federal Regions 4, 7, 8, and 9 (except for 1982).
- g. Since there are no monthly regional distillate prices from the *MER* for Federal Region 6 for 1978-1982 and Federal Region 9 for 1982, the adjustment factors for these regions are based on the adjustment factors for previous time periods. The Region 6 adjustment factor for each of the years in the 1978-1982 period is equal to 1.1313, which is the average of the adjustment factor for the West South Central Census Division for 1976 and 1977. The Region 9 adjustment factor for 1982 is equal to 1.1995, which is the average adjustment factor for Region 9 from 1978 to 1981.
- h. The residential sector distillate State prices for the 27 States in Federal Regions 4, 6, 7, 8, and 9 are calculated by multiplying the regional adjustment factors for each year and the State-level assigned *Platt's* prices.

Physical Unit Prices: 1975-1977

For the years 1975-1977, no State-level data are available, and regional data from EIA Form 9A are available only at the Census division level, except for Federal region prices for November and December of 1977. Using a methodology similar to that described above for the allocation of regional data to States, adjustment factors are calculated at the regional level and applied to *Platt's* price data assigned to States.

1. Monthly regional price data for 1975 and 1976 are reported in the *MER* only for Census divisions. In 1977, however, monthly price data are reported for Census divisions for January through October and for Federal regions for November and December. The Federal region prices for November and December are assigned to their respective States and reaggregated into Census divisions in order to create a consistent set of monthly Census division prices for 1977. Annual residential sector distillate consumption data from SEDS are used to do the reaggregation.
2. The Census division monthly price data from the *MER* for 1975, 1976, and the first 10 months of

1977 are used with the estimated Census division price data for November and December 1977 to estimate State-level prices.

- a. Missing monthly prices in the East South Central Division for June and November 1975, and the Mountain Division for March and July 1975 are estimated using an average of the prices for the month preceding and the month following the missing month. Missing November and December West South Central Division prices in 1977 are estimated with the assignment of the October price to both months. No monthly price data are available for the West South Central Division in 1975; Step "f." below discusses how the calculations are handled for this division.
- b. The monthly State-level normal heating degree-day data are averaged for the States within each Census division to estimate regional monthly heating degree-days. AK, DC, and HI are assigned the monthly heating degree-days from MN, MD, and FL, respectively.
- c. Weighted average annual distillate prices for Census divisions are calculated using the monthly Census division price data from the *MER* and the normal heating degree-days estimated for Census divisions.
- d. City-level No. 2 fuel oil refinery and terminal prices from *Platt's* for 1975-1977 are assigned to States as shown in Table 21 on page 196. The assigned *Platt's* prices for States are consumption-weighted into Census divisions using residential sector consumption data from SEDS.
- e. Adjustment factors, ratios of the *MER* distillate Census division prices to the *Platt's* distillate Census division prices, are calculated.
- f. Since there are no 1975 *MER* price data for the West South Central Division from which to calculate an adjustment factor, the 1975 adjustment factor for this region is assumed to be equal to the simple average of the West South Central adjustment factors for 1976 and 1977 (i.e., 1.1313).
- g. The residential sector distillate State prices for all States are calculated by multiplying the regional adjustment factors for each year by the State-level assigned *Platt's* prices.

Physical Unit Prices: 1970-1974

There are no regional or State-level distillate price data directly available for the 1970-1974 period. To estimate State prices, regional average prices are first derived from the relationship between U.S. prices and Federal region prices for 1975 to 1980. State prices are then

Table 21. Platt's Prices for No. 2 Fuel Assigned to States, 1970-1982

State	Assigned City/State Prices
AK	Los Angeles/San Francisco, CA, 1970-1976; Portland, OR, 1977, 1978; Seattle, WA, 1979, 1980; Seattle-Tacoma/Spokane, WA, 1981-1982
AL	Birmingham/Mobile/Montgomery, 1970-1974; Mobile/Birmingham, 1975-1977; Birmingham, 1978-1982
AR	Arkansas, 1970-1982
AZ	Los Angeles/San Francisco, CA, 1970-1978; Phoenix, 1979-1982
CA	Los Angeles/San Francisco, 1970-1982
CO	Minneapolis-St. Paul, MN, 1970-1976; Denver, 1977-1982
CT	New Haven, 1970-1982
DC	Baltimore, MD, 1970-1982
DE	Baltimore, MD, 1970-1982
FL	Jacksonville/Miami/Tampa/Pensacola/Panama City/Port Everglades, 1970-1972; Miami/Tampa/Pensacola, 1973; Miami/Tampa, 1974-1975, 1981-1982; Miami, 1976-1980
GA	Atlanta/Savannah/Albany/Athens/Bainbridge/Columbus/Macon, 1970-1973; Atlanta/Savannah, 1974-1982
HI	Los Angeles/San Francisco, CA, 1970-1982
IA	Chicago, IL, 1970-1981; Des Moines, 1982
ID	Los Angeles/San Francisco, CA, 1970-1976; Portland, OR, 1977-1982
IL	Chicago, 1970-1982
IN	Chicago, 1970-1982
KS	Los Angeles/San Francisco, CA, 1970-1973; St. Louis, MO, 1974-1982
KY	Baton Rouge/New Orleans, LA, 1970; New Orleans, LA, 1971-1982
LA	Baton Rouge/New Orleans, 1970; New Orleans, 1971-1982
MA	Boston, 1970-1982
MD	Baltimore, 1970-1982
ME	Portland, 1970-1982
MI	Detroit, 1970-1982
MN	Minneapolis-St. Paul, 1970-1982
MO	Baton Rouge/New Orleans, LA, 1970; New Orleans, LA, 1971-1973; St. Louis, 1974-1982
MS	Greenville/Meridian, 1970-1973; New Orleans, LA, 1974-1982
MT	Minneapolis-St. Paul, MN, 1970-1976; Billings, 1977-1982
NC	Greensboro/Wilmington/Charlotte/Salisbury/Selma, 1970-1973; Greensboro/Wilmington/Charlotte, 1974-1975; Greensboro/Wilmington, 1976-1982
ND	Minneapolis-St. Paul, MN, 1970-1982
NE	Baton Rouge/New Orleans, LA, 1970; New Orleans, 1971-1973; St. Louis, MO, 1974-1982
NH	Portland, ME, 1970-1982
NJ	New York/Albany/Buffalo, NY, 1970-1975; New York/Albany, NY, 1976-1982
NM	New Mexico-West Texas, 1970-1972; Los Angeles/San Francisco, CA, 1973-1976; Albuquerque, 1977-1980; Albuquerque/Farmington, 1981, 1982
NV	Los Angeles/San Francisco, CA, 1970-1982
NY	New York/Albany/Buffalo, 1970-1975; New York/Albany, 1976-1982
OH	Toledo/Cleveland/Zanesville/Columbus/Dayton, 1970-1972; Detroit, MI, 1973-1982
OK	Oklahoma (Group 3), 1970-1982
OR	Los Angeles/San Francisco, CA, 1970-1976; Portland, 1977-1982
PA	Philadelphia, 1970-1978; Philadelphia/Pittsburgh, 1979-1982
RI	Providence, 1970-1975; New Haven, CT, 1976-1982
SC	Charleston/Spartanburg/Belton, 1970-1975; Charleston/Spartanburg, 1976-1982
SD	Minneapolis-St. Paul, MN, 1970-1982
TN	Chattanooga, 1970-1973; New Orleans, LA, 1974-1982
TX	New Mexico-West Texas, 1970-1972; New Orleans, LA, 1973-1978; Houston, 1979, 1980; Dallas-Fort Worth/Houston, 1981; Amarillo/Corpus Christi/Dallas-Fort Worth/Houston, 1982
UT	Minneapolis-St. Paul, MN, 1970-1976; Salt Lake City, 1977-1982
VA	Norfolk/Roanoke, 1970-1973; Norfolk, 1974-1982
VT	Portland, ME, 1970-1982
WA	Los Angeles/San Francisco, CA, 1970-1976; Seattle, 1977, 1979, 1980; Portland, OR, 1978; Seattle-Tacoma/Spokane, 1981-1982
WI	Chicago, IL, 1970-1982
WV	Norfolk/Roanoke, VA, 1970-1973; Norfolk, VA, 1974-1982
WY	Minneapolis-St. Paul, MN, 1970-1976; Cheyenne, 1977-1982

estimated from the regional prices using a methodology similar to that described for 1978-1982.

1. The first step in the estimation of residential distillate prices for the 1970-1974 time period, is to develop an equation that uses U.S. prices to estimate prices for Federal regions. Regression

techniques are used for this purpose. U.S. prices for 1975-1980 from the *Annual Energy Review (AER)* are used as the independent variable for developing the equation; annual Federal region prices are used as the dependent variable. Federal region prices for 1978-1980 are calculated above, but *MER* prices for 1975-1977 are for Census

divisions. To convert these annual Census division prices into Federal region prices, the estimated State prices for 1975-1977 are aggregated into Federal regions using SEDS consumption data.

2. Regression techniques are applied to the pooled Federal region price data (dependent variable) and the U.S. prices from the *AER* (independent variable) for 1975-1980. U.S. prices for 1970-1974 are input to estimate annual Federal region prices for 1970-1974.
3. City-level prices from *Platt's* for 1970-1974 are assigned to States as shown in Table 21 on page 196. The assigned State-level *Platt's* prices are consumption-weighted into Federal regions using residential sector distillate consumption data from SEDS.
4. Adjustment factors, ratios of the regional *MER* distillate Federal region prices to the *Platt's*-based distillate Federal region prices, are calculated.
5. The residential sector distillate prices for all States are calculated by multiplying the regional adjustment factors for each year by the State-level assigned *Platt's* prices.

Btu Prices: All Years

Btu prices for States are calculated by converting the physical unit prices from dollars per gallon to dollars per barrel (42 gallons per barrel) and then to dollars per million Btu (5.825 million Btu per barrel). U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1986 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 37 (1986-1988) and Table 39 (1989), column titled, "To Residential Consumers."

1983 forward: American Gas Association, *Gas Househeating Survey*, Appendix 2, "Competitive Fuel Prices," column titled, "Fuel Oil."

1983 forward: Bureau of the Census, U.S. Department of Commerce, *State Government Tax Collections*, table titled, "State Government Excises on General Sales, Motor Fuel, and Cigarettes, Beginning and End of Fiscal Year."

1983-1985: Energy Information Administration, *Petroleum Marketing Annual 1985, Volume 1*, Table 26.

1970-1982: McGraw-Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*, refinery and terminal prices for No. 2 fuel oil, average of highs and lows.

1975-1982: National Oceanic and Atmospheric Administration, U.S. Department of Commerce, *State, Regional, and National Monthly and Seasonal Heating Degree Days Weighted by Population (1980 Census)*, *Historical Climatology Series 5-1*, table titled, "1951-80 State Pop. Wgt'd Heating Degree Days."

1975-1982: Energy Information Administration, *Monthly Energy Review*, table titled, "Residential Heating Oil Prices by Region," February 1978, page 67 (1975, 1976); April 1980, page 83 (1977, 1978); July 1982, page 87 (1979-1982).

1970-1982: Energy Information Administration, *Annual Energy Review 1988*. Table 67, "Motor Gasoline and Residential Heating Oil Prices, 1949-1988."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, residential sector distillate consumption.

Conversion Factor: All years

5.825 million Btu per barrel

Commercial Sector

Commercial sector distillate prices are estimated by two methods, one for prices 1983 forward and the other for 1970-1982 prices. For 1983 forward, retail prices paid by commercial/institutional establishments (excluding taxes) are from *Petroleum Marketing Annual (PMA)*. State general sales taxes from the Bureau of the Census are added. For 1970-1982, commercial distillate prices are based on markups calculated from *Energy Prices: 1960-73* and refinery and terminal (wholesale) prices from *Platt's*. It is not clear from the data sources whether these prices include taxes. For both time periods, physical unit prices are calculated from the data sources, and Btu prices are computed using the physical unit prices and the conversion factor.

Physical Unit Prices: 1983 Forward

For 1983 forward, physical unit distillate prices in cents per gallon (excluding taxes) are directly available for 24 States from the *PMA*. State-level prices for the remaining 27 States are estimated using price data from the *Gas Househeating Survey (GHS)*, SEDS consumption data, and *PMA* Petroleum Administration for

Defense (PAD) district prices. The estimation procedures are described below.

1. State prices in cents per gallon are generally available from the *PMA* for the following 24 States: AK, CT, DC, DE, ID, IL, IN, MA, MD, ME, MI, MN, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, and WV. Prices for these States are converted from cents to dollars per gallon, and State general sales taxes from the Bureau of the Census, *State Government Tax Collections (SGTC)* are added.
2. For the remaining 27 States that do not have prices in the *PMA*, prices are estimated using *GHS* fuel oil prices, SEDS consumption data, and *PMA* PAD district prices for Districts II, III, IV, and V and Subdistrict IC (all the States in PAD Subdistricts IA and IB have published prices). The following steps are used to estimate the prices:
 - a. Distillate prices from the *PMA* for PAD Districts II, III, IV, and V and Subdistrict IC are converted from cents per gallon to dollars per gallon.
 - b. The *GHS* lists fuel oil prices by company for the principal city served in dollars per million Btu, including State sales taxes. A simple average of the city-level prices is used to derive a State-level price for each of the 27 States without *PMA* prices. These *GHS* State averages are converted from dollars per million Btu to dollars per gallon using the *GHS* conversion factor of 7.194 gallons per million Btu. State general sales taxes from *SGTC* are subtracted to give State averages comparable to the *PMA* prices.
 - c. The *GHS* State prices derived in Step b. are combined into PAD district averages using SEDS consumption to weight each State's values. This procedure gives *GHS* consumption-weighted average prices for PAD Districts II, III, IV, and V and Subdistrict IC that are comparable to the volume-weighted PAD district prices published in the *PMA*. The *GHS* PAD district averages are calculated using only the available States; if a State does not appear in the survey, it is not included in the PAD calculation.
 - d. Adjustment factors, ratios of the *PMA* PAD district price divided by the *GHS* derived PAD district price, are calculated for PAD Districts II, III, IV, and V, and Subdistrict IC.
 - e. Prices for the 27 States not published in the *PMA* are calculated by multiplying the *GHS* State prices derived in Step b. by the appropriate PAD district adjustment factor from Step d. and adding State general sales taxes from the *SGTC*.

- f. States that do not have prices in either the *PMA* or the *GHS* are assigned a *PMA* PAD district price, and State general sales taxes from the *SGTC* are added. The States with assigned prices are as follows:

State	Years	Prices Assigned
KS	1986, 1989	PAD District II
OK	1985, 1989	PAD District II
SD	1986	PAD District II
LA	1985	PAD District III
MS	1983, 1985, 1986	PAD District III
NM	1984-1989	PAD District III
AR	1988	PAD District III
UT	1985	PAD District IV
CA	1984	PAD District V
HI	1983-1989	PAD District V

Physical Unit Prices: 1970-1982

Commercial sector distillate physical unit prices for 1970-1982 are calculated using *Platt's* prices assigned to States and commercial sector markups estimated from *Energy Prices: 1960-73*.

1. The first step is to compute the markups. *Energy Prices* contains single price estimates for small commercial users and two price estimates for large commercial users for 10 cities: Boston, MA; Albany, NY; New York, NY; Charlotte, NC; Washington, DC; Chicago, IL; Detroit, MI; Minneapolis/St. Paul, MN; St. Louis, MO; and Seattle, WA. First, a simple average of the two large commercial prices is calculated for each city except for Albany and New York. In this case, all four large commercial prices are averaged together, since cities are assigned to their respective States.
2. For the nine States covered by the *Energy Prices* data (noted in Step 1), the markup of the reported prices from *Energy Prices* over the assigned *Platt's* prices (Table 21 on page 196) and the markup of the residential prices calculated above for 1970-1972 over the *Platt's* prices are calculated.
3. At this point, residential and commercial sector retail markups have been computed for nine States for each of the years 1970-1972. The next step is to calculate the average retail markup for the 3-year period for each sector. A simple average of the markup ratios is calculated.
4. The average commercial and residential sector retail markups for the nine available States are assigned as shown in Table 22 on page 199.
5. To translate the average commercial and residential markups for 1970-1972 into the estimated commercial sector retail markups to be used for 1970-1982, the relationship between these two markups is used with the residential markups

calculated for all States for each year. The calculation of the residential markups is the same procedure used in Step 2 above.

6. The commercial sector adjustment factors for each State for each of the years 1970-1982 are multiplied by the corresponding *Platt's* prices for 1970-1982 to calculate the final commercial sector physical unit prices.

Btu Prices: All Years

Btu prices for States are calculated by converting the physical unit prices from cents to dollars per gallon, then to dollars per barrel (42 gallons per barrel), and finally, to dollars per million Btu (5.825 million Btu per barrel). U.S. prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1986 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 37 (1986-1988) and Table 39 (1989), column titled, "To Commercial/Institutional Consumers."

1983 forward: American Gas Association, *Gas Househeating Survey*, Appendix 2, "Competitive Fuel Prices," column titled, "Fuel Oil."

1983 forward: Bureau of the Census, U.S. Department of Commerce, *State Government Tax Collections*, table titled, "State Government Excises on General Sales, Motor Fuel, and Cigarettes: Beginning and End of Fiscal Year."

1983-1985: Energy Information Administration, *Petroleum Marketing Annual 1985, Volume 1*, Table 26.

1970-1982: McGraw-Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*, refinery and terminal prices for No. 2 fuel oil, average of highs and lows.

1970-1982: Foster Associates, Inc., 1974, *Energy Prices 1960-73*, Tables 4-c and 5-b.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, commercial sector distillate consumption.

Conversion Factor: All Years

5.825 million Btu per barrel

Table 22. Average Retail Markup Price Assignments, 1970-1972

State	City Price Assignments
AK	Seattle, WA
AL	Charlotte, NC
AR	St. Louis, MO
AZ	Seattle, WA
CA	Seattle, WA
CO	Minneapolis/St. Paul, MN
CT	Boston, MA
DC	Washington, DC
DE	Washington, DC
FL	Charlotte, NC
GA	Charlotte, NC
HI	Seattle, WA
IA	St. Louis, MO
ID	Seattle, WA
IL	Chicago, IL
IN	Chicago, IL
KS	St. Louis, MO
KY	Chicago, IL
LA	St. Louis, MO
MA	Boston, MA
MD	Washington, DC
ME	Boston, MA
MI	Detroit, MI
MN	Minneapolis/St. Paul, MN
MO	St. Louis, MO
MS	Charlotte, NC
MT	Minneapolis/St. Paul, MN
NC	Charlotte, NC
ND	Minneapolis/St. Paul, MN
NE	St. Louis, MO
NH	Boston, MA
NJ	Albany and New York, NY
NM	Seattle, WA
NV	Seattle, WA
NY	Albany and New York, NY
OH	Detroit, MI
OK	St. Louis, MO
OR	Seattle, WA
PA	Albany and New York, NY
RI	Boston, MA
SC	Charlotte, NC
SD	Minneapolis/St. Paul, MN
TN	Chicago, IL
TX	St. Louis, MO
UT	Minneapolis/St. Paul, MN
VA	Washington, DC
VT	Boston, MA
WA	Seattle, WA
WI	Chicago, IL
WV	Washington, DC
WY	Minneapolis/St. Paul, MN

Electric Utility Sector

The electric utility price for distillate fuel is the average delivered cost of No. 2 fuel oil receipts at electric utilities (See Light Oil). For 1973 forward, these prices are from *Cost and Quality of Fuels for Electric Utility Plants*; for 1970-1972, prices from the *Statistical Yearbook of the Electric Utility Industry* are used with regression analysis. Btu prices are developed directly from the data sources and include all applicable taxes.

Prices: 1973 Forward

Btu prices for the years 1973 forward are based directly on the Btu prices reported in *Cost and Quality of Fuels (C&Q)*. For 1973, 1974, and 1980 forward, Btu prices are directly from the data source. For 1975-1979, weighted average Btu prices are calculated from prices and consumption data reported separately for steam-electric plants and for combustion turbine and internal combustion units. Because 1973 was the first year *C&Q* was published, there are many States with missing data for that year. The estimation of the missing 1973 State prices follows the same procedure as prices for 1970-1972 and is discussed under that section.

Wherever individual State prices are unavailable, quantity-weighted Census division prices from *C&Q* are assigned as follows:

State	Years
CA	1983-1985, 1987, 1988
CT	1973
DC	1973
DE	1973
ID	1973, 1974, 1976, 1980-1989
MD	1973
ME	1973, 1974
MT	1973-1975, 1977, 1983
NH	1973, 1974
NJ	1973, 1974
OR	1987, 1988
RI	1976-1989
SD	1973, 1974
TN	1973
VT	1973, 1974, 1978, 1983-1989
WA	1973-1977
WV	1973
WY	1973

For 1973, 1974, and 1983 forward, Btu prices in cents per million Btu are from *C&Q* and converted to dollars per million Btu. For 1975-1979, Btu prices in cents per million Btu are from *C&Q* with their corresponding delivered quantities, weighted into overall prices, and converted to dollars per million Btu. For 1980-1982, Btu prices are reported in *C&Q* for all reporting plants

and are converted to dollars per million Btu. U.S. Btu prices for all years are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Prices: 1970-1972

Btu prices for 1970-1972 (and AK and HI for 1973) are estimated using data from *Statistical Yearbook of the Electric Utility Industry*. U.S. prices are then computed using the State-level prices and the electric utility distillate consumption data from SEDS.

1. Regression techniques are used to arrive at the equation for estimating electric utility sector distillate prices for the 1970-1972 (or 1973) period. AL is treated as the reference State. The regression equation uses *Statistical Yearbook* State-level prices for 1974-1980 as the independent variable and the State-level prices calculated above for 1974-1980 as the dependent variable. Substituting Btu prices for 1970-1972 (or 1973) from the *Statistical Yearbook* into the regression equation yields the estimated electric utility sector State-level distillate prices.
2. Wherever individual State prices are unavailable, quantity-weighted Census division prices are assigned as follows: ID/1970-1972; TN/1970; and WA/1970, 1971.
3. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Alaska and Hawaii Prices

Since *C&Q* does not cover AK/1973 forward or HI/1973-1982, prices for these States are estimated. The ratio of the reported *C&Q* U.S. price and the *Statistical Yearbook* U.S. price is multiplied by the *Statistical Yearbook* State price for each year to estimate the price. AK prices for 1971, 1975, and 1978, for which *Statistical Yearbook* data are missing, are estimated from the average ratio of AK prices to U.S. prices in adjacent years (e.g., 1975 is calculated as the average of the 1974 and 1976 prices). Prices for 1970-1973 are calculated as described in the "Prices: 1970-1972" section. Prices for HI/1983 forward are from *C&Q*.

Data Sources

Prices

1973 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*; Table 6 (1973, 1974); Tables 5, 6, 12, 13 (1975-1979); Table 45 (1980-1982); Table 51 (1983, 1984); and Table 41 (1985 forward).

1970 forward: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, table titled, "Analysis of Fuel for Electric Generation-Total Electric Utility Industry," (1970-1988); and table titled, "Fossil Fuels Used for Electric Generation Total Electric Utility Industry," (1989).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electric utility sector distillate consumption.

Conversion Factors

Btu prices are calculated directly from data sources; no explicit conversion factors are needed for any years for the electric utility sector.

Industrial Sector

The industrial sector distillate prices are developed using several different data sources and estimation methods, depending on the years involved. For 1983 forward, sales prices of No. 2 fuel oil to industrial consumers (excluding taxes) are from the *Petroleum Marketing Annual (PMA)*. State general sales taxes from the Bureau of the Census are added. For 1970-1982, prices are the average cost of distillate to manufacturing firms; it is not clear from the data sources whether these prices include taxes.

Physical Unit Prices: 1983 Forward

For 1983 forward, physical unit distillate prices in cents per gallon (excluding taxes) are directly available for 24 States from the *PMA*. State-level prices for the remaining 27 States are estimated using price data from the *Gas Househeating Survey (GHS)*, SEDS consumption data, and *PMA* Petroleum Administration for Defense (PAD) district prices. The estimation procedures are described below.

1. State prices in cents per gallon are generally available from the *PMA* for the following 24 States: AK, CT, DC, DE, ID, IL, IN, MA, MD, ME, MI, MN, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, and WV. Prices for these States are converted from cents to dollars per gallon, and State general sales taxes from the Bureau of the Census, *State Government Tax Collections (SGTC)* are added. In the instances when these States have no prices in the *PMA* (DC/1989, ID/1984, 1986, OR/1984-1987, and AK/1988), prices are obtained as described below.
2. For the remaining 27 States that do not have prices in the *PMA*, prices are estimated using *GHS* fuel oil prices, SEDS consumption data, and *PMA* PAD district prices for Districts II, III, IV, and V and Subdistrict IC (all the States in PAD Subdistricts IA and IB have published prices). The following steps are used to estimate the prices:
 - a. Distillate prices from the *PMA* for PAD Districts II, III, IV, and V and Subdistrict IC are converted from cents per gallon to dollars per gallon.
 - b. The *GHS* lists fuel oil prices by company for the principal city served in dollars per million Btu, including State sales taxes. A simple average of the city-level prices is used to derive a State-level price for each of the 27 States without *PMA* prices. These *GHS* State averages are converted from dollars per million Btu to dollars per gallon using the *GHS* conversion factor of 7.194 gallons per million Btu. State general sales taxes from *SGTC* are subtracted to give State averages comparable to the *PMA* prices.
 - c. The *GHS* State prices derived in Step b. are combined into PAD district averages using SEDS consumption to weight each State's values. This procedure gives *GHS* consumption-weighted average prices for PAD Districts II, III, IV, and V and Subdistrict IC that are comparable to the volume-weighted PAD district prices published in the *PMA*. The *GHS* PAD district averages are calculated using only the available States; if a State does not appear in the survey, it is not included in the PAD calculation.
 - d. Adjustment factors, ratios of the *PMA* PAD district price divided by the *GHS* derived PAD district price, are calculated for PAD Districts II, III, IV, and V, and Subdistrict IC.
 - e. Prices for the 27 States not published in the *PMA* are calculated by multiplying the *GHS* State prices derived in Step b. by the appropriate PAD district adjustment factor from Step d. and adding State general sales taxes from the *SGTC*.
 - f. States that do not have prices in either the *PMA* or the *GHS* are assigned a *PMA* PAD district price, and State general sales taxes from the *SGTC* are added. The States with assigned prices are as follows:

State	Years	Prices Assigned
KS	1986, 1989	PAD District II
OK	1985, 1989	PAD District II
SD	1986	PAD District II
LA	1985	PAD District III
MS	1983, 1985, 1986	PAD District III
NM	1984-1989	PAD District III
AR	1988	PAD District III
UT	1985	PAD District IV
CA	1984	PAD District V
HI	1983-1989	PAD District V
AK	1988	PAD District V

Physical Unit Prices: 1982

In 1984, the Bureau of the Census announced that State-level fuel cost and quantity information would no longer be published in either the *Annual Survey of Manufactures (ASM)* or *Census of Manufactures (CM)*. In addition, the *PMA*, the source for 1983 forward industrial sector distillate price data, did not contain 1982 prices. Because of this lack of price data, the 1982 industrial sector distillate prices are estimated, based on the relationship of industrial sector prices to electric utility sector prices for 1978-1981. The 1983 prices are not used in the estimation because they exclude taxes, while the 1978-1981 prices may include taxes.

1. In order to calculate the average ratios of industrial-to-electric utility distillate prices, electric utility price assignments are made for: AK/1978-1982 from WA; ID/1979-1982 from MT; RI/1978-1982 from CT; and VT/1978 from ME.
2. The average 1978-1981 ratios of industrial-to-electric utility sector distillate prices are calculated for each State.
3. Prices for 1982 are estimated by multiplying the average ratios by the electric utility data for 1982.

Physical Unit Prices: 1971, 1974-1981

For the years 1971 and 1974-1981, industrial sector distillate prices are calculated directly from cost and quantity data from the *Annual Survey of Manufactures (ASM)* or *Census of Manufactures (CM)* for all States where data are available.

There are no missing prices for 1971. Six States are missing some *ASM* cost and quantity data for the 1974-1981 period. Cost and quantity data for these States are estimated as the simple average of the cost and quantity data for their adjacent States. The States, the years for which data are estimated, and the adjacent States used to make the estimation are as follows:

State	Years	State Prices Used
HI	1979-1981	CA
ND	1979-1981	MN, MT, SD
NM	1974-1979	AZ, CO, TX
NV	1974-1981	AZ, CA, ID, OR, UT
OK	1974-1978	AR, CO, KS, MO, TX
WY	1974-1981	CO, ID, MT, NE, SD, UT

Physical Unit Prices: 1970, 1972, 1973

Since *ASM* and *CM* data are not available for these years, the prices must be estimated. Physical unit prices are based on the ratio of 1971 *CM* prices to the 1971 assigned *Platt's* prices (Table 21 on page 196). The resulting ratios for each State are used with the *Platt's* assigned prices for 1970, 1972, and 1973 to impute prices.

1. The first step is to calculate State-level ratios between prices calculated from the 1971 *CM* cost and quantity data and the 1971 assigned *Platt's* prices. There are no missing States in either of these two sets of prices.
2. State-level physical unit prices for 1970, 1972, and 1973 are estimated by multiplying the 1971 ratio by the assigned State-level *Platt's* prices for each respective year.

Btu Prices: All Years

Btu prices for States are calculated by converting the physical unit prices from cents to dollars per gallon, then to dollars per barrel (42 gallons per barrel) and, finally to dollars per million Btu (5.825 million Btu per barrel). U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS, adjusted for process fuel consumption.

Data Sources

Prices

1986 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 37 (1986-1988) and Table 39 (1989), column titled, "To Industrial Consumers."

1983 forward: American Gas Association, *Gas Househeating Survey*. Appendix 2, "Competitive Fuel Prices," column titled, "Fuel Oil."

1983 forward: Bureau of the Census, U.S. Department of Commerce, *State Government Tax Collections*, table titled, "State Government Excises on General Sales, Motor Fuel, and Cigarettes: Beginning and End of Fiscal Year."

1983-1985: Energy Information Administration, *Petroleum Marketing Annual 1985*, Volume 1, Table 26.

1970-1982: McGraw-Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*, refinery and terminal prices for No. 2 fuel oil, average of highs and lows.

1971, 1977, and 1981: Bureau of the Census, U.S. Department of Commerce, *Census of Manufactures*, Table 4 (1971) and Table 3 (1977, 1981).

1974-1976 and 1978-1980: Bureau of the Census, U.S. Department of Commerce, *Annual Survey of Manufactures*, Table 3.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector distillate consumption.

Conversion Factor: All Years

5.825 million Btu per barrel

Transportation Sector

Consumption of distillate fuel in the transportation sector includes distillate fuel used for vessel bunkering and for military and railroad use, plus on-highway diesel fuel use. Since on-highway diesel fuel use accounts for the largest portion of this sector--increasing from 55 percent in 1970 to 76 percent in 1989--prices and expenditures are calculated using diesel prices. State physical unit prices for 1986 forward are from the *Petroleum Marketing Annual (PMA)*. Physical unit prices for earlier years are calculated using *PMA* prices and consumption data from *Highway Statistics* to weight monthly or quarterly prices from *Agricultural Prices* into annual prices. For all years, physical unit prices are calculated from the data sources, while Btu prices are calculated from the physical unit prices and the conversion factor.

Physical Unit Prices: 1986 Forward

For 24 States, diesel fuel physical unit prices for 1986 forward are based on the annual State-level price data available from the *PMA* and monthly tax rate information from *Highway Statistics*. For AK, CT, DE, DC, ID, IL, IN, ME, MD, MA, MI, MN, NH, NJ, NY, OH, OR, PA, RI, VT, VA, WA, WI, and WV, the *PMA* provides physical unit prices, excluding taxes. State and Federal diesel fuel taxes are added to *PMA* prices to derive final physical unit prices, which are converted to dollars per gallon. In cases where the tax rate is not

constant through the year, the months' rates are averaged, weighted by the number of months each rate was in effect. State and local sales and other general taxes are not included.

For the remaining 27 States for which no State-level physical unit prices are published, the *PMA* PAD district prices for diesel fuel and motor gasoline and State motor gasoline prices are used. The State diesel fuel price is estimated as the ratio of the PAD district diesel fuel price to the PAD district motor gasoline price times the State motor gasoline price. State and Federal taxes are added as described above. The use of the ratio assumes that the relationship between the motor gasoline State and PAD district prices is similar to that of the diesel fuel State and PAD district prices.

Physical Unit Prices: 1983-1985

Diesel fuel physical unit prices for 1983-1985 are based on the annual State-level price data available from the *PMA* and monthly State and Federal tax rate information from *Highway Statistics* for 24 States. The prices for the remaining 27 States are calculated using *Agricultural Prices* as outlined in the 1977-1982 methodology.

For the 24 States of AK, CT, DE, DC, ID, IL, IN, MA, MD, ME, MI, MN, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, and WV, the *PMA* provides physical unit prices, excluding taxes. In 1983-1985, the DC price is missing, and the MD price is assigned. In 1983, RI has no price and the PAD District IA average is assigned. A simple average of monthly State and Federal taxes is calculated as a combined average tax and added to the *PMA* price for a final physical unit price. State and local sales and other general taxes are not included.

Physical Unit Prices: 1977-1982

Monthly prices from *Agricultural Prices* and monthly special fuels consumption data from *Highway Statistics* are collected for the States. MD prices are assigned to DC. Prices include State and local per gallon taxes. Federal taxes and State and local sales and other general taxes are not included.

The volume-weighted annual diesel physical unit prices for States and the United States are calculated using the monthly *Agricultural Prices* price data, weighted by the monthly *Highway Statistics* consumption data. AK/1977-1982 prices are assigned the quantity-weighted Census division prices.

Physical Unit Prices: 1970-1976

Quarterly prices from *Agricultural Prices* and monthly special fuels consumption data from *Highway Statistics* are collected for the States. Prices include State and local per gallon taxes. Federal taxes and State and local sales taxes and other general taxes are not included.

1. Prices for 1970-1972 are reported in cents per gallon and must be converted to dollars per gallon. Prices for 1973-1976 are already reported in dollars per gallon.
2. For 1971-1973, State-level prices are not available for CT, MA, ME, NH, RI, and VT. Each is assigned the New England price for the 3 years.
3. The third quarter DE price is assigned to the missing fourth quarter DE price in 1972.
4. The combined MD/DE prices reported in 1973 are assigned to each of the States.
5. For 1970-1976, MD (or MD/DE) prices are assigned to DC.

The monthly special fuels consumption for 1970-1976 are converted into quarterly consumption by summing the months for each quarter.

The consumption-weighted annual diesel physical unit prices for the States are calculated using the quarterly weights and quarterly prices. For 1970-1972, the quarterly prices from *Agriculture Prices* are converted from cents per gallon to dollars per gallon. For 1973 forward, the prices are already in dollars per gallon in the source. AK/1970-1976 prices are assigned the consumption-weighted Census division prices.

Btu Prices: All Years

Btu prices for States are calculated by converting the physical unit prices from cents per gallon to dollars per barrel (42 gallons per barrel) and, then, to dollars per million Btu (5.825 million Btu per barrel). U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption from SEDS.

Data Sources

Prices

1986 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 36 (1986-1988) and Table 38 (1989), column titled, "Sales to End Users, Through Company-Operated Retail Outlets," for diesel fuel prices; and Table 29 (1986-1988) and Table 30 (1989), column titled "All Refiners, Sales to End Users, Through Company Outlets," for motor gasoline prices.

1983-1985: Energy Information Administration, *Petroleum Marketing Annual 1985, Volume 1*, Table 25,

column titled, "Sales to End Users, Sales Through Company-Operated Retail Outlets."

1970-1985: Crop Reporting Board, U.S. Department of Agriculture, *Agriculture Prices*, tables generally titled, "Motor Supplies: Average Price Paid by Farmers for Motor Fuel" for 1970-1979, and "Diesel Fuel: Average Price Paid by States" for 1980-1985.

1970 forward: Federal Highway Administration, U.S. Department of Transportation, *Highway Statistics*, Table MF-121T for State tax rates, Table FE-101 for Federal tax rates, and Table MF-25 for special fuels consumption data. Table MF-25 is not included in the 1976 volume but is publicly available directly from the Federal Highway Administration.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, transportation sector distillate consumption.

Conversion Factor: All Years

5.825 million Btu per barrel

Heavy Oil (Utilities)

For all years, the price of heavy oil consumed at electric utilities is the average cost of No. 6 fuel oil (residual fuel oil) as reported in *Cost and Quality of Fuels for Electric Utility Plants*. (See Residual Fuel Electric Utility Sector).

Jet Fuel

Jet fuel prices are estimated for all years for the transportation sector and for 1972-1982 for the electric utility sector. After 1982, electric utility use of jet fuel is reported as light oil. See the "Light Oil (Utilities)" section elsewhere in this Documentation.

Transportation Sector

Consumption estimates from SEDS are developed for two types of jet fuel: kerosene type (used primarily by commercial aircraft and accounting for about 80 percent of all jet fuel) and naphtha type (used primarily by military aircraft and accounting for the remaining 20 percent). Prices are developed for kerosene-type jet fuel and are used as the price for both types of jet fuel. Taxes are not included in the prices 1983 forward. It is not clear from the data sources whether taxes are included in the 1970-1982 prices.

Physical Unit Prices: 1985 Forward

Transportation sector jet fuel prices for 1985 forward are based on data from the EIA's *Petroleum Marketing Annual (PMA)*. Annual prices to end users are available for all States in most cases. Prices are converted to dollars per gallon. States without prices are assigned adjacent State or PAD subdistrict prices as follows:

Year	States	Price Assignments
1985	DC	MD
	ME, RI, VT	PADD IA
1986	DC	MD
	RI, VT	PADD IA
1987	DC	MD
	NH, RI, VT	PADD IA
1988	DC	MD
	RI, VT	PADD IA

Physical Unit Prices: 1983, 1984

Prices for 1983 and 1984 are based on data from EIA's *Petroleum Marketing Monthly (PMM)*. Monthly jet fuel prices in cents per gallon (excluding taxes) are available from the *PMM* for the PAD districts and subdistricts for January 1983 through August 1984. The monthly prices for each of the PAD districts or subdistricts (IA, IB, IC, II, III, IV, and V) are assigned to each State within a district whenever the State monthly price is unavailable. State-level data are available from September 1984 through December 1984. Annual prices are the simple averages of the monthly prices

and are assigned directly to their respective States. These prices are converted to dollars per gallon. Missing 1984 prices are assigned values as follows:

State	Months	Price Assignments
CT	September	PADD IA
DC	September-December	MD
ID	September	PADD IV
KS	November, December	PADD II
ME	September-December	PADD IA
MS	October	PADD III
ND	December	PADD II
NE	October	PADD II
NH	September, November, December	PADD IA
NM	October-December	PADD III
OR	November	PADD V
RI	September-December	PADD IA
VT	September-December	PADD IA
WV	September	PADD IC

Physical Unit Prices: 1976-1982

State-level jet fuel prices for 1976-1982 are calculated from the *Producer Prices and Price Indexes (PPI)* monthly indices for Census divisions and the jet fuel base prices by State for July 1975. The monthly price for each Census division is equal to the *PPI* monthly index times the jet fuel base price for July 1975 for that Census division. Census division monthly prices are assigned to each State within the Census division, and annual jet fuel prices are computed as simple averages of the monthly State prices. It is not clear whether the jet fuel base prices for July 1975 include taxes.

Physical Unit Prices: 1970-1975

Jet fuel physical unit State-level prices for the 1970-1975 period are based on U.S. annual wholesale prices from the *PPI* and the relationship of these prices to wholesale kerosene prices reported in *Platt's*. The U.S. prices are converted to Census division prices which are then assigned directly to States. It is not clear whether these prices include taxes.

Preliminary U.S. jet fuel prices from the *PPI* for 1973-1980 are calculated using the annual jet fuel price indices, the jet fuel U.S. base price for July 1975 (0.276 dollars per gallon), and the U.S. index for July 1975 (235.8). The index for 1973 is assumed to be equal to a simple average of the 11 available monthly indices.

The calculated preliminary U.S. jet fuel prices from the *PPI* are used as the dependent variable in a regression equation for 1973-1980 where the wholesale kerosene prices from *Platt's* are the independent variable.

The regression equation is used to estimate U.S. annual jet fuel prices for 1970-1972.

Jet fuel prices for Census divisions are estimated using the preliminary U.S. prices derived above for 1970-1975 (calculated directly from the *PPI* data for 1973-1975 and estimated for 1970-1972). These prices are used as inputs to a regression equation which establishes a linear relationship between preliminary U.S. prices and Census division prices for the years 1970-1975. Census division prices are assigned to each State within the Census division.

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the Btu conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1985 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 21, column titled, "Kerosene-Type Jet Fuel" (1985); and Table 33 (1986-1988) and Table 35 (1989), column titled, "Kerosene-Type Jet Fuel, Sales to End Users."

1983, 1984: Energy Information Administration, *Petroleum Marketing Monthly*, Table 14 (January 1984), Table 19 (February-September 1984), and Table 25 (October 1984-January 1985).

1973-1982: Bureau of Labor Statistics, U.S. Department of Labor, *Producer Prices and Price Indexes, Supplement*, table titled, "Producer price indexes for refined petroleum products by region."

1970-1975: McGraw Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*, 57th Edition, page 480.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, transportation sector jet fuel consumption.

Conversion Factor: All Years

5.670 million Btu per barrel

Electric Utility Sector

Energy Data System, electric utility sector kerosene-type jet fuel consumption.

Jet fuel electric utility consumption estimates are from SEDS for 1972-1982 only. For 1970 and 1971, no parallel series is available, and for the years after 1982, the series is part of light oil. All applicable taxes are included in the prices.

Conversion Factors: All Years

Because Btu prices are available directly from the data sources, no conversion factors are used.

Btu Prices: 1975-1982

For the States that consumed kerosene-type jet fuel at electric utilities during these years, the Btu prices are directly from *Cost and Quality of Fuels for Electric Utility Plants (C&Q)*.

Btu Prices: 1972-1974

Because *C&Q* prices are not available for 1972-1974, prices are estimated from *C&Q* prices for 1975 and 1976 and *Agricultural Prices* data for 1972-1976.

1. Simple annual averages of *Agricultural Prices* quarterly values are calculated for 1972-1976. New England Census Division prices are assigned to CT, MA, ME, NH, RI, and VT.
2. The average annual prices based on *Agricultural Prices* values for 1975 and 1976 are used as the independent variables in a regression where the dependent variables are State-level prices based on *C&Q* prices for 1975 and 1976.
3. State-level price estimates for 1972-1974 are derived from the results of the regression analysis and the *Agricultural Prices* values for 1972-1974.

U.S. Btu Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1975-1982: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, Tables 6 and 13 (1975), Table 13 (1976-1979), and Table 47 (1980-1982).

1972-1976: Crop Reporting Board, U.S. Department of Agriculture, *Agriculture Prices*, table titled, "Household Supplies: Average Prices Paid by Farmers for Lawn Mowers and Petroleum Products."

Consumption

1972-1982: Energy Information Administration, State

Kerosene

Kerosene prices are developed for the residential and industrial sectors, and the industrial sector prices are assigned to the commercial sector. Estimates of the amount of kerosene consumed by the residential, commercial, and industrial sectors are from State Energy Data System (SEDS).

Residential Sector

Physical Unit Prices: 1985 Forward

In July 1985, the Bureau of Labor Statistics ceased publication of the *Producer Prices and Price Indexes (PPI)* data series that is used to estimate State Energy Price and Expenditure Data System residential kerosene prices for earlier years. An alternative approach is therefore applied that maintains continuity with the previously published prices. This approach is used to estimate physical unit prices for all States with residential kerosene consumption.

The approach used to estimate residential kerosene prices for 1985 forward is based on the fact that average U.S. kerosene and distillate fuel prices from 1970 through 1984 are highly correlated. Residential kerosene prices for 1985 forward are estimated by applying the percentage changes in residential distillate fuel prices for each year to the residential kerosene prices for the previous year in each State. Taxes are included in the prices.

Physical Unit Prices: 1977-1984

Because *Agricultural Prices* kerosene price data are not available after 1976, monthly Census division *Producer Prices and Price Indexes (PPI)* prices and price indices are used as the basis for the residential kerosene series from 1977 to 1984. To maintain consistency in the series, the *PPI* prices are multiplied by an adjustment factor that accounts for the relationship between *PPI* and *Agricultural Prices* data for quarters in which the two series overlap. In the description of computational procedures below, the adjustment factor is derived first, the *PPI* prices for 1977-1984 are estimated, and the final kerosene physical unit and Btu prices for States are calculated. The final residential sector kerosene prices approximate the average prices paid by farmers. It is not clear from the data sources whether these prices include taxes.

The first step is to compute the adjustment factor relating *PPI* and *Agricultural Prices* data.

1. Monthly *PPI* prices for the 18 months covered from July 1975 through December 1976 are calculated from the July 1975 base prices and monthly indices for Census divisions.
2. The calculated Census division monthly prices are assigned to each State within the respective Census division.
3. Volume-weighted quarterly *PPI*-based prices for States are calculated using the monthly volume weights developed from *Retail Sales and Inventories* sales data for "other distillate fuel oil."
4. The adjustment factor relating *PPI* and *Agricultural Prices* data is calculated as the simple average of the ratios of the quarterly kerosene price by State from *Agricultural Prices* to the calculated quarterly *PPI*-based kerosene prices by State.

The next step is the calculation of monthly State-level prices from *PPI* kerosene Census division data for 1977-1984.

1. Monthly Census division *PPI* prices are calculated using the July 1975 base prices and the monthly price indices for 1977-1984. The missing monthly indices for February, June, July, and October 1980 for the East South Central Division are assumed to be equal to the index for the preceding month.
2. Census division monthly prices are assigned to each State within the respective Census division.

The next step is the calculation of annual physical unit State prices.

1. Annual *PPI*-based physical unit prices for States are computed from the monthly *PPI* prices and the monthly consumption weights.
2. Final residential kerosene prices for States are estimated as the product of the annual *PPI*-based State price and the adjustment factor calculated above.
3. The AK/1984 price is estimated by applying the percentage change in the distillate fuel residential price to the kerosene residential price for the previous year.

Physical Unit Prices: 1970-1976

Physical unit prices for States are calculated from quarterly price data in *Agricultural Prices* and consumption weights derived from *Retail Sales and Inventories of Fuel Oil*. It is not clear from the data sources whether the prices include taxes.

The quarterly physical unit price data from *Agricultural Prices* for 1970-1976 are published in several different forms. The first step in the calculation of prices for these years is to organize the published *Agricultural*

Prices data into a consistent form.

1. For 1971-1973, no quarterly prices are available for CT, MA, ME, NH, RI, and VT. Each of these States is assigned the quarterly prices reported for the New England Census Division.
2. For 1973, combined MD/DE quarterly prices are reported instead of separate State prices. For this year, the combined prices are assigned to both States.
3. Missing quarterly NV/1972 prices are estimated by calculating the average ratio between the quarterly NV prices to the quarterly U.S. prices reported in *Agricultural Prices* for 1971 and 1973 (eight quarters). The derived ratio is applied to the *Agricultural Prices* quarterly prices for the United States for 1972.
4. No prices are reported for AK, DC/1970-1976. Quarterly weighted Census division prices are assigned to AK, and MD prices are assigned to DC for all 7 years.

In order to weight the quarterly prices from *Agricultural Prices* into annual State prices, monthly quantity weights are calculated from *Retail Sales and Inventories of Fuel Oil*. This assumes that the "other distillate oil" consumption data by PAD districts is kerosene.

1. Monthly weights are computed using simple averaging of all available "other distillate oil" sales data for each month for each PAD district. Since data are available from November 1978 to March 1981, some months have averages based on three data points while others are based on one or two data points. For example, the average weight for March is the simple average of the 1979, 1980, and 1981 March volumes published in *Retail Sales and Inventories of Fuel Oil*.
2. Each month's share of average annual sales is calculated by PAD district from the average monthly sales figures. These shares, which become the monthly weights, are then assigned to each State within its respective district.

Final State annual kerosene physical unit prices are calculated as the weighted average of the *Agricultural Prices* quarterly prices. The monthly weights (shares) are converted to quarterly weights by summing the shares for months within a particular quarter. These same weights are used with the State-level price data for each year from 1970 to 1976.

Alaska Btu Prices: 1970-1979, 1983

Kerosene residential prices for AK are estimated based on the assumption that the ratio of AK-to-U.S. kerosene residential prices is the same as the ratio of AK-to-U.S. distillate fuel residential prices.

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1984 forward: Residential sector distillate fuel price estimates (in physical units) from the State Energy Price and Expenditure Data System.

1975-1984: Bureau of Labor Statistics, U.S. Department of Labor, *Producer Prices and Price Indexes, Supplement*, table titled, "Producer Price Indexes for refined petroleum products by region."

1978-1981: Energy Information Administration, *Retail Sales and Inventories of Fuel Oil*, Table 2.

1970-1976: Crop Reporting Board, U.S. Department of Agriculture, *Agricultural Prices*, table titled, "Household Supplies: Average Price Paid by Farmers for Lawn Mowers and Petroleum Products."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, residential sector kerosene consumption.

Conversion Factor: All Years

5.670 million Btu per barrel

Commercial Sector

State prices from the industrial sector are assigned to the commercial sector. Although there is no industrial consumption of kerosene in DC in 1989, an industrial price is calculated to be assigned to the commercial sector consumption.

Industrial Sector

The industrial sector kerosene prices are based on wholesale price and price index data and on the industrial sector distillate prices. The procedures vary slightly for 1985 forward, 1975-1984, and 1970-1974. In all years, physical unit prices are calculated first,

then Btu prices are computed using the physical unit prices and the conversion factor. Prices approximate an average kerosene price for the manufacturing sector.

Physical Unit Prices: 1985 Forward

The discontinuation of the published *PPI* data from the Bureau of Labor Statistics affected the estimation of industrial sector kerosene prices. To estimate prices for 1985 forward, the percentage change in industrial sector distillate fuel prices for each year is applied to the industrial sector kerosene prices for the previous year on a State-by-State basis. Taxes are included in the prices.

Physical Unit Prices: 1975-1984

Physical unit industrial kerosene prices for 1975-1984 are estimated from *PPI* base prices and indices for kerosene and No. 2 distillate oil, and from the industrial sector distillate prices in physical units. The ratio of *PPI* kerosene prices to *PPI* distillate prices is used as an adjustment factor to estimate kerosene prices. It is not clear from the data sources whether taxes are included in the prices.

Annual wholesale prices are calculated from *PPI* annual indices for kerosene and No. 2 distillate fuel oil and their respective July 1975 base prices for Census divisions. Annual average distillate price indices for 1976 are estimated as the simple average of monthly indices. Census division prices for both kerosene and fuel oil No. 2 are assigned to each State within the respective Census divisions. The industrial sector physical unit kerosene prices for States are computed using the distillate industrial physical unit prices and the ratio of *PPI* kerosene prices to *PPI* fuel oil No. 2 prices.

Physical Unit Prices: 1970-1974

Physical unit State-level prices for 1970-1974 are estimated from the distillate industrial prices and the average ratio of kerosene to distillate prices from *PPI* for 1975-1978. The average annual wholesale price ratio between kerosene and fuel oil No. 2 (distillate) is calculated from *PPI*-based data for the years 1975-1978. State-level kerosene industrial physical unit prices are calculated as the product of the ratios and the industrial sector distillate prices for 1970-1974. It is not clear from the data sources whether taxes are included in these prices.

Btu Prices: All Years

Btu prices for States are computed by converting the physical unit prices in dollars per gallon to dollars per barrel (42 gallons per barrel) and, then, to dollars per

million Btu (5.670 million Btu per barrel). U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1970 forward: Industrial sector distillate fuel price estimates (in physical units) from the State Energy Price and Expenditure Data System.

1975-1985: Bureau of Labor Statistics, U.S. Department of Labor, *Producer Prices and Price Indexes, Supplement*, table titled "Producer price indexes for refined petroleum products by region."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector kerosene consumption.

Conversion Factor: All Years

5.670 million Btu per barrel

Light Oil (Utilities)

Beginning with 1980, the price of light oil consumed at electric utilities is the average delivered cost of No. 2 fuel oil as reported in *Cost and Quality of Fuels for Electric Utility Plants*. For earlier years, the price is the consumption-weighted average of the kerosene-type jet fuel price and No. 2 fuel oil. (See also Distillate Fuel Electric Utility Sector and Jet Fuel Electric Utility Sector).

Liquefied Petroleum Gases

Liquefied petroleum gases (LPG) prices are developed for the residential and the industrial sectors. State prices for the commercial and transportation sectors are assigned from the industrial sector. Estimates of the amount of LPG consumed by sector are from the State Energy Data System (SEDS), and are adjusted for process fuel and intermediate product consumption in the industrial sector. See the discussion under "Consumption Adjustments for Process Fuel and Intermediate Products" in this report.

Residential Sector

Residential sector prices are the average delivered prices of LPG to residential consumers in areas where natural gas is available as a competing fuel. Taxes are included in the prices. For 1973 forward, Btu prices are reported in the data source. For 1970-1972, physical unit prices are calculated first and Btu prices are calculated from the physical unit prices and the conversion factors. Prices for AK and HI in all years are estimated by a different methodology described in a separate section that follows.

Btu Prices: 1973 Forward

Propane prices by city are reported in the *Gas Househeating Survey (GHS)* directly in dollars per million Btu. The simple average of available city prices is used as the State annual average. Outlier prices are omitted from consideration for Arkansas Louisiana Gas for AR/1989, City of Long Beach for CA/1989, Public Service Electric & Gas for NJ/1989, Central Hudson Gas and Electric for NY/1979-1981, Orange & Rockland Utilities for NY/1989, Pike County Light & Power for PA/1989, and Northwestern Public Service for SD/1989.

To estimate missing prices (other than AK and HI, which are described in a separate section that follows), simple averages of adjacent States' prices are used. The adjacent State assignments are shown in Table 23 on page 212. Estimated data for one State are not used to estimate prices for another State.

Physical Unit Prices: 1971, 1972

Physical unit residential LPG prices are based on the city-level propane prices reported in *GHS* in cents per gallon. Prices for missing States are estimated. The *GHS* prices are the average delivered prices for propane purchased by residential consumers as of December 31.

Table 23. LPG Residential Sector Price Assignments, 1973 Forward

States	Years	State Prices Used in the Estimation
AR	1977	MO, MS, OK, TN, TX
DC	1973-1983	MD
DE	1976, 1984, 1986	MD, NJ, PA
ID	1977	MT, NV, OR, UT, WA, WY
LA	1977	AR, MS, TX
ME	1973-1977, 1985, 1986	MA, NH, VT
MO	1986	IA, IL, KS
ND	1973	MN, MT, SD
NM	1987, 1988	AZ, CO, UT
NV	1973, 1975	AZ, CA, ID, OR, UT
OR	1976	CA, ID, NV, WA
SD	1986	MN, MT, ND
UT	1974, 1978, 1985	AZ, CO, ID, NV, WY
VT	1979	MA, NH, NY

1. City-level propane prices from *GHS* are assigned to their respective States. The AL/1971 price for the Phoenix City Utilities System is omitted as an outlier.
2. Physical unit prices for a State are calculated directly from the available city/utility price observations reported in *GHS*. Final physical unit prices are equal to the simple average of the price observations for each State.
3. MD prices are assigned for missing DC prices. AK and HI prices are discussed in a separate section that follows.

Physical Unit Prices: 1970

Since *GHS* did not publish LPG prices prior to 1971, the residential sector LPG prices for 1970 are estimated. To maintain continuity with the *GHS* prices for 1971 forward, prices for 1970 are estimated using simple regression analysis. The relationship between *GHS* data for 1971 and 1972 and corresponding *Agricultural Prices* data is the basis for the estimation.

1. Before regression analysis can be applied, *Agricultural Prices* data for 1970-1972 are prepared for 49 States (no AK or HI prices are available).
 - a. State-level prices for small purchases, representing residential end users, for 1970-1972 are published by *Agricultural Prices* in cents per pound. When price per pound data are not available, price per gallon data, representing larger volume purchases, are used. These

prices per gallon are multiplied by 0.543, the average ratio of price per pound to price per gallon for the United States for 1970-1972, to create uniform input data in price per pound.

- b. For 1971 and 1972, the price reported for the New England Region is assigned to CT, MA, ME, NH, RI, and VT.
- c. Data in cents per pound are converted to dollars per gallon by multiplying by the propane conversion factor of 4.2 pounds per gallon, from the *Petroleum Products Handbook* and dividing by 100.
- d. Missing prices use adjacent States' average prices as shown below:

State	Years	State Prices Used
NV	1970, 1971	AZ, CA, ID, UT
OR	1971-1972	CA, ID,
UT	1972	AZ, CO, ID, NV, WY
WA	1970-1972	CA, ID

- e. MD prices are assigned for missing DC prices. AK and HI prices are discussed below.

2. The physical unit *GHS* prices and *Agricultural Prices* data for 1971-1972 (excluding AK and HI) are used with simple regression analysis to estimate final physical unit LPG residential prices.

Alaska and Hawaii Prices: All Years

Prices cannot be estimated for AK and HI using adjacent State price assignments. Missing prices for these two States are estimated by computing ratios of the AK or HI prices to the U.S. prices from the *GHS* for years when AK or HI data are available and applying these ratios to the U.S. prices in years where prices need to be estimated.

1. *GHS* prices for AK are available in 1972 and 1980. The 1972 AK-to-US ratio is used to estimate prices for 1970, 1971, and 1973-1979. The 1980 AK-to-US price ratio is used to estimate prices for 1981-1989.
2. *GHS* prices for HI are available in 1971, 1977-1979, and 1989. The 1971 HI-to-US *GHS* is used to estimate prices for 1970 and 1972-1974. The average ratio of the HI-to-US prices for 1977-1979 is used to estimate prices for 1975, 1976 and 1980-1984. The 1989 HI-to-US ratio is used to estimate prices for 1985-1988.

Btu Prices: All Years

For 1973 forward, Btu prices for States are directly from the data sources. For 1970-1972, Btu prices for States are calculated by converting the physical unit prices by using the factors cited in Table 25 on page 215. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1971 forward: American Gas Association, *Gas Househeating Survey (GHS)*, Appendix 2, "Competitive Fuel Prices."

1970-1972: Crop Reporting Board, U.S. Department of Agriculture, *Agricultural Prices*, table titled, "Average Price Paid by Farmers for Lawn Mowers and Petroleum Products, Specified Dates, by State," L.P. Gas column.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, residential sector LPG consumption.

Conversion Factors

1970-1972: Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Table D1, as shown in Table 25 on page 215.

1970-1972: 4.2 pounds per gallon from Guthrie, Virgil, ed., 1960. *Petroleum Products Handbook*. John Wiley and Sons, Inc., New York, New York: pages 3-5.

Conversion factors are not necessary for other years because Btu prices are available directly from the data sources.

Commercial Sector

State prices from the industrial sector are assigned to the commercial sector.

Industrial Sector

The industrial sector LPG prices are estimated from average LPG prices to manufacturing firms, average LPG prices to farmers, and refiner and gas plant

operator sales to end users. Prices for 1985 forward are from the *Petroleum Marketing Annual (PMA)*. Prices for 1978-1981 are from the *Annual Survey of Manufactures (ASM)* or the *Census of Manufactures (CM)*, and prices for 1970-1977 and 1982-1984 are derived from *Agricultural Prices* and scaled to the *ASM/CM* prices using the ratio of *ASM/CM* to *Agricultural Prices* LPG prices for the years 1978-1981, when both price series were available. Taxes are included in the 1970-1984 estimates but are not included in the prices for 1985 forward.

Physical Unit Prices: 1985 Forward

Industrial sector LPG physical unit State prices for 1985 forward are estimated using physical unit annual prices in the *Petroleum Marketing Annual (PMA)*. Where prices are not available, the PAD district price is assigned as follows:

State	Years	State	Years
AK	1986-1988	ND	1986
AL	1985-1988	NE	1986-1989
AZ	1986-1989	NH	1987-1989
DC	1985-1989	NV	1985-1988
DE	1986-1989	OK	1986, 1987
GA	1985	OR	1986
HI	1985-1989	RI	1986-1989
IA	1986	SD	1985-1989
ID	1986	UT	1986-1988
KS	1986-1989	VT	1986-1989
MA	1986	WA	1986-1989
MD	1988	WI	1985, 1986
ME	1986-1989	WV	1989
MI	1985-1988	WY	1987, 1988
MN	1985, 1986, 1988, 1989		

When a PAD district price is not available, a consumption-weighted price is calculated using available prices for States within the district and the SEDS industrial sector consumption for the States. PAD district price calculations are made for PAD District V for 1985 using AK, CA, OR, and WA consumption-weighted prices, for PAD Subdistrict IA for 1986 using CT and NH consumption-weighted prices, and for PAD Subdistrict IA for 1987-1988 using CT and MA consumption-weighted prices.

Physical Unit Prices: 1982-1984, 1970-1977

Industrial sector LPG physical unit prices for 1982-1984 and 1970-1977 are estimated based on the relationship between State-level LPG prices from *Agricultural Prices* and the prices calculated from *Annual Survey of Manufactures (ASM)* or *Census of Manufac-*

tures (CM) for 1978-1981.

1. Before the adjustment factor relating *Agricultural Prices* and *ASM/CM* data is computed, monthly *Agricultural Prices* data are converted into annual prices and missing data are estimated.
 - a. Annual LPG prices are calculated as simple averages of the monthly prices from *Agricultural Prices* for the years 1977-1984. The only States missing data are WV/1977-1981 and AK, DC, HI/1977-1984. WV is assigned the simple average of the KY, MD, OH, PA, and VA prices. AK, DC, and HI prices are discussed below.
 - b. The average ratio of *ASM/CM*-based final prices for 1978-1981 and the 1978-1981 *Agricultural Prices* annual prices is calculated for 48 States (excluding AK, DC, and HI) as the simple average of the ratio over the 4 years. This average ratio is used as an adjustment factor.
2. Final industrial sector LPG prices for 1982-1984 and 1970-1977 are estimated using the State-level adjustment factors and annual average LPG prices from *Agricultural Prices* for these years.
 - a. Annual average LPG prices are calculated for 1982-1984 and 1970-1977 as the simple average of the monthly prices.
 - b. *Agricultural Prices* published annual average prices in dollars per gallon for all States in 1975 and 1976. For DE/1970-1974, MD/1970-1974, VA/1970-1974, and WV/1970-1972, only prices for small volume purchases in cents per pound were published. These are converted to cents per gallon by multiplying by 1.96, the average ratio of cents per gallon to cents per pound for the United States for 1970-1974.
 - c. For 1970-1972, *Agricultural Prices* are converted from cents per gallon to dollars per gallon.
 - d. For 1971-1973, the New England price per gallon reported by *Agricultural Prices* is assigned to CT, MA, ME, NH, RI, and VT.
 - e. MD prices are assigned to DC/1970-1972, 1974-1977, and 1982-1984. The combined MD/DE/1973 price is assigned to MD, DE, DC.
 - f. Excluding AK and HI, States missing *Agricultural Prices* LPG prices are assigned the simple average price of adjacent States. The States with missing data and the adjacent State assignments are shown in Table 24.
 - g. Industrial sector LPG physical unit prices for 1970-1977 and 1982-1984 for all States (except AK, DC, and HI) are calculated using the

estimated annual *Agricultural Prices* data for the respective year and the State-level average ratios as adjustment factors.

3. AK/1982-1984 and HI/1982-1984, 1970-1977 prices are estimated by using the relationship between *ASM/CM* based prices for these States and the U.S. price reported by *Agricultural Prices* (1979-1981 for AK and 1978-1981 for HI). The average ratio for the available years for the two States is calculated and used with the *Agricultural Prices* U.S. prices for the years to be estimated.

Table 24. LPG Industrial Sector Price Assignments, 1970-1976

State	Years	State Prices Used in the Estimation
CT	1974	NY
MA	1974	NY
ME	1974	NY
NH	1974	NY
NV	1970-1971	AZ, CA, ID, UT
	1973-1974	AZ, CA, ID
OR	1970-1974	CA, ID
RI	1974	NY
	1975-1976	CT, MA, NY
UT	1972	AZ, CO, ID, NV, WY
	1973-1974	AZ, CO, ID, WY
VT	1974	NY
WA	1970-1974	CA, ID

Physical Unit Prices: 1978-1981

For 1978-1981, the industrial sector LPG prices are either calculated directly from cost and quantity data from the *ASM* or the *CM* or are estimated using the relationship of *ASM/CM* data to LPG price data from *Agricultural Prices*.

1. For 1978-1981, industrial sector physical unit prices for LPG are calculated as the average cost per unit from cost and quantity data published in *ASM/CM*. Since sales are reported in pounds, the prices are converted to dollars per gallon. The conversion factor of 4.5 pounds per gallon is from *ASM/CM*.
2. The AK price for 1978 is the consumption-weighted average Census division price. In addition, four States have prices estimated as the simple average of the prices of adjacent States, and DC is assigned the MD price as follows:

State	Years	State Prices Used
AR	1978	LA, MG, MS, OK, TX
DC	1978-1981	MD
LA	1980	AR, MS, TX
NM	1979-1981	AZ, CO, OK, TX
WY	1978-1981	CO, ID, MT, ND, NE, SD, UT

Btu Prices: All Years

Btu prices for States and the United States are calculated from the physical unit prices and the conversion factors shown in Table 25. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS, adjusted for process fuel and intermediate product consumption.

Data Sources

Prices

1985 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 21 (1985), Table 33 (1986-1988), and Table 35 (1989).

1970-1984: Crop Reporting Board, U.S. Department of Agriculture, *Agricultural Prices*, tables titled, "Average Price Paid by Farmers for Lawn Mowers and Petroleum Products, Specified Dates, by State," L.P. Gas column (1970-1976); "Household Supplies: Average Price by Farmers" (1977-1979); "L.P. Gas: Average Price Paid by States" (1980); and "L.P. Gas: Average Price Paid by Months by States" (1981-1984).

1981: Bureau of the Census, U.S. Department of Commerce, *1982 Census of Manufactures, Fuels and Electric Energy Consumed, Part 2, States and Standard Metropolitan Statistical Areas by Major Industry Groups*, Table 3, State-level quantity and cost of liquefied petroleum gases.

1978-1980: Bureau of the Census, U.S. Department of Commerce, *Annual Survey of Manufactures, Fuels and Electric Energy Consumed, States by Industry Group and Standard Metropolitan Statistical Areas by Major Industry Group*, Table 3, State-level quantity and cost of liquefied petroleum gases.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector LPG consumption.

Conversion Factors

1970 forward: Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Table D1, as shown in Table 25.

1978-1981: 4.5 pounds per gallon from *Annual Survey of Manufactures*, Appendix C.

Table 25. LPG Btu Conversion Factors, 1970 Forward
(Million Btu per Barrel)

Year	Conversion Factor	Year	Conversion Factor
1970	3.779	1980	3.674
1971	3.772	1981	3.643
1972	3.760	1982	3.615
1973	3.746	1983	3.614
1974	3.730	1984	3.599
1975	3.715	1985	3.603
1976	3.711	1986	3.640
1977	3.677	1987	3.659
1978	3.669	1988	3.652
1979	3.680	1989	3.683

Transportation Sector

State prices from the industrial sector are assigned to the transportation sector.

Lubricants

Lubricant prices are developed for the industrial sector and assigned to the transportation sector. State-level prices are not available for either sector; national-level prices are developed and assigned to all States. Taxes are not included in the prices. Estimates of lubricant consumption by the industrial and transportation sectors are from the State Energy Data System (SEDS).

Physical Unit Prices: 1989

Data from the Bureau of the Census that are used to develop lubricant price estimates for 1970-1988 were not available in time to be used for the 1989 price. An alternative estimate was therefore developed using the ratio of the lubricant price to the crude oil price in 1988. The 1989 lubricant price is estimated to be the price of lubricants in 1988 times 1.22 (the ratio of the crude oil price in 1989 to the crude oil price in 1988).

Physical Unit Prices: 1970-1988

Prices of lubricants are estimated from three product categories:

1. Lubricating oils made in refineries (SIC 29117.21) and not made in refineries (SIC 29920.21).
2. Lubricating greases made in refineries (SIC 29117.31) and not made in refineries (SIC 29920.31).
3. Lubricating oils and greases, not specifically known (n.s.k.), made in refineries (SIC 29117.00) and not made in refineries (SIC 29920.00 for establishments with 10 employees or more and SIC 29920.02 for establishments with fewer than 10 employees).

For years where *Census of Manufactures (CM)* data are available (1967, 1972, 1977, and 1982), total shipments are calculated by adding the shipments for the three product categories. Shipments for the third product category are estimated for 29920.00 and 29920.02 by dividing their value of shipments sum by the weighted average cost of the product categories 29920.21 and 29920.31.

Total shipments in each year for which *CM* data are available is divided by the estimated SEDS total lubricants consumption (in physical units) for that year to establish a shipments-to-consumption ratio. Ratios for the years not covered by the *CM* (i.e., 1968-1971, 1972-1976, and 1978-1981) are estimated by linear interpolation, and the 1982 value is used for 1983 forward. Total shipments for the years not covered by the *CM* are estimated by multiplying SEDS consumption by the appropriate shipment-to-consumption ratio.

Estimated shipment prices are calculated by dividing the value of shipments shown in the *CM* or the *Annual Survey of Manufactures* by the estimated shipments for each product category. The shipment prices are used to represent wholesale prices.

End-user prices in dollars per barrel are estimated by multiplying the shipment prices by trade ratio factors representing the wholesale-to-retail markup. The trade ratio factors are obtained from Bureau of Economic Analysis computer tapes showing 1972 and 1977 data, the only years for which data are available. For 1972, the sum of the "purchasers value" is divided by the total "producers value" for the sum of the three product categories. A similar calculation is made for 1977, but the terms "purchase value" and "basic value" are used in the source data. The 1972 ratio is used for 1970-1972, the 1977 ratio is used for 1977 forward, and linearly interpolated values are used for 1973-1976.

Btu Prices: All Years

Btu prices are obtained by dividing the prices in dollars per barrel by the conversion factor, 6.065 million Btu per barrel.

Data Sources

Prices

1989: Lubricant price estimate for 1988 from the State Energy Price and Expenditure Data System.

1989: Energy Information Administration, *Annual Energy Review 1990*, Table 70, "Crude Oil Refiner Acquisition Cost," column titled, "Composite, Nominal."

1970, 1971, 1973-1976, 1978-1981, 1983-1988: Bureau of the Census, U.S. Department of Commerce, *Annual Survey of Manufactures: Lubricating Oils and Greases (Industries 29117 and 29920)*.

1972, 1977, and 1982: Bureau of the Census, U.S. Department of Commerce, *Census of Manufactures, Petroleum Refining: Lubricating Oils and Greases (Industries 29117 and 29920)*.

1972 and 1977: Bureau of Economic Analysis, U.S. Department of Commerce, Input-Output Table Work Tapes for SIC Codes 29117 and 29920).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, lubricants consumption.

Conversion Factor: All Years

6.065 million Btu per barrel

Motor Gasoline

Motor gasoline prices are developed for the transportation sector, and the transportation sector prices are assigned to the commercial and industrial sectors. Motor gasoline consumed in privately-owned vehicles is accounted for in the transportation sector. Estimates of motor gasoline consumed by the transportation, commercial, and industrial sectors are from SEDS. Prices in this series are retail prices (usually service station prices) including taxes.

Physical Unit Prices: 1983 Forward

Motor gasoline physical unit prices for 1983 forward are based on annual State-level prices from the *Petroleum Marketing Annual (PMA)* except for certain State and year prices, noted below, that are derived from the *Consumer Prices: Energy (CPI)*. State and Federal motor gasoline taxes are added to the prices from the *PMA*; all taxes are included in the *CPI* data. In cases where the tax rate is not constant through the year, the months' rates are averaged, weighted by the number of months each rate was in effect. Due to the lack of uniformity in application, State and local general Sales taxes are not included.

The average sales price (excluding taxes) of finished motor gasoline to end users through company outlets is used, under the assumption that this price most closely approximates retail motor gasoline prices. Finished motor gasoline includes leaded and unleaded motor gasoline and gasohol.

State-level prices that are not available from the *PMA* are assigned as listed:

State	Years	Source
AK	1983-1986	<i>CPI</i>
CT	1989	<i>PMA</i> , PAD Subdistrict IA
DC	1983-1989	<i>CPI</i>
HI	1983-1986	<i>CPI</i>
HI	1987-1989	See text below.
MD	1985-1989	<i>CPI</i> (Baltimore)
ME	1985-1988	<i>PMA</i> , PAD Subdistrict IA
SD	1987	<i>PMA</i> , PAD District II
VT	1989	<i>PMA</i> , PAD Subdistrict IA
WY	1985	<i>PMA</i> , PAD District IV

Monthly State tax information and Federal tax information are from *Highway Statistics*. The monthly State taxes are averaged to create an average annual tax for each State which is combined with the Federal tax to adjust the *PMA* price.

Monthly *CPI* city prices weighted by monthly consumption from *Highway Statistics* for AK/1983-1986, HI/1983-1986, DC/1983 forward, and MD/1985 for-

ward are used to calculate annual prices for those States. *CPI* prices already include taxes.

Collection of motor gasoline price data for HI by the Bureau of Labor Statistics stopped in December 1986. The HI/1987-1989 prices are derived as follows: the average ratio of the HI *CPI* price (with HI State and Federal taxes subtracted) to the PAD District V price (with HI State and Federal taxes added) for the years 1983-1986 is multiplied by the PAD District V price for the current year and then taxes are added to estimate the HI/1987-1989 prices.

Physical Unit Prices: 1982

Monthly physical unit motor gasoline prices for 1982 are from the *Platt's Oil Price Handbook and Oilmanac (Platt's)* table, "AAA 'Fuel Gauge' Report," the *CPI*, or both. Table 26 on page 218 summarizes price data availability by source. The *Platt's* prices are reported for both leaded and unleaded motor gasoline and for both full service and self service for all States except AK and HI. All available *Platt's* prices for 1982 are used in the calculation of motor gasoline prices. The continuity of these prices with prices published by *Platt's* in previous years suggests that taxes are included, but this is not explicitly indicated.

The available *CPI* monthly physical unit motor gasoline prices for 1982 are for all types of motor gasoline and cover 25 States as shown in Table 27 on page 219. The *CPI* prices are assigned to any State that has a county included in the Standard Metropolitan Statistical Area (SMSA) definitions used by the Bureau of Labor Statistics. These "all types" prices cover leaded regular, unleaded regular, and leaded premium, including taxes. All the available *CPI* prices for 1982 are also used in the calculation of motor gasoline prices. Complete monthly data exist for the 25 States covered by the *CPI*. The *CPI Detailed Report* of April 1986 explicitly states that Federal, State, and local taxes are included.

To combine the product-specific *Platt's* prices with the "all types" prices published in the *CPI*, the *Platt's* prices are weighted into "all types" prices using annual U.S. share data for leaded and unleaded motor gasoline (no breakdowns for regular and premium are possible with current data limitations). The share data come from the *Monthly Energy Review (MER)*.

Motor gasoline price data reported by *Platt's* for 1982 cover the following months: February, April, June, August, November, and December. The missing 6 months are assigned prices as follows: January is assigned the February price, and the other missing months are assigned the average price of the preceding and succeeding months. A missing February price for MO is assumed to be equal to the April price, and a missing price for OR is assumed to be equal to the average of the April and August prices.

Table 26. Summary of Motor Gasoline Price Data by Year, 1970-1982

Years -----	Source -----	Grades Covered -----	Composite Price -----	Missing States, All Sources -----
1982	Platt's	leaded	no	none
		unleaded	no	
	CPI	leaded regular	yes	
		leaded premium	yes	
		unleaded regular	yes	
1979-1981	Platt's	leaded regular	no	AR DE ME MS MT ND NH OK RI SC SD VT WV WY
		leaded premium	no	
		unleaded regular	no	
		unleaded premium	no	
	CPI	leaded regular	yes	
		leaded premium	yes	
		unleaded regular	yes	
1978	Platt's	leaded regular	no	
	CPI	leaded regular	yes	
		leaded premium	yes	
		unleaded regular	yes	
1976, 1977	Platt's	leaded regular	no	
	CPI	leaded regular	no	
		leaded premium	no	
		unleaded regular	no	
1974, 1975	Platt's	leaded regular	no	AK
	CPI	leaded regular	no	
		leaded premium	no	
1970-1973	Platt's	leaded regular	no	AK, HI

For States with data from *Platt's* only, prices by product type (leaded and unleaded) are first calculated as the simple average of full-service and self-service prices for that product for each month and State. The resulting prices are then weighted into monthly composite prices using U.S. leaded and unleaded shares of motor gasoline product supplied from the *MER*. The following 26 States have data only from *Platt's*: AL, AR, AZ, CT, DE, IA, ID, LA, ME, MS, MT, NC, ND, NE, NH, NM, NV, OK, RI, SC, SD, TN, UT, VT, WV, and WY.

Platt's reports two prices for each motor gasoline product for each year: one full-service price and one self-service price. These two prices are combined using a simple average into a single product price for each State for each month.

The unleaded U.S. share of total motor gasoline consumption is reported in the *MER* as 52.1 percent in 1982. Assuming that the remaining motor gasoline consumption is leaded, the leaded portion of total consumption is 47.9 percent. These shares are used for all

States and months to calculate the composite prices from the leaded and unleaded prices.

For AK and HI, the only States with data only from the *CPI*, the all types monthly prices reported are used directly as monthly composite prices.

For States with price data from both *Platt's* and the *CPI*, the *Platt's* data are first combined into product type prices and weighted with the *MER* shares. The resulting combined prices for all motor gasoline types are averaged together with the combined *CPI* city prices assigned to the respective month and State. The following 23 States have monthly composite prices computed in this way: CA, CO, DC, FL, GA, IL, IN, KS, KY, MA, MD, MI, MN, MO, NJ, NY, OH, OR, PA, TX, VA, WA, and WI.

1. Leaded and unleaded gasoline prices are calculated as simple averages of full-service and self-service prices from *Platt's*, and are then weighted into a composite price using *MER* shares of leaded and unleaded motor gasoline consumption.

2. Monthly "all types" motor gasoline prices covering leaded regular, leaded premium, and unleaded regular are directly from the *CPI*. If there is more than one *CPI* price observation for a month and State, the *CPI* prices are simple averages.
3. Using a simple average, the composite *Platt's* prices are combined with the "all types" *CPI* prices for that State. The resulting prices are the monthly composite prices for 1982.

Table 27. Motor Gasoline Price Assignments from *Consumer Prices: Energy*, 1978-1982

State	City Price Assignments
AK	Anchorage
CA	Los Angeles-Long Beach-Anaheim, San Diego, San Francisco, Oakland
CO	Denver-Boulder
DC	Washington
FL	Miami
GA	Atlanta
HI	Honolulu
IL	Chicago-Northwestern Indiana, St. Louis
IN	Chicago-Northwestern Indiana, Cincinnati
KS	Kansas City
KY	Cincinnati
MA	Boston
MD	Baltimore, Washington
MI	Detroit
MN	Minneapolis-St. Paul
MO	St. Louis, Kansas City
NJ	New York-Northeastern NJ, Philadelphia
NY	New York-Northeastern NJ, Buffalo
OH	Cincinnati, Cleveland
OR	Portland
PA	Philadelphia, Northeastern PA, Pittsburgh
TX	Dallas-Ft. Worth, Houston
VA	Washington
WA	Seattle-Everett, Portland
WI	Milwaukee, Minneapolis-St. Paul

Note: All types of motor gasoline are included.

Annual physical unit prices for all States are calculated from the monthly motor gasoline prices calculated above and weighted by the monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Physical Unit Prices: 1979-1981

For 1979-1981, *Platt's* monthly motor gasoline prices are from a table titled "Platt's/Lundberg Summary." Prices are available for cities by product type, by grade, and by type of service (full service, self service). Four products and grades of motor gasoline are covered: leaded regular, unleaded regular, leaded premium, and unleaded premium. These data cover 37 States. Although it is not clear whether taxes are included in the prices, the continuity of the series with 1978 prices suggests that taxes are included. The *CPI* reports "all types" prices, including taxes, for the cities listed in Table 27. *Platt's* city price assignments to States for 1979-1981 are shown in Table 28.

Table 28. Motor Gasoline Price Assignments from *Platt's*, 1979-1981

State	City Price Assignments
AL	Birmingham
AZ	Phoenix, Tucson
CA	Bakersfield, Fresno, Los Angeles, Sacramento, San Diego, San Francisco, Stockton
CO	Denver
CT	New Haven
DC	Washington
FL	Miami, Tampa-St. Petersburg
GA	Atlanta
IA	Des Moines
ID	Boise
IL	Chicago
IN	Indianapolis
KY	Louisville
LA	New Orleans
MA	Boston
MD	Baltimore
MI	Detroit
MN	Minneapolis
MO	Kansas City, St. Louis
NC	Charlotte
NE	Omaha
NJ	Newark
NM	Albuquerque
NV	Las Vegas, Reno
NY	Long Island, Rochester
OH	Cincinnati
OR	Portland
PA	Philadelphia, Pittsburgh
TN	Memphis
TX	El Paso, Houston
UT	Salt Lake City
VA	Norfolk
WA	Seattle, Spokane
WI	Milwaukee

The computation of monthly composite prices for 1979-1981 varies, depending on the available data sources for each State. Monthly composite prices are estimated for the 14 States which do not have reported price data from either data source. If both *Platt's* and the *CPI* report prices for a city, the *CPI* price is used.

1. For States with city price observations only from *Platt's*, prices for leaded and unleaded motor gasoline are combined using simple averaging, regardless of the type of service, and converted to dollars per gallon. The leaded and unleaded prices are then weighted together into a monthly composite price. The following 12 States have prices only from *Platt's* for 1979-1981: AL, AZ, CT, IA, ID, LA, NC, NE, NM, NV, TN, and UT.
 - a. The *Platt's* prices for 1981 end in September of that year; monthly prices by grade and service type for October, November, and December are assumed to be equal to the corresponding September prices.
 - b. Leaded and unleaded prices are calculated for each State by simple averaging of all prices available for each product (leaded, unleaded), regardless of service type or grade of motor gasoline (regular, premium). All city prices for each State are averaged together.
 - c. Leaded and unleaded shares of total motor gasoline consumption for the United States are calculated from the *MER* for each year 1979-1981. The monthly product type prices are weighted into composite prices using the national leaded and unleaded shares as weights.
2. For States with city price observations only from the *CPI*, the monthly "all types" prices are used directly for States with only one price observation per month. For States with multiple observations, monthly prices are combined by simple averaging. States with *CPI* data only are: AK, CO, DC, GA, HI, IL, KS, MA, MD, MI, MN, MO, NJ, OH, OR, PA, and WI.
3. For the eight States with price observations from both *Platt's* and the *CPI* (CA, FL, IN, KY, NY, TX, VA, and WA), monthly composite prices for 1979-1981 are calculated using three steps:
 - a. The *Platt's* prices are combined into single "all types" prices as described above, using leaded and unleaded grades of motor gasoline shares as weights.
 - b. The *CPI* prices are combined by State.
 - c. Using simple averaging, the composite *Platt's* price for each State is combined with the "all types" *CPI* price for that State. The resulting prices are the monthly composite prices for 1979-1981.

4. Fourteen States are not covered by price data from either *Platt's* or the *CPI* in 1979-1981. These States are AR, DE, ME, MS, MT, ND, NH, OK, RI, SC, SD, VT, WV, and WY. Monthly composite prices for these States are estimated using the monthly State-level composite prices for 1982 and Census region monthly prices from the *CPI* for 1979-1982:
 - a. The ratio between the 1982 State prices and the 1982 *CPI* Census region prices corresponding to each State is calculated for use as an adjustment factor in 1979, 1980, and 1981.
 - b. The monthly price for each of the 14 missing States is assumed to be the product of the 1982 Census region adjustment factor for that State times the monthly motor gasoline price for that Census region from the *CPI*.

Annual physical unit prices for all States are calculated from the monthly motor gasoline prices calculated above and weighted by the monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Physical Unit Prices: 1978

The *Platt's* monthly leaded regular motor gasoline prices cover all States except AK and HI. The *Platt's* city assignments to States are shown in Table 29 on page 221. In 1978, the *CPI* motor gasoline coverage was expanded from 21 States to 25 States (28 SMSAs) and an "all types" price is published that covers leaded regular, leaded premium, and unleaded regular. The *CPI* SMSA assignments to States for 1978-1982 are shown in Table 27 on page 219. Both the *CPI* and the *Platt's* prices include taxes.

Since both sources report a single price for each city or SMSA, product weights are not needed to compute monthly composite prices. Instead, city price observations are assigned to States as shown in Table 27 on page 219 and Table 29 on page 221, and are combined using simple averaging by State and month. If both *Platt's* and the *CPI* cover a city/SMSA, the *CPI* price is used. *Platt's* prices are converted to dollars per gallon; the *CPI* prices are already expressed in dollars. All States are covered by the data sources, so no imputation is required for 1978. The following 26 States have prices only from *Platt's*: AL, AR, AZ, CT, DE, IA, ID, LA, ME, MS, MT, NC, ND, NE, NH, NM, NV, OK, RI, SC, SD, TN, UT, VT, WV, and WY. The following 19 States are covered only by the *CPI*: AK, CA, CO, DC, FL, GA, HI, IL, MA, MD, MI, MN, MO, NJ, NY, OH, OR, PA, and WI. Six States have price data from both sources: IN, KS, KY, TX, VA, and WA.

Annual physical unit prices for all States are calculated from the monthly motor gasoline prices calculated

Table 29. Motor Gasoline Price Assignments from *Platt's*, 1970-1978

State	City Price Assignments
AL	Birmingham
AR	Little Rock
AZ	Phoenix
CA	Los Angeles, San Francisco
CO	Denver
CT	Hartford
DC	Washington
DE	Wilmington
FL	Miami
GA	Atlanta
IA	Des Moines
ID	Boise
IL	Chicago
IN	Indianapolis
KS	Wichita
KY	Louisville
LA	New Orleans
MA	Boston
MD	Baltimore
ME	Portland (ME)
MI	Detroit
MN	Twin Cities
MO	St. Louis
MS	Jackson
MT	Great Falls
NC	Charlotte
ND	Fargo
NE	Omaha
NH	Manchester
NJ	Newark
NM	Albuquerque
NV	Reno
NY	Buffalo, New York
OH	Cincinnati, Cleveland
OK	Tulsa
OR	Portland (OR)
PA	Philadelphia
RI	Providence
SC	Charleston (SC)
SD	Huron
TN	Memphis
TX	Dallas, El Paso, Houston
UT	Salt Lake City
VA	Norfolk
VT	Burlington
WA	Seattle, Spokane
WI	Milwaukee
WV	Charleston (WV)
WY	Cheyenne

above and weighted by the monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Physical Unit Prices: 1976, 1977

The calculation of monthly composite State prices for 1976 and 1977 depends upon the source of data; different procedures are used for States with only *Platt's* data, States with only *CPI* data, and States with both *Platt's* and *CPI* data. If both data sources cover a city, the *CPI* price is used. City price assignments to States are given in Table 29 for *Platt's* and in Table 30 for the *CPI*. Prices from both sources include taxes. AK is the only State for which prices need to be estimated.

Table 30. Motor Gasoline Price Assignments from *Consumer Prices: Energy*, 1974-1977

State	City Price Assignments
CA	Los Angeles-Long Beach, San Diego, San Francisco-Oakland
DC	Washington
GA	Atlanta
HI	Honolulu
IL	Chicago, St. Louis
IN	Cincinnati, Chicago
KS	Kansas City
KY	Cincinnati
MA	Boston
MD	Baltimore, Washington
MI	Detroit
MN	Minneapolis-St. Paul
MO	St. Louis, Kansas City
NJ	New York-Northeastern NJ, Philadelphia
NY	Buffalo, New York-Northeastern NJ
OH	Cincinnati, Cleveland
PA	Philadelphia, Pittsburgh
TX	Dallas, Houston
VA	Washington
WA	Seattle
WI	Milwaukee, Minneapolis-St. Paul

Note: Prices are available separately for leaded regular, leaded premium, and unleaded regular (1976, 1977); "all types" prices are not available.

For States with data from *Platt's* only, the monthly prices reported in *Platt's* are either used directly or combined using simple averaging if there is more than one price observation for a State in a given month. The reported prices in cents per gallon are converted to dollars per gallon. Prices for the following 29 States are calculated using this procedure and cover only leaded regular motor gasoline: AL, AR, AZ, CO, CT, DE, FL, IA, ID, LA, ME, MS, MT, NC, ND, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VT, WV, and WY.

If State-level motor gasoline prices for 1976 and 1977 are available only from the *CPI*, monthly composite

prices are calculated as weighted averages of leaded and unleaded prices. Prices for 15 States are calculated using data only from the *CPI*: CA, DC, GA, HI, IL, MA, MD, MI, MN, MO, NJ, NY, OH, PA, and WI.

1. The weights used in this process are national-level shares of leaded and unleaded motor gasoline product supplied. For 1977, the leaded and unleaded share of 0.725 and 0.275, respectively, are from the *MER*. For 1976, *MER* data for 1977-1984 are used to estimate the unleaded share using simple regression. The unleaded percentages for 1977-1984 are converted to shares and used to estimate leaded and unleaded shares of motor gasoline. The resulting 1976 leaded share is 0.744 and the unleaded share is 0.256.
2. The next step is to calculate monthly composite leaded and unleaded prices for each State. If more than one *CPI* price observation is available for a particular grade of motor gasoline (leaded or unleaded) for a State in a given month, the *CPI* observations are combined by grade using simple averaging. Regular and premium prices are averaged for an estimate of State-level leaded prices.
3. Final monthly composite prices for 1976 and 1977 are calculated using the leaded and unleaded composite prices calculated above and the *MER*-based leaded and unleaded shares as volume weights.

For States with price data from both *Platt's* and the *CPI*, all price observations are averaged together by product type. If both sources report prices for a city, the *CPI* price is used. Once composite leaded and unleaded prices have been calculated separately for each State, the leaded and unleaded consumption shares are used to weight the product-type prices into the final monthly composite motor gasoline prices. Six States are calculated with data from both *Platt's* and the *CPI*: IN, KS, KY, TX, VA, and WA.

1. Monthly leaded composite prices are calculated by combining *Platt's* prices with the *CPI* prices for leaded regular and premium motor gasoline by month, since the *Platt's* prices cover only regular leaded fuel (Table 26 on page 218). If both data sources cover a city, the *CPI* prices are used.
2. Since the *CPI* is the only source of unleaded gasoline price data for 1976-1977, monthly unleaded composite prices are calculated from *CPI* data only.
3. Final monthly composite prices for the six States with price data from both *Platt's* and the *CPI* are calculated using annual U.S. leaded and unleaded shares and leaded and unleaded monthly composite prices.

Prices for 1976 and 1977 for AK, the only State not covered by price data from either data source, are es-

timated based on the average relationship between the State and the national average price for years in which data are available. The national average price used for these estimations is a simple average of the prices of the 49 States for which data are available in all years (i.e., excluding AK and HI for all years). Annual prices for AK are estimated based on the average AK-to-U.S. price relationship for 1978 and 1979.

Annual physical unit prices (excluding AK) are calculated from the monthly motor gasoline prices calculated above and weighted by the monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Physical Unit Prices: 1974, 1975

The *Platt's* price data for 1974-1975 cover only leaded regular motor gasoline. Beginning in 1974, motor gasoline price data are also available from the *CPI* for selected SMSAs. An SMSA price is assigned to each State with counties included in the definition of that SMSA; for the years 1974-1977, prices for 23 SMSAs cover 21 States. The State assignments of SMSA prices for 1974-1977 are given in Table 30 on page 221. For 1974 and 1975, *CPI* prices are reported separately for leaded regular and leaded premium motor gasoline. According to the *CPI Detailed Report, April 1986*, these prices include taxes; the *Platt's* prices also include taxes. AK is the only State not covered by either of these two data sources; prices for AK are estimated for 1974 and 1975.

The *Platt's* regular leaded prices and the *CPI* regular and premium leaded motor gasoline prices, including taxes, are assigned to their respective States as shown in Table 29 on page 221 and Table 30 on page 221. If both sources cover a city, the *CPI* price is used. The following 29 States are covered only by *Platt's*: AL, AR, AZ, CO, CT, DE, FL, IA, ID, LA, ME, MS, MT, NC, ND, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VT, WV, and WY. The following 15 States are covered only by *CPI*: CA, DC, GA, HI, IL, MA, MD, MI, MN, MO, NJ, NY, OH, PA, and WI. The following six States have both *Platt's* and *CPI* data for the cities within these States: IN, KS, KY, TX, VA, and WA.

All price observations in a State, regardless of grade or data source, are added together and divided by the number of observations. As part of this calculation, *Platt's* prices are converted from cents per gallon to dollars per gallon.

Neither *Platt's* nor the *CPI* reports price data for AK. The methodology of the estimation of annual AK prices is the same as used in 1976 and 1977.

Annual physical unit prices for the remaining 50 States (excluding AK) are calculated from the monthly motor gasoline prices calculated above and weighted by the

monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Physical Unit Prices: 1970-1973

Monthly motor gasoline physical unit prices for 1970-1973 are available only from *Platt's*, where city prices covering 49 States are reported. These prices, as shown in Table 26 on page 218, are for leaded regular motor gasoline only and include taxes.

Monthly average city prices from *Platt's* are assigned to the State in which the city is located. *Platt's* city price assignments to States are given in Table 29 on page 221.

Monthly composite prices for 1970-1973 are equal to the reported monthly *Platt's* prices or, if more than one city is available for a given State in a certain month, a simple average of the assigned city prices. The reported prices are converted from cents to dollars per gallon.

Platt's does not report data for either AK or HI for 1970-1973. The methodology of the estimation of AK and HI prices is the same as used for 1976 and 1977.

Annual physical unit prices (excluding AK and HI) are calculated from the monthly motor gasoline prices weighted by the monthly motor gasoline consumption volumes for States from *Highway Statistics*.

Btu Prices: All Years

Btu prices for States are computed by converting the physical unit prices in dollars per gallon to dollars per barrel (42 gallons per barrel) and, then, to dollars per million Btu (5.253 million Btu per barrel). U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1986 forward: Energy Information Administration, *Petroleum Marketing Annual*, Table 29 (1986-1988) and Table 30 (1989), column titled, "All Refiners, Sales to End Users, Through Company Outlets."

1983-1985: Energy Information Administration, *Petroleum Marketing Annual 1985, Volume 1*, Table 16, column titled, "All Refiners and Gas Plant Operators, Sales to End-Users, Through Company Outlets."

1974 forward: Bureau of Labor Statistics, U.S. Department of Labor, *Consumer Prices: Energy*, computer printouts of monthly gasoline prices.

1970-1982: McGraw-Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*; table titled "AAA 'Fuel-gauge' Report" (1982); table titled, "Platt's/Lundberg Summary," (1979-1981); and table titled, "Service Station Prices: Gasoline (Including Taxes)," (1970-1978).

1974-1982: Bureau of Labor Statistics, *CPI Detailed Report*, April 1986, Technical Notes, page 110.

1982: Energy Information Administration, Form EIA-25 "Prime Supplier Monthly Report" computer tape, unpublished data.

1976-1984: Energy Information Administration, *Monthly Energy Review*, January 1985, table titled, "Petroleum: Finished Motor Gasoline Supply and Disposition."

Taxes

1970 forward: Federal Highway Administration, U.S. Department of Transportation, *Highway Statistics*, Tables MF-26 (1973 forward); MF-121T for State taxes (1983 forward); FE-101 for Federal taxes (1983 forward); and MF-23 and MF-25 (1970-1972).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, transportation sector, motor gasoline consumption.

Conversion Factor: All Years

5.253 million Btu per barrel

Petroleum Coke (Utilities)

Petroleum coke is consumed by the electric utility and industrial sectors. The portion of petroleum coke consumed by the industrial sector (98 percent in 1989) is included in the category "other petroleum products," which is discussed in a subsequent section. The remaining petroleum coke is used for electricity generation in 12 States over the period 1970 forward. A maximum of seven States reported consumption in any single year. Estimates of the annual consumption of petroleum coke by electric utilities are from SEDS. Estimates of the deliveries of petroleum coke, used in the price calculation described below, are from the *Cost and Quality of Fuels for Electric Utility Plants (C&Q)*. The C&Q prices are the delivered costs of the fuels and include all taxes, transportation, and other charges paid by the utilities.

Btu Prices: 1972 Forward

The principal data source for petroleum coke used by electric utilities is an EIA public use computer tape covering the period 1972 forward. From 1972-1982, steam plants with a maximum capacity of 25 megawatts were included. For 1983 and subsequent years, the reporting threshold was raised to 50 megawatts capacity. In addition to the computer tape, the data are also published, but not for the full period. From 1978-1982, *Cost and Quality of Fuels for Electric Utility Plants* was published monthly and annually; data for calculating petroleum coke prices are in only the monthly reports. For 1983 and subsequent years, C&Q was published annually and includes petroleum coke prices for individual States and for the Nation.

The computer tape, *Cost and Quality of Fuels for Electric Utility Plants (Form 423) Historic Files*, shows quantity in short tons, estimated Btu per pound, and price in dollars per million Btu. The data are presented by plant, by State, and by month. The Btu price is calculated as the annual sum of the unit prices, weighted by the total Btu in each reported delivery, divided by the annual sum of the Btu delivered to all electric utility plants within the State. The States and years listed below have prices assigned as follows:

State	Years	Assigned Prices
DE	1981 forward	PA
KS	1975	MO
MO	1983, 1985	MN
NY	1974	PA
WI	1985	MN

The high DE prices prior to 1981 are actual reported prices.

Btu Prices: 1970, 1971

For the years 1970 and 1971, prices are estimated using the Gross National Product Implicit Price Deflator. The deflator for 1970 or 1971 is divided by the 1972 deflator and the quotient is multiplied by the 1972 price for each State to develop the price estimates for 1970 and 1971. The deflators are 42.0 in 1970, 44.4 in 1971, and 46.5 in 1972.

Although SEDS has a consumption estimate for NJ in 1971, there are no NJ price data for any year in the Form 423 Historic Files. Form 423 data for PA in 1972 are used to estimate a PA price for 1971, which is assigned to NJ. The Form 423 PA prices for 1972 and 1971 do not appear in SEPEDS since SEDS has no petroleum coke consumption in PA for those years.

U.S. Btu Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1972 forward: Energy Information Administration, Public Use Tape, "Cost and Quality of Fuels for Electric Utility Plants (Form 423) Historic Files," as published in the following reports:

- 1983 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, Table 20 (1983, 1984), Table 12 (1985 forward).
- 1978-1982: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, table titled, "Wood Chips, Refuse, and Petroleum Coke Used as Fuel by Steam-Electric Units."

1970-1972: Energy Information Administration, *Annual Energy Review 1989*, Appendix C. GNP Dollars and Deflators.

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electric utility petroleum coke consumption.

Conversion Factors: All Years

No conversion factors are required; Btu prices are calculated directly from data sources.

Residual Fuel

Residual fuel prices are developed for the electric utility, industrial, commercial, and transportation sectors. Estimates of the amount of residual fuel consumed by sector are from SEDS and are adjusted for process fuel consumption in the industrial sector. See the "Consumption Adjustments for Process Fuel and Intermediate Products" section in this documentation.

Electric Utility Sector

The electric utility price for residual fuel (heavy oil) is the average delivered cost of No. 6 fuel oil receipts at electric utilities. Prices include taxes. For 1973 forward, Btu prices are developed directly from the data sources. For 1970-1972, prices are estimated using simple regression analysis. All taxes, transportation, and other charges paid by utilities are included in the prices.

Btu Prices: 1973 Forward

Electric utility sector residual fuel prices for 1973 forward are from *Cost and Quality of Fuels for Electric Utility Plants (C&Q)*. For 1973-1979, Btu prices are calculated as the weighted average of contract and spot prices for No. 6 fuel oil. Table 31 lists the States and years for which consumption is indicated by SEDS but no price is shown in *C&Q*. For these States, the Census division price, as shown in *C&Q*, is assigned as the State price.

For 1983 forward, *C&Q* reports prices for steam electric plants of 50 megawatt capacity or greater. For 1980-1982, *C&Q* prices cover all reporting plants of 25 megawatt capacity or greater.

AK/1973-1989 and HI/1973-1982 prices are developed using the ratio of the *C&Q* U.S. price and the *Statistical Yearbook* U.S. price multiplied by the *Statistical Yearbook* State price. AK/1973, 1975, 1978 prices are based on the average ratio of U.S. and AK prices for 1974, 1976 and 1977, and 1979 and 1980. The U.S. prices for 1973, 1975, and 1978, are multiplied by the average ratio for the years that have prices.

Btu Prices: 1970-1972

State-level Btu prices for 1970-1972 are estimated using regression techniques and price data from the *Statistical Yearbook*. The regression equations use *Statistical Yearbook* State-level prices for 1973-1980 as the independent variable and the State-level prices calculated above (including the estimations for AK and HI) as the dependent variable. Pacific regional price averages are

Table 31. Residual Fuel Electric Utility Price Assignments from Census Division Prices, 1970 Forward

State	Years of Assigned Prices
AL	1975-1979
AR	1987
AZ	1984, 1985
CO	1982, 1987, 1989
DC	1982-1989
IA	1970-1985
IN	1970-1979
KS	1980, 1981, 1985-1987, 1989
KY	1970-1979
MN	1984, 1985, 1987-1989
MT	1970-1979
NC	1976, 1977, 1979, 1980, 1982, 1984
ND	1970-1979
NE	1981-1983
NM	1979-1982, 1989
NV	1983, 1985
OK	1977, 1978, 1980, 1982-1987, 1989
OR	1970, 1973, 1974
SC	1983, 1985-1989
SD	1981-1988
TN	1979
UT	1982, 1983, 1986
VT	1970-1979
WA	1970, 1971, 1975-1978, 1981-1983, 1986-1988
WV	1970-1977, 1979
WY	1970-1979

assigned for the missing WA/1970, 1971 prices. The average of 1970 and 1972 AK *Statistical Yearbook* prices is substituted for the missing 1971 AK price, and a similar calculation is made for the 1973, 1975, and 1978 prices.

U.S. Btu Prices: All Years

U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1973 forward: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, Table 6 (1973-1979), Table 45 (1980-1982), Table 51 (1983, 1984), and Table 41 (1985 forward).

1970 forward: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, Table 43 (1970-1979), Table 26 (1980-1983), Table 28 (1984-1986), and Table 29 (1987 forward).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electric utility sector heavy oil consumption.

Conversion Factors: All Years

Because Btu prices are available directly from the data sources, no conversion factors are used.

Industrial Sector

The industrial sector residual fuel prices for 1984 forward are developed from refiner/reseller prices of residual fuel as published in the *Petroleum Marketing Annual*. Residual fuel prices for 1970-1983 are calculated or estimated using average costs of residual fuel to manufacturing firms published in two Bureau of the Census reports and *Platt's Oil Price Handbook and Oilmanac*. Price data in these sources are available for the years 1971 and 1974-1981; prices for 1970, 1972, 1973, 1982, and 1983 are estimated. Prices for all years include taxes.

Physical Unit Prices: 1984 Forward

Residual fuel industrial sector physical unit prices are calculated using refiner/reseller prices to end users from the *Petroleum Marketing Annual (PMA)*. The States that do not have *PMA* prices are assigned their PAD district or subdistrict price as shown in Table 32, with the exception of AK. AK industrial residual fuel price for 1984 forward is based on the WA industrial residual fuel price and the ratio of the AK-to-WA industrial distillate fuel prices for each year. Tax data from Bureau of the Census publications are added to develop final sector prices.

Table 32. Residual Fuel Industrial Sector Price Assignments, 1984 Forward

State	Years	PAD Prices Assigned
AR	1985	District III
AZ	1984-1989	District V
CO	1986, 1988	District IV
ID	1985, 1986, 1989	District IV
MS	1988	District III
ND	1988, 1989	District II
NM	1984-1986	District III
NV	1986, 1988	District V
OR	1989	District V
UT	1989	District IV
WV	1984	Subdistrict IC
WY	1989	District IV

Physical Unit Prices: 1982, 1983

After 1981, the *Annual Survey of Manufacturers* and the *Census of Manufacturers (ASM/CM)* ceased publication of fuel-specific State-level residual fuel data from which prices can be calculated. Prices for 1982 and 1983 are estimated from the average relationship between the *ASM/CM*-based prices generated for 1978-1981 and the assigned *Platt's* No. 6 fuel oil prices for 1978-1981 (Table 33 on page 227). These average ratios are calculated at the State-level for all States except AK, which shows no industrial sector residual fuel use reported in SEDS for 1982 and 1983. Physical unit residual fuel industrial prices for 1982 and 1983 are calculated using the assigned *Platt's* prices for 1982 and 1983 (Table 33 on page 227) and the State-level average ratios.

Physical Unit Prices: 1971, 1974-1981

For the years 1971 and 1974-1981, industrial sector residual prices are calculated directly from cost and quantity data reported by the *ASM/CM*. For all States with available cost and quantity data, prices are equal to the average cost of residual fuel to manufacturers. Taxes are included in the published cost data. Missing data for these years are assigned from the average prices of adjacent States as shown below:

State	Years	State Prices Used
AK	1980, 1981	HI, WA
DC	1979-1981	MD, VA
MT	1974-1979	ID, ND, SD
ND	1980	MN, MT, SD
NM	1971, 1974-1981	AZ, CO, TX
NV	1974-1978	AZ, CA, ID, OR, UT
OK	1974-1978, 1980	AR, CO, KS, MO, TX
SD	1981	IA, MN, MT, ND, NE
WY	1971, 1974-1981	CO, NE, UT

Physical Unit Prices: 1970, 1972, 1973

Since *ASM/CM* data are not available for 1970, 1972, or 1973, prices for these years must be estimated. Physical unit prices are based on the ratio of the 1971 *CM* prices to the 1971 assigned No. 6 fuel oil prices from *Platt's Oil Price Handbook and Oilmanac* (Table 33 on page 227). The estimated 1971 *CM* prices for NM and WY are used in the calculations. The resulting ratios for each State are used with the *Platt's* assigned prices for 1970, 1972, and 1973 to estimate prices.

Table 33. No. 6 Fuel Oil Price Assignments from Platt's, 1970-1983

State	Years	Assigned Prices
AK	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973-1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
AL	1970-1983	Savannah, GA
AR	1970-1983	Arkansas
AZ	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973-1974, 1976	Los Angeles/San Francisco
	1981-1983	Los Angeles, CA; San Francisco
CA	1970-1972, 1975, 1977-1980	Los Angeles
	1973-1974, 1976	Los Angeles/San Francisco
	1981-1983	Los Angeles; San Francisco
CO ¹	1970-1983	Minneapolis/St. Paul, MN
CT	1970-1983	New Haven
DC	1970-1983	Baltimore, MD
DE	1970-1983	Baltimore, MD
FL	1970-1972	Jacksonville; Miami; Tampa; Port Everglades
	1973-1975	Jacksonville; Miami; Tampa
	1976-1983	Jacksonville/Miami
GA	1970-1983	Savannah
HI	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
IA ¹	1970-1983	Chicago, IL
ID	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
IL ¹	1970-1983	Chicago
IN ¹	1970-1983	Chicago, IL
KS	1970	Baton Rouge, LA; New Orleans, LA
	1971-1983	New Orleans, LA
KY	1970	Baton Rouge, LA; New Orleans, LA
	1971-1983	New Orleans, LA
LA	1970	Baton Rouge; New Orleans
	1971-1983	New Orleans
MA	1970-1983	Boston
MD	1970-1983	Baltimore
ME	1970-1983	Portland
MI ¹	1970-1983	Detroit
MN ¹	1970-1983	Minneapolis/St. Paul
MO ¹	1970-1973	Chicago, IL
	1974-1983	St. Louis
MS	1970	Baton Rouge, LA; New Orleans, LA
	1971-1983	New Orleans, LA
MT ¹	1970-1983	Minneapolis/St. Paul, MN
NC	1970-1983	Wilmington
ND ¹	1970-1983	Minneapolis/St. Paul, MN
NE	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
NH	1970-1983	Portland, ME
NJ	1970-1972	New Jersey
	1974, 1975	New York, NY; Albany, NY; Buffalo, NY
	1976-1983	New York, NY; Albany, NY
NM	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
NV	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA
NY	1970-1975	New York; Albany; Buffalo
	1976-1983	New York; Albany
OH ¹	1970	Toledo
	1971-1983	Detroit, MI
OK ²	1970-1977, 1979	Group 3 (Oklahoma)
	1978, 1980-1983	New Orleans, LA
OR	1970-1972, 1975, 1977-1980	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1981-1983	Los Angeles, CA; San Francisco, CA

State	Years	Assigned Prices
Continued		
PA	1970-1983	Philadelphia
RI	1970-1975	Providence
	1976-1983	New Haven, CT
SC	1970-1983	Charleston
SD ¹	1970-1983	Minneapolis/St. Paul, MN
TN	1970	Baton Rouge, LA; New Orleans, LA
	1971-1983	New Orleans, LA
TX	1970-1972	New Mexico/West Texas
	1973-1983	New Orleans, LA
UT ¹	1970-1983	Minneapolis/St. Paul, MN
VA	1970-1983	Norfolk
VT	1970-1983	Portland, ME
WA	1970-1972, 1975, 1978, 1979	Los Angeles, CA
	1973, 1974, 1976	Los Angeles/San Francisco, CA
	1980-1983	Seattle/Tacoma
WI ¹	1970-1983	Chicago, IL
WV	1970-1983	Norfolk, VA
WY ¹	1970-1983	Minneapolis/St. Paul, MN

¹Raw data from *Platt's* must be converted from cents per gallon to dollars per barrel.

²As shown in *Platt's*.

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS, adjusted for process fuel consumption.

Data Sources

Prices

1984 forward: Energy Information Administration, *Petroleum Marketing Annual 1989*, Table A4.

1984 forward: Industrial sector distillate fuel price estimates (in physical units) from the *SEPER* data system (AK and WA only).

1970-1983: McGraw-Hill, Inc., *Platt's Oil Price Handbook and Oilmanac*, refinery and terminal prices for No. 6 fuel oil, average of highs and lows.

1971, 1977, 1981: Bureau of the Census, U.S. Department of Commerce, *Census of Manufactures, Fuels and Electric Energy Consumed*, Part 2, Table 3. (Dates shown on the report covers are, respectively, 1972, 1977, and 1982.)

1974-1976 and 1978-1980: Bureau of the Census, U.S. Department of Commerce, *Annual Survey of Manufactures, Fuels and Electric Energy Consumed, States by Industry Group*, Table 3.

Taxes

1987 forward: Bureau of the Census, U.S. Department of Commerce, *State Government Tax Collections*, Table 8, column titled, "Percentage rate, September 1."

1984-1986: Bureau of the Census, U.S. Department of Commerce, *Statistical Abstract of the United States*, table titled, "State Government Tax Collections and Excise Taxes," column titled, "Excise Taxes, General sales and gross receipts."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, industrial sector residual consumption.

Conversion Factor: All Years

6.287 million Btu per barrel

Commercial Sector

For 1984 forward, State-level commercial sector residual fuel prices are developed from refiner/reseller prices of residual fuel to end users published in the *Petroleum Marketing Annual*. For 1970-1983, commercial sector residual fuel prices are estimated for all States from national-level residual fuel prices and the State-level electric utility sector residual fuel prices. State and Federal taxes are included in the final prices for all years.

Physical Unit Prices: 1984 Forward

Commercial sector residual fuel physical unit prices are calculated using refiner/reseller prices to end users from the *Petroleum Marketing Annual (PMA)*. The

States that do not have *PMA* prices are assigned their PAD district or subdistrict price as shown in Table 34, with the exception of AK. AK commercial residual fuel price for 1984 forward is based on the WA commercial residual fuel price and the ratio of the AK-to-WA commercial distillate fuel prices for each year. Tax data from Bureau of the Census publications are added to develop final sector prices.

Physical Unit Prices: 1976-1983

The commercial sector residual fuel physical unit prices for 1976-1983 are estimated from the electric utility sector residual prices for corresponding years and the tax-adjusted U.S. average retail residual fuel prices.

1. The first step in the estimation of the commercial residual fuel physical unit State prices is to convert the State-level excise tax rates reported in the Bureau of the Census publications into the volume-weighted average U.S. sales tax rate using commercial residual consumption data from SEDS.
2. A preliminary U.S. residual fuel oil price, including taxes, is computed using the average U.S. tax rate estimated above and the annual average U.S. residual fuel price to end users (average retail price excluding taxes) from the *Monthly Energy Review (MER)*.
3. Commercial sector physical unit residual fuel prices for States are computed using the electric utility sector residual fuel prices. To do this calculation, the ratio of the State-level and U.S. prices in the commercial sector is assumed to be the same as the ratio of State and U.S. prices in the electric utility sector. Some States are missing electric utility prices for 1976-1983; these are estimated using adjacent States' average prices as listed in Table 35.

Table 34. Residual Fuel Commercial Sector Price Assignments, 1984 Forward

State	Years	PAD Prices Assigned
AZ	1984, 1985, 1988	District V
CO	1986	District IV
ID	1985, 1986, 1989	District IV
MS	1988	District III
ND	1988, 1989	District II
NM	1984, 1985	District III
NV	1986, 1988	District V
OR	1989	District V
UT	1989	District IV
WV	1984	Subdistrict IC
WY	1989	District IV

Table 35. Residual Fuel Commercial Sector Price Assignments, 1970-1983

State	Years	State Prices Used in the Estimation
AL	1970-1974, 1980, 1982, 1983	FL, GA, MS
ID	1980, 1981, 1983	CA, CO
	1982	CA
IN	1980-1983	IL, MI, OH
MT	1980, 1981, 1983	CO, MN
	1982	MN
NC	1981, 1983	GA, VA
ND	1980, 1983	MN, SD
	1981, 1982	MN
OR	1975-1983	CA
SC	1984	GA
TN	1970-1978, 1980-1983	AR, GA, MO, MS, VA
VT	1980-1983	ME, NH, NY
WI	1982, 1983	IL, MI, MN
WV	1980-1983	MD, OH, PA, VA
WY	1980	CO, NE, SD, UT
	1981, 1983	CO
	1982	MN

Physical Unit Prices: 1970-1975

Since no national or State-level retail residual prices are available from published data sources, commercial sector residual prices for 1970-1975 are estimated. The estimation method is based on the assumption that the average ratio of State-to-U.S. prices is the same in the commercial and electric utility sectors. The average ratio for 1976-1979 of the *MER* U.S. tax-adjusted prices to the electric utility sector U.S. prices is calculated and used as an adjustment factor with State-level electric utility sector prices for 1970-1975.

1. The average ratio of the *MER* tax-adjusted U.S. prices and the electric utility sector U.S. prices is calculated for 1976-1979.
2. State-level commercial sector residual fuel prices are calculated using the electric utility sector physical unit price series for 1970-1975 and the average ratio computed above. Price assignments for States missing electric utility sector data are shown in Table 35.

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources

Prices

1984 forward: Energy Information Administration, *Petroleum Marketing Annual 1989*, Table A4.

1984 forward: Commercial sector distillate fuel price estimates (in physical units) from the *SEPER* data system (AK and WA only).

1978-1983: Energy Information Administration, *Monthly Energy Review, December 1988*, table titled, "Refiner Sales Prices of Residual Fuel Oil," column Average Sales to End Users.

1976, 1977: Energy Information Administration, *Monthly Energy Review, December 1983*, table titled, "Average No. 6 Residual Fuel Oil Prices," column Average, Retail.

1970-1983: Electric utility sector residual fuel price estimates (in physical units) from the *SEPER* data system.

Taxes

1987 forward: Bureau of the Census, U.S. Department of Commerce, *State Government Tax Collections*, Table 8, column titled, "Percentage rate, September 1."

1976-1986: Bureau of the Census, U.S. Department of Commerce, *Statistical Abstract of the United States*, table titled, "State Government Tax Collections and Excise Taxes," column titled, "Excise Taxes, General sales and gross receipts."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, commercial sector residual fuel consumption.

Conversion Factor: All Years

6.287 million Btu per barrel

Transportation Sector

Residual fuel is consumed in the transportation sector for vessel bunkering, military use, and railroads. In 1970, vessels consumed 74 percent of the transportation use of residual fuel, and the military and railroads accounted for 24 percent and 2 percent, respectively. By 1989, vessel use had grown to 98 percent, military use had dropped to 2 percent, and the railroads' share was insignificant. Prices are developed for vessel bunkering, and electric utility prices are assigned to the military and railroad uses. Tax adjustments are made as described below. The transportation sector average

price for each State and year is the consumption-weighted average of the prices of the three uses.

Physical Unit Prices: All Years

Vessel Bunkering. Physical unit prices are calculated from actual or estimated U.S. bunker C prices and corresponding residual fuel electric utility sector State and U.S. prices. The ratio of U.S. bunker C price to U.S. residual fuel electric utility sector price is multiplied by the State residual fuel electric utility sector price to obtain the State bunker C price. Taxes are calculated as described for the commercial sector (1976-1983) and added, so that final State vessel bunkering price estimates include taxes. Other procedures are described separately by groups of years.

1. For 1982 forward, national average prices for residual fuel with sulfur content greater than 1 percent are from the *Annual Energy Review* and used as proxies for bunker C prices.
2. For 1975-1981, national average bunker C prices are available from the *Monthly Petroleum Product Price Report (MPPPR)*. Annual average U.S. prices for 1975 and 1976 are calculated as the simple average of the monthly prices for each respective year because annual average prices are not shown in the *MPPPR*.
3. For 1970-1974, no U.S. bunker C prices are available. To estimate State-level prices for these years, the average ratio of published bunker C prices and electric utility sector prices for 1975-1979 is calculated and multiplied by the State-level electric utility prices for 1970-1974.

Missing State prices are assigned adjacent States' average prices as shown in Table 36 on page 231.

Military and Railroad Use. For all years, electric utility sector residual fuel prices are assigned to military and railroad uses. The electric utility prices include taxes. Since the military does not pay State taxes, their prices are adjusted to remove taxes. Estimation of the tax adjustment is described under the commercial sector.

In some cases States have no reported consumption of residual fuel oil in the electric utility sector and, therefore, no final price in that sector. Since the electric utilities sector prices are used as a base in the calculation of prices in the other sectors, intermediate prices are calculated for OR in 1971 and for all States that need prices in 1987 forward.

Average Prices. Transportation sector prices are the average of bunker fuel, military, and railroad prices, weighted by each category's share of total transportation deliveries or sales as developed in SEDS.

Table 36. Residual Fuel Transportation Sector Price Assignments, 1970-1986

State	Years	State Prices Used in the Estimation
AL	1970-1974, 1981-1986	FL, GA, MS
CT	1978	NH, VT
GA	1978	KY, MS
IL	1975	IA, IN, WI
IN	1980-1986	IL, MI, OH
KS	1975	MO, NE
MD	1978	DE, PA
ME	1975	VT
MN	1986	IL, MI
NC	1975	GA
	1978	KY
	1981, 1983, 1985, 1986	GA, VA
OH	1975	IN, MI
OR	1975-1986	CA
SC	1975, 1984	GA
	1978	AL, FL
TN	1981, 1982	AR, GA, MO, MS, VA
VA	1975	GA
WA	1984, 1985	CA
WI	1982-1984	IL, MI, MN
	1986	IL, MI

Btu Prices: All Years

Btu prices for States are calculated from the physical unit prices and the residual fuel conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS.

Data Sources**Prices**

1982 forward: Energy Information Administration, *Annual Energy Review 1990*, Table 71, row titled, "Sales Prices to End Users, Residual Fuel Oil, Greater Than 1 Percent Sulfur Content."

1976-1981: Energy Information Administration, *Monthly Petroleum Product Price Report*, Table 3.

1975: National Energy Information Center, Federal Energy Administration, *Monthly Petroleum Product Price Report*, Table 3.

1970-1986: Electric utility sector residual fuel price estimates (in physical units) from SEPEDS.

Taxes

1987 forward: Bureau of the Census, U.S. Department

of Commerce, *State Government Tax Collections*, Table 8, column titled, "Percentage rate, September 1."

1976-1986: Bureau of the Census, U.S. Department of Commerce, *Statistical Abstract of the United States*, table titled, "State Government Tax Collections and Excise Taxes," column titled, "Excise Taxes, General sales and gross receipts."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, transportation sector residual fuel consumption and transportation sector deliveries including the subcategories for vessel bunkering, military, and railroad uses.

Conversion Factor: All Years

6.287 million Btu per barrel

Other Petroleum

Sixteen separate products are included in the category called other petroleum:

1. Aviation gasoline blending components
2. Crude oil
3. Miscellaneous products (*)
4. Motor gasoline blending components
5. Natural gasoline, including isopentane (1970-1983)
6. Pentanes plus (1984 forward)
7. Petrochemical feedstocks, naphtha (*)
8. Petrochemical feedstocks, other oils (*)
9. Petrochemical feedstocks, still gas (1970-1985) (*)
10. Petroleum coke (*)
11. Plant condensate (1970-1983)
12. Special naphthas (*)
13. Still gas
14. Unfinished oils
15. Unfractionated stream (1970-1983)
16. Waxes (*)

Physical Unit Prices: All Years

Of the 16 products, national-level prices are developed for the 7 noted with asterisks (*) and described below are assigned to the industrial sector. Only national-level prices are developed because State-level price information is not available, and taxes are not included in any of the estimates. Expenditures for the other nine products are completely removed as process fuel or intermediate products. See the "Consumption Adjustments for Process Fuel and Intermediate Products" section of this documentation.

Starting in 1984, three products--natural gasoline, plant condensate, and unfractionated stream--are dropped, and pentanes plus is added in the Energy Information Administration (EIA) reporting system. Natural gasoline (including isopentane) and plant condensate are reported together as the new product, pentanes plus. Unfractionated stream is dropped because its components are reported separately as liquefied petroleum gases.

Miscellaneous Products

The products in this subcategory vary from the inexpensive (absorption oils similar to kerosene) to the very expensive (hydraulic fluids). The price estimates are based on the evidence presented in the *Minerals Yearbooks* of the 1970's indicating that the greater part of the miscellaneous product line consists of finished pet-

rochemicals, especially the aromatic hydrocarbons: benzene, toluene, and the xylenes.

Price estimates for 1972, 1977, 1982, and 1987 are from *Census of Manufactures (CM)* data on quantity and value of aromatics (product codes 2911054 and 2911056) and "other finished petroleum products" (product code 2911098) shipped by industry 2911. The ratio of miscellaneous-products-to-crude-oil price for these 4 years varies widely. Specifically, the ratio equals 1.90 for 1972, 2.15 for 1977, 1.56 for 1982, and 1.99 for 1987. Thus, to estimate miscellaneous products prices, the following ratios are used:

1970 - 1974: 1.90 times the crude-oil price
 1975 - 1979: 2.15 times the crude-oil price
 1980 - 1984: 1.56 times the crude-oil price.
 1985 forward: 1.99 times the crude-oil price.

Price Data Sources

1970 forward: Energy Information Administration, *Annual Energy Review 1990*, Table 70, "Crude Oil Refiner Acquisition Cost," column titled, "Composite, Nominal."

1972, 1977, 1982, 1987: Bureau of the Census, U.S. Department of Commerce, *Census of Manufactures*, data for industry 2911 on "Quantity and Value of Shipments by All Producers" as shown in Table 6a from MC77-I-29A, Product Codes 2911054, 2911056, and 2911098 (1972 and 1977); and Table 6a from MC87-I-29A, Product Codes 2911D55 and 2911D57 (1982 and 1987).

Petrochemical Feedstocks, Naphtha

Naphthas for petrochemical feedstock use are those oils with boiling points less than 401° F. Consumer prices for 1978-1980 are derived from the special *Annual Survey of Manufactures (ASM)* series on "Hydrocarbon, Coal, and Coke Materials Consumed," using data for industries 2869 (industrial organic chemicals) and 2821 (plastics materials, synthetic resins, and nonvulcanizable elastomers). A price estimate for 1982 is obtained from the *CM*, based on data for industry 2869 only. Since the ratio of petrochemical-naphtha-to-crude-oil price is reasonably constant in 1978, 1979, 1980, and 1982, the simple average of the four ratios, 1.23, is used to estimate prices for petrochemical feedstocks, naphthas, for all other years.

Price Data Sources

1970-1977, 1981, 1983 forward: Energy Information Administration, *Annual Energy Review 1990*, Table 70, "Crude Oil Refiner Acquisition Cost," column titled, "Composite, Nominal."

1982: Bureau of the Census, U.S. Department of Commerce, *1982 Census of Manufactures*, M82-I-28F-3(P), page 6, industry 2869.

1980: Bureau of the Census, U.S. Department of Commerce, *1980 Annual Survey of Manufactures*, M80(AS) - 4.3, page 9, industry 2821.

1978, 1979: Bureau of the Census, U.S. Department of Commerce, *1979 Annual Survey of Manufactures*, M79(AS) - 4.3, page 8, industries 2821 and 2869.

Petrochemical Feedstocks, Other Oils

Petrochemical feedstocks referred to as "other oils" or "gas oils" are those oils with boiling points equal to or greater than 401° F. Consumer prices for 3 years are obtained from the data on gas oils presented in the special *ASM* series on hydrocarbons consumed, using data on industry 2865 (cyclic crudes and intermediates). The other-oils-to-crude-oil price ratio is quite stable, and the average ratio for the 3-year period, 1.607, is used to estimate prices for petrochemical feedstocks, other oils, for all other years.

Price Data Sources

1970-1977, 1981 forward: Energy Information Administration, *Annual Energy Review 1990*, Table 70, "Crude Oil Refiner Acquisition Cost," column titled, "Composite, Nominal."

1979, 1980: Bureau of the Census, U.S. Department of Commerce, *1980 Annual Survey of Manufactures*, M80(AS)-4.3, page 9, industry 2865.

1978: Bureau of the Census, U.S. Department of Commerce, *1979 Annual Survey of Manufactures*, M79(AS)-4.3, page 8, industry 2865.

Petrochemical Feedstocks, Still Gas (1970-1985)

The source data for still gas is a mixture of consumer prices and producer prices for industries 2869 and 2911 (petroleum refining). The still-gas-to-crude-oil price ratio is somewhat variable because still gas is a highly variable gaseous mixture. Value and quantity are available for 1972, 1977-1980, and 1982. In imputing prices for years when data from the *CM* or *ASM* are not available, the average still-gas-to-crude-oil price ratio, 0.759, is used. After 1985, EIA data series no longer report feedstock and refinery use of still gas separately and all SEDS industrial consumption is removed from *SEPER*. See the "Consumption Adjustments for Process Fuel and Intermediate Products" section of this documentation.

Price Data Sources

1970, 1971, 1981, 1983-1985: Energy Information Administration, *Annual Energy Review 1990*, Table 70, "Crude Oil Refiner Acquisition Cost," column titled, "Composite, Nominal."

1982: Bureau of the Census, U.S. Department of Commerce, *1987 Census of Manufactures*, MC87-I-29A, Table 6a, industry 2911.

1979, 1980: Bureau of the Census, U.S. Department of Commerce, *1980 Annual Survey of Manufactures*, M80(AS)-4.3, page 9, industry 2869.

1978: Bureau of the Census, U.S. Department of Commerce, *1979 Annual Survey of Manufactures*, M79(AS)-4.3, page 28, industry 2869.

1972, 1977: Bureau of the Census, U.S. Department of Commerce, *1977 Census of Manufactures*, MC77-I-29A, page 29A-20, industry 2911.

Petroleum Coke

Petroleum coke is consumed by the industrial and electric utility sectors. The portion of petroleum coke consumed by the electric utility sector (about 2 percent in 1989) is described under the heading "Petroleum Coke (Electric Utility)." The remaining petroleum coke is marketed to industrial consumers in two forms, calcined and uncalcined. On a unit basis, the calcined coke is about three times as expensive as the uncalcined. Unit prices are calculated by dividing the value exported by the quantity exported, weighted by type of petroleum coke. The physical unit conversion factor for petroleum coke is 5 barrels per short ton.

Price Data Sources

1978 forward: Bureau of the Census, U.S. Department of Commerce, *FT-446, U.S. Exports Schedule B, Commodity by Country*, Petroleum Coke, Except Calcined, 5213150, and Petroleum Coke, Calcined, 5175120.

1970-1977: Bureau of the Census, U.S. Department of Commerce, December issues of *FT-410, U.S. Exports Schedule B, Commodity by Country*, Petroleum Coke, Except Calcined, 3329420, and Petroleum Coke, Calcined, 3329410.

Special Naphthas

Prices for special naphthas are the simple average of the "varnish makers and painters naphtha" average price and the "solvent naphtha" average price calculated from the city prices published in the *Chemical Marketing Reporter*. For 1984 forward, the prices are averaged from the first issue of each month; for 1974, 1979, and 1980, when petroleum prices were increasing rapidly, prices are averaged from 10 randomly-selected issues; and for all other years, prices are averaged from at least five randomly-selected issues.

Price Data Source

1970 forward: Schnell Publishing Co., Inc., *Chemical Marketing Reporter*, selected monthly issues.

Waxes

The product-supplied information covers fully refined crystalline wax, other refined crystalline wax, and microcrystalline wax. A composite price index for these three waxes is listed in the Bureau of Labor Statistics publication *Producer Prices and Producer Price Indexes* since April 1974. Producer prices for 1967 for the three waxes are available from data in the 1967 *Census of Manufactures*. A weighted-average price for 1967 of \$15.75 per barrel is obtained by summing the values of shipments of the three waxes and dividing the sum by the total quantity shipped. Price estimates for 1974-1985 are derived by multiplying the published price indices by the estimated 1967 base price. For 1985, a simple average of monthly price indices for January through June is applied because the index for petroleum wax was discontinued after June 1985. Similarly, the index for 1974 is estimated by averaging the October, November, and December values available for that year. Price estimates for 1970-1973, and 1986 forward are obtained by dividing the value of exports by the quantity exported. The physical unit conversion factors for wax are 280 pounds per barrel and 2.2046 pounds per kilogram.

Price Data Sources

1987 forward: Bureau of the Census, U.S. Department of Commerce, December issue of Report No. EM-546 (1987), EM-522 (1988), and EM-545 (1989), titled *U.S. Exports, Schedule B, Commodity by Country* for Paraffin Wax and Other Petroleum Waxes Unblended incl Microcrystalline Wax (Commodity no. 4925200).

1986: Bureau of the Census, U.S. Department of Commerce, December issue of *EM-546, U.S. Exports, Schedule B, Commodity by Country* for Paraffin Wax, Crystalline, Fully Refined (Commodity no. 4925210), Paraffin Wax, Crystalline, Except Fully Refined (Commodity no. 4925220), and Petroleum Waxes, NSPF incl Microcrystalline Wax (Commodity no. 4925240).

1974-1985: Bureau of Labor Statistics, U.S. Department of Labor, *Producer Prices and Producer Price Indexes, Annual Supplement*, Commodity Code 0577.

1970-1973: Bureau of the Census, U.S. Department of Commerce, December issues of *FT-410, U.S. Exports, Schedule B, Commodity by Country* for Paraffin Wax, Crystalline, Fully Refined (Commodity no. 3326220), Paraffin Wax, Crystalline, Except Fully Refined (Commodity no. 3326230), and Microcrystalline Wax (Commodity no. 3326210).

(1967: Bureau of the Census, U.S. Department of Commerce, *Census of Manufactures, 1967*, page 29A-15, quantity and value of shipments of waxes.)

Btu Prices: All Years

Btu prices for the seven petroleum products are calculated by converting physical unit prices from dollars per barrel to dollars per million Btu using the conversion factors shown in Table 37. U.S. prices are developed for each product and assigned to the industrial sector in States and years where there is consumption. The State-level "other petroleum" price is the average of the seven petroleum products, weighted by SEDS consumption data. The variable State prices reflect the different mix of products consumed. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by SEDS consumption data. All State and U.S. SEDS consumption data are adjusted to remove process fuel and intermediate product consumption.

Table 38 shows national-level estimated prices and expenditures by the other petroleum product components for the years 1970, 1975, 1980, and 1985 forward.

Conversion Factors: All Years

Factors used to convert price data from physical unit prices to Btu prices are shown in Table 37.

Table 37. Conversion Factors for Other Petroleum Products
(Million Btu per Barrel)

Petroleum Product	Heat Rate
Miscellaneous Products	5.796
Petrochemical Feedstocks	
Naphtha	5.248
Other Oils	5.825
Still Gas	6.000
Petroleum Coke	6.024
Special Naphthas	5.248
Waxes	5.537

Table 38. Other Petroleum Price and Expenditure Estimates for the Industrial Sector, United States, 1970, 1975, 1980, and 1985-1989

Petroleum Product	1970	1975	1980	1985	1986	1987	1988	1989
Prices in Dollars per Million Btu								
Miscellaneous Products	1.12	3.85	7.57	9.17	4.99	6.14	5.03	6.16
Petrochemical Feedstocks								
Naphtha	.80	2.43	6.68	6.27	3.41	4.20	3.44	4.21
Other Oils	.94	2.86	7.64	7.38	4.01	4.94	4.05	4.96
Still Gas	.43	1.31	4.04	3.39	-	-	-	-
Petroleum Coke	.53	1.42	2.19	1.86	1.53	1.50	1.45	1.92
Special Naphthas	1.96	3.12	10.48	10.87	10.73	10.73	10.84	10.00
Waxes	4.14	4.95	12.01	13.38	14.70	13.85	11.89	18.19
Average Price	.96	2.43	6.58	7.16	4.61	5.22	4.38	5.18
Expenditures in Millions of Dollars								
Miscellaneous Products	96.3	729.4	1,798.6	1,308.2	682.4	843.0	837.9	944.2
Petrochemical Feedstocks								
Naphtha	239.3	683.3	3,173.1	1,478.5	1,164.1	1,459.4	1,222.6	1,636.6
Other Oils	171.1	793.1	6,564.0	3,728.8	2,449.3	2,742.1	2,360.0	2,704.1
Still Gas	32.4	123.9	371.0	256.2	-	-	-	-
Petroleum Coke	203.5	654.6	947.2	241.2	129.9	282.9	283.1	357.4
Special Naphthas	323.0	450.3	2,022.4	1,732.8	1,393.8	1,553.9	1,236.5	1,072.7
Waxes	105.6	166.4	395.3	419.9	449.7	453.2	403.8	608.5
Total	1,171.2	3,600.9	15,271.5	9,165.7	6,329.3	7,334.5	6,343.8	7,323.7

—Consumption data for this series are not available after 1985. See text.

Note: Expenditure totals may not equal sum of components due to independent rounding.

Source: State Energy Price and Expenditure Data System 1989.

Electricity

Electricity Consumed by End-Use Sectors

Electricity prices are retail prices for sales to ultimate users. Prices are developed for the residential, commercial, industrial, and transportation sectors. In general, taxes are included in the prices. However, taxes collected by a utility from an end user and turned over to a government authority are not included in the revenues reported in the *Electric Power Annual* or the *Statistical Yearbook* and are not included in the prices. Taxes paid by the utility (rather than the end user) are considered operating costs and are passed on to the end user as part of the rate. Therefore, Federal, State, business, and property taxes are typically included in the prices, while sales and other point of purchase taxes are not.

Consumption is based on sales by electric utilities to ultimate users. Electricity consumption data by State for the residential, commercial, industrial, and transportation sectors are obtained from SEDS. Consumption of electricity in the industrial sector is adjusted for estimated refinery use in each State. See the discussion under "Consumption Adjustments for Process Fuel and Intermediate Products" in this report.

Conversion Factor: All Years

3,412 Btu per kilowatthour

Physical Unit Prices: 1987 Forward

For 1987 forward, physical unit prices for States are calculated for all four sectors as the average revenue per unit of sales for all electric utilities reported in a State. The calculation of physical unit prices uses the revenues and sales data from the *Electric Power Annual*. Data for the residential and industrial sectors are drawn from their respective columns. Data for the transportation sector are from the column titled "Other" that includes sales to railroads and railways. SEDS consumption is used to determine the portion of the data in the column titled "Other" that is not sold to the transportation sector. These data are added to the

column titled "Commercial" to arrive at the revenues and sales data for the commercial sector.

For 1987 forward, prices are based on preliminary revenues and sales data in the given year, and are replaced with revised data in the following year. There are no missing prices in any of the four sectors.

Physical Unit Prices: 1970-1986

For 1970-1986, preliminary physical unit prices for States are calculated for all four sectors as the average revenue per unit of sales for all electric utilities reported in a State. The calculation of physical prices uses the revenues and sales data from the *Statistical Yearbook* for each year in the series. Data for the residential sector and industrial sector are drawn from their respective columns. The commercial sector is the sum of the columns titled "Commercial," "Street and Highway Lighting," "Other Public Authorities," and "Interdepartmental." The transportation sector is the column titled "Railroads and Railways."

For 1980-1986, prices are based on preliminary revenues and sales data in the given year, and are replaced with revised data in the following year. The only exception to this rule is the revenues data for AR/1981; preliminary data are used in this case because of an apparent error in the revised data.

For 1970-1981, MD prices are assigned to DC. There are no other missing prices for the residential, commercial, and industrial sectors.

In the transportation sector, numerous price assignments are made due to the lack of sector-specific price data. Generally, electricity usage in the transportation sector is small; the sector's electricity use ranged from 0.1 percent to 0.2 percent of total U.S. electricity consumption in 1970 through 1986. From 1970-1986, only 15 States used measurable amounts of electricity in the transportation sector (CA, DC, FL, GA, IL, LA, MA, MD, NJ, NY, OH, PA, TN, VA, and WA). A few individual State prices are unavailable and are assigned the commercial sector prices: LA/1970-1986, and TN/1970-1986. (Prices are available for LA/1970, 1972, 1973, but those prices are replaced by commercial sector prices to maintain a consistent series for the State.) In addition, MA/1985, 1986 transportation prices are estimated by multiplying the MA/1985, 1986

commercial prices by the average of the ratios of the commercial-to-transportation sector prices for 1980-1984. Similarly, the VA/1977 transportation price is estimated by multiplying the VA/1977 commercial price by the average of the ratios of the commercial-to-transportation sectors prices for 1978-1982.

In order to reconcile national-level electricity prices based on the *Statistical Yearbook* with the EIA national-level electricity prices published in the *Annual Energy Review (AER)*, yearly adjustment factors are calculated for the residential, commercial, and industrial sectors, as follows: a preliminary U.S. price for each sector is calculated as the average of the State prices, weighted by SEDS consumption. These preliminary U.S. prices are divided by the national-level electricity prices published in the *AER*, and the quotient is used as an adjustment factor. The preliminary State prices are multiplied by the adjustment factor to produce the final physical unit State prices in those sectors. Since no transportation sector prices are published in the *AER*, no adjustments are made to that sector and the final physical unit prices are derived solely from the *Statistical Yearbook* sales and revenue data. The annual adjustment factors for the residential, commercial, and industrial sectors are shown in Table 39.

Data Sources

Prices

1987 forward: Energy Information Administration, *Electric Power Annual 1988*, Tables 19 and 21 (1987 data); *Electric Power Annual 1989*, Tables 27 and 29 (1988, 1989).

1970-1986: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, tables titled, "Revenues: Total Electric Utility Industry" and "Energy Sales: Total Electric Utility Industry."

1970-1986: Energy Information Administration, *Annual Energy Review 1989*, Table 95, "Retail Prices of Electricity Sold by Electric Utilities, 1960-1989."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electricity consumption by end-use sector.

Table 39. Annual Electricity Price Adjustment Factors

Year	Residential	Commercial	Industrial
1970	1.05121	1.05712	1.06832
1971	1.05632	1.05926	1.05504
1972	1.05271	1.05514	1.05765
1973	1.06626	1.06188	1.05991
1974	1.09572	1.08098	1.08732
1975	1.09257	1.08145	1.07665
1976	1.07753	1.07755	1.06891
1977	1.06746	1.07675	1.06820
1978	1.06654	1.08273	1.06861
1979	1.06986	1.08349	1.06441
1980	1.04457	1.06109	1.06781
1981	1.05821	1.06943	1.06523
1982	1.06654	1.06351	1.05597
1983	1.05421	1.05301	1.05537
1984	0.99693	1.01924	0.99015
1985	1.00010	1.02008	0.98355
1986	0.99854	1.01518	0.98618

Source: EIA calculations based on data from the *Annual Energy Review* and the *Statistical Yearbook of the Electric Utility Industry*.

Btu Prices: All Years

Btu prices for States are calculated by dividing the physical unit prices by the conversion factor. U.S. Btu prices are calculated as the average of the State Btu prices, weighted by consumption data from SEDS adjusted for process fuel consumption in the industrial sector.

Nuclear Fuel for Generation of Electricity

Nuclear fuel prices are developed for the electric utility sector. State-level data on the amount of electricity generated from nuclear power plants are from SEDS. Utilities operating nuclear plants report fuel costs per kilowatthour to the U.S. Department of Energy annually. These data are published on a plant-by-plant basis and include all taxes, transportation, and handling costs paid by the utilities. The State where the nuclear power plant is located is assigned the reported nuclear fuel cost. For States with two or more nuclear power plants, the average fuel cost, weighted by generation, is attributed to the State.

Physical Unit Prices: All Years

State-level nuclear fuel prices are estimated in two steps: (1) the total cost of fuels consumed at all nuclear power plants in a State is divided by their total generation of electricity, and (2) the cost per output created in step 1 is divided by the U.S.-level thermal conversion factor to create the price in dollars per million Btu. Occasionally, the fuel costs at nuclear power plants include trivial amounts of non-nuclear fuels, which are necessary to continue essential plant operations during refueling or maintenance of the reactor.

For States where generation and fuel cost data are not available for years in which *SEDR* shows nuclear electric power generation, a price is estimated by another method. The estimation method using regional prices that is applied to other energy sources in *SEPER* is not suitable for nuclear fuels. For this reason, the ratio of the change in the national nuclear fuel price is used to interpolate or to project nuclear fuel prices for missing years within a State. The ratio of national prices used in the interpolation or projection of missing prices is the ratio before missing prices are assigned. The States and years for which nuclear prices are estimated are shown in Table 40.

CO/1985 generation is negative indicating that the nuclear power plant used more energy than it supplied. In this case the fuel price and expenditures are set to zero. In 1986 forward, there is generation but plant data are not sufficient to calculate prices. The 1986 forward prices for CO are estimated by calculating the percentage change in the U.S. average prices each year and applying that percentage to the previous year's CO price.

For MO/1985, a large credit resulting from litigation is assigned to fuel costs, creating an artificially low price. The MO/1986 uranium price, which is in the range of other nuclear fuel plants, is used to estimate the 1985 price by applying the ratio of the 1986-to-1985 national prices.

Table 40. Nuclear Fuel Price Assignments

State	Years
Alabama	1973, 1974, 1976
Arizona	1985
Arkansas	1980
Colorado	1977, 1978, 1982-1984, 1986-1989
Georgia	1974, 1975, 1978
Maine	1972
Mississippi	1984
Missouri	1984, 1985
North Carolina	1982
Ohio	1986
Oregon	1975
South Carolina	1970, 1985
Tennessee	1980
Washington	1970-1987
Wisconsin	1970

The 1985 *Historical Plant Costs and Annual Production Expenses for Selected Electric Plants* has a footnote for the Duke Power Catawba plant in SC stating that the reported production expenses represent only 12.5 percent of the actual production expenses. The production expenses used in the calculation for the Catawba plant are adjusted accordingly.

TN/1986, 1987 generation levels are negative indicating that the nuclear power plant used more energy than it supplied. As with CO/1985, the fuel price and expenditure are set to zero.

Prices for GA/1978, NC/1982, and OH/1986 are assigned because the prices calculated using reported data are significantly different from prices for other years for these States.

There are no prices available for WA/1970-1987; national prices are assigned for those years.

Btu Prices: All Years

Unit prices for nuclear fuel in dollars per kilowatthour of energy output are converted to dollars per million Btu of equivalent energy input using the annual thermal conversion factors shown in Table 41 on page 240.

Data Sources

Prices

1988 forward: Energy Information Administration, *Electric Plant Cost and Power Production Expenses*, Table 6.

1982-1987: Energy Information Administration, *Historical Plant Costs and Annual Production Expenses for*

Selected Electric Plants, Table 18 (1982-1984), and Table 20 (1985-1987).

1979-1981: Energy Information Administration, *Thermal Electric Plant Construction Cost and Annual Production Expenses*, pages 267-279 (1979), Table 11 (1980 and 1981).

1975-1978: Energy Information Administration, *Steam Electric Plant Construction Cost and Annual Production Expenses*, "Section II-Nuclear Plants."

1970-1974: Federal Power Commission, *Steam Electric Plant Construction Costs and Annual Production Expenses*, data sheets for Nuclear Plants (1970-1973), and "Section II-Nuclear Plants" (1974).

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electricity generated by nuclear power.

Conversion Factors

1970 forward: Energy Information Administration, *State Energy Data Report, Consumption Estimates, 1960-1989*, Table D1, as shown in Table 41.

Table 41. Nuclear Electric Power Btu Conversion Factors, 1970 Forward
(Thousand Btu per Kilowatthour)

Year	Conversion Factor	Year	Conversion Factor
1970	10.977	1980	10.908
1971	10.837	1981	11.030
1972	10.792	1982	11.073
1973	10.903	1983	10.905
1974	11.161	1984	10.843
1975	11.013	1985	10.813
1976	11.047	1986	10.799
1977	10.769	1987	10.776
1978	10.941	1988	10.743
1979	10.879	1989	10.724

Wood and Waste for Generation of Electricity

Wood and waste prices are developed for the electric utility sector; data for wood and waste consumed by other sectors are not available. State-level data on the amount of electricity generated at electric utilities from wood and waste are from SEDS and are collected on Form EIA-759 (formerly, FPC-4). All electric utilities are required to report on EIA-759 but no price data are collected. National-level wood and waste prices are developed for the electric utility sector and are used for each State consuming wood or waste at electric utilities. Taxes are included in the prices for all years.

Prices: All Years

1983 Forward. The national price in dollars per million Btu is obtained by telephone surveys of selected electric utilities that report use of wood and waste for generating electricity. The price used is the weighted-average price of those electric utilities able to provide price and consumption data.

During the telephone surveys, some anomalies became apparent that are unique to wood and waste as fuel for utilities. In some cases, there was no charge for the fuel, and in one case involving refuse-derived fuel, the electric utility charged a "tipping fee" for accepting truckloads of waste. Instead of paying for the fuel, the electric utility was paid to take the fuel. Handling refuse-derived fuel is more labor intensive than handling conventional fossil fuels, and the labor expenses are included in the plant's operating costs, not the fuel costs. In addition, the price is very erratic because the demand is relatively small and the pricing mechanism, even for a single facility, may change from year to year. A price or quantity change by a single major user affects the national price more significantly than in any another fuel.

1978-1982. National prices are derived from data collected on FPC Form 423 and published monthly by EIA in *Cost and Quality of Fuels for Electric Utility Plants (C&Q)* in a table titled, "Wood Chips, Refuse, and Petroleum Coke Used as Fuel by Steam-Electric Plants." For these years, fossil-fueled plants with a combined capacity of 25 megawatts or greater were required to report on FPC Form 423. Annual prices of wood and waste sold to electric utilities are developed as quantity-weighted monthly prices for those plants where wood and waste were used as fuel. Beginning in 1983, the reporting threshold was raised to 50 megawatts, and no plants reported use of wood or waste in that or subsequent years.

A detailed review of data in *C&Q* showed that some entries were in error by factors of 10, 100, or 1,000.

Accordingly, the following corrections were made. For 1982, the February, March, and April quantities for the Florida Power Corporation were divided by 1,000 to make them 0.08, 0.04, and 0.06 thousand short tons, respectively. The March, April, and May costs for Northern State Power were multiplied by 100 to make them \$0.70 per million Btu. For the 5 months from November 1979 through March 1980, the reported quantities of wood delivered to Burlington Electric Co. were divided by 10, to place them in the range 7.98 to 9.39 thousand short tons. For the 8 months from June 1978 through January 1979, seed corn delivered to the Logansport Indiana Electric Department were included in wood and waste. For February 1978, the reported quantity of wood delivered to the United Power Associates was divided by 1,000 to make it 0.09 thousand short tons.

1970-1977. The annual prices for wood chips are derived by deflating the 1978 price using the Gross National Product (GNP) implicit price deflator based on 1982 dollars. The deflators are:

1970. . . .42.0	1973. . . .49.5	1976. . . .63.1
1971. . . .44.4	1974. . . .54.0	1977. . . .67.3
1972. . . .46.5	1975. . . .59.3	1978. . . .72.2

Data Sources

Prices

1983 forward: Energy Information Administration, telephone survey of selected electric utilities that use wood and waste for generating electricity.

1978-1982: Energy Information Administration, *Cost and Quality of Fuels for Electric Utility Plants*, table titled, "Wood Chips, Refuse, and Petroleum Coke Used as Fuel by Steam-Electric Plants."

Consumption

1970 forward: Energy Information Administration, State Energy Data System, electricity generated from consumption of wood and waste.

Consumption Adjustments for Process Fuel and Intermediate Products

Almost all aspects of energy production, processing, and distribution consume energy as an inherent part of those activities. Familiar examples include drilling for oil and gas, refining crude oil into finished petroleum products, transporting natural gas and petroleum by pipeline, and generating and delivering electricity to end users. Energy that is consumed to make energy more useable to the end user is called "process fuel." Energy products that are subsequently incorporated into another energy product for end-use consumption are called "intermediate products." Motor gasoline blending components are a familiar example of intermediate products which are consumed as part of the finished motor gasoline sold at service stations and other outlets.

The end user does not consume either process fuel or intermediate products directly, but he does pay for them, because the cost to the processor or distributor is passed on to the end user. In estimating energy expenditures, as is done in this report, process fuel and intermediate product consumption must be subtracted from the end-use sector in which they are included, either the industrial or transportation sector. If their use is not removed, the expenditures would be double counted, first by the "processor" (producer, processor, or transporter) and again by the end user.

Process fuel consumption adjustments are incorporated into the data tables in *SEPER* for:

1. Fuel (petroleum, natural gas, coal) and electricity consumed at refineries
2. Crude oil lease, plant, and pipeline fuel
3. Natural gas lease and plant fuel
4. Natural gas pipeline fuel
5. Electrical system energy losses (i.e., energy consumed in the generation, transmission, and distribution of electricity)

Intermediate product consumption adjustments are incorporated into *SEPER* for:

1. Aviation gasoline blending components
2. Motor gasoline blending components
3. Natural gasoline (1970-1983)
4. Pentanes plus (1984 forward)
5. Plant condensate (1970-1983)

6. Unfinished oils
7. Unfractionated stream (1970-1983)

Starting in 1984, natural gasoline (including isopentane) and plant condensate are reported together as the new product, pentanes plus, and the components of unfractionated stream are reported separately under liquefied petroleum gases.

Table 43 shows estimates of the quantities of energy consumed by State as process fuel and intermediate products in 1988 and 1989. Estimates for 1970 through 1989 are available on the SEPEDS personal computer diskettes.

Procedures

Refinery Fuel. Refinery fuel consumption of distillate fuel, residual fuel, liquefied petroleum gases, other petroleum (crude oil, petroleum coke, and still gas), natural gas, coal, and electricity is individually estimated for each source and subtracted from its SEDS industrial sector total. Because crude oil consumption is not an individual fuel in SEDS for 1970-1982, the small amounts of crude oil that were used at refineries during those years were allocated to residual and distillate fuels consumed at refineries. The allocation from crude oil refinery use to residual and distillate fuels refinery use was made according to each fuel's share of the total crude oil used directly (including losses) as residual and distillate fuels (*Petroleum Supply Annual Volume 1*, Table 2). Over this period, residual fuel ranged from a low share of 75 percent in 1971 to a high share of 92 percent in 1976. Refinery consumption of still gas, excluding still gas consumed as petrochemical feedstocks, is subtracted from the SEDS industrial sector total for 1970-1985. Beginning in 1986, EIA data series no longer report refinery fuel and feedstock use separately and all SEDS industrial still gas consumption is removed from *SEPER*.

Refinery fuel consumption data are available in the data sources by Petroleum Administration for Defense District (PADD) (1981 forward) and by State or group of States (1970-1980). Where State-level consumption data are not available, the State-level estimates are derived by allocating the district's or group's total consumption to the individual States within the district or

group to the States that had operating refineries in a given year. Individual fuels are allocated to the refining States according to each State's share of the refining States' total industrial sector fuel consumption during the year. In some instances, estimated refinery fuel consumption exceeds the SEDS estimate for total industrial consumption of a fuel within a State. When this occurs, the excess refinery fuel consumption is reallocated as shown in Table 42.

Table 42. Reallocations of Excess Refinery Fuel Consumption

Year	Fuel	Thousand Barrels	Excess in:	Re-allocated to:
1971	Residual Fuel	294	Kansas	Oklahoma
1973	Residual Fuel	45	Group 4: Kentucky, Tennessee	Illinois
1979	LPG	173	Montana	Wyoming
1983	Petroleum Coke	3,091	PADD I	PADD II
1984	Crude Oil	80	PADD II	PADD III
1984	Petroleum Coke	992	PADD I	PADD II
1985	Petroleum Coke	80	PADD II	PADD III
1985	Crude Oil	719	PADD I	PADD II
1986	Petroleum Coke	1,297	PADD I	PADD II
1988	Crude Oil	8	PADD III	PADD V
1989	Crude Oil	9	PADD I	PADD V
	Crude Oil	15	PADD III	PADD V

Source: EIA calculations based on data from the *State Energy Data Report* and the *Petroleum Supply Annual*.

Intermediate Products. Aviation gasoline blending components, motor gasoline blending components, natural gasoline (1970-1983), pentanes plus (1984 forward), plant condensate (1970-1983), unfinished oils, and unfractionated stream (1970-1983) are used at refineries and blending plants to make end-use petroleum products, particularly motor gasoline. Accordingly, consumption of these products is completely removed from *SEPER*.

Crude Oil Lease, Plant, and Pipeline Fuel. Industrial crude oil remaining after refinery fuel consumption is removed is assumed to be used as lease, plant, and pipeline fuel. Since these are process fuel uses, the remaining crude oil is removed from SEDS industrial sector consumption.

Natural Gas Lease and Plant Fuel. Natural gas consumed as lease and plant fuel is process fuel and is subtracted from SEDS industrial sector natural gas totals by State and year.

Natural Gas Pipeline Fuel. Transportation sector natural gas consumption shown in SEDS is used to power pipelines. As such, it is process fuel and is completely removed from the *SEPER* expenditure calculations.

Electrical System Energy Losses. The amount of energy lost during generation, transmission, and distribution of electricity (including plant use and unaccounted for electrical energy) is process fuel and is subtracted from sectoral energy consumption estimates used in *SEPER*. The energy losses are "paid for" when residential, commercial, industrial, and transportation sector consumers buy the electricity produced at electric utilities.

Data Sources

Capacity of Petroleum Refineries

1982 forward: Energy Information Administration, *Petroleum Supply Annual Volume I*, table titled, "Number and Capacity of Operable Petroleum Refineries," column heading, "Crude Capacity, Barrels per Calendar Day, Operating" (1982-1985), "Atmospheric Crude Oil Distillation Capacity, Barrels per Calendar Day, Operating" (1986 forward).

1979-1981: Energy Information Administration, *Energy Data Reports, Petroleum Refineries in the United States and U.S. Territories*, table titled, "Number and Capacity of Petroleum Refineries," column heading, "Crude Capacity, Barrels per Calendar Day, Operating."

1978: Energy Information Administration, *Energy Data Reports, Petroleum Refineries in the United States and Puerto Rico*, table titled, "Number and Capacity of Petroleum Refineries," column heading, "Crude Capacity, Barrels per Calendar Day, Operating."

1970-1977: Bureau of Mines, U.S. Department of the Interior, Mineral Industry Surveys, *Petroleum Refineries in the United States and Puerto Rico*, table titled, "Number and Capacity of Petroleum Refineries," column heading, "Crude Capacity, Barrels per Calendar Day, Operating."

Fuel Consumed at Refineries

1981 forward: Energy Information Administration, *Petroleum Supply Annual Volume I*, table titled, "Fuels Consumed at Refineries by PAD District."

1976-1980: Energy Information Administration, *Energy Data Reports, Crude Petroleum, Petroleum Products, and Natural Gas Liquids*, table titled, "Fuels Con-

sumed for All Purposes at Refineries in the United States, by States."

1970-1975: Bureau of Mines, U.S. Department of the Interior, Mineral Industry Surveys, *Crude Petroleum, Petroleum Products, and Natural Gas Liquids*, tables titled, "Fuels Consumed for All Purposes at Refineries in the United States, by States."

1970 forward: Energy Information Administration, State Energy Data System, industrial sector consumption estimates for aviation gasoline blending components, crude oil, motor gasoline blending components, natural gasoline (1970-1983), pentanes plus (1984 forward), petroleum coke, plant condensate (1970-1983), still gas (excluding still gas consumed as petrochemical feedstocks, 1970-1985), unfinished oil, and unfractionated stream (1970-1983).

Natural Gas Lease, Plant, and Pipeline Fuel Use

1980 forward: Energy Information Administration, *Natural Gas Annual*, Table 10 (1980) and Table 13 (1981, 1982); *Natural Gas Annual Volume 1*, Table 13 (1983-1987) and Table 16 (1988); *Natural Gas Annual*, Table 16 (1989).

1977-1979: Energy Information Administration, *Energy Data Reports*, "Natural Gas Production and Consumption," Table 6 (1977, 1978) and Table 5 (1979).

1970-1976: Bureau of Mines, U.S. Department of the Interior, *Mineral Industry Surveys*, "Natural Gas Production and Consumption," Table 5 (1970) and Table 6 (1971-1976).

Table 43. Estimates of Energy Consumed as Process Fuel and Intermediate Products
(Billion Btu)

	Refineries													
	Distillate		Residual		LPG		Other Petroleum ^a		Natural Gas		Coal		Electricity ^b	
	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
AK	238	52	-	-	74	40	16,263	17,791	22,770	24,378	-	-	192	87
AL	9	49	1,092	697	11	25	19,413	14,629	18,650	18,131	-	-	7,278	7,412
AR	10	35	343	480	13	28	5,722	5,783	14,496	16,057	-	-	2,402	2,603
AZ	-	87	-	10	-	632	-	742	-	2,099	-	-	-	1,882
CA	2,019	458	6,739	4,901	15,517	16,520	209,656	208,258	51,294	53,044	-	-	19,508	10,763
CO	9	16	50	167	576	559	6,571	7,024	2,515	3,529	-	-	990	1,289
CT	-	-	-	-	-	-	1,088	1,068	-	-	-	-	-	-
DC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	8	14	1,171	1,034	72	84	16,628	16,586	471	587	60	47	186	209
FL	-	-	-	-	-	-	2,435	2,390	-	-	-	-	-	-
GA	59	121	1,801	1,815	441	658	3,162	3,119	4,821	5,984	516	468	1,691	1,746
HI	91	14	1,359	2,602	17	15	10,989	11,392	-	-	-	-	1,240	692
IA	-	-	-	-	-	-	684	671	-	-	-	-	-	-
ID	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IL	153	45	5,877	4,318	3,702	1,794	94,342	95,405	10,403	10,823	61	28	3,382	3,250
IN	83	32	5,408	5,217	307	757	52,602	52,983	8,428	8,487	64	35	2,984	2,935
KS	87	26	1,362	592	1,521	3,122	34,353	35,200	5,762	5,440	3	1	687	659
KY	102	31	1,048	917	361	711	33,633	33,957	2,482	2,618	26	18	2,357	2,548
LA	27	114	4,484	2,876	475	646	267,944	270,153	134,862	136,474	-	-	6,408	6,740
MA	-	-	-	-	-	-	1,327	1,303	-	-	-	-	-	-
MD	-	-	-	-	-	-	955	937	-	-	-	-	-	-
ME	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MI	98	25	4,255	3,440	784	1,782	16,199	16,726	7,867	8,027	65	30	3,238	3,052
MN	103	30	1,913	1,537	259	550	22,934	23,313	2,970	3,112	9	6	1,973	1,917
MO	-	-	-	-	-	-	5,009	4,915	-	-	-	-	-	-
MS	11	48	1,049	2,174	13	39	34,147	34,693	12,505	12,259	-	-	2,751	2,983
MT	4	15	2,010	1,949	366	219	17,016	17,518	532	652	-	-	1,013	1,290
NC	65	109	5,666	4,907	698	944	8,324	7,745	2,411	3,258	620	583	1,966	2,061
ND	48	18	600	522	81	194	6,065	6,192	317	315	49	29	185	170
NE	-	-	-	-	-	-	229	225	-	-	-	-	-	-
NH	-	-	-	-	-	-	63	62	-	-	-	-	-	-
NJ	56	106	5,504	4,362	891	924	67,714	71,906	2,484	3,323	65	66	1,031	1,039
NM	7	21	122	299	4	91	8,216	8,525	7,460	7,260	-	-	1,097	1,145
NV	277	84	95	116	352	762	340	348	736	787	-	-	1,662	1,065
NY	64	117	5,141	4,640	145	209	21,143	20,170	2,947	3,836	453	456	1,962	2,080
OH	102	34	4,618	3,447	570	1,524	59,483	60,874	11,246	11,161	88	37	5,547	5,770
OK	62	18	1,286	657	320	758	36,622	38,292	10,395	10,489	7	5	955	932
OR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PA	119	193	4,636	5,965	612	972	76,979	77,609	7,565	9,807	996	944	3,012	3,037
RI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SC	-	-	-	-	-	-	2,628	2,579	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TN	66	15	705	775	93	214	17,558	17,447	4,046	4,189	58	32	3,069	2,916
TX	54	240	1,624	1,025	2,493	4,578	506,053	507,521	255,433	245,230	-	-	22,189	22,487
UT	5	9	2,283	2,752	364	279	14,396	14,779	2,561	2,992	-	-	837	1,111
VA	68	106	2,988	3,094	412	520	8,417	8,551	1,746	2,316	918	815	1,021	1,085
VT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WA	340	104	4,941	3,695	2,133	2,784	75,362	81,245	7,294	7,337	-	-	13,094	7,234
WI	68	22	1,666	1,413	204	365	4,003	4,131	4,660	4,863	27	15	1,654	1,604
WV	45	79	479	1,029	121	209	19,676	21,918	1,642	2,402	656	639	646	674
WY	5	13	1,310	344	568	548	16,248	16,338	2,966	3,274	-	-	1,098	1,440
US	4,561	2,499	83,623	73,765	34,570	44,056	1,822,592	1,843,512	626,736	634,540	4,743	4,256	119,304	107,891

See footnotes at end of table.

Table 43. Estimates of Energy Consumed as Process Fuel and Intermediate Products (Continued)
(Billion Btu)

	Total Refineries ^c		Crude Oil Lease, Plant, and Pipeline Fuel		Natural Gas Lease and Plant Fuel		Natural Gas Pipeline Fuel		Electrical System Energy Losses		Total	
	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
AK	39,536	42,348	14,564	10,016	154,248	191,895	1,968	1,873	35,288	36,937	245,603	283,069
AL	46,451	40,943	-	-	6,847	6,337	12,465	13,940	436,410	445,330	502,174	506,550
AR	22,985	24,985	-	-	12,197	11,688	7,564	9,740	193,963	199,638	236,708	246,052
AZ	-	5,453	-	-	5	36	18,967	19,217	299,863	311,857	318,835	336,563
CA	304,733	293,944	70,804	48,541	23,434	20,288	19,747	19,911	1,545,974	1,562,353	1,964,491	1,945,036
CO	10,711	12,564	-	-	11,701	12,370	7,929	12,090	226,035	230,666	256,376	267,690
CT	1,088	1,068	-	-	-	-	555	587	207,452	209,431	209,095	211,086
DC	-	-	-	-	-	-	239	251	72,273	73,876	72,511	74,128
DE	18,596	18,560	-	-	-	-	4	4	58,124	61,727	76,724	80,291
FL	2,435	2,390	-	-	7,856	9,708	3,635	4,512	1,003,547	1,059,795	1,017,472	1,076,405
GA	12,492	13,910	-	-	-	-	7,098	7,244	572,862	589,768	592,451	610,921
HI	13,694	14,715	-	-	-	-	-	-	55,570	58,623	69,265	73,339
IA	684	671	-	-	-	-	10,663	10,561	222,203	219,747	233,550	230,980
ID	-	-	-	-	-	-	4,173	5,095	132,265	136,392	136,437	141,487
IL	117,921	115,663	-	-	63	53	13,028	13,869	847,900	836,524	978,912	966,110
IN	69,877	70,445	-	-	12	10	9,399	8,593	552,282	557,862	631,570	636,910
KS	43,774	45,041	-	-	45,267	43,335	41,846	43,005	199,018	197,626	329,904	329,007
KY	40,010	40,801	-	-	3,051	2,437	21,574	21,414	416,690	447,624	481,325	512,276
LA	414,200	417,003	-	-	283,726	267,088	58,913	51,959	462,402	473,297	1,219,242	1,209,347
MA	1,327	1,303	-	-	-	-	2,038	2,334	344,636	349,631	348,001	353,268
MD	955	937	-	-	1	1	2,655	2,260	366,496	376,996	370,106	380,194
ME	-	-	-	-	-	-	6	6	86,791	87,510	86,798	87,516
MI	32,506	33,082	-	-	8,577	8,418	19,105	17,697	635,820	634,691	696,008	693,888
MN	30,162	30,966	-	-	-	-	11,335	11,960	352,345	351,534	393,841	394,460
MO	5,009	4,915	-	-	-	-	4,931	5,205	402,580	402,588	412,520	412,708
MS	50,476	52,194	-	-	7,209	5,178	35,040	35,069	216,362	226,345	309,087	318,786
MT	20,940	21,644	-	-	2,041	1,799	2,298	2,460	99,719	99,961	124,998	125,863
NC	19,750	19,606	-	-	-	-	5,356	5,859	659,115	675,100	684,220	700,566
ND	7,344	7,440	-	-	4,235	3,554	1,819	1,893	54,760	54,046	68,158	66,934
NE	229	225	-	-	46	34	4,620	4,848	132,983	134,445	137,879	139,552
NH	63	62	-	-	-	-	23	19	68,178	69,537	68,263	69,618
NJ	77,745	81,726	-	-	-	-	2,936	4,098	478,591	484,907	559,271	570,731
NM	16,906	17,341	-	-	44,784	14,354	39,832	55,028	98,284	102,324	199,806	219,047
NV	3,463	3,162	-	-	-	-	194	740	105,442	114,556	109,099	118,458
NY	31,856	31,510	-	-	810	622	4,893	5,447	968,120	981,191	1,005,679	1,018,770
OH	81,654	82,848	-	-	5,064	4,039	10,404	10,832	1,034,948	1,083,905	1,132,070	1,181,624
OK	49,648	51,152	-	-	104,718	92,174	28,782	37,270	287,609	283,232	470,756	463,829
OR	-	-	-	-	118	61	8,237	8,820	302,913	318,527	311,268	327,408
PA	93,920	98,528	-	-	5,162	4,944	38,322	28,351	869,865	871,720	1,007,269	1,003,542
RI	-	-	-	-	-	-	122	119	47,924	48,671	48,046	48,790
SC	2,628	2,579	-	-	-	-	2,560	2,648	406,907	412,190	412,095	417,417
SD	-	-	-	-	125	114	133	132	48,041	48,509	48,299	48,755
TN	25,595	25,588	-	-	62	46	17,619	18,380	561,501	574,868	604,776	618,882
TX	787,845	781,081	-	-	331,711	303,531	111,839	111,432	1,728,657	1,757,679	2,960,051	2,953,722
UT	20,446	21,922	-	-	18,257	17,622	1,472	1,127	111,778	114,530	151,953	155,202
VA	15,570	16,487	-	-	558	442	8,575	6,090	540,259	562,228	564,962	585,247
VT	-	-	-	-	-	-	-	5	34,026	35,000	34,026	35,005
WA	103,165	102,399	-	-	-	-	4,055	4,498	653,661	663,354	760,881	770,251
WI	12,282	12,413	-	-	-	-	4,349	4,200	368,821	370,240	385,452	386,853
WV	23,265	26,951	-	-	8,986	9,026	14,219	12,118	172,506	174,860	218,977	222,955
WY	22,194	21,957	-	-	42,857	42,582	5,960	5,663	84,483	85,975	155,496	156,177
US	2,696,129	2,710,519	85,167	58,557	1,133,729	1,103,784	633,494	650,476	19,864,238	20,259,924	24,412,758	24,783,260

^aIn this table, other petroleum consists of: crude oil, petroleum coke, and still gas consumed as process fuel; aviation gasoline blending components, motor gasoline blending components, pentanes plus, and unfinished oils used as intermediate products.

^bElectricity is converted at the rate of 3,412 Btu per kilowatthour.

^cEquals the sum of energy sources on the first page of this table.

—No consumption.

Sources: Energy Information Administration. See "Consumption Adjustments for Process Fuel and Intermediate Products" in text.

Summary of Changes Since the *State Energy Price and Expenditure Report 1988*

In this section, revisions in the State Energy Price and Expenditure Data System (SEPEDS) that appear in the tables of this *State Energy Price and Expenditure Report (SEPER)* are summarized by energy source. Revisions to prices and expenditures are noted, as well as revisions to consumption data that are used in the calculation of weighted-average prices. This section covers data revisions in all years contained in SEPEDS, 1970-1989, although selected years are published in *SEPER*. Users of the SEPEDS personal computer (PC) diskettes may notice data changes that do not appear in the report due to the level of rounding in the published tables.

Price and expenditure revisions occur for several reasons: data sources for prices change; price estimation methodologies are revised or price assignment and estimation procedures are updated; data entries are corrected; or consumption estimates are revised. The first three kinds of changes affect State-level and U.S. prices directly. The fourth, a revised estimated consumption, affects only State prices that are estimated by consumption-weighted averaging of adjacent States and, similarly, affects U.S. average prices. Consumption estimates used in *SEPER* are from the State Energy Data System (SEDS), published as the *State Energy Data Report, Consumption Estimates, 1960-1989 (SEDR)*, which contains full documentation of the consumption estimation procedures. Consumption revisions are described in *SEDR's* Appendix E "Summary of Changes" section. Since energy expenditure estimates depend on both the price and consumption estimates (including the consumption adjustments for process fuel and intermediate products), revision of either or both may cause revisions to the expenditures series.

Coal

Commercial Sector. Coal consumption in the District of Columbia commercial sector in 1988, which was missed in the previous edition, is included with a price of \$1.31 per million Btu giving an expenditure of 0.7 million dollars. This change increased the DC total coal average price in 1988 from \$1.07 to \$1.92 per mil-

lion Btu and affected the U.S. average commercial and total coal prices insignificantly.

Industrial Sector. Btu prices for the industrial sector in Hawaii from 1982 through 1988 are revised due to the implementation of the Hawaii conversion factor instead of the California factor previously used. This change lowered Hawaii's industrial sector and total coal prices and expenditures by 5 percent to 10 percent for 1982 through 1988. The U.S. average values for industrial and total coal prices and expenditures were affected insignificantly by these changes.

Natural Gas

Industrial Sector. Consumption of natural gas as lease and plant fuel in California and West Virginia in 1988 were revised in SEDS, as documented in *SEDR* Appendix E. These consumption changes cause expenditure adjustments of less than 1 percent that are not visible in the published tables but may be noticed on SEPEDS PC diskettes.

Petroleum

Asphalt and Road Oil

Industrial Sector. Asphalt and road oil consumption changed for all States in 1979, 1984, 1985, 1987, and 1988 as documented in the *SEDR* Appendix E. These changes slightly affect the U.S. average price per million Btu in those 5 years. Although users of the SEPEDS PC diskettes may notice the adjustments, only the revisions to U.S. prices in 1987 and 1988 can be seen in the published report. The combined changes to State consumption and U.S. average prices cause expenditures revisions in all States and the U.S. totals in those 5 years.

Aviation Gasoline

Transportation Sector. Estimates of aviation gasoline consumption by the military were revised in SEDS for all States in 1970-75 and for Maryland and the District of Columbia in 1976-88. The most significant change in SEPEDS is that the District of Columbia price is eliminated for all years, because aviation gasoline consumption is now assumed to be zero in SEDS, and the consumption that was previously reported for the District of Columbia is added to Maryland. Consequently, although Maryland aviation gasoline prices are not changed, Maryland expenditures are increased by 80 percent to 100 percent for all years. The consumption revisions to all States in 1970-75 caused all States' expenditures to change, most by less than 20 percent. The exceptions are Maine and Vermont with expenditure increases of 20 percent to 30 percent and Tennessee with expenditure decreases of 30 percent to 40 percent during those years.

Jet Fuel

Transportation Sector Expenditures. Although jet fuel prices did not change for any States or years, SEDS consumption revisions caused numerous expenditures and consumption-weighted U.S. average prices to be revised. Estimates of jet fuel consumption by the military were revised in SEDS for all States in 1970-75 and 1988 and for Maryland and the District of Columbia in 1976-87. The military use of jet fuel in the District of Columbia is now assumed to be zero in SEDS, and the consumption that was previously reported for the District of Columbia is added to Maryland. Some commercial use of jet fuel is still reported for the District of Columbia causing jet fuel prices and expenditures to drop to zero in 1975-77 and remain with small expenditures in other years. Maryland expenditures are increased by about 25 percent for 1970-79, by 5 percent or less in 1980-87, and by 16 percent in 1988. The consumption revisions to all States in 1970-75 caused all States' expenditures to change, most by less than 20 percent. The exceptions are Maine, where expenditures doubled, and North Dakota, where expenditures tripled, during those years.

Total Jet Fuel Prices. The consumption weighted average prices for total jet fuel used by both the transportation and electric utility sectors are revised for the United States in 1970-75 and 1988 and for 16 States in 1972-75. The State-level revisions occur in States that have electric utility sector consumption of jet fuel that affect the consumption-weighted price. These small price adjustments do not show in the published tables but may be noticed on the SEPEDS PC diskettes.

Liquefied Petroleum Gases

Residential Sector. Liquefied petroleum gases (LPG) prices for Alaska and Hawaii in the residential sector are recalculated for all years to implement a revised methodology. Alaska's residential LPG prices and expenditures decreased about 4 percent in 1970, 1971, and 1973-79 but increased about 3 percent in 1981-88. Hawaii's residential LPG prices and expenditures increased in 1970 and 1972-74 by about 25 percent; decreased by 9 percent in 1975, 1976, and 1980-84; and increased by 3 percent in 1985-88.

The District of Columbia prices in 1979-83 are revised to correct the Maryland price assignments in those years. The revisions cause prices and expenditures for residential use of LPG in the District of Columbia to decrease 20 percent to 30 percent in 1979 and 1981-83 and 2 percent in 1980.

The average prices and expenditures for total LPG consumption in Alaska, Hawaii, and the District of Columbia are similarly affected but by smaller percentages. The revisions described above affect the U.S. average residential and total prices and expenditures for LPG, but by insignificant amounts.

Lubricants

Industrial and Transportation Sectors. The national average lubricants price that is used for all States is revised for 1987 from \$12.70 to \$13.58 per million Btu reflecting revised U.S. Department of Commerce, Bureau of the Census, value of shipments for lubricating oils and greases. The 1988 average price is revised from \$10.41 to \$14.61 per million Btu by using Bureau of Census value of shipments data not available previously. These revisions caused a 7-percent increase in prices and expenditures for both sectors and for total lubricants in all States in 1987 and a 40-percent increase to all prices and expenditures in 1988.

Other Petroleum Products

Industrial Sector. The U.S. Department of Commerce, Bureau of the Census, *Census of Manufactures* Industry Series are used to develop prices for SEPEDS miscellaneous petroleum products (1970-89) and still gas used as petrochemical feedstocks (1970-85). The Census data are also used to estimate several of the other petroleum products State-level consumption in SEDS. The recently published 1987 *Census of Manufactures* contains revisions to the 1982 Census. The incorporation of the new 1987 and revised 1982 data cause numerous revisions to other petroleum product prices and expenditures.

Still gas consumption as a petrochemical feedstock was reported by EIA separately from still gas consumed at

refineries for 1970-85. The prices for still gas used as a petrochemical feedstock are developed using data from the *1982 Census of Manufactures Industry Series*. Incorporating the revised 1982 Census data causes price decreases in 1970-85 of 2 percent or less (with the exception of a 13-percent decrease in 1982) in the U.S. average prices that are assigned to all States, with proportional decreases in each State's expenditures.

Miscellaneous petroleum product U.S. average prices, which are assigned to all States, are revised from 1980 forward reflecting the revised 1982 Census and new 1987 Census data. A review of the miscellaneous product prices for all years and the transfer to PC software caused slight revisions in the 1970-79 prices due to differences in rounding during the recalculation. Prices for all States increased by less than 1 percent in 1970-79, by about 1 percent in 1980-84, and by 28 percent in 1985-88.

Consumption of petrochemical feedstocks, special naphthas, waxes, pentanes plus, and miscellaneous petroleum products were revised in SEDS for 1986-88 due to the incorporation of data from the *1987 Census of Manufactures Industry Series*. Although the individual product prices are not changed (with the exception of miscellaneous petroleum products prices discussed above), revisions to the consumption data cause the weighted average prices for the combined other petroleum products to be changed as the product mix is adjusted for most States in 1986-88. The most significant changes to prices occur in Vermont and Nebraska where there now is estimated consumption of other petroleum products, and therefore a price, when previous reports had estimated no consumption. Prices increase in Rhode Island and New Mexico by 80 percent to 100 percent and in Kansas and Arkansas by 40 percent to 70 percent in 1986-88. Prices decrease by 40 percent to 60 percent in Mississippi and Utah in 1986-88.

Industrial sector expenditures for other petroleum products combined in all States and all years are affected by the SEPEDS price revisions and by the changes in SEDS consumption estimates. Revisions prior to 1986 are 1 percent or less for all States, except in 1982 and 1985. In 1982, Alaska, Arizona, and Nevada expenditures for other petroleum products are 13 percent lower and New Mexico is 7 percent lower reflecting the revisions to still gas prices. In 1985, expenditures are lower by as much as 5 percent in a number of States. The revisions to SEDS consumption in 1986-88 cause larger revisions to other petroleum product expenditures. Expenditures are lower by 35 percent to 55 percent in Colorado, Mississippi, Oregon, and Utah but are almost five times higher in New Mexico during 1986-88. Expenditures are increased by 70 percent to 80 percent in North Carolina and by 40 percent to 60 percent in Kansas, Maryland, and Minnesota in 1986-88.

Residual Fuel

The transfer of SEPEDS residual fuel price estimates from EIA's mainframe computer to the PC uncovered several data errors that apparently had been resident in the database since its initial development in the early 1980's. Data from the new tables in EIA's *Petroleum Marketing Annual* caused commercial and industrial sector price revisions in 1984-88.

Commercial Sector. Prices for Alaska in 1970-72, 1974-78, 1980, and 1983 are revised to correct data entry errors, causing changes of 1 percent or less except for the 10 percent increase in 1980. Corrections of data entry errors also cause Connecticut prices to increase by 11 percent in 1970-72 and by 2 percent in 1978. Correction of inconsistent treatment of methodology causes prices to change in 1975 by 2 percent or less in the District of Columbia, Illinois, Kansas, Maine, North Carolina, New Hampshire, Nevada, Ohio, South Carolina, South Dakota, Virginia, Wisconsin, and Wyoming, and by 5 percent in North Dakota. The same type of correction to 1978 prices causes 2-percent changes to occur in Connecticut, the District of Columbia, Georgia, Maryland, North Carolina, Nevada, Oklahoma, South Carolina, South Dakota, Tennessee, Virginia, and Wisconsin, and a 7-percent change in West Virginia. Corrections to adjacent State price assignments in 1983 cause Montana and North Dakota prices to increase by \$.08 and \$.03 per million Btu, respectively. Prices for all States are revised for 1984 forward due to additional data from new tables in the source publication. Price revisions ranged from \$.02 per million Btu for Delaware in 1986 to \$2.08 per million Btu for Oregon in 1984, with most revisions less than \$1.00 per million Btu. All the price revisions cause proportional revisions to expenditures. The 1970-83 revisions cause changes to the U.S. average prices and expenditures that are too small to be seen in the published tables. Changes to the U.S. averages are more noticeable in the 1984-88 revisions.

Industrial Sector. Prices for Wyoming in 1974-77 are revised to correct adjacent State calculations. The Wyoming price increases range from \$.31 per million Btu in 1974 to \$.01 per million Btu in 1976. Prices for all States are revised for 1984 forward due to additional data from new tables in the source publication. Price revisions range from less than \$.01 per million Btu to \$1.51 per million Btu. All the price revisions cause proportional revisions to expenditures. The 1974-83 revisions cause insignificant adjustments in the U.S. average prices and expenditures. Changes to the U.S. averages are more noticeable in the 1984-88 revisions.

Transportation Sector. Correction of data entry errors causes prices for residual fuel used for transportation to increase in Connecticut by 11 percent in 1970-72, to decrease in North Carolina by 56 percent in 1970, to decrease in New Hampshire by 97 percent in 1979, and to decrease in Oregon by 18 percent in 1972. Correction of calculation errors causes 1975 prices to be revised

Total Process Fuel and Intermediate Products

Changes described above are reflected in total refinery fuel (including intermediate products) and process fuel consumption. The revisions are generally less than 0.5 percent with the exception of refinery fuel consumption in 1986-88. Refinery fuel consumption changes are less than 5 percent for most States and are nearly the same

percentage in each year, 1986-88, due to the reallocation of pentanes plus. The largest changes occur in Maryland and Nebraska, which previously had no estimated refinery fuel consumption, and in Rhode Island where consumption estimates are revised to zero. In all 3 years, refinery fuel consumption decreases in Connecticut by 36 percent, in Iowa by 55 percent, and in New Hampshire by 22 percent, and increases in North Carolina by 13 percent.

Appendix A

Additional Measures of Energy Consumption, Expenditures, and Prices

Additional Measures of Energy Consumption, Expenditures, and Prices

The annual editions of the Energy Information Administration (EIA) *State Energy Price and Expenditure Report (SEPER)* provide detailed estimates of energy prices and expenditures, with expenditures given in nominal dollars. Energy expenditures are derived as the product of energy prices and energy consumption with the latter adjusted to exclude energy used or lost by energy industries. The fully adjusted measure of energy consumption is designated as net energy consumption and represents the energy sold to end users of energy in the domestic economy. The energy price and net energy consumption data underlying the current dollar energy expenditure estimates can also be used to derive three additional energy related measures: energy expenditures in constant 1982 dollars, an implicit energy price deflator, and a fixed-weight energy price index. These measures complement, but are not intended to replace, existing EIA data series.

In this section, the methodology used to derive the three additional energy-related measures is presented, and the additional measures are used to examine changes in energy consumption, expenditures, and prices throughout the 1970-89 period. For purposes of analysis, information is presented for three shorter periods, as well as for the 20-year period, 1970-89. The first period, 1970-73, was chosen to allow analysis of energy use and its relation to Gross National Product (GNP) over a base period, before the sharp price increases that began in the last months of 1973. The second period, 1973-81, includes the years of rapid price increases, which led to efforts to conserve energy and increase energy efficiency. The third period, 1981-89, was selected to see whether the decline in real energy prices after 1981 resulted in a moderation of efforts to increase energy efficiency, relative to the earlier periods.

Methodology

Net Energy Consumption

The net energy consumption data⁴ used in *SEPER* differ from the total energy consumption data currently published by EIA. The total (gross) consumption data include all energy sources before deduction of intermediate energy used or lost by energy industries in producing, processing, converting, generating, and distributing energy to end users. The net consumption data exclude certain categories of energy use, as outlined below.

The major category of energy used or lost by energy industries is the losses incurred in the generation, transmission, and distribution of utility electricity. Additional important losses include a power plant's own use of electricity, unaccounted-for electric system energy losses, fuels and purchased electricity consumed by petroleum refineries, natural gas lease and plant fuel, natural gas used as pipeline fuel, and crude oil consumed as lease, plant, and pipeline fuel.

In addition to the exclusion of energy used or lost, two other adjustments are made to the total energy consumption data: industrial hydroelectricity (used as a power source by the company generating the power, and not selling it) is excluded, and several intermediate petroleum products, which are used in the production of other petroleum products or reflect petroleum supply-consumption balance entries, are also excluded. The fully adjusted measure thus derived is designated "net energy consumption" (Table A1). Table A6 in this appendix shows the reconciliation of total (gross) and net energy consumption data.

⁴The detailed estimates of net energy, classified by energy form and major end-use sector, at both State and national levels, are included in the State Energy Price and Expenditure Data System. The net energy estimates are based on adjustments to total energy consumption data in EIA's *State Energy Data Report, Consumption Estimates, 1960-1989* DOE/EIA-0214(89) (Washington, DC, May 1991).

Constant-Dollar Energy Expenditures

The energy expenditures series presented in the Appendix is the constant-dollar counterpart to the nominal-dollar expenditure series published in the present report.⁵ The constant-dollar series is the product of fixed 1982 energy prices, at purchaser's value in dollars per million Btu, and net energy consumption in Btu for each year. Since it is derived by holding 1982 prices constant, it is comparable to the constant-dollar GNP measures. In addition, the constant-dollar energy expenditure series has been used along with the constant-dollar GNP series to derive an expenditure per GNP index, which is a measure of the energy intensity of the economy (Table A2).

Energy Price Measures

The development of the constant-dollar energy expenditure series makes it possible to derive nominal and real implicit energy price deflators. The methodology used to derive the nominal implicit energy price deflator is comparable to the methodology used to derive the GNP implicit price deflator: the current-dollar expenditure series is divided by the constant-dollar energy expenditure series. The real implicit energy price

deflator is then obtained by dividing the nominal price deflator by the GNP implicit price deflator.

Implicit price deflators, however, present a problem as indicators of changes in price because they also reflect changes in product mix (except for direct comparisons between any given year and the base year, with the product mix of the given year held constant). Therefore, although they are convenient, their usefulness is limited. In order to compare price data for any year with price data for any other year, it is necessary to develop *fixed-weight* energy price indices. In concept, a fixed-weight price index excludes the effect of changes in product mix.

The methodology used to develop the fixed-weight energy price indices presented in this section is comparable to that used to develop the GNP fixed-weight price index. The nominal fixed-weight energy price index is a measure of the average price of net energy consumption for each given year relative to the average price of net energy consumption in 1982, the weight base year. The composition of net energy consumption is held constant at 1982 weights for each year in the series. The 1982 weights consist of detailed energy source and end-use sector categories (cells) for each State and the relative distribution of net energy consumption among the various States.

Table A1. Energy Consumption, 1970-1989

Year	Total (trillion Btu)	Net (trillion Btu)	Net/Total (percent)
1970 . . .	66,334	50,138	75.6
1971 . . .	67,789	50,968	75.2
1972 . . .	71,275	53,273	74.7
1973 . . .	74,351	55,344	74.4
1974 . . .	72,528	53,409	73.6
1975 . . .	70,569	51,553	73.1
1976 . . .	74,392	54,276	73.0
1977 . . .	76,317	55,287	72.4
1978 . . .	78,158	56,419	72.2
1979 . . .	78,920	56,935	72.1
1980 . . .	75,985	54,140	71.3
1981 . . .	74,022	52,703	71.2
1982 . . .	70,806	49,827	70.4
1983 . . .	70,486	49,093	69.6
1984 . . .	74,042	51,847	70.0
1985 . . .	74,019	51,694	69.8
1986 . . .	74,232	51,824	69.8
1987 . . .	76,792	53,363	69.5
1988 . . .	80,247	55,802	69.5
1989 . . .	81,342	56,526	69.5

Note: Calculations are based on unrounded data.

Sources: **Total Consumption** -- EIA, *State Energy Data Report, Consumption Estimates, 1960-1989*, DOE/EIA-0214(89) (Washington, DC, May 1991), p. 23, "Total" (trillion Btu).

Net Consumption -- EIA, *State Energy Price and Expenditure Data System 1989*.

Net/Total Consumption -- Net Btu divided by Total Btu.

Table A2. Energy Expenditures and Expenditure/GNP Index, 1970-1989

Year	Constant-Dollar Expenditures (million 1982 dollars)	Constant-Dollar Expenditures/GNP Index (1982 = 100)
1970 . . .	378,389	116.7
1971 . . .	391,010	117.3
1972 . . .	413,788	118.2
1973 . . .	433,185	117.6
1974 . . .	420,225	114.7
1975 . . .	415,139	114.8
1976 . . .	439,201	115.8
1977 . . .	452,514	114.0
1978 . . .	464,944	111.2
1979 . . .	465,027	108.6
1980 . . .	446,545	104.4
1981 . . .	440,446	101.0
1982 . . .	424,808	100.0
1983 . . .	426,333	96.9
1984 . . .	446,609	95.1
1985 . . .	449,972	92.7
1986 . . .	457,036	91.6
1987 . . .	471,473	91.4
1988 . . .	490,993	91.1
1989 . . .	497,491	90.0

Note: Calculations are based on unrounded data.

Sources: **Expenditures** -- EIA, *State Energy Price and Expenditure Data System 1989*.

Expenditures/GNP Index -- Expenditures/GNP, converted to index, 1982 = 100.0. (GNP data appear in column 4 of Table A5.)

⁵Although the Appendix does not provide estimates at the State level, the national estimates of constant dollar energy expenditures are based on detailed energy consumption and price data for energy products, classified by end-use sector, for each State.

The nominal fixed-weight energy price index is derived by (a) multiplying 1982 net energy consumption in Btu for each of the cells by the related end-use price for each year, (b) aggregating the hypothetical expenditures derived by this procedure to the individual State and national levels for each year, and (c) dividing the hypothetical expenditures for each year by the actual expenditures in 1982. The real fixed-weight energy price index is then obtained by dividing the nominal fixed-weight energy price index by the GNP fixed-weight price index (Table A3).

Table A3. Fixed-Weight Energy Price Indices, 1970-1989
(1982 = 100)

Year	Fixed-Weight Price Index	
	Nominal	Real
1970 . . .	22.9	48.6
1971 . . .	23.9	49.1
1972 . . .	24.6	48.8
1973 . . .	26.5	50.0
1974 . . .	36.8	64.4
1975 . . .	41.6	67.3
1976 . . .	44.4	68.2
1977 . . .	49.0	71.6
1978 . . .	51.9	71.3
1979 . . .	64.1	81.3
1980 . . .	83.8	97.4
1981 . . .	96.9	103.0
1982 . . .	100.0	100.0
1983 . . .	97.6	93.8
1984 . . .	97.2	89.7
1985 . . .	97.0	86.6
1986 . . .	83.4	72.6
1987 . . .	83.5	70.2
1988 . . .	82.7	66.7
1989 . . .	87.3	67.4

Notes: Indices are based on 1982 quantity weights. Calculations are based on unrounded data.

Sources: **Nominal Fixed-Weight Price Index** -- Based on net energy consumption and end-use price data from EIA, State Energy Price and Expenditure Data System 1989.

Real Fixed-Weight Price Index -- Nominal fixed-weight price index/GNP fixed-weight price index. (GNP data appear in column 6 of Table A5.)

In order to avoid some of the problems involved in interpreting the movement in the energy implicit deflator, because the measure reflects both price and product mix changes, only the fixed-weight energy price data are analyzed in this section. However, the implicit energy price deflators are presented in Table A5.

Energy Consumption, Expenditures, and Prices

The Decline in the Net/Total Ratio

Over time, the amount of energy used or lost by energy industries has accounted for an increasing proportion of total energy. In 1970, energy used or lost by energy industries amounted to about 24.4 percent of total energy consumed. By 1989, it had risen to 30.5 percent. Of course, as the proportion of energy used or lost rose, the ratio of net energy consumption--energy actually delivered to end users--to total energy consumption registered a concomitant decline (Table A1). The rate of decline in the ratio averaged about 0.4 percent per year for the 1970-89 period.

The Shift to Higher-Priced Products

When the effect on constant-dollar energy expenditures of the decline in the proportion of energy actually delivered to end users is taken into account by basing energy expenditure and price series on *net* energy consumption, it becomes possible to examine changes in the product mix. The difference between the rate of increase in constant-dollar energy expenditures and that of net energy consumption is an implicit measure of the rate of change in the mix of products supplied to end users (Table A4).

When the rate of change in constant-dollar energy expenditures exceeds the rate of change in net energy consumption, the shift in product mix is towards higher-priced products. And, in fact, throughout the 1970-89 period, constant-dollar energy expenditures rose more rapidly--or fell more slowly--than net energy consumption. For the period as a whole, the product mix effect averaged 0.8 percent per year. But the product mix effect was *not uniform* over the period; it declined from 1.3 percent per year in 1970-73 to 0.8 percent per year in 1973-81 and 0.7 percent per year in 1981-89.

An examination of changes in the shares of electricity and motor gasoline over the 20-year period illustrates the product mix effect. On a dollar-per-net-Btu basis, electricity and motor gasoline are relatively higher-priced sources of energy. (In 1982, the base year used in calculating constant-dollar energy expenditures, the prices per million net Btu of electricity and motor gasoline averaged \$18.16 and \$10.39, respectively. By comparison, the average price for all other energy sources was \$5.52 per million net Btu.) In 1970, electricity accounted for 9.3 percent of net energy consumption and motor gasoline accounted for 22.1 percent. By 1989, the shares of these higher-priced energy products had grown to 15.8 percent, and 24.9 percent, respectively.

Table A4. Rates of Change in Energy Expenditures and Consumption, 1970-1989 (Percent)

Period	Constant-Dollar Expenditures	Net Energy Consumption	Product Mix Effect ¹
1970-73 . . .	4.6	3.3	1.3
1973-81 . . .	0.2	-0.6	0.8
1981-89 . . .	1.5	0.9	0.7
1970-89 . . .	1.5	0.6	0.8

¹Constant-dollar expenditure rate minus net energy consumption rate. Product mix effect based on unrounded data.

Note: Rates of change are average annual rates.

Source: Based on data in Tables A1 and A2.

The Decline in Energy Intensity

A second analytical use of the constant-dollar energy expenditure series is an examination of changes in the energy intensity of the economy. The change in the ratio of constant-dollar energy expenditures to constant-dollar GNP is one measure of energy intensity.

By definition, if the energy intensity of the economy were constant, the rate of change in constant-dollar energy expenditures would be identical to the rate of change in GNP. During the 1970-89 period, however, the rates of change differed. Furthermore, the change in the energy expenditure/GNP ratio was not uniform over the period. In 1970-73, the energy expenditure/GNP ratio actually increased 0.3 percent per year (Figure A1).

In 1973-81, the decline in energy intensity, as measured by the energy expenditure/GNP ratio, averaged 1.9 percent. The decline is largely attributable to dramatic increases in real energy prices. Such increases, by promoting energy conservation and energy efficiency, would tend to reduce energy consumption, and hence constant-dollar expenditures, relative to growth in the economy.

Figure A1. Rates of Change in Constant-Dollar Energy Expenditure/GNP Index, 1970-1989

Note: Rates of change are average annual rates of change.

Source: Based on data in Table A2.

In 1981-89, the energy intensity continued to decline, averaging 1.4 percent per year, *despite* a substantial decline in the real price of energy. The price decline might have been expected to lead to an increase in energy expenditures relative to the growth in the economy. This apparent anomaly--the continuation of the decline in energy intensity although at a slower rate, despite the price decline--can be explained by the continuing replacement of machinery, vehicles, appliances, structures, and other energy-consuming units with more efficient units. As the proportion of more efficient units rose, average energy efficiency increased. For example, U.S. passenger car efficiency increased faster in 1981-89 than in 1973-81. From 1973 to 1981, the average number of miles traveled per gallon of fuel consumed rose from 13.30 to 15.94, an average annual increase of 2.3 percent. From 1981 to 1989, the number rose from 15.94 to 20.54, an average annual increase of 3.2 percent.⁶

Changes in Energy Prices

For the 1970-89 period as a whole, the fixed-weight energy price index, in nominal terms, registered a sizeable increase of 7.3 percent per year. That average, however, masked significant variations between periods. In 1970-73, prices increased at the average annual rate of 5.0 percent, in nominal terms (Figure A2). In 1973-81, the rate jumped to 17.6 percent as world events--notably the Arab oil embargo of 1973-74 and the Iranian crisis in 1979--boosted the price of oil. In

⁶Miles per gallon data are from EIA, *Monthly Energy Review* July 1991, DOE/EIA-0035(91/07) (Washington, DC, July, 1991), Table 1.10.

1981-89, energy prices declined an average of 1.3 percent per year, in nominal terms.

However, removing the effects of general inflation results in much lower rates of increase for the first two periods and substantially higher rates of decline for the period after 1981. The 5.0-percent-per-year increase in nominal terms in 1970-73 is an increase of only 0.9 percent per year in real terms. Similarly, the increase in 1973-81 is reduced from 17.6 percent per year, in nominal terms, to somewhat more than half that rate, 9.5 percent, in real terms.

Figure A2. Rates of Change in Fixed-Weight Energy Price Indices, 1970-1989

Note: Rates of change are average annual rates of change.
Source: Based on data in Table A3.

In the period after 1981, the rate of decline in real terms is much larger than the nominal rate of decline, due to continued increases in the GNP fixed-weight price index (although the rates of increase in the GNP measure were reduced substantially). The decline in

nominal energy prices of 1.3 percent per year in 1981-89 is a 5.2-percent-per-year reduction in real terms. Considering only the nominal rates of change in energy prices conceals the magnitude of the post-1981 decline. By 1989, the average price of energy, in real terms, was about 35 percent above the level of real energy prices in 1973, prior to the period of dramatic increase in energy prices. This represents a sharp reduction from the level reached in 1981 when real energy prices were more than double the 1973 level.

Summary of Major Findings

This appendix presents three additional measures of energy, as well as examples of the kinds of analysis that the series makes possible. The major analytical findings of this appendix are as follows:

- The proportion of total energy consumption actually delivered to end users declined throughout 1970-89, from 75.6 percent to 69.5 percent.
- During the 20-year period, there was a shift towards higher-priced energy products in the mix of products delivered to end users.
- The energy intensity of the economy declined in response to the sharp increase in real energy prices in 1973-81 and the decline continued in 1981-89, *despite* a sharp decrease in real prices after 1981. The apparent anomaly is explained in large part by the effect of replacement of energy-consuming stock with more energy efficient units.
- Real energy prices increased dramatically between 1973 and 1981, at a rate of 9.5 percent per year, with the level of real energy prices more than doubling over the period. A major part of the increase was offset, however, by the decline in real energy prices in the following period, at a rate of 5.2 percent per year, so that the level of real energy prices in 1989 was reduced to 35 percent above the 1973 level.

Table A5. Energy and GNP Measures, 1970-1989

Year	Energy Measures			GNP Measures		
	Current-Dollar Expenditures (million dollars)	Nominal Implicit Price Deflator (1982 = 100)	Real Implicit Price Deflator (1982 = 100)	GNP (billion constant 1982 dollars)	GNP Implicit Price Deflator (1982 = 100)	GNP Fixed-Weight Price Index (1982 = 100)
1970 . . .	82,579	21.8	52.0	2,416.2	42.0	47.2
1971 . . .	89,781	23.0	51.7	2,484.8	44.4	48.8
1972 . . .	97,802	23.6	50.8	2,608.5	46.5	50.3
1973 . . .	111,616	25.8	52.1	2,744.1	49.5	53.1
1974 . . .	153,077	36.4	67.5	2,729.3	54.0	57.2
1975 . . .	171,784	41.4	69.8	2,695.0	59.3	61.8
1976 . . .	193,661	44.1	69.9	2,826.7	63.1	65.1
1977 . . .	220,221	48.7	72.3	2,958.6	67.3	68.4
1978 . . .	238,877	51.4	71.2	3,115.2	72.2	72.7
1979 . . .	296,991	63.9	81.3	3,192.4	78.6	78.8
1980 . . .	373,901	83.7	97.7	3,187.1	85.7	86.1
1981 . . .	426,447	96.8	103.0	3,248.8	94.0	94.1
1982 . . .	424,808	100.0	100.0	3,166.0	100.0	100.0
1983 . . .	415,749	97.5	93.9	3,279.1	103.9	104.1
1984 . . .	433,584	97.1	90.1	3,501.4	107.7	108.3
1985 . . .	435,901	96.9	87.4	3,618.7	110.9	111.9
1986 . . .	381,490	83.5	73.3	3,717.9	113.8	114.9
1987 . . .	393,838	83.5	71.2	3,845.3	117.4	118.9
1988 . . .	407,749	83.0	68.5	4,016.9	121.3	123.9
1989 . . .	436,643	87.8	69.5	4,117.7	126.3	129.5

Sources: **Current-Dollar Energy Expenditures**--EIA, State Energy Price and Expenditure Data System 1989.

Nominal Energy Implicit Price Deflator--Current-dollar expenditures/constant-dollar expenditures (column 1, Table A2).

Real Energy Implicit Price Deflator--Nominal energy implicit price deflator/GNP implicit price deflator. The calculation is based on the unrounded nominal energy implicit price deflator series.

GNP--*Economic Report of the President* (Washington, DC, February 1991), p. 288, Table B-2, "Gross national product in 1982 dollars, 1929-1990," col. 1.

GNP Implicit Price Deflator--Same source as above, p. 290, Table B-3, "Implicit price deflators for gross national product, 1929-1990," col. 1.

GNP Fixed-Weight Price Index--Same source as above, p. 292, Table B-4, "Fixed-weighted price indexes for gross national product, 1982 weights, 1959-1990," col. 1.

Table A6. Total (Gross) - Net Energy Balance, 1970-1989
(Trillion Btu)

Year	Total (Gross)	Net	Electric Utility Losses	Refinery Use	Crude Oil	Natural Gas Lease and Plant	Natural Gas Pipeline	Industrial Hydroelectric	Total Loss
1970 ...	66,334	50,138	11,517	2,464	-	1,442	740	34	16,197
1971 ...	67,789	50,968	12,127	2,442	-	1,456	761	34	16,821
1972 ...	71,275	53,273	13,110	2,576	-	1,497	786	34	18,003
1973 ...	74,351	55,344	13,999	2,690	-	1,539	745	35	19,007
1974 ...	72,528	53,409	14,198	2,683	-	1,520	684	33	19,119
1975 ...	70,569	51,553	14,384	2,571	-	1,434	595	32	19,017
1976 ...	74,392	54,276	15,255	2,590	-	1,679	559	33	20,116
1977 ...	76,317	55,287	16,060	2,687	-	1,706	544	33	21,030
1978 ...	78,158	56,419	16,850	2,623	-	1,694	541	32	21,740
1979 ...	78,920	56,935	17,063	2,742	-	1,534	613	34	21,985
1980 ...	75,985	54,140	17,387	2,718	-	1,058	650	33	21,845
1981 ...	74,022	52,703	17,464	2,204	-	959	660	33	21,320
1982 ...	70,806	49,827	17,100	2,089	-	1,144	614	33	20,979
1983 ...	70,486	49,093	17,583	2,122	140	1,010	505	33	21,394
1984 ...	74,042	51,847	18,115	2,255	134	1,113	545	33	22,195
1985 ...	74,019	51,694	18,596	2,046	127	1,001	521	33	22,324
1986 ...	74,232	51,824	18,532	2,286	103	954	501	32	22,409
1987 ...	76,792	53,363	19,107	2,485	72	1,194	538	32	23,429
1988 ...	80,247	55,802	19,864	2,696	85	1,134	633	32	24,445
1989 ...	81,342	56,526	20,260	2,711	59	1,104	650	33	24,816

Note: Totals may not equal sum of components due to independent rounding.

Sources: **Total (Gross)**--EIA, *State Energy Data Report, Consumption Estimates, 1960-1989*, DOE/EIA-0214(89) (Washington, DC, May 1991), p. 23, col. titled, "Total" (Trillion Btu).

Net--EIA, *State Energy Price and Expenditure Data System*, 1989.

Electric Utility Losses--EIA, *State Energy Data Report, Consumption Estimates, 1960-1989*, pp. 18-21, sum of four end-use sectors', "Electrical System Energy Losses" (Trillion Btu).

Refinery Use--EIA, *State Energy Price and Expenditure Data System*, 1989.

Crude Oil Lease, Plant, and Pipeline Use--EIA, *State Energy Price and Expenditure Data System*, 1989.

Natural Gas Lease and Plant--EIA, *State Energy Price and Expenditure Data System*, 1989.

Natural Gas Pipeline--EIA, *State Energy Data Report, Consumption Estimates, 1960-1989*, p. 27, col. titled, "Natural Gas" (Trillion Btu).

Industrial Hydroelectric--EIA, *State Energy Data Report, Consumption Estimates, 1960-1989*, p. 26, col. titled, "Industrial Hydropower" (Trillion Btu).

Total Loss--Sum of Electric Utility Losses, Refinery Use, Crude Oil as Lease, Plant, and Pipeline Fuel, Natural Gas Lease and Plant, Natural Gas Pipeline, and Industrial Hydroelectric.

Glossary

Asphalt: A dark-brown-to-black cement-like material containing bitumens as the predominant constituents obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts.

ASTM: The American Society for Testing and Materials.

Aviation Gasoline Blending Components: Naphthas that are used for blending or compounding into finished aviation gasoline (e.g., straight-run gasoline, alkylate, and reformat). Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

Aviation Gasoline: All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G-5572. Aviation gasoline includes blending components.

Barrel (petroleum): A unit of volume equal to 42 U.S. gallons.

British Thermal Unit (Btu): The quantity of heat needed to raise the temperature of 1 pound of water by 1° F at or near 39.2° F. See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net**.

Butane: A normally gaseous straight-chain or branched-chain hydrocarbon (C_4H_{10}). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

- **Isobutane:** A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.
- **Normal Butane:** A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

Butylene: An olefinic hydrocarbon (C_4H_8) recovered from refinery processes.

Coal: Includes all ranks of coal--anthracite, bituminous coal, subbituminous coal, and lignite--conforming to ASTM Specification D388.

- **Coking coal:** Coal that meets the requirements for making coal coke. It must be low in ash and sulfur and form a coke that is capable of supporting the charge of iron ore and limestone in a blast furnace. Coking coal is usually a blend of two or more bituminous coals.
- **Steam coal:** In this report, steam coal represents all noncoking coal.

Coal Coke: A hard, porous product made from baking bituminous coal in ovens at temperatures as high as 2,000° F. It is used both as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

Coke Plants: Plants where coal is carbonized in slot or beehive ovens for the manufacture of coke.

Coking Coal: See **Coal**.

Commercial Sector: The commercial sector, as defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial. SIC codes used to classify an establishment as commercial are 50 through 87, 89, and 91 through 97.

Conversion Factor: A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents.

Crude Oil Used Directly: Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

Cubic Foot (natural gas): A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

Degree-Day Normals: Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). The averages may be simple degree-day normals or population-weighted degree-day normals.

Degree-Days, Cooling (CDD): The number of degrees per day that the daily average temperature is above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

Degree-Days, Heating (HDD): The number of degrees per day that the daily average temperature is below 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

Degree-Days, Population-Weighted: Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the State population-weighted degree-day figure. To compute national population-weighted degree-days, the Nation is divided into nine Census regions comprised of from three to eight States, which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree-day figure.

Diesel Fuel: Fuel used for internal combustion in diesel engines; usually that fraction of crude oil that distills after kerosene. (See **Distillate Fuel Oil**.)

Distillate Fuel Oil: A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation.

Electrical System Energy Losses: The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted-for uses.

Electricity Generation: The process of producing electric energy or transforming other forms of energy into electric energy. Also the amount of electric energy produced or expressed in watthours (Wh).

Electricity Sales: The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. "Other" sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

Electric Power Plant: A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric Utility Sector: Privately and publicly owned establishments that generate electricity primarily for use by the public.

End-Use Sectors: The residential, commercial, industrial, and transportation sectors of the economy.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

Ethane: A normally gaseous straight-chain hydrocarbon (C_2H_6). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

Ethylene: An olefinic hydrocarbon (C_2H_4) recovered from refinery processes or petrochemical processes.

Expenditures: In this report, "expenditures" refers to the money directly spent by consumers to purchase energy. Expenditures equal the amount of energy used by the consumer times the price per unit paid by the consumer. In calculating the amount of energy used, process fuel and intermediate products are not included.

Exports: Shipments of goods from the 50 States and the District of Columbia to foreign countries and to Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

Federal Energy Regulatory Commission (FERC): The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

Federal Power Commission (FPC): The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the Department of Energy was created. Its functions were divided between the Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

Fossil Fuel: Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

Gasohol: A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume of alcohol. Gasohol is included in finished leaded and unleaded motor gasoline.

Geothermal Energy (as used at electric utilities): Hot water or steam extracted from geothermal reservoirs in the Earth's crust and supplied to steam turbines at electric utilities that drive generators to produce electricity.

Gross National Product (GNP): The total value of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for capital consumption. It includes the total purchases of goods and services by private consumers and government, gross private domestic capital investment, and net foreign trade.

Gross National Product (GNP) Implicit Price Deflator: The implicit price deflator, published by the U.S. Department of Commerce, Bureau of Economic Analysis, is used to convert nominal figures to real figures.

Heat Content of a Quantity of Fuel, Gross: The total amount of heat released when a fuel is burned. Coal, crude oil, and natural gas all include chemical compounds of carbon and hydrogen. When those fuels are burned, the carbon and hydrogen combine with oxygen in the air to produce carbon dioxide and water. Some of the energy released in burning goes into transforming the water into steam and is usually lost. The amount of heat spent in transforming the water into steam is counted as part of gross heat content but is not counted as part of net heat content. Also referred to as the higher heating value. Btu conversion factors typically used in EIA represent gross heat content.

Heat Content of a Quantity of Fuel, Net: The amount of useable heat energy released when a fuel is burned under conditions similar to those in which it is normally used. Also referred to as the lower heating value. Btu conversion factors typically used in EIA represent gross heat content.

Heavy Oil: The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam-electric power plants is heavy oil.

Hydroelectric Power: The production of electricity from the kinetic energy of falling water.

Imports: Receipts of goods into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

Industrial Sector: The industrial sector comprises manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills, to small farms, to companies assembling electronic components. The SIC codes used to classify establishments as industrial are 1 through 39.

Jet Fuel: The term includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene-quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphthas range used primarily for military turbojet and turboprop aircraft engines.

Kerosene: A petroleum distillate that has a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

Lease and Plant Fuel: Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors), and as fuel in natural gas processing plants.

Light Oil: Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

Liquefied Petroleum Gases (LPG): Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

Lubricants: Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances

may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricants categories are paraffinic and naphthenic.

Miscellaneous Petroleum Products: All finished petroleum products not classified elsewhere--for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

Motor Gasoline: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, obtained by blending appropriate refinery streams to form a fuel suitable for use in spark-ignition engines. Motor gasoline includes both leaded and unleaded grades of finished motor gasoline, blending components, and gasohol.

Motor Gasoline Blending Components: Naphthas that will be used for blending or compounding into finished motor gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

Natural Gas: A mixture of hydrocarbons (principally methane) and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

Natural Gasoline: A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas that meets specifications for natural gasoline set by the Gas Processors Association. Includes isopentane.

Nominal Price: The price paid for a product or service at the time of the transaction.

Nuclear Electric Power: Electricity generated by an electric power plant whose turbines are driven by steam generated in a reactor by heat from the fissioning of nuclear fuel.

Nuclear Electric Power Plant: A single-unit or multiunit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

Nuclear Fuel: Fissionable materials that have been enriched to a composition that, when placed in a nuclear reactor, will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

Pentanes Plus: A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. Includes isopentane, natural gasoline, and plant condensate.

Petrochemical Feedstocks: Chemical feedstocks derived from petroleum principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics. The categories reported are naphthas less than 401° F endpoint and other oils equal to or greater than 401° F endpoint.

Petroleum: A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Petroleum Coke: A residue that is the final product of the condensation process in cracking. The product is either marketable petroleum coke or catalyst petroleum coke.

Petroleum Coke, Catalyst: The carbonaceous residue that is deposited on and deactivates the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon, which is used as a fuel in the refining process. That carbon or coke is not recoverable in a concentrated form.

Petroleum Coke, Marketable: Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or further purified by calcining.

Petroleum Products: Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Photovoltaic and Solar Thermal Energy (as used at electric utilities): Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted at electric utilities into electricity by means of solar (photovoltaic) cells or concentrating (focusing) collectors.

Plant Condensate: One of the natural gas liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquids at gas inlet separators or scrubbers in processing plants.

Primary Energy: All energy consumed by end users, excluding electricity but including the energy consumed at electric utilities to generate electricity. (In estimating energy expenditures, there are no fuel-associated expenditures for hydroelectric power, geothermal energy, solar energy, or wind energy, and

the quantifiable expenditures for process fuel and intermediate products are excluded.)

Process Fuel: All energy consumed in the acquisition, processing, and transportation of energy. Quantifiable process fuel includes three categories: natural gas lease and plant operations, natural gas pipeline operations, and oil refinery operations.

Propane: A normally gaseous straight-chain hydrocarbon (C_3H_8). It is a colorless paraffinic gas that boils at a temperature of -43.67°F . It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

Propylene: An olefinic hydrocarbon (C_3H_6) recovered from refinery or petrochemical processes.

Real Price: A price that has been adjusted to remove the effect of changes in the purchasing power of the dollar. A real price usually reflects buying power relative to a base year.

Refinery (petroleum): An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

Residential Sector: The residential sector is considered to consist of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks generally are not included in the residential sector; they are included in the commercial sector. The SIC code used to classify an establishment as residential is 88 (Household).

Residual Fuel Oil: The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to ASTM Specifications D396 and 975. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil and is used for commercial and industrial heating, electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

Road Oil: Any heavy petroleum oil, including residual asphaltic oil, used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

Short Ton (coal): A unit of weight equal to 2,000 pounds.

SIC: See **Standard Industrial Classification**.

Special Naphthas: All finished products within the naphtha boiling range that are used as paint thinners, cleaners, or solvents. Those products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specifications D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks, are excluded.

Standard Industrial Classification (SIC): A set of codes developed by the Office of Management and Budget which categorizes industries into groups with similar economic activities.

Steam Coal: See **Coal**.

Still Gas (refinery gas): Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents, are methane, ethane, ethylene, normal butane, butylene, propane, and propylene. It is used primarily as refinery fuel and petrochemical feedstock.

Total Energy: All energy consumed by end users including electricity but excluding the energy consumed at electric utilities to generate electricity. (In estimating energy expenditures, there are no fuel-associated expenditures for hydroelectric power, geothermal energy, solar power, or wind energy, and the quantifiable expenditures for process fuel and intermediate products are excluded.)

Transportation Sector: Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines. The SIC codes used to classify establishments as belonging to the transportation sector are 40 through 49.

Unfinished Oils: All oils requiring further refinery processing, except those requiring only mechanical blending. Included are naphthas and lighter oils, kerosene and light gas oils, heavy gas oils, and residuum.

Unfractionated Streams: Mixtures of unsegregated natural gas liquid components, excluding those in plant condensate. This product is extracted from natural gas.

United States: Unless otherwise noted, "United States" in this publication means the 50 States and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

Waxes: Solid or semisolid materials derived from petroleum distillates or residues. Waxes are light-colored, more or less translucent crystalline masses, slightly

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Other EIA Multifuel Historical Energy Data Reports

The *State Energy Data Report* (DOE/EIA-0214) presents estimates of annual energy consumption at the State and national levels by major sector (i.e., residential, commercial, industrial, transportation, and electric utilities) and by principal energy type for 1960 forward. The report includes documentation of the consumption estimates for each source of energy, the sources of all data, and a summary of changes made to historical data in the report since its previous release.

The *Monthly Energy Review* (DOE/EIA-0035) presents current monthly data on production, consumption, stocks, imports, exports, and prices of the principal energy commodities in the United States. Also included are data on international production of crude oil, consumption of petroleum products, petroleum stocks, and production of electricity from nuclear-powered facilities.

The *Historical Monthly Energy Review* (DOE/EIA-0035(73-88)) presents monthly data from January 1973 through December 1988 for most of the series that are published for current months only in the *Monthly Energy Review*.

The *Annual Energy Review* (DOE/EIA-0384) presents long-term historical annual energy data. Most series begin in 1949. U.S. energy consumption, production, trade, and prices are included. Major sections of the report are energy overview, consumption indicators, financial indicators, energy resources, petroleum, natural gas, coal, electricity, nuclear energy, renewable energy, and international energy.

The *International Energy Annual* (DOE/EIA-0219) presents annual data for production, consumption, imports, and exports of primary energy commodities in more than 190 countries, dependencies, and areas of special sovereignty. Also included are prices of crude oil and petroleum products in selected countries. The data presented are derived largely from national publications, international organizations, and other authoritative sources. The data are converted to units of measurement and thermal values familiar to the American public.

The *International Petroleum Statistics Report* (DOE/EIA-0520) presents current monthly international petroleum data on production, consumption, imports, and stocks. Included are oil consumption and stocks for specific countries in the Organization for Economic Cooperation and Development (OECD). Also provided are the oil supply/consumption balances for the world in quarterly intervals and oil imports by OECD countries.

For further information, contact the:

National Energy Information Center, EI-231
Energy Information Administration
1000 Independence Avenue, S.W.
Washington, DC 20585
202-586-8800 (TDD 202-586-1181)
Hours: 8 a.m.-5 p.m., eastern time, M-F

END

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