Section 2. Coal

Coal Consumption

Physical Units

Ten data series are used to estimate State coal consumption. Most are U.S.-level consumption and comparable State-level distribution data, and are in units of thousand short tons. "ZZ" in the variable names is used to represent the two-letter State code that differs for each State:

CLACPUS = coal consumed by the transportation sector in the United States;
CLEUPZZ = coal consumed by the electric utilities in each State;
CLHCPUS = coal consumed by the residential and commercial sectors in the United States;
CLHDPZZ = coal distributed to the residential and commercial sectors in each State;
CLITPZZ = coal consumed by other power producers in each State.
CLKCPUS = coal consumed by coke plants in the United States;
CLKDPZZ = coal distributed to coke plants in each State;
CLOCPUS = coal consumed by other industrial users in the United States;
CLODPZZ = coal distributed to other industrial users in each State; and
CLRCSUS = The residential share of combined residential and commercial coal consumption.

The U.S. totals for the five State-level series are calculated by summing the State data.

State estimates of coal consumed by the residential and commercial sectors combined are made by assuming that coal is consumed in proportion to the amount of coal distributed to the residential and commercial sectors in each State:

CLHCPZZ = (CLHDPZZ/CLHDPUS) * CLHCPUS

Coal consumed by the residential and commercial sectors is reported combined and little information exists for disaggregating the combined sectors' data. EIA estimates that a decreasing percentage of the combined total is consumed in the residential sector as shown in Table TN2. This estimated percentage is applied to the residential and commercial sectors' total to estimate residential consumption and the remaining quantity is assumed to be commercial use:

CLRCPZZ = CLHCPZZ * CLRCSUS
CLRCPUS = CLRCPZZ

CLCCPZZ = CLHCPZZ – CLRCPZZ
CLCCPUS = CLCCPZZ

Table TN2. Residential Sector Share of Combined Residential and Commercial Coal Consumption, 1960 Forward

Years	CLRCSUS	Years	CLRCSUS	Years	CLRCSUS
1960–1962	0.59	1977	0.28	1990	0.18
1963, 1964	0.58	1978	0.23	1991	0.16
1965–1967	0.57	1979	0.20	1992, 1993	0.17
1968–1970	0.56	1980	0.21	1994	0.15
1971	0.49	1981	0.18	1995	0.13
1972	0.43	1982	0.17	1996	0.12
1973	0.37	1983	0.16	1997, 1998	0.11
1974	0.32	1984	0.18	1999	0.12
1975	0.30	1985–1988	0.20	2000	0.11
1976	0.29	1989	0.19		

To gain a perspective on these estimates: coal consumed by residential and commercial users combined in 2000 accounted for only 0.4 percent of all coal consumed—that is, 4 million short tons out of the 1,084 million short tons consumed in 2000.

Consumption in the industrial sector is reported for the U.S. and estimated by State. An assumption is made that coal is consumed by coke plants in proportion to the amount of coal distributed to coke plants in each State. It is also assumed that the consumption of coal by industrial users other than coke plants is in proportion to the amount of coal delivered to the other industrial users in each State. Coal consumed by electric power producers in the industrial sector is reported by State for 1989 forward. The industrial sector consumption is the sum of coal consumed by coke plants, other industrial users, and industrial electric power producers in each State:

CLKCPZZ = (CLKDPZZ/CLKDPUS) * CLKCPUS
CLOCPZZ = (CLODPZZ/CLODPUS) * CLOCPUS
CLICPZZ = CLKCPZZ + CLOCPZZ + CLITPZZ

There are no data available for estimating the transportation sector's consumption of coal by State. The quantity would be very small. The transportation sector accounted for only 1 percent of the national total consumption in 1960 and none since 1978. An assumption is made that when transportation sector consumption exists, the consumption by State, CLACPZZ, is in proportion to the share of the U.S. industrial sector attributed to each State:

CLACPZZ = (CLICPZZ / CLICPUS) * CLACPUS

Total consumption in each State, CLTCPZZ, is the sum of the sectors' consumption:

CLTCPZZ = CLRCPZZ + CLCCPZZ + CLICPZZ + CLACPZZ + CLEUPZZ

The U.S. total consumption estimates for each of the sectors and the total are calculated as the sum of the States' values.

British Thermal Units (Btu)

Six factors are used to convert coal from physical units to Btu:

CLACKZZ = the factor for converting coal consumed by transportation sector in each State from short tons to Btu;

CLEUKZZ = the factor for converting coal consumed by the electric utility sector in each State from short tons to Btu;

CLHCKZZ = the factor for converting coal consumed by the residential and commercial sectors in each State from short tons to Btu; and

CLITKZZ = the factor for converting coal consumed by other electric power producers from short tons to Btu;

CLKCKZZ = the factor for converting coal consumed at coke plants in each State from short tons to Btu; and

CLOCKZZ = the factor for converting coal consumed by other industrial users in each State from short tons to Btu.

The electric utility factor for each State is applied to estimate coal consumed by electric utilities in Btu:

CLEUBZZ = CLEUPZZ * CLEUKZZ

The residential and commercial sectors' State factor is applied to estimate coal consumed by the two sectors in Btu:

CLRCBZZ = CLRCPZZ * CLHCKZZ
CLCCBZZ = CLCCPZZ * CLHCKZZ

The industrial sector Btu consumption is estimated in four steps. Coal consumed at coke plants, all industrial users other than coke plants, and industrial electric power producers in each State are converted to Btu by using their individual State conversion factors. The industrial sector consumption in Btu is then calculated as the sum of the three industrial components:

CLKCBZZ = CLKCPZZ * CLKCKZZ
CLOCBZZ = CLOCPZZ * CLOCKZZ
CLITBZZ = CLITPZZ * CLITKZZ
CLICBZZ = CLKCBZZ + CLOCBZZ + CLITBZZ

The transportation sector Btu consumption is estimated by applying the other industrial users' State factor to the transportation consumption:

CLACBZZ = CLACPZZ * CLACKZZ

Total consumption for each State is the sum of the sectors' consumption:

CLTCBZZ = CLRCBZZ + CLCCBZZ + CLICBZZ + CLACBZZ + CLEUBZZ

The U.S. consumption estimates in Btu are calculated by summing the State values for each of the data series.

Additional Notes for Coal

1. This year, the methodology for estimating coal consumption changed. Previously, coal consumption was estimated for anthracite and bituminous separately for each sector, and then added together to obtain total coal consumption by sector. This breakout is no longer available. Therefore, from 1998-2000, total coal consumption by sector in physical units was estimated, and then converted using a total conversion factor.

   Although coal consumption for 1960-1997 was presented only for totals by sector, since these totals were derived using separate consumption and price estimates for anthracite and bituminous, as well as separate conversion factors, the following documentation lists all of these sources.

2. The national-level coal consumption data series for the residential and commercial sectors (CLHCPUS), coke plants (CLKCPUS), and industries other than coke plants (CLOCPUS) are continuous. However, the data series used to develop State-level estimates by end-use sector (CLHDPZZ, CLKDPZZ and CLODPZZ) are different for some time periods.

   For 1960 through 1979, U.S. coal consumption was allocated by State based on the proportion of coal *distributed* to each State. Beginning with 1980, State-level total coal consumption data are available, however, many of these data are withheld at the sector level. Withheld data were estimated by substituting residential and commercial coal *distributed* for residential and commercial coal *consumed*. In many States, this left only one sector withheld, which was derived by subtracting the other known or imputed sectors from the State total.

   This derived series is used to develop U.S. Coal consumption estimates at a State and sector level that are consistent with State-level coal consumption data published in other EIA reports.

3. Total coal consumption by State for 1980 through 1989 published in the EIA *Quarterly Coal Report* do not sum to the U.S. totals due to a quantity called "Unknown" in the source tables. This unknown coal consumption is added to the residential, commercial, and "other industrial" sectors of Alabama, Illinois, Kentucky, Pennsylvania, Tennessee, and West Virginia in proportion to their total distribution of all coal.

4. Prior to 1974, data for distribution of bituminous coal and lignite by State included several groupings of States for which separate State data were unavailable. These groupings were: (1) Maine, New Hampshire, Vermont, and Rhode Island; (2) North Dakota and South Dakota; (3) Delaware and Maryland; (4) Georgia and Florida; (5) Alabama and Mississippi; (6) Arkansas, Louisiana, Oklahoma, and Texas; (7) Montana and Idaho; (8) Arizona and Nevada; and (9) Washington and Oregon. Beginning with 1974, individual State distribution data became available. To estimate the 1960 through 1973 State distribution data, the States were disaggregated in proportion to the individual States' shares of each similar State grouping in 1974.

Data Sources for Coal

CLACKZZ Factor for converting coal consumed by the transportation sector from physical units to Btu.

1960 through 1977: Assumed by EIA to be equal to the Btu conversion factor for bituminous coal and lignite consumption by industrial users other than coke plants:

— 1960 through 1973: Estimated by EIA by adjusting the 1974 average heat value of bituminous coal and lignite consumed by industrial users other than coke plants by the ratios of 1960 through 1973 national averages for the other industrial users to its 1974 average.

— 1974 through 1977: Calculated by EIA by assuming that the bituminous coal and lignite consumed by industrial users other than coke plants in each State contained heating values equal to those of bituminous coal and lignite received at electric utilities in each State from identified coal-producing districts as reported on Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to other industrial users in each State and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor Bureau of Mines Form 6-1419-Q.
— 1978 forward: Transportation sector coal is included in the other industrial category. Zero is entered for this variable.

CLACPUS Coal consumed by the transportation sector in the United States.

1960 through 1975: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, chapter "Coal-Bituminous and Lignite," table titled, "Consumption of bituminous coal and lignite, by consumer class, and retail deliveries in the United States," column "Bunker, lake vessel and foreign."

1976 and 1977: EIA, *Energy Data Reports*, "Coal-Bituminous and Lignite," table titled, "Consumption of bituminous coal and lignite, by consumer class, and retail deliveries in the United States," column "Bunker, lake vessel and foreign."

1978 forward: Small amounts of bituminous coal and lignite consumed by the transportation sector are included in the other industrial category (see CLOCPUS). Zero is entered for this variable.

CLEUKZZ State factor for converting coal consumed by the electric utilities from physical units to Btu.

1960 through 1997: Calculated by EIA as the consumption-weighted average of national- level anthracite conversion factors and State-level bituminous coal and lignite factors using factors and consumption from SEDS.

Anthracite conversion factor sources:

— 1960 through 1972: Energy Information Administration (EIA) assumed that all anthracite consumed at electric utilities was recovered from culm banks and river dredging and was estimated to have an average heat content of 17.500 million Btu per short ton.
— 1973 through 1997: Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. These data are reported on the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and predecessor forms.

Bituminous coal and lignite conversion factor sources:

— 1960 through 1972: EIA adopted the average thermal conversion factor of the Bureau of Mines, which used the National Coal Association (NCA) average thermal conversion factor for electric utilities calculated from the Federal Power Commission's (FPC) Form 1 and published in *Steam Electric Plant Factors*, an NCA annual report. The specific tables are:
  – 1960 and 1961: Table 1.
  – 1962 through 1972: Table 2.
— 1973 through 1982: The average heat content of coal received at steam electric plants 25 megawatts or greater from FPC Form 423 and published in Btu per pound in EIA, *Cost and Quality of Fuels for Electric Utility Plants*, tables titled "Destination and Origin of Coal 'Delivered to' (1973–1979) 'Receipts to' (1980) 'Received at' (1981–1982) Steam-Electric Plants 25-MW or Greater."
— 1983 through 1997: The average heat content of coal received at steam electric plants 50 megawatts capacity or larger from FERC Form 423 and published in Btu per pound in the EIA, *Cost and Quality of Fuels for Electric Utility Plants.* The 1997 edition is available electronically only via Internet at: ftp://ftp.eia.doe.gov/pub/pdf/electricity/019197.pdf. The specific tables are:
  – 1983 and 1984: Table 58.
  – 1985 through 1989: Table 48.
  – 1990 and 1991: Table 35.
  – 1992: Table 22.
  – 1993 forward: Both Table 4 and Table 22.

Notes: The State conversion factors for 1960 through 1972 were derived from actual consumption data, while the conversion factors

for 1973 to 1997 were based on receipts of coal. The factors for 1960 through 1972 may also have included some quantities of anthracite. These breaks in the series create some data discrepancies. Alaska and Hawaii were excluded from the NCA report, FPC Form 423, and FERC Form 423. However, Alaska reported consumption of bituminous coal and lignite at electric utilities for all years. An FPC heat rate for coal at electric utilities in Alaska was used for 1960 through 1978 as published in EIA, *Federal Energy Data System (FEDS) Technical Documentation*, June 1978, Table 21. The 1972 conversion factor (the last year for which a conversion factor was reported for Alaska) was used for 1972 through 1978. According to industry sources, new mines were opened in 1978 and a more representative factor was used for 1979 and following years. In instances where a State had no receipts for a particular year but did report consumption, it was assumed that the coal received in one year was consumed during the following year and the Btu value of the previous year's receipts was used.

1998 forward: The average heat content of coal received at steam electric plants 50 megawatts capacity or larger from FERC Form 423 and published in Btu per pound in the EIA, *Cost and Quality of Fuels for Electric Utility Plants,* Table 4.

CLEUPZZ coal consumed by the electric utilities by State.

EIA, Form EIA-759, "Monthly Power Plant Report," and predecessor forms.

CLHCKZZ State factor for converting coal consumed by the residential and commercial sectors from physical units to Btu.

1960 through 1997: Calculated by EIA as the consumption-weighted average of national-level anthracite conversion factors and State-level bituminous coal and lignite factors using factors and consumption from SEDS.

Anthracite conversion factor (for all end-use sectors) sources:

— 1960 through 1997: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for."

Bituminous coal and lignite conversion factor sources:

— 1960 through 1973: Estimated by EIA by adjusting the 1974 average heat value of bituminous coal and lignite consumed in the residential and commercial sector by the ratios of 1960 through 1973 national averages for the sector to its 1974 average.

— 1974 through 1997: Calculated by EIA by assuming that the bituminous coal and lignite consumed in the residential and commercial sector in each State contained heating values equal to those of bituminous coal and lignite received at electric utilities in each State from identified coal-producing districts as reported on the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to the residential and commercial sector in each State and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor Bureau of Mines Form 6-1419-Q.

1998 forward: The average heat content of coal received for the residential and commercial sectors as reported on the EIA-860B. For States that are not represented in data on the EIA-860B, it is assumed that the heat content of the coal receipts in theses sectors is equivalent to the heat content of coal received in the other industrial sector. For states that are not represented in either the EIA-3A data or the EIA-860B data (CT, NH, VT and DC), the heat content of coal receipts in MA is used for CT, NH, and VT and the heat content of coal receipts in MD is used for DC, since the origin of the coal receipts are similar

CLHCPUS Coal consumed by the residential and commercial sectors in the United States.

1960 through 1972: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, Chapter "Coal–Pennsylvania Anthracite Annual" and Chapter "Coal–Bituminous and Lignite," Table titled, "Consumption of bituminous coal and lignite, by consumer class, with retail deliveries in the United States" column titled "Retail deliveries to other consumers" or "Retail sales."

1973 through 1984: EIA, *Weekly Coal Production*, August 9, 1986, Table 7.

1985 through 1987: EIA, *Weekly Coal Production*, July 16, 1988, Table 6.

1988 through 1999: EIA, *Quarterly Coal Report, October–December* for each year. Data are from the report of the following year, i.e., 1988 final data are published in the *Quarterly Coal Report, October–December 1989. The specific tables are:*

— 1988 through 1990: Table 29.
— 1991 through 1994: Table 51.
— 1995: Table 43.
— 1996 through 1999: Table 44.

2000: EIA, *Coal Industry Annual 2000*, Table 75, http://tonto.eia.doe.gov/FTPROOT/coal/coalpubs.htm.

CLHDPZZ Coal distributed to the residential and commercial sectors by State.

1960 through 1979: No data available. The 1980 State data are used for years 1960 through 1979.

1980 forward: The distribution data are published in:

— 1980 through 1984: EIA, *Coal Distribution, January-December 1984*, Table 21.
— 1985 through 1989: EIA, *Coal Distribution, January-December 1989*, Table 15.
— 1990 and 1991: EIA, *Coal Distribution, January-December* for each year, Table 16.
— 1992 through 1994: EIA, *Quarterly Coal Report, October-December* for the following year, Table 10.
— 1995 through 1997: Unpublished data from Form EIA-6.
— 1998 forward: EIA, *Coal Industry Annual 2000*, Table 64, http://tonto.eia.doe.gov/FTPROOT/coal/coalpubs.htm.

CLKCKZZ State factor for converting coal carbonized at coke plants from physical units to Btu.

1960 through 1999: Calculated by EIA as the consumption-weighted average of national-level anthracite conversion factors and State-level bituminous coal and lignite factors using factors and consumption from SEDS.

Anthracite conversion factor (for all end-use sectors) sources:

— 1960 through 1999: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for."

Bituminous coal and lignite conversion factor sources:

— 1960 through 1972: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coal-Bituminous and Lignite," sum of columns "Beehive coke plants" and "Oven coke plants."
— 1973 through 1984: EIA, *Weekly Coal Production*, August 9, 1986, Table 8.
— 1985 through 1987: EIA, *Weekly Coal Production*, July 16, 1988, Table 7.
— 1988 through 1999: EIA, Unpublished data from Form EIA-5.

2000: No data were available. 1999 values were used for 2000.

CLKCPUS Coal carbonized by coke plants in the United States.

1960 through 1972: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, chapter "Coal–Pennsylvania Anthracite Annual," and chapter "Coal–Bituminous and Lignite," table titled, "Consumption of Bituminous coal and lignite, by consumer class, and retail deliveries in the United States," sum of columns titled "Beehive coke plants" and "Oven coke plants."

1973 through 1984: EIA, *Weekly Coal Production*, August 9, 1986, Table 7.

1985 through 1987: EIA, *Weekly Coal Production*, July 16, 1988, Table 6.

1988 through 1999: EIA, *Quarterly Coal Report, October–December* for each year. Data are from the report of the following year, i.e., 1988 final data are published in the *Quarterly Coal Report, October–December 1989. The specific tables are:*

— 1988 through 1990: Table 27.
— 1991 through 1994: Table 48.
— 1995: Table 40.
— 1996 through 1999: Table 41.

2000: EIA, *Coal Industry Annual 2000*, Table 73, http://tonto.eia.doe.gov/FTPROOT/coal/coalpubs.htm.

CLKDPZZ — Coal distributed to coke plants by State.

Series is the sum of an anthracite data series and a bituminous coal and lignite data series:

Anthracite:

1960 through 1979: No data available. The 1980 State data are used for years 1960 through 1979.

1980 forward: Consumption estimates are used for this distribution series. Consumption of all types of coal

Bituminous coal and lignite:

1960 through 1976: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coal-Bituminous and Lignite."

1977 through 1979: EIA, *Energy Data Reports*, "Coal-Bituminous and Lignite." The specific tables are:

- 1977: "Comparative Summary of Distribution of Bituminous Coal and Lignite Produced in the United States During the First Nine Months of 1977" and "Distribution of Bituminous Coal and Lignite Produced in the United States During October-December 1977, by Geographic Division and State Destination."
- 1978: "Distribution of Bituminous Coal and Lignite Produced in the United States."
- 1979: "Overall Summary of Distribution of Bituminous, Subbituminous, and Lignite Coal Produced in the United States."

1980 forward: Consumption estimates are used for this distribution series. Consumption of all types of coal by State is published in EIA, *Quarterly Coal Report, October-December* for each year. Data are from the report of the following year, i.e., 1982 final data are published in the *Quarterly Coal Report, October-December 1983*. The specific tables are:

- 1980: Unpublished data.
- 1981 through 1983: Table 25.
- 1984, 1985, and 1987: Table 27.
- 1986, 1988, and 1989: Unpublished State revisions that are components of the U.S. revisions published in the *Quarterly Coal Report, October-December 1991,* Table 45.
- 1990: Table 27.
- 1991 through 1994: Table 48.
- 1995: Table 40.
- 1996 through 1999: Table 41.

Withheld State values for consumption of all types of coal are estimated by using distribution data. After withheld residential and commercial coal consumption values have been estimated, withheld coke plant consumption is the difference between the sum of the published and estimated end-use sectors' consumption and the published State total consumption. For States where both coke plant and other industrial coal use are withheld, it is assumed that a State not listed in the EIA, *Coal Industry Annual 2000*, Table 73 has no coke plant consumption.

2000: EIA, *Coal Industry Annual 2000*, Tables 64 and 73, http://tonto.eia.doe.gov/FTPROOT/coal/coalpubs.htm.

CLITKZZ State factor for converting coal consumed by other power producers from physical units to Btu.

1960-1988: Coal consumed by other power producers was included in the other industrial category. Zero was entered for this variable.

1989 forward: Calculated by EIA using unpublished data from Form EIA-860B, "Annual Electric Generator Report - Nonutility."

CLITPZZ Coal consumed by other power producers.

1960-1988: Coal consumed by other power producers was included in the other industrial category. Zero was entered for this variable.

1989 forward: Unpublished data from Form EIA-860B, "Annual Electric Generator Report - Nonutility."

CLOCKZZ State factor for converting coal consumed by industrial users other than coke plants from physical units to Btu.

1960 through 1997: Calculated by EIA as the consumption-weighted average of national level anthracite conversion factors and State-level bituminous coal and lignite factors using factors and consumption from SEDS.

Anthracite conversion factor sources:

- 1960 through 1997: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for."

Bituminous coal and lignite conversion factor sources:

- 1960 through 1973: Estimated by EIA by adjusting the 1974 average heat value of bituminous coal and lignite consumed by industrial users other than coke plants by the ratios of 1960 through 1973 national averages for the other industrial users to its 1974 average.
- 1974 through 1978: Calculated by EIA by assuming that the bituminous coal and lignite consumed by industrial users other than coke plants in each State contained heating values equal to

those of bituminous coal and lignite received at electric utilities in each State from identified coal-producing districts as reported on Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to other industrial users in each State and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor Bureau of Mines Form 6-1419-Q.

1998 forward: The average heat content of coal received at manufacturing plants (other than coke plants) consuming more than 1,000 short tons of coal during the year from Form EIA-3A and published in Btu per pound in the EIA *Coal Industry Annual*.

CLOCPUS Coal consumed by industrial users other than coke plants in the United States.

1960 through 1972: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, Chapter "Coal–Pennsylvania Anthracite, Annual" and chapter "Coal–Bituminous and Lignite," table titled "Consumption of bituminous coal and lignite, by consumer class, and retail deliveries in the United States." Sum of columns titled "Steel and rolling mills," "Cement mills," and "Other manufacturing and mining industries."

1973 through 1984: EIA, *Weekly Coal Production*, August 9, 1986, Table 7.

1985 through 1987: EIA, *Weekly Coal Production*, July 16, 1988, Table 6.

1988 through 1999: EIA, *Quarterly Coal Report, October–December* for each year. Data are from the report of the following year, i.e., 1988 final data are published in the *Quarterly Coal Report, October–December 1989. The specific tables are:*

— 1988 through 1990: Table 28.
— 1991 through 1994: Table 49.
— 1995: Table 41.
— 1996 through 1999: Table 42.

2000: EIA, *Coal Industry Annual*, Table 71.

CLODPZZ Coal distributed to industrial plants (other than coke plants) by State.

Anthracite

1960 through 1979: No data available. The 1980 State data are used for years 1960 through 1979.

Bituminous coal and lignite

1960 through 1976: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coal–Bituminous and Lignite."

1977 through 1979: EIA, *Energy Data Reports*, "Coal-Bituminous and Lignite." The specific tables are:

— 1977: "Comparative Summary of Distribution of Bituminous Coal and Lignite Produced in the United States During the First Nine Months of 1977" and "Distribution of Bituminous Coal and Lignite Produced in the United States During October-December 1977, by Geographic Division and State Destination."
— 1978: "Distribution of Bituminous Coal and Lignite Produced in the United States."
— 1979: "Overall Summary of Distribution of Bituminous, Subbituminous, and Lignite Coal Produced in the United States."

1980 forward: Consumption estimates are used for this distribution series. Consumption of all types of coal by State is published in EIA, *Quarterly Coal Report, October-December* for each year. Data are from the report of the following year, i.e., 1982 final data are published in the *Quarterly Coal Report, October-December 1983*. The specific tables are:

— 1980: Unpublished data.
— 1981 through 1983: Table 26.
— 1984 through 1990: Table 28.
— 1991 through 1994: Table 49.
— 1995: Table 41.
— 1996 through 1999: Table 42.

Withheld State values for consumption of all types of coal are estimated by using distribution data. After withheld residential and commercial coal consumption values have been estimated, withheld consumption by other industrial users is the difference between the sum of the published and estimated end-use sectors' consumption and the published State total consumption.

2000: EIA, *Coal Industry Annual 2000*, Tables 64 and 71, http://tonto.eia.doe.gov/FTPROOT/coal/coalpubs.htm.

Net Imports of Coal Coke

Physical Units

Net imports of coal coke is a component of total U.S. energy consumption. There is no attempt to estimate State allocations of this energy source. All of it is considered to be used by the industrial sector. In the **State Energy Data 2000** consumption tables, net imports of coal coke are included in the U.S. data but not in the State-level data in all tables of total energy consumption and industrial sector energy consumption. Variables for net imports of coal coke into the United States are:

CCIMPUS = coal coke imported into the United States, in thousand short tons; and
CCEXPUS = coal coke exported from the United States, in thousand short tons.

Net imports is calculated:

CCNIPUS = CCIMPUS – CCEXPUS

British Thermal Units (Btu)

The factor for converting coal coke from short tons to Btu is 24.80 million Btu per short ton:

CCIMBUS = CCIMPUS * 24.80
CCEXBUS = CCEXPUS * 24.80
CCNIBUS = CCIMBUS – CCEXBUS

Data Sources for Net Imports of Coal

CCEXPUS Coal coke exported from the United States.

1960 through 1975: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coke and Coal Chemicals Annual."

1976 through 1979: EIA, *Energy Data Reports*, "Coke and Coal Chemicals Monthly."

1980 through 1990: EIA, *Quarterly Coal Report* (January-March of the following year). The specific tables are:
- 1980: Table 7.
- 1981 through 1984: Table A10.
- 1985 through 1990: Table A9.

1991 and 1992: Unpublished revisions in short tons from the EIA, Office of Energy Markets and End Use, Integrated Modeling Data System.

1993 through 1997: Unpublished revisions in short tons from the EIA, Office of Energy Markets and End Use, Integrated Modeling Data System, as published in thousand short tons in the EIA, *Quarterly Coal Report October-December 1999*, Table 2.

1998-1999: EIA, *Quarterly Coal Report* (October-December of the following year), Table 15.

2000: EIA, *Quarterly Coal Report October-December 2000*, Table 15, http://tonto.eia.doe.gov/FTPROOT/coal/qcrhistory.htm.

CCIMPUS Coal coke imported into the United States.

1960 through 1975: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coke and Coal Chemicals Annual."

1976 through 1979: EIA, *Energy Data Reports*, "Coke and Coal Chemicals Monthly."

1980 through 1990: EIA, *Quarterly Coal Report* (October-December of the following year). The specific tables are:
- 1980: Table 8.
- 1981 through 1984: Table A12.
- 1985 through 1987: Table A11.
- 1988 through 1990: Table A10.

1991 and 1992: Unpublished revisions in short tons from the EIA, Office of Energy Markets and End Use, Integrated Modeling Data System.

1993 through 1997: Unpublished revisions in short tons from the EIA, Office of Energy Markets and End Use, Integrated Modeling Data System, as published in thousand short tons in the EIA, *Quarterly Coal Report October-December 1999*, Table 2.

1998-1999: EIA, *Quarterly Coal Report* (October-December of the following year), Table 19.

2000: EIA, *Quarterly Coal Report October-December 2000*, Table 19, http://tonto.eia.doe.gov/FTPROOT/coal/qcrhistory.htm.