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Quarterly Coal Report April-June 1990

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Contacts

This publication was prepared by Paulette Young under the direction of T. C. Swann and Noel C. Balthasar, Chief, Data Systems Branch, Coal Division. Specific information about the *Summary*, *Legislation*, *Industry Developments*, and Appendix C, *U.S. Coal Imports* sections can be obtained from Mary K. Paull

(202/254-5379), Chris Buckner (202/254-5368), Rich Bonskowski (202/254-5383), and Janet Gordon (202/254-5472), respectively. Questions on coal statistics should be directed to the National Energy Information Center (202/586-8800).

Preface

The *Quarterly Coal Report* provides comprehensive information about U.S. coal production, exports, imports, receipts, consumption, and stocks to a wide audience, including Congress, Federal and State agencies, the coal industry, and the general public. The data presented in this report are collected and published by the Energy Information Administration (EIA) to fulfill data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (Public Law 93-275) as amended. This issue presents detailed quarterly data for April 1990 through June 1990, aggregated quarterly historical data for 1982 through the second quarter of 1990, and aggregated annual historical data for 1960 through 1989 and projected data for selected years from 1995 through 2010. Appendix C displays, from 1980 on, detailed quarterly historical coal imports data, as specified in Section 202 of the Energy Policy and Conservation Amendments Act of 1985 (Public Law 99-58). Appendix D gives selected quarterly tables converted to metric tons.

To provide a complete picture of coal supply and demand in the United States, historical information and forecasts have been integrated in this report. Historical data can also be found in the following EIA publications: *Annual Energy Review 1989* (DOE/EIA-0384(88)), *Monthly Energy Review* (DOE/EIA-0035), and *Coal Data: A Reference* (DOE/EIA-0064(87)). Projected data can be found in the *Short-Term Energy Outlook* (DOE/EIA-0202), a

quarterly report, and in the *Annual Energy Outlook 1990* (DOE/EIA-0383(90)).

The historical data in this report are collected by the EIA in three quarterly coal surveys (coal consumption at manufacturing plants, coal distribution, and coal consumption at coke plants) and two monthly surveys of electric utilities. In addition, the data from the annual survey of coal mining operations appear in Appendix B, "Annual Trends." The coal surveys originated at the Bureau of Mines, U.S. Department of the Interior, in the 1920's. In 1977, the responsibility for these surveys was transferred to the EIA under the Department of Energy Organization Act (Public Law 95-91). The two electric utility surveys originated at the Federal Power Commission (FPC), one in 1936 under the Federal Power Act and one in 1972 under FPC Order Number 453. The EIA has continued these surveys, reducing the frequency and quantity of information requested and increasing the automation of the associated data processing and report generation functions. Coal export and import data are obtained from the Bureau of the Census, U.S. Department of Commerce, where they are compiled monthly from documents filed with the U.S. Customs Service as required by law.

All data shown for 1988 and previous years are final.

The Office of Coal, Nuclear, Electric and Alternate Fuels gratefully acknowledges the cooperation of the respondents in supplying the information published in this report.

Contents

	Page
Summary	1
Legislation	5
Coal Industry Developments	6
Production	11
Exports and Imports	15
Receipts	27
Consumption	37
Stocks	47
Appendices	
A. Coke	59
B. Annual Trends	69
C. U.S. Coal Imports	83
D. Metric Tables	111
E. Explanatory Notes	125
F. Reference Tables and Maps	135
Glossary	139

Illustrations

	Page
1. Coal Production, Imports, Consumption, Exports, and Stocks	3
2. Coal Production	12
3. U.S. Coal Exports and Imports	17
4. Coal Receipts	28
5. Average Price of Coal Receipts	30
6. Coal Consumption	38
7. Coal Stocks	48
A1. Coke Production, Imports, Consumption, Exports and Stocks	60
B1. Trends in Coal Production, Imports, Consumption, Exports, and Stocks	70
B2. Coal Production Trends	72
B3. Coal Consumption Trends	74
B4. Year-End Coal Stock Trends	76
B5. Coal Mining Trends	78
F1. Census Divisions	135

Tables

	Page
1. Coal Production, Imports, Consumption, Exports, and Stocks	4
2. Coal Production	12
3. Coal Production by State	13
4. U.S. Coal Exports and Imports	16
5. Average Price of U.S. Coal Exports and Imports	16
6. Coal Exports	18
7. Average Price of Coal Exports	19
8. Steam Coal Exports	20
9. Average Price of Steam Coal Exports	21
10. Metallurgical Coal Exports	22
11. Average Price of Metallurgical Coal Exports	23
12. Coal Exports by Customs District	24
13. Coal Imports	25
14. Average Price of Coal Imports	26
15. Coal Imports by Customs District	26
16. Coal Receipts by End-Use Sector	29
17. Average Price of Coal Receipts by End-Use Sector	31
18. Coal Receipts by End-Use Sector and by Census Division and State, April-June 1990	32
19. Average Price of Coal Receipts by End-Use Sector and by Census Division and State, April-June 1990	33
20. Coal Receipts at Manufacturing Plants by Standard Industrial Classification (SIC) Code	34
21. Average Price of Coal Receipts at Manufacturing Plants by Standard Industrial Classification (SIC) Code	34
22. Coal Receipts by Census Division and State	35
23. Coal Consumption by End-Use Sector	39
24. Coal Consumption by Census Division and State	40
25. Coal Consumption by End-Use Sector and by Census Division and State, April-June 1990	41
26. Coal Consumption at Electric Utility Plants by Census Division and State	42
27. Coal Carbonized at Coke Plants by Census Division and State	43
28. Coal Consumption at Other Industrial Plants by Census Division and State	44
29. Coal Consumption by Residential and Commercial Sector by Census Division and State	45
30. Coal Consumption at Manufacturing Plants by Standard Industrial Classification (SIC) Code	46
31. Coal Stocks	49
32. Consumer Coal Stocks by Census Division and State, June 30, 1990	50
33. Coal Stocks at Electric Utility Plants by Census Division and State	51
34. Coal Stocks at Other Industrial Plants by Census Division and State	52
35. Coal Stocks at Coke Plants by Census Division and State	53
36. Coal Stocks at Coal Producers and Distributors by Coal-Producing State	54
37. Coal Stocks at Manufacturing Plants by Standard Industrial Classification (SIC) Code	55
A1. Coke Production, Imports, Consumption, Exports, and Stocks	61
A2. Coal Receipts at Coke Plants	62
A3. Average Price of Coal Receipts at Coke Plants	62
A4. Coal Carbonized at Coke Plants	63
A5. Coke and Breeze Production at Coke Plants	63
A6. Coke and Breeze Distributed from Coke Plants	64
A7. Coal Stocks at Coke Plants	65
A8. Coke and Breeze Stocks at Coke Plants	65
A9. Coke Exports	66
A10. Coke Imports	66
B1. Trends in Coal Production, Imports, Consumption, Exports, and Stocks	71
B2. Coal Production Trends	73
B3. Coal Consumption Trends	75
B4. Year-End Coal Stock Trends	77
B5. Coal Mining Trends	79
B6. Coal Production Trends by State	80
C1. Quantity and Average Price of U.S. Coal Imports	83
C2. Quantity and Average Price of U.S. Coal Imports by Origin	84
C3. U.S. Coal Imports by Origin and by Customs District	85

C4.	Average Price of U.S. Coal Imports by Origin and by Customs District	86
C5.	Imported Coal Received at Electric Utility Plants by Origin	87
C6.	Cost and Quality of Imported Coal Received at Electric Utility Plants by Origin, 1980-1990	88
C7.	Cost and Quality of All Coal Received at Electric Utility Plants by Origin, 1980-1990	93
D1.	Coal Production, Imports, Consumption, Exports, and Stocks	112
D2.	Coal Consumption by End-Use Sector	113
D3.	Coal Stocks	114
D4.	U.S. Coal Exports and Imports.	115
D5.	Coal Exports.	116
D6.	Average Price of Coal Exports.	117
D7.	Steam Coal Exports.	118
D8.	Average Price of Steam Coal Exports.	119
D9.	Metallurgical Coal Exports.	120
D10.	Average Price of Metallurgical Coal Exports.	121
D11.	Coal Imports.	122
D12.	Average Price of Coal Imports.	122

Summary

U.S. coal production for April through June 1990 reached a second-quarter record level of 254 million short tons, bringing the total for the first half of 1990 to 518 million short tons, also a record level. For the first 6 months of 1990, Wyoming was the top coal-producing State, followed by Kentucky and West Virginia. The 33-million-short-ton increase in coal production over the same period in 1989 occurred primarily in Southern West Virginia, Eastern Kentucky, and Wyoming. The principal reason for the larger output was a build-up of electric utility coal stocks, which at the end of 1989 were at the lowest level since 1978.

Compared with the first half of 1989, Southern West Virginia coal production in 1990 was up, primarily to meet an increased demand to build up stocks at electric utilities in the State. Also contributing to the elevated level of coal production in Southern West Virginia was a higher demand from coke plants in Ohio, Pennsylvania and Indiana, and from industrial plants in North Carolina and Kentucky. Coal production in Eastern Kentucky rose mainly in response to growing demand from electric utilities in Ohio, North Carolina, and Kentucky. Although electric utility generation from coal was down in Ohio and North Carolina, coal stocks were built up during this period. Electric utilities in Kentucky used more coal to satisfy the increase in electricity demand, to offset a drop in hydroelectric generation, and to build up coal stock levels. Wyoming coal production rose in response to increased demand from electric utilities in Indiana, which offset a decline in demand from electric utilities in Texas. Coal generation was used in Indiana to meet a 15-percent increase in electricity demand. Decreased coal demand in Texas was due to lower electricity demand in that State, as well as the substitution of generation from nuclear power and hydroelectric, for generation from coal, petroleum, and natural gas. Wyoming coal production also rose due to higher demand from industrial plants.

Coal consumption in the first 6 months of 1990 was 4 million short tons less than a year earlier, primarily due to a decrease in coal consumption at electric utilities and coke plants. Electric utilities reported a 1-percent rise in electricity demand compared with the same period in 1989. However, generation from coal declined 1 percent, while generation from petroleum and natural gas dropped 24 percent and 6 percent, respectively. These decreases were offset by nuclear-powered generation and hydroelectric generation, which were 16 percent and 11 percent higher, respectively.

Consumer stocks, at 174 million short tons, were at their highest end-of-quarter level since March 31, 1988, due to the 27-million-short ton stock build-up at electric utilities since the end of 1989.

U.S. coal exports in the second quarter of 1990 amounted to 28 million short tons, about 5 million short tons more than in the previous quarter. This brought total coal exports for the first half of 1990 to 50 million short tons, virtually the same as in the first half of 1989. The principal destinations in the first half of 1990 were Japan, Italy, and Canada, each receiving approximately 6 million short tons. Together, they accounted for over one-third of the total coal exported. Compared with the first half of 1989, shipments to Japan and Canada were down by 18 and 13 percent, respectively, whereas those to Italy were relatively unchanged.

Exports of metallurgical coal, the mainstay of U.S. coal, totaled 32 million short tons during the first 6 months of 1990, a decline from 34 million short tons in the same period a year earlier. Japan, the leading importer of U.S. metallurgical coal, received 5 million short tons. This was 21 percent less than in the first half of 1989 and reflects the impacts of Japan's increasing use of steelmaking technologies that require less coke, the replacement of U.S. metallurgical coal by lower-priced Australian coal, as well as a lower demand for steel. Other significant importers of U.S. metallurgical coal were Italy, Belgium and Luxembourg, France, and Brazil. Shipments to Canada dropped by almost 1 million short tons, due to a drop in crude steel production.

Steam coal exports during the first 6 months of 1990 were 18 million short tons, 16 percent above those a year earlier. Canada, the leading destination, received 4 million short tons, the same as in the first half of last year. Compared with the first 6 months of 1989, the largest increases in steam coal shipments were to Taiwan, Belgium and Luxembourg, and France.

U.S. coal exports in the first half of 1990 were valued at \$2.1 billion, based on an average price of \$42.84 per short ton. By far, the major coal-exporting port during the period was Norfolk, which loaded 26 million short tons, or 52 percent of the total coal shipped.

U.S. coal imports in the second quarter of 1990 amounted to 674 thousand short tons, about the same

level as in the second quarter of 1989. Coal imports for the first 6 months of 1990 totaled 1.4 million short tons, 16 percent higher than for the same period in 1989, due to a rise in coal imports by electric utilities. Coal imports were valued at \$48 million, based on an average price of \$34.40 per short ton. Colombia accounted for about half of the imported coal, shipping one-third more coal to the United States in the first half of 1990 than in the comparable period of 1989. Most of the Colombian coal was imported by the Jacksonville

Electric Authority for the St. Johns River Plant in Florida. Coal imports from Canada, which accounted for about one-third of the total, were mostly for industrial consumers in the Midwest. Venezuela provided most of the remaining imported coal, supplying it chiefly to electric utility plants in New England.

Reference: Energy Information Administration. *Electric Power Monthly*, DOE/EIA-0226(90/06) (September 1990).

Figure 1. Coal Production, Imports, Consumption, Exports, and Stocks

Sources. Production: Energy Information Administration (EIA) Form EIA-6, "Coal Distribution Report"; and State Mining Agency Coal Production Reports; Imports: Bureau of the Census U.S. Department of Commerce, "Monthly Report IM 146"; Producer and Distributor Stocks: EIA, Form EIA-6, "Coal Distribution Report"; Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"; Consumption and Consumer Stocks: EIA, Form EIA-759, "Monthly Power Plant Report"; Form EIA-3, "Quarterly Coal Consumption Report Manufacturing Plants"; Form EIA-6, "Coke Plant Report - Quarterly"; and Form EIA-6, "Coal Distribution Report." Note: Each increment represents end of quarter data.

Table 1. Coal Production, Imports, Consumption, Exports, and Stocks
(Thousand Short Tons)

Year and Quarter	Production	Imports	Producer and Distributor Stocks ¹	Consumption	Exports	Consumer Stocks ¹
1982 January - March	222,250	114	32,995	186,675	25,564	179,484
April - June	216,434	128	36,876	164,067	31,621	198,377
July - September	201,384	271	39,678	184,091	25,249	189,967
October - December	198,043	230	36,784	172,078	23,842	195,254
Total	838,112	742		706,911	106,277	
1983 January - March	192,282	269	39,867	173,144	15,144	192,315
April - June	186,844	379	37,761	165,381	20,345	197,033
July - September	198,816	299	35,249	205,741	22,045	173,743
October - December	204,150	323	33,931	192,406	20,238	168,654
Total	782,091	1,271		736,672	77,772	
1984 January - March	223,115	276	34,265	199,942	15,125	174,283
April - June	230,226	269	30,841	185,817	23,737	194,065
July - September	244,592	435	29,701	209,113	25,263	208,019
October - December	197,988	306	34,090	197,424	17,357	197,211
Total	895,921	1,286		791,296	81,483	
1985 January - March	213,238	330	35,371	205,484	18,544	179,454
April - June	228,160	500	35,197	193,529	24,208	188,013
July - September	222,827	623	32,632	213,937	25,831	176,195
October - December	219,414	500	33,133	205,099	24,097	170,234
Total	883,638	1,952		818,049	92,680	
1986 January - March	227,974	485	38,024	206,314	17,245	166,398
April - June	220,001	576	38,148	188,673	24,170	176,018
July - September	218,681	537	33,804	212,671	23,687	164,885
October - December	223,659	614	32,093	196,654	20,416	175,226
Total	890,315	2,212		804,312	85,518	
1987 January - March	222,199	331	36,560	199,523	16,576	173,173
April - June	218,823	483	33,939	199,627	20,111	176,037
July - September	232,958	475	28,775	229,397	21,033	165,598
October - December	244,782	459	28,321	208,394	21,885	185,459
Total	918,762	1,747		836,941	79,607	
1988 January - March	236,889	542	36,764	220,787	16,061	175,279
April - June	226,645	587	36,079	205,746	24,900	173,308
July - September	241,622	437	31,360	238,674	27,691	154,331
October - December	245,109	567	30,418	218,457	26,371	158,413
Total	950,265	2,134		883,664	95,023	
1989 January - March	246,900	531	35,508	223,445	21,429	149,150
April - June	238,797	687	30,598	207,770	28,445	159,001
July - September	242,720	925	28,848	232,143	23,991	147,154
October - December	251,151	708	29,000	226,132	26,949	146,120
Total	979,568	2,851		889,491	100,815	
1990 January - March	264,174	735	34,636	215,929	22,383	161,433
April - June	254,228	674	36,635	210,856	27,733	173,573
Total	518,402	1,409		426,785	50,116	

¹ Reported as of the last day of the quarter.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: • Production: Energy Information Administration (EIA), Form EIA-6, "Coal Distribution Report"; and State mining agency coal production reports • Imports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145" • Producer and Distributor Stocks: EIA, Form EIA-6, "Coal Distribution Report" • Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522" • Consumption and Consumer Stocks: EIA, Form EIA-759, "Monthly Power Plant Report"; Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing, Plants"; Form EIA-5, "Coke Plant Report - Quarterly"; and Form EIA-6, "Coal Distribution Report."

Legislation

New Federal Legislation

Bill	Title	Status
H.R. 5521	National Energy Policy Act of 1990	Referred jointly to the Committee on Energy and Commerce and the Committee on Science, Space and Technology on August 3, 1990

Federal Legislation

H.R. 5512, would establish a program within the Department of Energy to research, develop, and demonstrate cost-effective, advanced coal-based technologies. These technologies would be designed for widespread commercial use after the year 2010. Appropriation of funds would be authorized as nec-

essary for fiscal years 1992 through 1994. The bill would also require the Secretary of Energy to submit a plan for research, development, and demonstration of technologies for the non-fuel use of coal. A total of \$20 million for fiscal 1992 through 1994 would be appropriated for this plan.

Federal Legislation Update

Bill	Title	Status
S. 324	National Energy Policy Act of 1990	Passed Senate with Amendments on August 4, 1990
S. 1630	Clean Air Act Amendments 1989	Speaker appointed additional conferees in the conference on August 3, 1990

State Legislation Update

West Virginia. Senate Bill No. 8, created to assist the State's ailing education system, was passed on August 31, 1990, and became effective on October 1, 1990. The bill levies a 50-cents-per-ton minimum tax on coal. The minimum tax or the State severance tax, whichever is higher, will be paid at the end of the tax period. In addition, the bill eliminated the credit for coal severance taxes allowed to be applied against personal and corporate incomes.

Alabama. House Bill No. 264, passed by the State legislature, extends the current 13.5-cents-per-ton severance tax on coal until October 1, 2006. The severance tax, which was scheduled to end in 1992, goes to pay for the cost of building the McDuffie Coal Terminal in Mobile.

Coal Industry Developments

Mining

Record Revenues from Federal Coal Leases. The Minerals Management Service recorded a new high for revenues collected in 1989 from leases on Federal and Indian coal leases.¹ Although the \$242 million for coal represented only 8 percent of the total energy royalties collected by the Federal Government, it is the only major commodity for which royalties have increased in each of the past 5 years. Natural gas royalties made up 50 percent of the total and petroleum 38 percent, but the royalties from both have been slowly declining from 1985 through 1989.

Coal royalties from Federal leases (excluding Indian lands) for 1989 were nearly \$195 million, based on 200 million short tons of production with reported market value of \$2.7 billion. Wyoming coal leases generated over half of the royalties. Royalties on Indian coal leases reached nearly \$48 million in 1989, more than double the amount collected in 1985. All Indian coal royalties came from three States - New Mexico with \$27 million, Arizona with \$19 million, and Montana with \$1 million.

Coal Industry's Influence on the Economy. According to a Pennsylvania State University study commissioned by the National Coal Association, the indirect effects of coal production in the United States are nearly four times the direct effect. The report values the direct contribution of the coal industry in 1988 at \$21 billion, but figures that, when stimulations to other sectors of the economy are considered, the total contribution is worth \$81 billion. The direct contributions are those related directly to the employment and sales based on producing the coal.

The indirect contributions describe the multiplier effects of the coal industry on the Nation's economy stemming from income, employment, and tax revenues in economic activities stimulated by the mining and production of coal. The report emphasizes that indirect contributions of the coal industry may be more extensive than expected, partly due to the effects of increased mechanization. This improves labor productivity, but

also results in a large employment multiplier for the coal industry because of the stimulation of supporting manufacturing and service industries. The report goes on to assess potential impacts of pending Clean Air Act legislation. For example, it projects that if 35,000 coal miners and other coal industry employees were displaced because of the Act, the total of jobs lost in the U.S. economy would be about 6.8 times that figure, or 238,560 workers. The report states that this number of job losses would affect every industry. The report does note, however, that the decreases would be partially offset by coal production from other regions or by production of other fuels, but that these substitutions would increase expenses.

Leading Coal Producers Named. For the sixth year in a row, ARCO Coal's Black Thunder Mine in Wyoming led the nation in coal output, with nearly 30 million short tons. The closest competitor was Kerr-McGee Coal's Jacobs Ranch Mine, also in the Powder River Basin in Wyoming. East of the Mississippi, the two leaders were Consol Coal Company's Bailey Mine in Pennsylvania, with 6 million short tons, and Arch Mineral's Captain Mine in Illinois, with nearly 5 million short tons.²

Pittsburgh & Midway/Black Beauty Merger. Pittsburgh & Midway Coal Mining Company (P&M) and Black Beauty Resources completed a partnership on May 31, 1990, intended to aid in developing compliance coal underground mines in southern Indiana.³ The partnership is based on plans to develop the 50,000 acre Monroe City reserve, controlled by Black Beauty, by drawing on the respective strengths of the two companies. P&M is a traditional coal mining company, which produces more than 15 million short tons of coal per year. Black Beauty has experience in coal marketing, producing about 4 million short tons per year, mostly using contractors to mine surface operations.

Construction on the new operation is planned for later in 1990, and may eventually lead to a three-mine underground complex, to be named the Air Quality mines. At peak production, the complex would produce 3.5 million short tons per year and employ 500 to 700 miners. The reserve contains 200 million short tons of coal, of which 100 million short tons are recoverable.

Coal Fatality Rates Continue to Rise. Statistics published by the Mine Safety and Health Administration (MSHA) for the first 6 months of 1990 show a continuation of the recent increased rate of fatalities for coal mining.⁴ Fatalities reached 33 for the period January

¹ U.S. Department of the Interior - Minerals Management Service, *Mineral Revenues 1989: Report on Receipts from Federal and Indian Leases* (Washington, DC, 1990).

² Adam Rose and Richard E. Gordon, "The Economic Impact of Coal," *Coal Times* 13, 4 (July-August 1990), pp. 12-27.

³ "Coal Employment Production Statistics," National Coal Association (Washington, DC, September 1990).

⁴ "Black Beauty and P&M Finalize Merger," *Coal*, 95, 7 (July 1990), p. 15.

⁵ U.S. Department of Labor, Mine Safety and Health Administration, *Mine Injuries and Worktime, Quarterly, January-June 1990*, (Denver, CO, 1990).

through June, 1990, compared with 25 for the same period in 1989.

In 1989, according to the final statistics, Kentucky led the Nation in coal-related deaths, with 30. West Virginia and Virginia followed with eight each. Historically, those three States, along with Pennsylvania, have accounted for 70 percent of all coal mining deaths. Again, through June of 1990, those three States have the highest number of fatalities - West Virginia with seven, Kentucky with six, and Virginia with three (Pennsylvania had one). In June 1990, MSHA announced a program targeting all four States in an effort to curb the trend.

National Reclamation Awards. This year's winners of the Excellence in Surface Coal Mining and Reclamation National Award are eight companies with mines in several areas of the country.⁶ The Office of Surface Mining, U.S. Department of the Interior, instituted the award 4 years ago to raise public awareness of the compatibility of responsible coal mining and environmental values.

East of the Mississippi, the winners were: Drummond Coal Company, for reclamation of 1,500 acres, including reforestation and wetlands creation at Brookwood, Alabama; LeeJay Corporation, for reclaiming a 29-acre area, including a 20-acre refuse pile, which became the site of the municipal sewage treatment plant at Clarksville, Pennsylvania; Vigo Coal Company, for wetlands restoration in the Marchand Wildlife area, Gibson County, Indiana; and Southern Ohio Coal Company, for its environmental commitment to surface landowners affected by underground coal mining at Fairmont, West Virginia.

West of the Mississippi, awards were given to: Associated Electric Cooperative, Incorporated, for a system to recover coal from the mine slurry pond at Clifton Hill, Missouri, which will improve the environment and save ratepayers about \$30 million; Basin Cooperative Service, for pioneering native grass and woodland planting techniques, thereby establishing more than 2,200 acres of native grassland and 120 acres of woodlands, near Stanton, North Dakota; Texas Utilities Mining Company, for exemplary reclamation of a 439-acre site near Mount Pleasant, Texas, with mixed grasslands, woodlands, and wetlands; and R&S Coal Company, for outstanding reclamation by a small operator, reclaiming 27 acres of abandoned highwalls and spoil piles for prime pasture, near Lamar, Arkansas.

West Virginia Interest in Coalbed Methane. The West Virginia Geological and Economic Survey has indicated interest in data base assessments and contributions and new research that might foster development

of a new West Virginia industry in coalbed methane extraction.⁷ The Survey points out that the two areas of highest measured coalbed gas potential in the northern and central Appalachians, as defined by U.S. Department of Energy research, both lie largely in West Virginia. Based on assumed annual production of 3 percent of the resource, West Virginia's coalbed methane could supply 14 times the State's annual natural gas needs and the potential for significant export beyond State boundaries.

Gas from coal seams is normally at least 90 percent pure methane, with heat content of 900 to 1,000 Btu per cubic foot. It can normally be introduced into commercial natural gas pipelines with minimal processing. Because of its purity, coalbed methane can be co-fired with coal in a boiler and significantly reduce the net sulfur dioxide and nitrogen oxide stack emissions. Co-fired with the coal from which it was tapped, coalbed methane has the potential to permit some noncompliance coals to meet the environmental regulations of compliance coals.

Methane can be extracted from coalbeds too deep or too thin to mine and can also be done, with safety and environmental advantages, in minable coalbeds prior to actual mining. Research would be aimed at a better understanding of coal resources, which the Survey indicates "is of paramount importance if West Virginia is to develop a successful coalbed methane industry. Furthermore, publicly available research data is vital to insure sound scientific participation and reasonable government regulatory and taxation policy." An important area for research is the environmentally safe disposal of large quantities of water produced when coalbeds are dewatered to prepare them for gas extraction. Another area is the legal/scientific question of ownership. There are no widely applicable guidelines governing whether the resource is owned by the owner of the coal, the owner of an oil and gas lease, or the surface owner.

Use

The Role of Coal in the National Energy Strategy. The National Coal Council (NCC) has published its recommendations to the Secretary of Energy regarding the proper linkage between long-range National Energy Strategy options and the utilization, production, and transportation of coal.⁸ NCC recommendations were founded on a series of assumptions, including the premise that ample economic energy supplies are critical to societal stability and progress, and the observation

⁶ "National Reclamation Awards Capture the Environmental Ethic," *Coal Today* 13, 5 (May-June 1990), p. 15.

⁷ Thomas L. Repine, Jr., "Coalbed Methane - A New West Virginia Industry," *Mountain State Geology*, Spring 1990, pp. 1-6.

⁸ The National Coal Council, *The Long-Range Role of Coal in the Future Energy Strategy of the United States* (Arlington, VA, June 1990).

that, because of the large cost-competitive U.S. resource base, coal must be a major component of the Nation's future energy base.

Of its nine major recommendations, the NCC singled out one for special consideration: that the National Energy Strategy should acknowledge the importance of coal in the national energy and economic future. The Secretary of Energy is urged to take the lead in creating the positive political, regulatory, and economic climate needed for the continued expansion of coal use in the United States.

Other recommendations deal with the critical role of technology in understanding and enhancing the environmentally acceptable use of coal, as in the Clean Coal Technology Program. The NCC also stressed the need to reduce the financial risk to backers of large-scale facilities, so that clean coal technologies can be implemented more readily.

National Energy Strategy. The U.S. Department of Energy is developing a national energy strategy at the direction of President George Bush. As a result of 15 public hearings conducted across the country, four central themes have emerged. These are presented in the Department's *Interim Report: National Energy Strategy*.¹⁰

The first theme is to increase efficiency of energy use. The second theme is to secure future energy supplies, by promoting contribution from all energy sectors in achieving national energy security, environmental, and economic goals. The third theme is respect for the environment, in that future energy options must be sensitive to both the local and global environment, so that energy and environmental goals can be achieved in mutually beneficial ways. The fourth theme is to fortify the foundations of a successful energy strategy, specifically with basic science and research, sound education, and rapid technology transfer.

Least-Cost Electricity Generation. For the first time in a decade, a coal-fired power plant has been ranked second in the country among the least-cost producers of electricity, according to statistics compiled by Utility Data Institute (UDI).¹¹ This is the highest ranking achieved by any coal-fired plant during the reporting period. Of the top 20 plants, however, in terms of costs, 16 were coal-fired and 4 were nuclear plants. The top plant was the nuclear-powered Wolf Creek Plant operated by Wolf Creek Nuclear Operating Company with Kansas Gas and Electric Company, which produced 9.7 million megawatthours of electricity at an average cost of \$9.33 per net megawatthour. The second-ranked plant was the coal-fired Hayden Plant operated by Colorado-Ute Electric Association, which

produced 3.3 million net megawatthours at an average cost of \$10.29 per net megawatthour.

UDI calculates production costs based on fuel expenses and operating and maintenance expenses at 792 power plants. Their data show a decrease in the average variable production cost of coal-fired generation (from \$19.99 per net megawatthour in 1988 to \$19.80 in 1989). At the same time, the average variable production cost of nuclear power generation increased (from \$22.10 per net megawatthour in 1988 to \$22.61 in 1989). Both continue to be substantially lower than gas-fired generation (\$30.39 per net megawatthour in 1989) and oil-fired generation (\$34.83 per net megawatthour in 1989).

The most productive plant in UDI's survey was the coal-fired Bowen Plant operated by Georgia Power Company, a plant with 3,499 megawatts of installed capacity which produced 20.7 million megawatts of electricity. In 1989, of the top 20 plants in terms of net generation, 12 were coal-fired and 8 were nuclear.

EIA Publishes Electricity Cost Data. The Energy Information Administration has released detailed data on the total and component costs of generating electricity for the various fuels and plant types.¹² Coal-fired and nuclear power plant costs are compared for 1988. The lowest-cost nuclear plant for the year registered expenses totaling 1.59 cents per kilowatthour, compared with 2.16 cents per kilowatthour for the lowest-cost coal-fired plant. Fuel expenses for the nuclear plant comprised only 0.45 cent per kilowatthour, versus 1.35 for the coal-fired plant. Capital expenditures were similar: 0.37 cent per kilowatthour for the nuclear plant versus 0.31 cent for the coal-fired plant. Coal showed a clear advantage as a fuel in terms of operation and maintenance costs: 0.77 cent per kilowatthour for nuclear versus 0.51 cent for the coal-fired plant.

The highest cost coal-fired and nuclear plant data were also compared: 11.31 cents per kilowatthour for nuclear, and 8.46 cents for the coal-fired plant. Hydroelectric electricity plant costs and other fossil fueled costs are also included. Coal accounted for nearly 80 percent of the fuel consumed at fossil-fueled electricity plants in 1988.

Transportation

Coal Traffic Trends on Waterways. Coal traffic on the Nation's rivers and inland waterways has risen sharply and consistently in recent years, according to a com-

¹⁰ U.S. Department of Energy, *Interim Report: National Energy Strategy*, DOE/S-0066P (Washington, DC, April 1990).

¹¹ "Nuclear Plant Produces Least-Cost Power in 1989," Press Release, Utility Data Institute, Inc. (Washington, DC, September 6, 1990).

¹² Energy Information Administration, *Electric Plant Costs and Power Production Expenses, 1988*, DOE/EIA-0455(88) (Washington, DC, August 1990).

pilation of statistics by the U.S. Army Corps of Engineers.¹² The data cover 1982 through 1989. In general, coal traffic has increased more rapidly than other commodities. For example, while oil and farm shipment volumes on the Mississippi River decreased slightly over the 8-year period, coal increased by 59 percent, and the total of all commodities increased by 22 percent. Coal shipments on the Mississippi totaled 34 million short tons in 1982 but reached 54 million short tons by 1989. The greatest volume of coal traffic was on the Ohio River, where coal shipments rose from 87 million short tons in 1982 to 113 million short tons in 1989.

Lake Traffic Down. Coal trade on the Great Lakes was behind last year's rate as of August 1990.¹³ August shipments were down in part because water levels in the Great Lakes were low, and vessels had to be loaded lighter by as much as 10 inches in draft. Coal shipments of less than 5 million short tons represented an 8-percent decrease from July 1990. The decline was tied to smaller shipments from Lake Erie ports and Thunder Bay, Ontario, mitigated by slightly higher shipments of western coal via Superior, Wisconsin. Coal cargos shipped since the opening of navigation in late March reached 23 million short tons, nearly 2 percent lower than the previous year.

Rail Line Combinations Changing Transport Options. Recent decisions by the Interstate Commerce Commission (ICC) have tended to favor purchases of rail lines from competing railroads and creation of short line railroads from overly-extended rail systems as long as competition and service to the customer can be improved. To some extent, the success of western coals, especially Powder River Basin coals from Wyoming, in penetrating midwestern and eastern markets, is a result of ICC approval of applications for new rail service in the Powder River Basin, allowing increased competition in the source area. Rail carriers have contributed to the trend by working out cost-cutting inter-carrier trackage rights agreements and offering more competitive rates to utility customers. Some include transportation packages featuring improved switching between two or more railroads or intermodal switching between rail and water carriers.

In July 1990, the ICC granted the Southern Pacific Transportation Company (SP) direct access to Chicago via 532 miles of track to be bought from the Soo Line. Late last year, SP was permitted to gain access to Chicago by a different route when it purchased the bankrupt Chicago, Missouri and Western's line from St. Louis to Chicago.¹⁴ That trackage option gave SP an improved position to deal in western coal, but was not as important an option as the Soo Line because it linked more directly to Gulf Coast cities such as Beaumont and Houston, Texas. The Soo Line trackage would extend SP's "southwestern route" and would encourage the marketing of Colorado and Utah coals in the Midwest and East. Although ICC approval was gained over the objections of three competing Class I railroads, SP later declined the purchase.¹⁵ The potential competitive advantage of the pending purchase netted SP a trackage agreement with Burlington Northern Railroad on that carrier's Kansas City/Chicago route.

In a decision regarding the transport of eastern coal, the ICC has approved the purchase of the profitable Monongahela Railway (MGA) by Consolidated Rail Corporation (Conrail).¹⁶ The takeover was due to be completed effective October 15, 1990. The MGA was an independent railroad operating in coalfields in western Pennsylvania and northern West Virginia since 1903, but in recent years has been owned jointly by Conrail, CSX Transportation, and the Pittsburgh & Lake Erie Railroad, while continuing to be operated independently to satisfy an anti-trust ruling. The MGA tracks interchange with those of the three controlling railroads.

Conrail will preserve its access to the valuable coal reserves of the area, with the provision that it shall continue to exchange coal in the MGA area without discrimination and provide competitive rates. According to Conrail's application for control, the high-Btu, low-to-medium sulfur coal it exchanged from MGA in 1989 amounted to 14 million short tons, or 21 percent of Conrail's 67 million short tons of coal carried. With much of Conrail's other coal traffic originating in high-sulfur coalfields and in view of pending clean air regulations, the carrier considered access to the the MGA region critical.

¹² U.S. Army Corps of Engineers, *CY 1989 Waterborne Commerce Statistics*, (New Orleans, LA, June 30, 1990).

¹³ "Lower Water Levels Mar August Lakes Trade," Press Release, Lake Carriers' Association (Cleveland, OH, September 20, 1990).

¹⁴ "SP Gets ICC Approval to Purchase Soo's Kansas City to Chicago Line," *Coal Transportation Report*, 9, 13 (July 16, 1990), p. 3.

¹⁵ "SP Drops Soo K.C.-Chicago Route, Goes with Burlington Northern," *Coal Transportation Report*, 9, 15 (August 15, 1990).

¹⁶ "Conrail Gets Green Light to Take Over the Monongahela," *Coal Transportation Report*, 9, 16 (August 31, 1990), pp. 3-4.

Production

Mammoth equipment such as this huge shovel help U.S. producers supply the needs of coal consumers both in this country and abroad.

Figure 2. Coal Production

Sources: Energy Information Administration EIA, Form EIA-6, "Coal Distribution Report"; and State mining agency coal production reports.
Note: Each increment represents end of quarter data.

Table 2. Coal Production
(Thousand Short Tons)

Year	January - March	April - June	July - September	October - December	Total
1982	222,250	216,434	201,384	198,043	838,112
1983	192,282	186,844	198,816	204,150	782,091
1984	223,115	230,226	244,592	197,988	895,921
1985	213,238	228,160	222,827	219,414	883,638
1986	227,974	220,001	218,681	223,659	890,315
1987	222,199	218,823	232,958	244,782	918,762
1988	236,889	226,645	241,622	245,109	950,265
1989	246,900	238,797	242,720	251,151	979,568
1990	264,174	254,228	NA	NA	NA

NA Not available

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Sources: Energy Information Administration (EIA), Form EIA-6, "Coal Distribution Report" and State mining agency coal production reports.

Table 3. Coal Production by State
(Thousand Short Tons)

Coal-Producing Region and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
Alabama	7,671	7,594	7,230	15,266	14,543	5.0
Alaska	305	378	289	684	666	2.6
Arizona	2,006	3,169	2,884	5,174	5,739	-9.8
Arkansas	4	4	22	9	36	-76.1
California	-	13	-	13	-	-
Colorado	4,674	4,975	4,129	9,649	8,190	17.8
Illinois	15,126	16,408	14,404	31,534	30,184	4.5
Indiana	8,859	9,220	8,064	18,088	15,917	13.6
Iowa	88	96	103	184	239	-23.2
Kansas	190	228	236	418	349	19.6
Kentucky Total	42,300	44,582	39,675	86,882	78,311	10.9
Eastern	31,213	32,731	28,818	63,945	57,520	11.2
Western	11,087	11,851	10,857	22,938	20,791	10.3
Louisiana	857	648	652	1,505	1,341	12.2
Maryland	812	938	847	1,750	1,785	-2.0
Missouri	635	702	718	1,336	1,610	-17.0
Montana	9,181	9,264	8,998	18,445	18,048	2.2
New Mexico	6,468	5,879	6,424	12,347	12,017	2.7
North Dakota	6,996	7,501	6,981	14,497	15,012	-3.4
Ohio	8,370	9,450	7,289	17,828	16,227	9.9
Oklahoma	489	507	545	997	957	4.2
Pennsylvania Total	18,743	19,736	17,618	38,478	36,794	4.6
Anthracite	789	717	810	1,507	1,710	-11.9
Bituminous	17,953	19,018	16,808	36,971	35,084	5.4
Tennessee	1,682	1,700	1,566	3,382	3,147	7.4
Texas	13,467	13,735	13,350	27,203	25,996	4.6
Utah	5,329	5,858	4,776	11,186	9,913	12.8
Virginia	12,617	13,371	12,931	25,989	26,487	-1.9
Washington	1,261	1,249	1,360	2,510	2,610	-3.8
West Virginia Total	42,520	42,218	36,361	84,737	77,343	9.6
Northern	14,731	15,116	13,801	29,847	29,022	2.8
Southern	27,788	27,102	22,560	54,890	48,320	13.6
Wyoming	43,579	44,732	41,348	88,311	82,235	7.4
Appalachian Total	123,627	127,747	112,661	251,375	233,847	7.5
Interior Total	50,802	53,409	48,949	104,211	97,420	7.0
Western Total	79,799	83,018	77,187	162,817	154,430	5.4
East of the Miss. River	158,699	165,235	145,985	323,935	300,739	7.7
West of the Miss. River	95,529	98,939	92,812	194,468	184,958	5.1
U.S. Total	254,228	264,174	238,797	518,402	485,697	6.7

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Sources: Energy Information Administration, Form EIA-6, "Coal Distribution Report", and State mining agency coal production reports.

Exports and Imports

A collier takes on a large cargo of coal at a U.S. port for shipment to foreign destinations.

Table 4. U.S. Coal Exports and Imports
(Thousand Short Tons)

Year	January - March		April - June		July - September		October - December		Total	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1982	25,564	114	31,621	128	25,249	271	23,842	230	106,277	742
1983	15,144	269	20,345	379	22,045	299	20,238	323	77,772	1,271
1984	15,125	276	23,737	269	25,263	435	17,357	306	81,483	1,286
1985	18,544	330	24,208	500	25,831	623	24,097	500	92,680	1,952
1986	17,245	485	24,170	576	23,687	537	20,416	614	85,518	2,212
1987	16,576	331	20,113	483	21,033	475	21,885	459	79,607	1,747
1988	16,061	542	24,900	587	27,691	437	26,371	567	95,023	2,134
1989	21,429	531	28,445	687	23,991	925	26,949	708	100,815	2,851
1990	22,383	735	27,733	674	NA	NA	NA	NA	NA	NA

NA Not available.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Sources: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"; and "Monthly Report IM 145."

Table 5. Average Price of U.S. Coal Exports and Imports
(Dollars per Short Ton)

Year	January - March		April - June		July - September		October - December		Total	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1982	\$57.93	\$33.53	\$56.29	\$35.45	\$56.19	\$28.04	\$55.02	\$28.82	\$56.37	\$30.40
1983	55.00	32.83	51.91	33.09	51.25	34.66	51.29	33.84	52.16	33.59
1984	51.21	32.74	51.03	33.90	50.67	35.49	49.91	38.83	50.72	35.37
1985	49.14	37.74	48.75	35.24	47.80	36.75	47.27	34.82	48.18	36.04
1986	46.52	34.21	46.30	36.14	45.41	35.50	45.69	37.44	45.95	36.02
1987	44.79	35.04	43.20	31.69	42.01	31.94	41.59	30.35	42.77	32.04
1988	42.05	28.94	42.62	33.74	41.84	26.77	42.38	29.47	42.23	29.96
1989	42.27	33.65	42.47	34.19	42.61	34.92	42.69	33.44	42.52	34.14
1990	43.23	35.07	42.51	33.67	NA	NA	NA	NA	NA	NA

NA Not available.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Sources: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"; and "Monthly Report IM 145."

Figure 3. U.S. Coal Exports and Imports

Sources: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522";
and "Monthly Report IM 145."
Note: Each increment represents end of quarter data.

Table 6. Coal Exports
(Short Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	5,132,305	786,718	5,913,020	5,919,023	6,785,447	-12.8
Canada ¹	5,089,869	734,869	5,850,145	5,824,738	6,676,229	-12.8
Jamaica	-	16,250	19,854	16,250	19,854	-18.2
Mexico	22,378	12,960	15,939	35,338	43,368	-18.5
Other ²	20,058	22,639	27,082	42,697	45,996	-7.2
South America Total	1,128,168	2,264,701	1,731,930	3,392,869	3,936,424	-13.8
Argentina	31,285	259,827	128,707	291,112	388,303	-25.0
Brazil	973,456	1,861,214	1,416,621	2,834,670	3,194,965	-11.3
Chile	105,334	142,730	179,483	248,064	344,849	-28.1
Other ²	18,093	930	7,119	19,023	8,307	129.0
Europe Total	15,545,467	13,375,010	13,635,128	28,920,477	26,073,295	10.9
Albania	24,860	46,364	24,792	71,224	48,491	46.9
Belgium & Luxembourg	2,285,812	1,971,445	2,033,218	4,257,257	3,853,208	10.5
Bulgaria	-	87,955	-	87,955	-	-
Denmark	815,897	448,613	1,099,972	1,264,510	1,575,282	-19.7
Finland	48,616	-	51,162	48,616	51,255	-5.1
France	1,894,849	2,309,715	1,508,114	4,204,564	3,247,264	29.5
Greece	153	290	75,373	443	75,373	-99.4
Ireland	399,373	302,507	315,436	701,880	538,916	30.2
Italy	3,169,388	2,876,538	3,018,789	6,045,926	6,013,258	.5
Netherlands	2,110,245	1,533,521	1,550,156	3,643,766	3,123,704	16.6
Norway	64,771	27,706	38,068	92,477	74,814	23.6
Portugal	501,513	181,632	346,722	683,145	544,685	25.4
Romania	974,074	270,094	262,962	1,244,168	416,600	198.6
Spain	828,994	986,221	879,583	1,815,215	1,725,952	5.2
Sweden	172,735	82,849	121,697	255,584	196,521	30.1
Turkey	517,851	528,339	491,152	1,046,190	840,436	24.5
United Kingdom	1,248,443	1,151,192	1,155,938	2,399,635	2,554,832	-6.1
West Germany	354,378	230,693	249,986	585,071	394,660	48.2
Yugoslavia	122,888	322,611	381,087	445,499	759,216	-41.3
Other ²	10,627	16,725	30,921	27,352	38,828	-29.6
Asia Total	5,402,493	5,525,914	6,378,437	10,928,407	11,817,871	-7.5
China (Taiwan)	1,358,449	1,254,841	1,285,573	2,613,290	1,858,885	40.6
Israel	133,417	209,122	416,082	342,539	416,082	-17.7
Japan	3,075,507	2,990,719	3,543,920	6,066,226	7,398,235	-18.0
Korea, Republic of	834,258	1,070,775	1,100,658	1,905,033	2,078,956	-8.4
Pakistan	-	-	30,170	-	60,451	-
Other ²	862	457	2,034	1,319	5,262	-74.9
Oceania & Australia Total	187	555	-	742	-	-
Africa Total	524,317	430,004	786,960	954,321	1,261,174	-24.3
Algeria	112,504	44,105	308,814	156,609	497,057	-68.5
Egypt	146,045	200,042	148,632	346,087	334,000	3.6
Other ²	265,768	185,857	329,514	451,625	430,117	5.0
Total	27,732,937	22,382,902	28,445,475	50,115,839	49,874,211	.5

¹ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

² Includes countries with exports less than or equal to 50,000 short tons in 1989.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 7. Average Price¹ of Coal Exports
(Dollars per Short Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$33.05	\$34.33	\$42.42	\$33.22	\$42.12	-21.1
Canada ²	33.00	34.27	42.50	33.17	42.20	-21.4
Jamaica	-	30.57	30.57	30.57	30.57	(*)
Mexico	41.87	40.63	42.92	41.44	42.45	-2.4
Other ³	36.49	36.39	35.34	36.43	35.78	1.8
South America Total	45.72	45.23	44.44	45.39	44.39	2.3
Argentina	44.74	43.89	45.73	43.98	44.58	-1.4
Brazil	46.40	46.15	45.96	46.24	45.27	2.1
Chile	39.28	35.78	31.61	37.00	31.53	17.4
Other ³	36.32	40.00	39.55	36.55	39.76	-8.1
Europe Total	44.12	43.84	42.42	43.99	42.13	4.4
Albania	49.90	47.57	44.91	48.38	42.50	13.8
Belgium & Luxembourg	44.06	45.16	43.65	44.58	43.12	3.4
Bulgaria	-	49.24	-	49.24	-	-
Denmark	34.75	34.01	33.52	34.51	33.26	3.7
Finland	45.72	-	42.41	45.72	42.41	7.8
France	43.41	41.49	40.96	42.35	40.62	4.3
Greece	40.14	39.91	36.30	39.99	36.30	10.2
Ireland	37.48	39.14	35.84	38.16	37.55	1.6
Italy	45.79	43.86	43.84	44.87	43.32	3.6
Netherlands	42.26	43.87	40.54	42.94	40.31	6.5
Norway	-	-	39.97	-	39.97	-
Portugal	41.96	40.87	40.67	41.67	39.96	4.3
Romania	48.57	46.29	45.58	48.07	44.34	8.4
Spain	43.10	47.13	45.73	46.20	45.55	1.4
Sweden	48.96	47.58	46.79	48.51	42.45	14.3
Turkey	47.82	43.46	43.41	45.63	43.11	5.8
United Kingdom	48.17	46.73	46.83	47.48	45.53	4.3
West Germany	42.13	42.58	45.66	42.37	42.54	-4
Yugoslavia	42.84	45.98	42.62	45.19	43.06	5.0
Other ³	39.97	39.97	44.45	39.97	44.43	-10.0
Asia Total	43.47	42.31	41.47	42.89	41.99	2.1
China (Taiwan)	38.90	37.33	35.43	38.15	36.53	4.4
Israel	40.99	38.33	39.04	39.37	39.04	.8
Japan	44.61	43.68	42.61	44.15	42.77	3.2
Korea, Republic of	47.26	45.21	45.15	46.09	44.66	3.2
Other ³	39.52	39.88	38.57	39.64	37.86	4.7
Oceania & Australia Total	36.84	36.85	-	36.85	-	-
Africa Total	38.30	38.52	39.61	38.40	40.86	-6.0
Algeria	46.22	45.09	45.19	45.72	45.69	.1
Egypt	46.42	45.05	45.93	45.62	45.66	-.1
Other ³	32.19	29.94	31.54	31.26	31.55	-.9
Total	41.91	43.17	42.25	42.48	42.24	.6
U.S. Total⁴	42.51	43.23	42.47	42.84	42.38	1.1

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁴ Average price of all coal exports in this category.

(*) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 8. Steam¹ Coal Exports
(Short Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	3,614,625	759,444	3,475,922	4,374,069	4,232,150	3.4
Canada ²	3,572,404	707,595	3,413,072	4,279,999	4,141,808	3.3
Jamaica	-	16,250	19,854	16,150	19,854	-18.2
Mexico	22,378	12,960	15,939	35,338	43,368	-18.5
Other ³	9,843	22,639	27,057	42,482	27,120	56.6
South America Total	152,565	146,485	186,840	299,150	353,493	-15.4
Argentina	-	-	238	-	337	-
Brazil	57,686	29,011	-	86,697	-	-
Chile	76,886	116,544	179,483	193,430	344,849	-43.9
Other ³	18,093	930	7,119	19,023	8,307	129.0
Europe Total	5,832,645	3,594,219	4,291,615	9,426,864	8,002,457	17.8
Belgium & Luxembourg	763,179	364,700	218,198	1,127,879	485,392	132.4
Bulgaria	-	39,065	-	39,065	-	-
Denmark	815,897	393,041	1,099,972	1,208,938	1,575,282	-23.3
Finland	-	-	-	-	93	-
France	639,289	754,079	288,787	1,393,368	911,117	52.9
Greece	153	290	75,373	443	75,373	-99.4
Ireland	399,373	302,507	231,213	701,880	369,692	89.9
Italy	1,079,725	1,054,564	1,268,724	2,134,289	2,399,590	-11.1
Netherlands	1,400,334	319,069	728,942	1,719,403	1,440,252	19.4
Norway	25,354	11,731	13,552	37,085	20,229	83.3
Portugal	348,714	115,309	223,891	464,023	340,454	36.3
Romania	-	-	-	-	3,293	-
Spain	114,448	283	100,501	114,731	100,630	14.0
Sweden	-	-	-	-	74,824	-
Turkey	804	7,214	97	8,018	203	(⁴)
United Kingdom	196,130	159,392	-	355,522	94,513	276.2
West Germany	30,443	72,902	939	103,345	69,282	49.2
Yugoslavia	8,175	-	15,707	8,175	16,462	-50.3
Other ³	10,627	73	25,719	10,700	25,776	-58.5
Asia Total	1,769,614	2,160,665	2,199,237	3,930,279	2,944,661	33.5
China (Taiwan)	1,256,705	1,149,781	1,174,096	2,406,486	1,536,670	56.6
Israel	133,417	209,122	267,265	342,539	267,265	28.2
Japan	292,793	568,736	590,744	861,529	824,551	4.5
Korea, Republic of	85,837	232,569	165,098	318,406	310,913	2.4
Other ³	862	457	2,034	1,319	5,262	-74.9
Oceania & Australia Total	187	555	-	742	-	-
Africa Total	266,198	185,857	329,514	452,055	430,117	5.1
Egypt	430	-	-	430	-	-
Other ³	265,768	185,857	329,514	451,625	430,117	5.0
Total	11,635,934	6,847,225	10,483,128	18,483,159	15,962,878	15.8

¹ Includes bituminous, subbituminous, lignite, and anthracite.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁴ Changes of 500 percent or more are not shown.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 9. Average Price¹ of Steam² Coal Exports
(Dollars per Short Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$31.24	\$34.27	\$39.81	\$31.79	\$39.81	-20.2
Canada ³	31.15	34.20	39.89	31.68	39.87	-20.5
Jamaica	-	30.57	30.57	30.57	30.57	(*)
Mexico	41.87	40.63	42.92	41.44	42.45	-2.4
Other ⁴	36.34	36.39	35.34	36.36	35.35	2.9
South America Total	40.45	34.51	31.67	37.47	31.62	18.5
Argentina	-	-	34.99	-	34.99	-
Brazil	43.18	41.05	-	42.44	-	-
Chile	39.28	32.84	31.61	35.40	31.53	12.3
Other ⁴	36.32	40.00	39.55	36.55	39.76	-8.1
Europe Total	38.54	38.22	36.71	38.42	36.59	5.0
Belgium & Luxembourg	37.15	36.28	34.72	36.87	33.05	11.6
Bulgaria	-	48.99	-	48.99	-	-
Denmark	34.75	34.01	33.52	34.51	33.26	3.7
Finland	-	-	-	-	39.68	-
France	38.61	36.92	32.17	37.69	34.16	10.3
Greece	40.14	39.91	36.30	39.99	36.30	10.2
Ireland	37.48	39.14	36.89	38.16	38.16	(*)
Italy	40.56	40.07	40.33	40.32	40.07	.6
Netherlands	39.44	36.64	36.54	38.92	36.20	7.5
Norway	-	-	39.97	-	39.97	-
Portugal	40.95	36.98	39.72	39.97	38.65	3.4
Romania	-	-	-	-	38.78	-
Spain	34.24	39.92	32.67	34.26	32.68	4.8
Sweden	-	-	-	-	35.38	-
Turkey	36.07	-	40.08	36.07	39.90	-9.6
United Kingdom	43.06	45.90	-	44.33	40.32	9.9
West Germany	33.95	40.28	40.02	38.41	30.71	25.1
Yugoslavia	-	-	-	-	35.00	-
Other ⁴	39.97	39.97	44.45	39.97	44.43	-10.0
Asia Total	38.79	37.41	36.07	38.03	36.04	5.5
China (Taiwan)	38.14	36.57	34.51	37.39	34.81	7.4
Israel	40.99	38.33	38.55	39.37	38.55	2.1
Japan	40.31	38.09	37.39	38.83	36.74	5.7
Korea, Republic of	39.92	39.11	38.36	39.33	38.04	3.4
Other ⁴	39.52	39.88	38.57	39.64	37.86	4.7
Oceania & Australia Total	36.84	36.85	-	36.85	-	-
Africa Total	32.20	29.94	31.54	31.27	31.55	-9
Egypt	35.91	-	-	35.91	-	-
Other ⁴	32.19	29.94	31.54	31.26	31.55	-9
Total	36.28	37.22	37.31	36.63	37.10	-1.2
U.S. Total⁵	37.15	37.42	37.99	37.25	37.58	-9

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Includes bituminous, subbituminous, lignite, and anthracite.

³ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

⁴ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁵ Average price of all steam coal exports.

(*) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 10. Metallurgical Coal Exports
(Short Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	1,517,680	27,274	2,437,098	1,544,954	2,553,297	-39.5
Canada ¹	1,517,465	27,274	2,437,073	1,544,739	2,534,421	-39.0
Other ²	215	-	25	215	18,876	-98.9
South America Total	975,503	2,118,216	1,545,090	3,093,719	3,582,931	-13.7
Argentina	31,285	259,827	128,469	291,112	387,966	-25.0
Brazil	915,770	1,832,203	1,416,621	2,747,973	3,194,965	-14.0
Chile	28,448	26,186	-	54,634	-	-
Europe Total	5,712,822	9,780,791	9,343,513	19,493,613	18,070,838	7.9
Albania	24,860	46,364	24,792	71,224	48,491	46.9
Belgium & Luxembourg	1,522,633	1,606,745	1,815,020	3,129,378	3,367,816	-7.1
Bulgaria	-	48,890	-	48,890	-	-
Denmark	-	55,572	-	55,572	-	-
Finland	48,616	-	51,162	48,616	51,162	-5.0
France	1,255,560	1,555,636	1,219,327	2,811,196	2,336,147	20.3
Ireland	-	-	84,223	-	169,224	-
Italy	2,089,663	1,821,974	1,750,065	3,911,637	3,613,668	8.2
Netherlands	709,911	1,214,452	821,214	1,924,363	1,683,452	14.3
Norway	39,417	15,975	24,516	55,392	54,585	1.5
Portugal	152,799	66,323	122,831	219,122	204,231	7.3
Romania	974,074	270,094	262,962	1,244,168	413,307	201.0
Spain	714,546	985,938	779,082	1,700,484	1,625,322	4.6
Sweden	172,735	82,849	121,697	255,584	121,697	110.0
Turkey	517,047	521,125	491,055	1,038,172	840,233	23.6
United Kingdom	1,052,313	991,800	1,155,938	2,044,113	2,460,319	-16.9
West Germany	323,935	157,791	249,047	481,726	325,378	48.1
Yugoslavia	114,713	322,611	365,380	437,324	742,754	-41.1
Other ²	-	16,652	5,202	16,652	13,052	27.6
Asia Total	3,632,879	3,365,249	4,179,200	6,998,128	8,873,210	-21.1
China (Taiwan)	101,744	105,060	111,477	206,804	322,215	-35.8
Israel	-	-	148,817	-	148,817	-
Japan	2,782,714	2,421,983	2,953,176	5,204,697	6,573,684	-20.8
Korea, Republic of	748,421	838,206	935,560	1,586,627	1,768,043	-10.3
Pakistan	-	-	30,170	-	60,451	-
Africa Total	253,119	244,147	457,446	502,266	831,057	-39.6
Algeria	112,504	44,105	308,814	156,609	497,057	-68.5
Egypt	145,615	200,042	148,632	345,657	334,000	3.5
Total	16,097,003	15,535,677	17,962,347	31,632,880	33,911,333	-6.7

¹ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason, the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

² Includes countries with exports less than or equal to 50,000 short tons in 1989.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 11. Average Price¹ of Metallurgical Coal Exports
(Dollars per Short Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$37.07	\$35.90	\$45.91	\$37.05	\$40.80	-19.1
Canada ²	37.07	35.90	45.91	37.05	45.88	-19.2
Other ³	49.93	-	-	49.93	36.38	37.3
South America Total	46.53	45.97	45.94	46.15	45.19	2.1
Argentina	44.74	43.89	45.74	43.98	44.59	-1.4
Brazil	46.59	46.23	45.96	46.35	45.27	2.4
Chile	-	48.84	-	48.84	-	-
Europe Total	47.73	45.90	44.97	46.78	44.55	5.0
Albania	49.90	47.57	44.91	48.38	42.50	13.8
Belgium & Luxembourg	47.62	47.18	44.73	47.39	44.48	6.5
Bulgaria	-	49.44	-	49.44	-	-
Finland	45.72	-	42.41	45.72	42.41	7.8
France	45.85	43.71	43.04	44.66	43.14	3.5
Ireland	-	-	32.96	-	36.20	-
Italy	48.50	46.06	46.39	47.36	45.47	4.2
Netherlands	47.82	45.77	44.09	46.53	43.83	6.2
Portugal	44.27	47.64	42.41	45.29	42.14	7.5
Romania	48.57	46.29	45.58	48.07	44.38	8.3
Spain	48.68	47.13	46.82	47.37	46.07	2.8
Sweden	48.96	47.58	46.79	48.51	46.79	3.7
Turkey	47.84	43.46	43.41	45.64	43.12	5.9
United Kingdom	49.12	46.87	46.83	48.03	45.73	5.0
West Germany	43.55	43.63	45.68	43.59	45.06	-3.3
Yugoslavia	42.84	45.98	42.62	45.19	43.07	4.9
Asia Total	45.76	45.52	44.34	45.65	43.97	3.8
China (Taiwan)	48.31	45.64	45.14	46.96	44.71	5.0
Israel	-	-	39.92	-	39.92	-
Japan	45.05	45.03	43.89	45.04	43.53	3.5
Korea, Republic of	48.14	46.90	46.34	47.47	45.83	3.6
Africa Total	46.39	45.05	45.43	45.65	45.68	(*)
Algeria	46.22	45.09	45.19	45.72	45.69	.1
Egypt	46.45	45.05	45.93	45.64	45.66	-.1
Total	46.11	45.79	45.05	45.95	44.59	3.1
U.S. Total⁴	46.39	45.80	45.09	46.10	44.65	3.3

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁴ Average price of all metallurgical coal exports.

(*) Rounded to zero.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 12. Coal Exports by Customs District
(Short Tons)

Customs District	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
Eastern Total	16,421,450	15,623,596	16,816,233	32,045,046	32,268,602	-0.7
Baltimore, MD	2,487,265	2,068,626	3,123,311	4,555,891	5,015,138	-9.2
Portland, ME	-	493	20	493	159	210.1
Buffalo, NY	12,871	14,239	17,355	27,110	28,256	-4.1
New York City, NY	1,537	2,041	425	3,578	1,471	143.2
Ogdensburg, NY	4,337	4,726	1,587	9,063	5,597	61.9
Philadelphia, PA	884,247	454,350	749,131	1,338,597	1,104,456	21.2
Norfolk, VA	13,031,193	13,079,121	12,924,404	26,110,314	26,113,525	(¹)
Southern Total	6,022,113	5,276,860	5,155,596	11,298,973	9,840,474	14.8
Mobile, AL	2,271,125	2,239,991	1,795,342	4,511,116	4,018,267	12.3
Savannah, GA	-	-	-	-	725	-
Miami, FL	314	-	837	314	1,617	-80.6
Tampa, FL	206	17,893	-	18,099	-	-
New Orleans, LA	3,365,796	2,616,099	3,151,217	5,981,895	5,480,439	9.1
Wilmington, NC	-	-	-	-	70,417	-
Charleston, SC	335,580	361,949	196,058	697,529	233,579	198.6
Houston-Galveston, TX	30,259	29,487	1,933	59,746	6,559	(¹)
Laredo, TX	18,833	11,441	10,209	30,274	28,871	4.9
Western Total	420,415	765,565	742,193	1,185,980	1,263,971	-6.2
Anchorage, AK	85,837	232,569	152,768	318,406	298,583	6.6
Nogales, AZ	2,673	-	-	2,673	-	-
Los Angeles, CA	271,075	520,089	514,217	791,164	875,944	-9.7
San Diego, CA	872	1,519	2,784	2,391	3,036	-21.2
San Francisco, CA	55,914	-	-	55,914	-	-
Great Falls, MT	-	-	41	-	98	-
Portland, OR	3,989	-	84	3,989	576	(¹)
Seattle, WA	55	11,388	72,299	11,443	85,734	-86.7
Northern Total	4,861,541	709,180	5,731,453	5,570,721	6,501,164	-14.3
Chicago, IL	8,682	-	-	8,682	-	-
Detroit, MI	1,953,077	625,911	16,118	2,578,988	20,591	(¹)
Duluth, MN	29,851	-	-	29,851	41	(¹)
Pembina, ND	-	87	6,578	87	14,475	-99.4
Cleveland, OH	2,803,839	83,182	5,708,757	2,887,021	6,466,057	-55.4
Milwaukee, WI	66,092	-	-	66,092	-	-
Total	27,732,937	22,382,902	28,445,475	50,115,839	49,874,211	.5

¹ Changes of 500 percent or more are not shown.

(¹) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table 13. Coal Imports¹
(Short Tons)

Continent and Country of Origin	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	252,902	251,464	304,737	504,366	511,826	-1.5
Canada	252,902	245,260	293,900	498,162	483,732	3.0
Mexico	-	6,204	10,837	6,204	28,094	-77.9
South America Total	421,445	483,170	334,858	904,315	659,139	37.2
Colombia	304,625	415,621	275,329	720,246	534,480	34.8
Venezuela	116,820	67,549	59,529	184,369	124,659	47.9
Asia Total	-	-	47,694	-	47,745	-
China (Peking)	-	-	47,694	-	47,694	-
Korea, Republic of	-	-	-	-	51	-
Total	674,347	734,634	687,289	1,408,981	1,218,710	15.6

¹ Includes Puerto Rico and the Virgin Islands.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table 14. Average Price¹ of Coal Imports²
(Dollars per Short Ton)

Continent and Country of Origin	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$22.52	\$26.60	\$23.66	\$24.85	\$23.69	4.9
Canada	22.52	26.27	23.54	24.64	23.37	5.5
Mexico	-	38.36	26.57	38.36	28.21	36.0
South America Total	39.10	37.86	33.39	38.44	33.37	15.2
Colombia	38.36	37.41	33.79	37.81	33.50	12.9
Venezuela	41.04	40.63	31.52	40.89	32.79	24.7
Total	34.29	34.21	29.08	34.25	29.58	15.8
U.S. Total³	33.67	35.07	34.19	34.40	33.96	1.3

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal imports and fall within the range of \$20 to \$50 per short ton inclusively.

² Includes Puerto Rico and the Virgin Islands.

³ Average price of all coal imports.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table 15. Coal Imports by Customs District
(Short Tons)

Customs District	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
Eastern Total	87,400	162,290	67,180	249,690	67,180	271.7
Boston, MA	-	99,723	-	99,723	-	-
Portland, ME	52,465	62,546	-	115,011	-	-
Buffalo, NY	69	-	-	69	-	-
Ogdensburg, NY	24	21	18	45	18	150.0
Philadelphia, PA	34,842	-	67,162	34,842	67,162	-48.1
Southern Total	334,138	360,730	278,514	694,868	620,052	12.1
Tampa, FL	212,266	304,443	186,347	516,709	415,444	24.4
San Juan, PR	94,314	46,815	81,349	141,129	176,533	-20.1
Laredo, TX	-	6,204	10,818	6,204	28,075	-77.9
Virgin Islands	27,558	3,268	-	30,826	-	-
Western Total	31,202	20,566	70,401	51,768	116,577	-55.6
San Diego, CA	-	-	19	-	19	-
San Francisco, CA	-	-	47,694	-	47,745	-
Great Falls, MT	13,502	12,299	22,468	25,801	61,069	-57.8
Seattle, WA	17,700	8,267	220	25,967	7,744	235.3
Northern Total	221,607	191,048	271,194	412,655	414,901	-.5
Chicago, IL	115,622	29,184	192,974	144,806	192,974	-25.0
Duluth, MN	-	-	431	-	431	-
Pembina, ND	105,985	161,864	77,789	267,849	221,496	20.9
Total	674,347	734,634	687,289	1,408,981	1,218,710	15.6

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Receipts

At a mine site, coal is loaded on railroad cars by conveyor for shipment to points throughout the U.S. Well over half the coal transported domestically is moved by rail.

Figure 4. Coal Receipts

Sources: Energy Information Administration, Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants"; Coke Plants: Form EIA-6, "Coke Plant Report - Quarterly"; Other Industrial and Residential and Commercial: Form EIA-6, "Coal Distribution Report."
 Note: Each increment represents end of quarter data.

Table 16. Coal Receipts by End-Use Sector
(Thousand Short Tons)

Year and Quarter	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
1982 January - March	147,736	12,205	16,503	2,249	178,693
April - June	153,151	11,569	15,097	1,533	181,351
July - September	149,392	7,994	14,413	1,935	173,733
October - December	151,148	7,396	16,615	2,523	177,681
Total	601,427	39,163	62,628	8,240	711,458
1983 January - March	145,312	7,394	15,011	2,208	169,925
April - June	143,202	10,197	15,141	1,597	170,137
July - September	152,053	8,903	16,265	1,917	179,139
October - December	152,160	10,812	18,756	2,726	184,455
Total	592,728	37,306	65,172	8,448	703,655
1984 January - March	168,105	13,102	18,353	2,612	202,172
April - June	169,582	14,990	20,313	1,931	206,816
July - September	184,662	12,112	20,880	2,223	219,876
October - December	161,763	5,847	16,391	2,363	186,364
Total	684,111	46,051	75,936	9,130	815,228
1985 January - March	159,346	8,569	16,209	2,074	186,198
April - June	169,560	11,069	18,091	1,589	200,310
July - September	171,182	8,927	18,837	1,673	200,619
October - December	166,655	9,738	20,937	2,443	199,773
Total	666,743	38,303	74,075	7,779	786,900
1986 January - March	168,499	10,097	18,884	2,231	199,711
April - June	166,139	10,624	18,989	1,675	197,427
July - September	175,087	6,937	17,676	1,503	201,202
October - December	177,239	8,179	19,640	2,259	207,318
Total	686,964	35,837	75,190	7,667	805,659
1987 January - March	167,444	7,317	17,487	1,809	194,057
April - June	172,691	10,386	17,680	1,254	202,011
July - September	188,743	9,466	19,108	1,613	218,930
October - December	192,421	10,575	20,931	2,238	226,165
Total	721,298	37,744	75,207	6,914	841,163
1988 January - March	174,518	10,462	18,203	2,004	205,187
April - June	173,393	10,299	17,468	1,406	202,565
July - September	190,788	9,627	18,186	1,725	220,327
October - December	189,077	10,727	18,799	1,994	220,598
Total	727,775	41,115	72,656	7,130	848,676
1989 January - March	182,295	10,984	17,794	1,837	212,910
April - June	188,144	10,293	18,169	1,143	217,748
July - September	190,115	10,469	18,761	1,264	220,609
October - December	192,663	9,274	19,939	1,924	223,800
Total	753,217	41,019	74,663	6,167	875,067
1990 January - March	197,435	10,476	19,168	1,917	228,996
April - June	192,451	9,691	18,428	1,267	221,836
Total	389,885	20,167	37,596	3,184	450,832

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants" and Form EIA-6, "Coal Distribution Report" • Residential and Commercial: Form EIA-6, "Coal Distribution Report."

Figure 5. Average Price of Coal Receipts

Sources: Energy Information Administration, Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants", Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly", Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."
 Note: Each increment represents end of quarter date.

Table 17. Average Price¹ of Coal Receipts by End-Use Sector²
(Dollars per Short Ton)

Year and Quarter	Electric Utilities	Coke Plants	Other Industrial ³
1982 January - March	\$34.68	\$65.05	\$41.20
April - June	35.31	66.36	41.83
July - September	34.87	64.48	40.66
October - December	34.74	63.18	40.37
Average Annual Price	34.91	64.97	41.01
1983 January - March	35.44	62.29	39.81
April - June	35.28	59.74	39.24
July - September	34.67	59.21	39.17
October - December	34.61	56.92	39.12
Average Annual Price	34.99	59.30	39.32
1984 January - March	34.35	56.83	39.41
April - June	35.83	56.38	39.41
July - September	35.54	55.69	39.80
October - December	34.71	58.34	38.39
Average Annual Price	35.12	56.58	39.29
1985 January - March	34.63	55.15	38.36
April - June	35.04	54.48	37.74
July - September	34.32	53.69	36.29
October - December	34.15	53.91	36.67
Average Annual Price	34.53	54.30	37.21
1986 January - March	33.87	52.05	36.80
April - June	34.43	51.01	35.76
July - September	32.79	51.34	35.17
October - December	32.19	48.65	35.60
Average Annual Price	33.30	50.83	35.84
1987 January - March	32.08	46.60	33.92
April - June	32.74	46.24	33.94
July - September	31.47	46.51	33.23
October - December	31.15	46.85	33.75
Average Annual Price	31.83	46.55	33.71
1988 January - March	31.08	47.02	33.91
April - June	31.09	48.04	32.73
July - September	30.28	48.13	33.44
October - December	30.20	47.66	33.59
Average Annual Price	30.67	47.70	33.43
1989 January - March	30.11	47.36	33.19
April - June	30.29	47.23	32.68
July - September	29.99	48.10	32.61
October - December	30.11	47.28	33.61
Average Annual Price	30.12	47.50	33.03
1990 January - March	30.61	47.61	33.33
April - June	30.83	47.38	33.73

¹ Based on the cost including insurance and freight (c.i.f. cost).

² The Residential and Commercial Sector is not available. See Technical Note 2 in Appendix E.

³ Manufacturing plants only.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

**Table 18. Coal Receipts by End-Use Sector and by Census Division and State,
April - June 1990**
(Thousand Short Tons)

Census Division and State	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
New England Total	1,532	-	62	22	1,616
Connecticut	267	-	w	w	268
Maine	-	-	w	w	47
Massachusetts	1,028	-	w	w	1,059
New Hampshire	237	-	w	w	242
Rhode Island	-	-	w	w	(*)
Vermont	-	-	w	w	1
Middle Atlantic Total	14,784	w	w	296	19,325
New Jersey	787	-	w	w	828
New York	2,735	w	413	w	3,532
Pennsylvania	11,262	2,486	981	237	14,966
East North Central Total	44,097	4,417	4,570	329	53,413
Illinois	6,654	w	927	w	8,266
Indiana	12,250	2,747	1,068	97	16,162
Michigan	8,138	w	1,071	w	9,555
Ohio	12,378	744	1,033	126	14,282
Wisconsin	4,677	w	471	w	5,148
West North Central Total	25,085	w	2,891	w	28,160
Iowa	4,208	-	580	81	4,869
Kansas	3,841	-	44	(*)	3,884
Minnesota	4,057	-	292	33	4,382
Missouri	5,568	w	324	w	5,952
Nebraska	2,026	-	w	w	2,055
North Dakota	4,990	-	w	w	6,546
South Dakota	396	-	w	w	471
South Atlantic Total	32,376	w	w	157	37,598
Delaware	492	-	w	w	536
District of Columbia	-	-	-	15	15
Florida	6,351	-	312	(*)	6,663
Georgia	7,047	-	737	4	7,788
Maryland	2,515	w	192	w	3,088
North Carolina	4,233	-	763	29	5,025
South Carolina	2,349	-	543	(*)	2,892
Virginia	1,552	w	899	w	2,733
West Virginia	7,837	w	542	w	8,859
East South Central Total	21,432	w	w	67	24,731
Alabama	5,538	798	616	28	6,979
Kentucky	9,214	w	497	w	10,054
Mississippi	1,179	-	w	w	1,259
Tennessee	5,501	w	899	w	6,438
West South Central Total	28,932	-	1,438	6	30,377
Arkansas	2,592	-	67	-	2,658
Louisiana	2,594	-	w	w	2,760
Oklahoma	3,186	-	w	w	3,333
Texas	20,561	-	1,058	6	21,625
Mountain Total	22,929	w	1,130	w	24,443
Arizona	3,664	-	158	(*)	3,822
Colorado	3,811	-	140	8	3,959
Idaho	-	-	128	12	141
Montana	1,839	-	w	w	1,886
Nevada	1,263	-	w	w	1,315
New Mexico	3,965	-	w	w	3,976
Utah	3,330	w	151	w	3,822
Wyoming	5,057	-	451	14	5,523
Pacific Total	1,283	-	781	110	2,174
Alaska	-	-	-	103	103
California	-	-	735	(*)	735
Hawaii	-	-	-	-	-
Oregon	-	-	-	-	-
Washington	1,283	-	46	7	1,336
Unknown	-	-	-	-	-
U.S. Total	192,451	9,691	18,428	1,267	221,836

(*) Rounded to zero.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants" and Form EIA-6, "Coal Distribution Report" • Residential and Commercial: Form EIA-6, "Coal Distribution Report."

**Table 19. Average Price¹ of Coal Receipts by End-Use Sector²
and by Census Division and State, April - June 1990**
(Dollars per Short Ton)

Census Division and State	Electric Utilities	Coke Plants	Other Industrial ³
New England Total	\$47.45	-	\$68.44
Connecticut	55.65	-	w
Maine	-	-	w
Massachusetts	45.08	-	w
New Hampshire	48.48	-	w
Rhode Island	-	-	w
Vermont	-	-	w
Middle Atlantic Total	38.23	w	w
New Jersey	48.53	-	w
New York	41.12	w	\$44.50
Pennsylvania	36.80	\$45.26	35.92
East North Central Total	33.42	48.56	36.46
Illinois	37.91	w	32.00
Indiana	29.23	\$49.29	34.44
Michigan	35.46	w	42.08
Ohio	36.61	\$45.79	35.16
Wisconsin	25.99	w	42.67
West North Central Total	20.36	w	16.85
Iowa	21.28	-	31.37
Kansas	22.61	-	28.25
Minnesota	23.81	-	42.11
Missouri	28.50	w	27.69
Nebraska	13.13	-	w
North Dakota	9.42	-	w
South Dakota	13.69	-	w
South Atlantic Total	41.83	w	w
Delaware	46.93	-	w
District of Columbia	-	-	-
Florida	45.47	-	\$47.92
Georgia	41.63	-	44.63
Maryland	41.83	w	34.38
North Carolina	45.59	-	44.10
South Carolina	43.86	-	43.69
Virginia	39.21	w	40.95
West Virginia	36.64	w	32.42
East South Central Total	34.06	w	w
Alabama	44.70	\$49.46	\$41.41
Kentucky	27.75	w	47.52
Mississippi	40.66	-	w
Tennessee	32.48	w	\$34.83
West South Central Total	23.29	-	22.34
Arkansas	28.36	-	44.93
Louisiana	27.65	-	w
Oklahoma	24.97	-	w
Texas	21.84	-	\$18.30
Mountain Total	22.62	w	28.36
Arizona	31.35	-	40.07
Colorado	20.77	-	27.24
Idaho	-	-	29.00
Montana	12.38	-	w
Nevada	37.88	-	w
New Mexico	23.52	-	w
Utah	25.52	w	\$28.41
Wyoming	14.99	-	24.97
Pacific Total	26.39	-	46.40
Alaska	-	-	-
California	-	-	45.15
Hawaii	-	-	w
Oregon	-	-	w
Washington	26.39	-	\$60.68
Unknown	-	-	-
U.S. Total	30.83	\$47.38	33.73

¹ Based on the cost including insurance and freight (c.i.f. cost).

² The Residential and Commercial Sector is not available. See Technical Note 2 in Appendix E.

³ Manufacturing plants only.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Table 20. Coal Receipts at Manufacturing Plants by Standard Industrial Classification (SIC) Code
(Thousand Short Tons)

SIC Code	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
20 Food and kindred products	1,370	1,644	1,505	3,014	2,941	2.5
21 Tobacco products	177	196	176	373	355	5.2
22 Textile mill products	329	390	332	719	730	-1.6
23 Apparel, other textile products	12	12	8	25	20	23.4
24 Lumber and wood products	28	18	27	46	44	6.0
25 Furniture and fixtures	28	31	25	59	56	4.4
26 Paper and allied products	2,970	3,225	2,983	6,194	6,001	3.2
27 Printing and publishing	w	w	w	w	w	w
28 Chemicals, allied products	3,553	3,974	3,645	7,526	7,455	1.0
29 Petroleum and coal products ¹	1,756	1,855	1,844	3,611	3,668	-1.5
30 Rubber, misc. plastic products	82	87	78	169	167	1.4
31 Leather, leather products	6	10	7	16	17	-7.7
32 Stone, clay, glass products	3,439	2,919	3,464	6,358	6,300	.9
33 Primary metal industries ²	1,677	2,401	1,758	4,079	3,639	12.1
34 Fabricated metal products	65	147	72	212	163	30.2
35 Machinery, except electric	115	100	126	215	267	-19.7
36 Electric, electronic equipment	66	118	64	184	166	10.7
37 Transportation equipment	405	526	377	930	919	1.3
38 Instruments, related products	w	w	w	w	w	w
39 Misc. manufacturing industries	w	w	w	w	w	w
U.S. Total	16,275	17,917	16,762	34,192	33,388	2.4

¹ Includes coal gasification projects.

² Excludes coke plants.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Table 21. Average Price of Coal Receipts at Manufacturing Plants by Standard Industrial Classification (SIC) Code
(Dollars per Short Ton)

SIC Code	April - June 1990	January - March 1990	April - June 1989	Percent Difference April - June: 1990 versus 1989
20 Food and kindred products	\$32.35	\$31.32	\$31.48	2.8
21 Tobacco products	46.62	46.46	44.84	4.0
22 Textile mill products	45.95	45.98	44.44	3.4
23 Apparel, other textile products	w	w	w	w
24 Lumber and wood products	\$45.10	\$40.79	\$42.82	5.3
25 Furniture and fixtures	49.58	48.04	44.83	10.6
26 Paper and allied products	41.51	41.06	39.41	5.3
27 Printing and publishing	w	w	w	w
28 Chemicals, allied products	\$35.74	\$35.52	\$34.79	2.7
29 Petroleum and coal products ¹	10.96	11.37	10.91	.5
30 Rubber, misc. plastic products	38.09	38.17	36.76	3.6
31 Leather, leather products	43.76	46.20	40.09	9.2
32 Stone, clay, glass products	35.58	37.29	34.72	2.5
33 Primary metal industries ²	27.66	24.15	27.55	.4
34 Fabricated metal products	45.45	48.19	47.80	-4.9
35 Machinery, except electric	34.94	34.25	33.22	5.2
36 Electric, electronic equipment	42.29	41.99	42.69	-.9
37 Transportation equipment	44.36	44.44	43.52	1.9
38 Instruments, related products	w	w	w	w
39 Misc. manufacturing industries	w	w	w	w
U.S. Total	\$33.73	\$33.33	\$32.68	3.2

¹ Includes coal gasification projects.

² Excludes coke plants.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Table 22. Coal Receipts by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	1,616	1,956	1,949	3,572	3,415	4.6
Connecticut	268	283	149	551	368	49.5
Maine	47	57	71	104	128	-19.3
Massachusetts	1,059	1,204	1,498	2,262	2,426	-6.7
New Hampshire	242	410	229	651	463	40.7
Rhode Island	(*)	1	(*)	1	26	-95.1
Vermont	1	2	1	3	3	-26.3
Middle Atlantic Total	19,325	20,533	18,312	39,858	37,841	5.3
New Jersey	828	979	971	1,807	1,904	-5.1
New York	3,532	3,610	3,652	7,142	6,968	2.5
Pennsylvania	14,966	15,944	13,689	30,910	28,968	6.7
East North Central Total	53,413	50,508	50,166	103,921	96,131	8.1
Illinois	8,266	8,374	7,792	16,640	15,559	5.9
Indiana	16,162	16,697	13,077	32,859	26,890	22.2
Michigan	9,555	4,764	9,053	14,319	13,598	5.3
Ohio	14,282	16,268	14,960	30,550	30,345	.7
Wisconsin	5,148	4,405	5,284	9,554	9,739	-1.9
West North Central Total	28,160	29,608	28,385	57,768	55,763	3.6
Iowa	4,869	3,711	4,815	8,580	7,830	9.6
Kansas	3,884	4,139	4,245	8,024	7,795	2.9
Minnesota	4,382	4,748	4,199	9,130	7,868	16.0
Missouri	5,952	6,874	6,192	12,826	13,366	-4.0
Nebraska	2,055	2,241	1,846	4,297	3,703	16.0
North Dakota	6,546	7,305	6,708	13,851	14,120	-1.9
South Dakota	471	590	379	1,061	1,080	-1.8
South Atlantic Total	37,598	40,567	37,259	78,165	74,860	4.4
Delaware	536	680	482	1,215	1,099	10.6
District of Columbia	15	31	8	46	37	23.2
Florida	6,663	6,474	6,565	13,137	12,589	4.4
Georgia	7,788	7,054	6,772	14,842	13,679	8.5
Maryland	3,088	3,160	2,811	6,248	5,560	12.4
North Carolina	5,025	6,527	5,298	11,552	10,299	12.2
South Carolina	2,892	2,805	2,897	5,696	5,931	-4.0
Virginia	2,733	3,295	3,810	6,028	7,512	-19.7
West Virginia	8,859	10,542	8,616	19,401	18,155	6.9
East South Central Total	24,731	24,698	22,225	49,428	44,775	10.4
Alabama	6,979	6,999	6,810	13,978	13,654	2.4
Kentucky	10,054	10,408	8,344	20,462	17,328	18.1
Mississippi	1,259	943	991	2,202	1,891	16.5
Tennessee	6,438	6,348	6,079	12,786	11,902	7.4
West South Central Total	30,377	30,940	32,111	61,316	62,726	-2.2
Arkansas	2,658	2,459	2,653	5,117	5,578	-8.3
Louisiana	2,760	2,644	3,274	5,404	6,021	-10.2
Oklahoma	3,333	4,236	3,784	7,568	7,461	1.4
Texas	21,625	21,601	22,400	43,226	43,667	-1.0
Mountain Total	24,443	27,784	25,123	52,227	50,643	3.1
Arizona	3,822	4,280	4,225	8,102	7,673	5.6
Colorado	3,959	4,091	4,041	8,050	8,235	-2.3
Idaho	141	64	112	205	206	-3
Montana	1,886	2,905	1,975	4,791	4,688	2.2
Nevada	1,315	2,276	1,585	3,591	3,643	-1.4
New Mexico	3,976	3,512	4,096	7,487	7,092	5.6
Utah	3,822	4,285	3,778	8,107	7,466	3.6
Wyoming	5,523	6,371	5,311	11,893	11,640	2.2
Pacific Total	2,174	2,402	2,086	4,576	4,195	9.1
Alaska	103	146	-	249	-	-
California	735	689	559	1,424	1,103	29.1
Hawaii	-	34	-	34	-	-
Oregon	-	1	3	1	9	-92.2
Washington	1,336	1,532	1,524	2,868	3,084	-7.0
Unknown	-	-	133	-	308	-
U.S. Total	221,836	228,996	217,748	450,832	430,659	4.7

(*) Rounded to zero.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants"; Form EIA-3, "Quarterly Coal Consumption-Manufacturing Plants"; Form EIA-5, "Coke Plant Report - Quarterly"; and Form EIA-6, "Coal Distribution Report."

Consumption

Coal-consuming electric utilities produce most of the electric power generated in the United States and account for well over three quarters of total domestic coal consumption.

Figure 6. Coal Consumption

Sources: Energy Information Administration (EIA), Electric Utilities: Form EIA-759, "Monthly Power Plant Report"; Coke Plants: Form EIA-6, "Coke Plant Report - Quarterly"; Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report"; Residential and Commercial: Form EIA-6, "Coal Distribution Report";
 Note: Each increment represents end of quarter data.

Table 23. Coal Consumption by End-Use Sector
(Thousand Short Tons)

Year and Quarter	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
1982 January - March	153,587	12,957	17,881	2,249	186,675
April - June	136,536	10,811	15,187	1,533	164,067
July - September	158,500	9,104	14,552	1,935	184,091
October - December	145,043	8,037	16,476	2,523	172,078
Total	593,666	40,908	64,097	8,240	706,911
1983 January - March	146,233	8,122	16,581	2,208	173,144
April - June	139,617	9,091	15,075	1,597	165,381
July - September	178,369	9,717	15,738	1,917	205,741
October - December	160,992	10,103	18,583	2,726	192,406
Total	625,211	37,033	65,980	8,448	736,672
1984 January - March	167,016	11,226	19,088	2,612	199,942
April - June	154,043	11,844	17,999	1,931	185,817
July - September	177,799	10,816	17,275	2,223	208,113
October - December	165,541	10,136	19,383	2,363	197,424
Total	664,399	44,022	73,745	9,130	791,296
1985 January - March	173,919	10,256	19,235	2,074	205,484
April - June	163,132	10,913	17,894	1,589	193,529
July - September	184,108	10,218	17,938	1,673	213,937
October - December	172,682	9,670	20,305	2,443	205,099
Total	693,841	41,056	75,372	7,779	818,049
1986 January - March	172,982	10,387	20,715	2,231	206,314
April - June	158,426	10,206	18,366	1,675	188,673
July - September	186,266	7,704	17,199	1,503	212,671
October - December	167,382	7,709	19,303	2,259	196,654
Total	685,056	36,006	75,583	7,667	804,312
1987 January - March	170,777	7,831	19,106	1,809	199,523
April - June	171,418	9,344	17,610	1,254	199,627
July - September	200,070	9,707	18,006	1,613	229,397
October - December	175,629	10,075	20,453	2,238	208,394
Total	717,894	36,957	75,175	6,914	836,941
1988 January - March	188,009	10,357	20,416	2,004	220,787
April - June	176,007	10,547	17,786	1,406	205,746
July - September	208,542	10,484	17,923	1,725	238,674
October - December	185,814	10,522	20,127	1,994	218,457
Total	758,372	41,910	76,252	7,130	883,664
1989 January - March	191,138	10,585	19,885	1,837	223,445
April - June	177,911	10,506	18,211	1,143	207,770
July - September	203,066	10,183	17,631	1,264	232,143
October - December	193,705	10,095	20,408	1,924	226,132
Total	765,820	41,369	76,134	6,167	889,491
1990 January - March	184,679	9,747	19,586	1,917	215,929
April - June	181,869	9,654	18,065	1,267	210,856
Total	366,548	19,401	37,651	3,184	426,785

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration (EIA) • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report" • Residential and Commercial: Form EIA-6, "Coal Distribution Report"

Table 24. Coal Consumption by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	1,205	1,857	1,463	3,062	3,362	-8.9
Connecticut	249	258	135	507	351	44.6
Maine	54	63	56	118	126	-6.3
Massachusetts	803	1,165	1,037	1,968	2,303	-14.5
New Hampshire	98	368	235	466	554	-15.9
Rhode Island	(*)	1	(*)	1	26	-95.1
Vermont	1	2	1	3	3	-25.5
Middle Atlantic Total	17,415	19,081	17,792	36,497	37,193	-1.9
New Jersey	573	887	796	1,460	1,809	-19.3
New York	3,271	3,492	3,423	6,763	7,021	-3.7
Pennsylvania	13,571	14,702	13,574	28,273	28,362	-.3
East North Central Total	50,742	52,911	47,744	103,653	101,047	2.6
Illinois	8,366	8,557	6,243	16,923	14,780	14.5
Indiana	15,347	16,016	13,340	31,363	28,272	10.9
Michigan	8,655	8,713	8,267	17,368	16,956	2.4
Ohio	13,654	14,670	15,421	28,324	31,338	-9.6
Wisconsin	4,719	4,955	4,474	9,674	9,702	-.3
West North Central Total	26,319	29,372	25,545	55,691	54,279	2.6
Iowa	3,986	4,566	3,863	8,552	8,486	.8
Kansas	3,645	3,849	3,547	7,494	7,302	2.6
Minnesota	4,014	4,423	3,838	8,437	7,910	6.7
Missouri	5,933	5,724	5,980	11,657	12,618	-7.6
Nebraska	2,018	2,322	1,808	4,340	3,529	23.0
North Dakota	6,221	7,814	6,082	14,036	13,236	6.0
South Dakota	502	673	426	1,175	1,197	-1.9
South Atlantic Total	35,990	33,234	37,752	69,224	76,182	-9.1
Delaware	504	531	488	1,035	1,090	-5.0
District of Columbia	15	31	8	46	37	23.2
Florida	6,246	5,745	6,020	11,991	12,002	-.1
Georgia	7,434	6,101	7,380	13,535	13,775	-1.7
Maryland	2,821	2,663	2,994	5,484	5,738	-4.4
North Carolina	4,874	4,538	5,195	9,412	11,015	-14.6
South Carolina	3,073	2,351	2,953	5,424	6,078	-10.8
Virginia	2,811	2,897	3,700	5,708	7,558	-24.5
West Virginia	8,213	8,377	9,014	16,590	18,889	-12.2
East South Central Total	22,443	20,069	20,757	42,512	41,921	1.4
Alabama	7,161	5,314	6,683	12,474	12,933	-3.5
Kentucky	8,278	8,406	7,563	16,685	15,650	6.6
Mississippi	1,136	713	984	1,849	1,665	11.0
Tennessee	5,868	5,636	5,527	11,505	11,673	-1.4
West South Central Total	30,731	30,018	31,324	60,749	62,679	-3.1
Arkansas	2,764	2,246	2,320	5,010	5,054	-.9
Louisiana	2,603	2,927	3,401	5,531	6,443	-14.2
Oklahoma	3,437	3,802	3,335	7,238	7,101	1.9
Texas	21,927	21,043	22,269	42,970	44,080	-2.5
Mountain Total	24,387	27,099	23,954	51,486	50,315	2.3
Arizona	4,214	3,806	4,071	8,020	7,600	2.8
Colorado	3,984	4,211	3,716	8,195	7,807	5.0
Idaho	84	144	57	228	241	-5.4
Montana	1,850	2,846	1,954	4,696	4,718	-.5
Nevada	1,198	2,053	1,719	3,251	3,887	-16.4
New Mexico	3,872	3,633	4,004	7,505	7,211	4.1
Utah	3,815	3,889	3,560	7,703	7,069	9.0
Wyoming	5,370	6,519	4,872	11,888	11,583	2.6
Pacific Total	1,623	2,288	1,306	3,911	3,931	-.5
Alaska	166	225	64	390	142	175.0
California	716	677	612	1,393	1,124	23.9
Hawaii	5	6	7	12	16	-25.4
Oregon	(*)	5	6	5	322	-98.5
Washington	736	1,376	617	2,112	2,328	-9.3
Unknown	-	-	133	-	308	-
U.S. Total	210,856	215,929	207,770	426,785	431,216	-1.0

(*) Rounded to zero

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized

Sources: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report"; Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants"; Form EIA-5, "Coke Plant Report - Quarterly"; and Form EIA-6, "Coal Distribution Report"

**Table 25. Coal Consumption by End-Use Sector and by Census Division and State,
April - June 1990**
(Thousand Short Tons)

Census Division and State	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
New England Total	1,113	-	69	22	1,205
Connecticut	248	-	w	w	249
Maine	-	-	w	w	54
Massachusetts	773	-	w	w	803
New Hampshire	93	-	w	w	98
Rhode Island	-	-	w	w	(*)
Vermont	-	-	w	w	1
Middle Atlantic Total	12,734	w	w	296	17,415
New Jersey	518	-	w	w	573
New York	2,377	w	460	w	3,271
Pennsylvania	9,840	2,554	941	237	13,571
East North Central Total	41,764	4,235	4,414	329	50,742
Illinois	6,837	w	889	w	8,366
Indiana	11,593	2,643	1,015	97	15,347
Michigan	7,274	w	1,037	w	8,655
Ohio	11,778	714	1,036	126	13,654
Wisconsin	4,282	w	437	w	4,719
West North Central Total	23,379	w	2,756	w	26,319
Iowa	3,437	-	468	81	3,986
Kansas	3,603	-	41	(*)	3,645
Minnesota	3,679	-	302	33	4,014
Missouri	5,563	w	310	w	5,933
Nebraska	1,989	-	w	w	2,018
North Dakota	4,663	-	w	w	6,221
South Dakota	445	-	w	w	502
South Atlantic Total	30,779	w	w	157	35,990
Delaware	462	-	w	w	504
District of Columbia	-	-	-	15	15
Florida	5,963	-	283	(*)	6,246
Georgia	6,721	-	709	4	7,434
Maryland	2,284	w	188	w	2,821
North Carolina	4,097	-	747	29	4,874
South Carolina	2,513	-	560	(*)	3,073
Virginia	1,603	w	925	w	2,811
West Virginia	7,136	w	558	w	8,213
East South Central Total	19,133	w	w	67	22,443
Alabama	5,684	824	625	28	7,161
Kentucky	7,467	w	502	w	8,278
Mississippi	1,071	-	w	w	1,136
Tennessee	4,911	w	920	w	5,868
West South Central Total	29,396	-	1,329	6	30,731
Arkansas	2,702	-	62	-	2,764
Louisiana	2,418	-	w	w	2,603
Oklahoma	3,278	-	w	w	3,437
Texas	20,998	-	923	6	21,927
Mountain Total	22,829	w	1,149	w	24,387
Arizona	4,048	-	166	(*)	4,214
Colorado	3,831	-	144	8	3,984
Idaho	-	-	72	12	84
Montana	1,816	-	w	w	1,850
Nevada	1,145	-	w	w	1,198
New Mexico	3,862	-	w	w	3,872
Utah	3,226	w	222	w	3,815
Wyoming	4,900	-	455	14	5,370
Pacific Total	743	-	770	110	1,623
Alaska	63	-	-	103	166
California	-	-	716	(*)	716
Hawaii	-	-	w	w	6
Oregon	-	-	w	w	(*)
Washington	680	-	49	7	736
Unknown	-	-	-	-	-
U.S. Total	181,869	9,654	18,065	1,267	210,856

(*) Rounded to zero.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report" • Residential and Commercial: Form EIA-6, "Coal Distribution Report."

Table 26. Coal Consumption at Electric Utility Plants by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	1,113	1,744	1,358	2,857	3,123	-8.5
Connecticut	248	255	134	503	346	45.3
Maine	-	-	-	-	-	-
Massachusetts	773	1,136	992	1,908	2,227	-14.3
New Hampshire	93	353	233	446	550	-18.9
Rhode Island	-	-	-	-	-	-
Vermont	-	-	-	-	-	-
Middle Atlantic Total	12,734	14,342	13,076	27,077	27,439	-1.3
New Jersey	518	803	742	1,321	1,661	-20.5
New York	2,377	2,567	2,429	4,944	4,956	-.2
Pennsylvania	9,840	10,972	9,905	20,812	20,821	(*)
East North Central Total	41,764	42,714	37,775	84,478	80,381	5.1
Illinois	6,837	6,875	4,596	13,712	11,473	19.5
Indiana	11,593	11,972	9,381	23,564	20,043	17.6
Michigan	7,274	7,418	7,054	14,693	14,427	1.8
Ohio	11,778	12,023	12,808	23,802	25,861	-8.0
Wisconsin	4,282	4,426	3,936	8,707	8,577	1.5
West North Central Total	23,379	26,043	22,648	49,422	47,946	3.1
Iowa	3,437	3,902	3,281	7,339	7,268	1.0
Kansas	3,603	3,831	3,511	7,434	7,219	3.0
Minnesota	3,679	4,101	3,700	7,780	7,440	4.6
Missouri	5,563	5,310	5,522	10,873	11,684	-6.9
Nebraska	1,989	2,281	1,776	4,270	3,405	25.4
North Dakota	4,663	5,990	4,491	10,653	9,840	8.3
South Dakota	445	628	368	1,073	1,090	-1.6
South Atlantic Total	30,779	27,969	32,657	58,748	65,669	-10.5
Delaware	462	474	443	936	994	-5.8
District of Columbia	-	-	-	-	-	-
Florida	5,963	5,448	5,761	11,411	11,457	-.4
Georgia	6,721	5,559	6,867	12,280	12,731	-3.5
Maryland	2,284	2,125	2,352	4,409	4,496	-1.9
North Carolina	4,097	3,646	4,567	7,743	9,625	-19.6
South Carolina	2,513	1,767	2,368	4,280	4,789	-10.6
Virginia	1,603	1,746	2,469	3,349	5,105	-34.4
West Virginia	7,136	7,204	7,831	14,340	16,472	-12.9
East South Central Total	19,133	16,561	17,384	35,694	35,044	1.9
Alabama	5,684	3,901	5,263	9,585	10,023	-4.4
Kentucky	7,467	7,462	6,662	14,929	13,870	7.6
Mississippi	1,071	631	924	1,701	1,539	10.6
Tennessee	4,911	4,567	4,535	9,478	9,612	-1.4
West South Central Total	29,396	28,511	29,826	57,907	59,809	-3.2
Arkansas	2,702	2,174	2,257	4,876	4,911	-.7
Louisiana	2,418	2,715	3,237	5,133	6,093	-15.7
Oklahoma	3,278	3,685	3,155	6,963	6,784	2.6
Texas	20,998	19,937	21,178	40,934	42,021	-2.6
Mountain Total	22,829	25,433	22,598	48,262	47,062	2.5
Arizona	4,048	3,643	3,910	7,690	7,461	3.1
Colorado	3,831	4,007	3,562	7,838	7,470	4.9
Idaho	-	-	-	-	-	-
Montana	1,816	2,771	1,921	4,588	4,643	-1.2
Nevada	1,145	2,023	1,694	3,167	3,774	-16.1
New Mexico	3,862	3,619	3,989	7,482	7,190	4.1
Utah	3,226	3,365	3,093	6,592	6,050	9.0
Wyoming	4,900	6,005	4,429	10,905	10,474	4.1
Pacific Total	743	1,361	588	2,104	2,577	-18.4
Alaska	63	79	64	141	142	-.4
California	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-
Oregon	-	-	-	-	306	-
Washington	680	1,283	523	1,963	2,130	-7.8
Unknown	-	-	-	-	-	-
U.S. Total	181,869	184,679	177,911	366,548	369,050	-.7

(*) Rounded to zero.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

Table 27. Coal Carbonized at Coke Plants by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	-	-	-	-	-	-
Connecticut	-	-	-	-	-	-
Maine	-	-	-	-	-	-
Massachusetts	-	-	-	-	-	-
New Hampshire	-	-	-	-	-	-
Rhode Island	-	-	-	-	-	-
Vermont	-	-	-	-	-	-
Middle Atlantic Total	W	W	W	W	W	W
New Jersey	-	-	-	-	-	-
New York	W	W	W	W	W	W
Pennsylvania	2,554	2,216	2,465	4,769	4,904	-2.7
East North Central Total	4,235	4,731	4,958	8,966	10,044	-10.7
Illinois	W	W	W	W	W	W
Indiana	2,643	2,645	2,715	5,288	5,545	-4.6
Michigan	W	W	W	W	W	W
Ohio	714	1,231	1,358	1,944	2,737	-29.0
Wisconsin	-	-	-	-	-	-
West North Central Total	W	W	W	W	W	W
Iowa	-	-	-	-	-	-
Kansas	-	-	-	-	-	-
Minnesota	-	-	-	-	-	-
Missouri	W	W	W	W	W	W
Nebraska	-	-	-	-	-	-
North Dakota	-	-	-	-	-	-
South Dakota	-	-	-	-	-	-
South Atlantic Total	W	W	W	W	W	W
Delaware	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-
Florida	-	-	-	-	-	-
Georgia	-	-	-	-	-	-
Maryland	W	W	W	W	W	W
North Carolina	-	-	-	-	-	-
South Carolina	-	-	-	-	-	-
Virginia	W	W	W	W	W	W
West Virginia	W	W	W	W	W	W
East South Central Total	W	W	W	W	W	W
Alabama	824	789	839	1,612	1,669	-3.4
Kentucky	W	W	W	W	W	W
Mississippi	-	-	-	-	-	-
Tennessee	W	W	W	W	W	W
West South Central Total	-	-	-	-	-	-
Arkansas	-	-	-	-	-	-
Louisiana	-	-	-	-	-	-
Oklahoma	-	-	-	-	-	-
Texas	-	-	-	-	-	-
Mountain Total	W	W	W	W	W	W
Arizona	-	-	-	-	-	-
Colorado	-	-	-	-	-	-
Idaho	-	-	-	-	-	-
Montana	-	-	-	-	-	-
Nevada	-	-	-	-	-	-
New Mexico	-	-	-	-	-	-
Utah	W	W	W	W	W	W
Wyoming	-	-	-	-	-	-
Pacific Total	-	-	-	-	-	-
Alaska	-	-	-	-	-	-
California	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-
Oregon	-	-	-	-	-	-
Washington	-	-	-	-	-	-
Unknown	-	-	-	-	-	-
U.S. Total	9,654	9,747	10,506	19,401	21,091	-8.0

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table 28. Coal Consumption at Other Industrial Plants by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	69	98	88	167	205	-18.3
Connecticut	w	w	w	w	w	w
Maine	w	w	w	w	w	w
Massachusetts	w	w	w	w	w	w
New Hampshire	w	w	w	w	w	w
Rhode Island	w	w	w	w	w	w
Vermont	w	w	w	w	w	w
Middle Atlantic Total	w	w	w	w	w	w
New Jersey	w	w	w	w	w	w
New York	460	492	520	952	1,076	-11.5
Pennsylvania	941	972	931	1,913	1,902	.6
East North Central Total	4,414	5,008	4,718	9,422	9,896	-4.8
Illinois	889	1,031	938	1,920	1,882	2.0
Indiana	1,015	1,210	1,164	2,225	2,432	-8.5
Michigan	1,037	974	936	2,011	1,997	.7
Ohio	1,036	1,264	1,144	2,300	2,462	-6.6
Wisconsin	437	529	536	966	1,123	-14.0
West North Central Total	2,756	3,105	2,727	5,861	5,914	-9
Iowa	468	623	554	1,092	1,131	-3.5
Kansas	41	19	36	60	80	-24.3
Minnesota	302	271	77	573	352	62.7
Missouri	310	343	396	653	815	-19.9
Nebraska	w	w	w	w	w	w
North Dakota	w	w	w	w	w	w
South Dakota	w	w	w	w	w	w
South Atlantic Total	w	w	w	w	w	w
Delaware	w	w	w	w	w	w
District of Columbia	-	-	-	-	-	-
Florida	283	297	259	580	545	6.5
Georgia	709	540	508	1,249	1,038	20.4
Maryland	188	192	177	380	342	11.1
North Carolina	747	873	607	1,620	1,313	23.3
South Carolina	560	584	581	1,144	1,275	-10.3
Virginia	925	898	945	1,823	1,898	-4.0
West Virginia	558	640	673	1,197	1,381	-13.3
East South Central Total	w	w	w	w	w	w
Alabama	625	614	568	1,239	1,203	3.0
Kentucky	502	619	536	1,121	1,034	8.5
Mississippi	w	w	w	w	w	w
Tennessee	920	988	911	1,907	1,884	1.2
West South Central Total	1,329	1,504	w	2,833	w	w
Arkansas	62	72	63	133	143	-6.6
Louisiana	w	w	w	w	w	w
Oklahoma	w	w	w	w	w	w
Texas	923	1,104	1,088	2,027	2,053	-1.3
Mountain Total	1,149	1,187	993	2,336	2,404	-2.8
Arizona	166	163	162	330	339	-2.8
Colorado	144	187	146	331	307	7.9
Idaho	72	123	46	195	202	-3.5
Montana	w	w	w	w	w	w
Nevada	w	w	w	w	w	w
New Mexico	w	w	w	w	w	w
Utah	222	152	150	373	327	14.2
Wyoming	455	471	429	925	1,043	-11.3
Pacific Total	770	765	691	1,535	1,283	19.6
Alaska	-	w	-	w	-	-
California	716	677	612	1,392	1,114	25.0
Hawaii	w	w	w	w	w	w
Oregon	w	w	w	w	w	w
Washington	49	78	68	127	143	-11.5
Unknown	-	-	128	-	281	-
U.S. Total	18,065	19,586	18,211	37,651	38,096	-1.2

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants"; and Form EIA-6, "Coal Distribution Report."

Table 29. Coal Consumption by Residential and Commercial Sector by Census Division and State
(Thousand Short Tons)

Census Division and State	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
New England Total	22	15	17	38	34	10.4
Connecticut	w	w	w	w	w	w
Maine	w	w	w	w	w	w
Massachusetts	w	w	w	w	w	w
New Hampshire	w	w	w	w	w	w
Rhode Island	w	w	w	w	w	w
Vermont	w	w	w	w	w	w
Middle Atlantic Total	296	612	327	908	868	4.5
New Jersey	w	w	w	w	w	w
New York	w	w	w	w	w	w
Pennsylvania	237	542	273	779	735	6.0
East North Central Total	329	459	294	738	726	8.4
Illinois	w	w	w	w	w	w
Indiana	97	189	80	286	253	13.3
Michigan	w	w	w	w	w	w
Ohio	126	152	111	278	277	.4
Wisconsin	w	w	w	w	w	w
West North Central Total	w	w	w	w	w	w
Iowa	81	41	28	121	86	40.4
Kansas	(*)	(*)	(*)	(*)	4	-96.8
Minnesota	33	50	61	84	118	-29.1
Missouri	w	w	w	w	w	w
Nebraska	w	w	w	w	w	w
North Dakota	w	w	w	w	w	w
South Dakota	w	w	w	w	w	w
South Atlantic Total	157	158	111	315	285	10.4
Delaware	w	w	w	w	w	w
District of Columbia	15	31	8	46	37	23.2
Florida	(*)	(*)	-	(*)	(*)	-94.8
Georgia	4	2	6	6	6	-2.5
Maryland	w	w	w	w	w	w
North Carolina	29	20	21	49	76	-35.1
South Carolina	(*)	(*)	4	(*)	14	-98.0
Virginia	w	w	w	w	w	w
West Virginia	w	w	w	w	w	w
East South Central Total	67	108	114	175	277	-36.9
Alabama	28	10	14	38	38	-1.2
Kentucky	w	w	w	w	w	w
Mississippi	w	w	w	w	w	w
Tennessee	w	w	w	w	w	w
West South Central Total	6	3	3	9	7	21.6
Arkansas	-	-	-	-	(*)	-
Louisiana	w	w	w	w	w	w
Oklahoma	w	w	-	w	w	w
Texas	6	3	3	9	7	30.1
Mountain Total	w	w	w	w	w	w
Arizona	(*)	(*)	-	(*)	-	-
Colorado	8	17	7	25	30	-16.1
Idaho	12	20	11	33	39	-15.2
Montana	w	w	w	w	w	w
Nevada	w	w	w	w	w	w
New Mexico	w	w	w	w	w	w
Utah	w	w	w	w	w	w
Wyoming	14	43	14	58	66	-12.8
Pacific Total	110	162	28	272	70	286.0
Alaska	103	146	-	249	-	-
California	(*)	(*)	-	(*)	11	-97.6
Hawaii	w	w	w	w	w	w
Oregon	w	w	w	w	w	w
Washington	7	15	25	22	55	-59.6
Unknown	-	-	5	-	27	-
U.S. Total	1,267	1,917	1,143	3,184	2,980	6.8

(*) Rounded to zero.

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-6, "Coal Distribution Report."

Table 30. Coal Consumption at Manufacturing Plants by Standard Industrial Classification (SIC) Code
(Thousand Short Tons)

SIC Code	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
20 Food and kindred products	1,204	1,962	1,390	3,166	3,214	-1.5
21 Tobacco products	170	189	169	359	359	-.1
22 Textile mill products	317	387	345	704	761	-7.5
23 Apparel, other textile products	13	14	8	27	21	31.5
24 Lumber and wood products	30	32	30	62	64	-3.4
25 Furniture and fixtures	20	41	19	61	51	18.9
26 Paper and allied products	2,935	3,400	3,061	6,335	6,256	1.3
27 Printing and publishing	w	w	w	w	w	w
28 Chemicals, allied products	3,561	3,930	3,658	7,492	7,536	-.6
29 Petroleum and coal products ¹	1,767	1,893	1,798	3,660	3,631	.8
30 Rubber, misc. plastic products	78	89	79	167	166	.7
31 Leather, leather products	6	10	6	16	16	-3.7
32 Stone, clay, glass products	3,263	3,068	3,403	6,331	6,564	-3.5
33 Primary metal industries ²	1,530	1,989	1,840	3,519	3,891	-9.6
34 Fabricated metal products	73	135	77	207	221	-6.5
35 Machinery, except electric	106	186	109	291	314	-7.3
36 Electric, electronic equipment	63	114	64	177	175	1.5
37 Transportation equipment	329	579	374	908	1,016	-10.6
38 Instruments, related products	w	w	w	w	w	w
39 Misc. manufacturing industries	w	w	w	w	w	w
U.S. Total	15,688	18,251	16,708	33,939	34,737	-2.3

¹ Includes coal gasification projects.

² Excludes coke plants.

^w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Stocks

At individual plant sites, coal deliveries are stockpiled in varying amounts according to company policy to insure an adequate operational supply. Company employees draw samples from the piles to test and verify coal quality.

Figure 7. Coal Stocks

Sources: Energy Information Administration (EIA), Electric Utilities: Form EIA-759, "Monthly Power Plant Report", Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly", Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants", Producer and Distributor: Form EIA-6, "Coal Distribution Report".
 Note: Each increment represents end of quarter data.

Table 31. Coal Stocks
(Thousand Short Tons)

Last Day of Quarter	Coal Consumers ¹				Coal Producers and Distributors	Total
	Electric Utilities	Coke Plants	Other Industrial ²	Total		
1982 March 31	164,518	5,612	9,354	179,484	32,995	212,479
June 30	182,513	6,532	9,331	198,377	36,876	235,253
September 30	175,225	5,434	9,308	189,967	39,678	229,645
December 31	181,132	4,642	9,479	195,254	36,784	232,038
1983 March 31	180,671	3,728	7,916	192,315	39,867	232,182
June 30	184,236	4,812	7,985	197,033	37,761	234,794
September 30	161,384	3,842	8,518	173,743	35,249	208,993
December 31	155,598	4,346	8,710	168,654	33,931	202,584
1984 March 31	159,775	6,149	8,359	174,283	34,265	208,548
June 30	174,155	9,217	10,693	194,065	30,841	224,905
September 30	183,151	10,541	14,327	208,019	29,701	237,720
December 31	179,727	6,166	11,317	197,211	34,090	231,300
1985 March 31	166,355	4,415	8,684	179,454	35,371	214,825
June 30	174,545	4,587	8,881	188,013	35,197	223,210
September 30	163,065	3,338	9,791	176,195	32,632	208,827
December 31	156,376	3,420	10,438	170,234	33,133	203,367
1986 March 31	154,415	3,067	8,916	166,398	38,024	204,422
June 30	162,909	3,537	9,572	176,018	38,148	214,166
September 30	151,945	2,866	10,074	164,885	33,804	198,689
December 31	161,806	2,992	10,429	175,226	32,093	207,319
1987 March 31	161,648	2,675	8,850	173,173	36,560	209,733
June 30	163,361	3,735	8,941	176,037	33,939	209,976
September 30	151,961	3,340	10,297	165,598	28,775	194,373
December 31	170,797	3,884	10,777	185,459	28,321	213,780
1988 March 31	162,603	4,057	8,619	175,279	36,764	212,044
June 30	161,215	3,763	8,331	173,308	36,079	209,386
September 30	142,830	2,877	8,624	154,331	31,360	185,691
December 31	146,507	3,137	8,768	158,413	30,418	188,831
1989 March 31	138,949	3,518	6,683	149,150	35,508	184,658
June 30	148,968	3,361	6,671	159,001	30,598	189,599
September 30	135,629	3,707	7,818	147,154	28,848	176,002
December 31	135,894	2,864	7,363	146,120	29,000	175,120
1990 March 31	150,808	3,641	6,984	161,433	34,836	196,270
June 30	162,745	3,518	7,410	173,673	36,635	210,308

¹ The Residential and Commercial Sector is not included. See Technical Note 6 in Appendix E.

² Manufacturing plants only.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration (EIA) • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" • Producer and Distributor: Form EIA-6, "Coal Distribution Report."

**Table 32. Consumer¹ Coal Stocks by Census Division and State,
June 30, 1990**
(Thousand Short Tons)

Census Division and State	Electric Utilities	Coke Plants	Other Industrial ²	Total
New England Total	1,558	-	16	1,575
Connecticut	187	-	w	w
Maine	-	-	w	w
Massachusetts	931	-	w	w
New Hampshire	412	-	w	w
Rhode Island	28	-	w	w
Vermont	-	-	w	w
Middle Atlantic Total	16,285	w	w	17,758
New Jersey	1,001	-	w	w
New York	1,816	w	209	w
Pennsylvania	13,468	689	377	14,533
East North Central Total	37,777	1,779	2,109	41,665
Illinois	7,862	w	404	w
Indiana	9,762	938	677	11,377
Michigan	7,094	w	589	w
Ohio	8,979	196	210	9,386
Wisconsin	4,080	w	228	w
West North Central Total	20,928	w	818	w
Iowa	4,142	-	412	4,554
Kansas	3,576	-	22	3,598
Minnesota	2,476	-	71	2,547
Missouri	5,522	w	157	w
Nebraska	1,611	-	w	w
North Dakota	3,321	-	w	w
South Dakota	280	-	w	w
South Atlantic Total	29,288	w	w	31,122
Delaware	440	-	w	w
District of Columbia	-	-	-	-
Florida	5,431	-	165	5,596
Georgia	6,464	-	238	6,703
Maryland	1,705	w	42	w
North Carolina	4,895	-	244	5,139
South Carolina	2,088	-	325	2,412
Virginia	1,713	w	296	w
West Virginia	6,552	w	168	w
East South Central Total	17,839	w	w	18,838
Alabama	5,198	304	183	5,684
Kentucky	7,375	w	115	w
Mississippi	1,075	-	w	w
Tennessee	4,192	w	232	w
West South Central Total	18,391	21	1,163	19,574
Arkansas	2,264	-	18	2,282
Louisiana	2,557	-	64	2,621
Oklahoma	3,371	-	66	3,437
Texas	10,199	21	1,014	11,234
Mountain Total	18,415	w	337	w
Arizona	3,690	-	53	3,744
Colorado	3,864	-	38	3,901
Idaho	-	-	103	103
Montana	870	-	w	w
Nevada	1,359	-	w	w
New Mexico	1,377	-	w	w
Utah	3,739	w	13	w
Wyoming	3,515	-	79	3,594
Pacific Total	2,265	-	301	2,565
Alaska	4	-	-	4
California	-	-	191	191
Hawaii	-	-	w	w
Oregon	480	-	w	w
Washington	1,781	-	57	1,838
Unknown	-	-	-	-
U.S. Total	162,745	3,518	7,410	173,673

¹ The Residential and Commercial Sector is not available. See Technical Note 6 in Appendix E.

² Manufacturing plants only.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants"

Table 33. Coal Stocks at Electric Utility Plants by Census Division and State
(Thousand Short Tons)

Census Division and State	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
New England Total	1,558	1,139	1,279	21.8
Connecticut	187	169	140	34.1
Maine	-	-	-	-
Massachusetts	531	674	861	8.1
New Hampshire	412	268	250	64.7
Rhode Island	28	28	28	.0
Vermont	-	-	-	-
Middle Atlantic Total	16,285	14,190	14,247	14.3
New Jersey	1,001	724	669	49.7
New York	1,816	1,390	1,454	24.8
Pennsylvania	13,468	12,077	12,124	11.1
East North Central Total	37,777	35,096	37,337	1.2
Illinois	7,862	8,038	10,060	-21.9
Indiana	9,762	8,821	8,847	10.3
Michigan	7,094	6,475	7,402	-4.2
Ohio	8,979	8,188	6,419	39.9
Wisconsin	4,080	3,574	4,609	-11.5
West North Central Total	20,928	19,305	20,952	-1
Iowa	4,142	3,334	3,999	3.6
Kansas	3,576	3,518	3,789	-5.6
Minnesota	2,476	2,094	2,368	4.6
Missouri	5,522	5,448	5,097	8.3
Nebraska	1,611	1,600	1,750	-8.0
North Dakota	3,321	3,028	3,651	-9.0
South Dakota	280	284	298	-6.0
South Atlantic Total	29,288	27,580	22,947	27.6
Delaware	440	410	482	-8.8
District of Columbia	-	-	-	-
Florida	5,431	5,181	5,611	-3.2
Georgia	6,464	5,847	5,290	22.2
Maryland	1,705	1,502	1,347	26.5
North Carolina	4,895	4,758	3,075	59.2
South Carolina	2,088	2,279	1,451	43.8
Virginia	1,713	1,762	1,255	36.5
West Virginia	6,552	5,841	4,435	47.7
East South Central Total	17,839	15,669	15,136	17.9
Alabama	5,198	5,145	4,907	5.9
Kentucky	7,375	5,910	4,996	47.6
Mississippi	1,075	982	1,096	-1.9
Tennessee	4,192	3,632	4,138	1.3
West South Central Total	18,391	18,083	17,194	7.0
Arkansas	2,264	2,376	2,444	7.4
Louisiana	2,547	2,383	2,341	9.2
Oklahoma	3,371	3,312	3,071	9.8
Texas	10,199	10,012	9,338	9.2
Mountain Total	18,415	18,098	17,740	3.8
Arizona	3,690	3,834	4,054	9.0
Colorado	3,864	3,824	4,282	9.8
Idaho	-	-	-	-
Montana	870	868	789	10.3
Nevada	1,359	1,381	1,148	18.5
New Mexico	1,377	1,287	1,285	7.2
Utah	3,739	3,626	3,085	21.2
Wyoming	3,515	3,278	3,097	13.5
Pacific Total	2,265	1,649	2,136	6.0
Alaska	4	4	7	71.8
California	-	-	-	-
Hawaii	-	-	-	-
Oregon	480	480	480	(*)
Washington	1,781	1,165	1,654	7.7
Unknown	-	-	-	-
U.S. Total	162,745	150,808	148,968	9.2

(*) Rounded to zero.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-759, Monthly Power Plant Report.

Table 34. Coal Stocks at Other Industrial Plants¹ by Census Division and State
(Thousand Short Tons)

Census Division and State	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
New England Total	16	23	34	-51.8
Connecticut	w	w	w	w
Maine	w	w	w	w
Massachusetts	w	w	w	w
New Hampshire	w	w	w	w
Rhode Island	w	w	w	w
Vermont	w	w	w	w
Middle Atlantic Total	w	w	w	w
New Jersey	w	w	w	w
New York	209	257	234	-10.5
Pennsylvania	377	337	317	19.0
East North Central Total	2,109	1,930	1,897	11.2
Illinois	404	367	426	-5.0
Indiana	677	624	400	69.4
Michigan	589	555	635	-7.3
Ohio	210	213	240	-12.4
Wisconsin	228	171	195	16.5
West North Central Total	818	651	791	3.5
Iowa	412	268	379	8.6
Kansas	22	19	30	-28.1
Minnesota	71	81	65	8.6
Missouri	157	142	145	8.1
Nebraska	w	w	w	w
North Dakota	w	w	w	w
South Dakota	w	w	w	w
South Atlantic Total	w	w	w	w
Delaware	w	w	w	w
District of Columbia	-	-	-	-
Florida	165	136	84	96.9
Georgia	238	210	206	15.6
Maryland	42	38	42	-.3
North Carolina	244	229	233	4.6
South Carolina	325	342	313	3.6
Virginia	296	322	240	23.0
West Virginia	168	184	133	26.3
East South Central Total	w	w	w	w
Alabama	183	192	172	6.2
Kentucky	115	120	133	-13.8
Mississippi	w	w	w	w
Tennessee	232	253	260	-10.8
West South Central Total	1,163	1,049	907	28.1
Arkansas	18	9	30	-40.4
Louisiana	w	w	w	w
Oklahoma	w	w	w	w
Texas	1,014	879	687	47.7
Mountain Total	337	353	359	-6.2
Arizona	53	62	45	18.4
Colorado	38	42	41	-6.8
Idaho	103	46	91	12.4
Montana	w	w	w	w
Nevada	w	w	w	w
New Mexico	w	w	w	w
Utah	13	84	79	-83.0
Wyoming	79	79	72	9.5
Pacific Total	301	289	239	25.6
Alaska	-	-	-	-
California	191	172	133	43.7
Hawaii	w	w	w	w
Oregon	w	w	w	w
Washington	57	60	63	-9.5
Unknown	-	-	-	-
U.S. Total	7,410	6,984	6,671	11.1

¹ Manufacturing plants only

w Withheld to avoid disclosure of individual company data

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized

Source: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Table 35. Coal Stocks at Coke Plants by Census Division and State
(Thousand Short Tons)

Census Division and State	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
New England Total	-	-	-	-
Connecticut	-	-	-	-
Maine	-	-	-	-
Massachusetts	-	-	-	-
New Hampshire	-	-	-	-
Rhode Island	-	-	-	-
Vermont	-	-	-	-
Middle Atlantic Total	W	W	W	W
New Jersey	-	-	-	-
New York	W	W	W	W
Pennsylvania	689	742	715	-3.7
East North Central Total	1,779	1,826	1,709	4.1
Illinois	W	W	W	W
Indiana	938	934	884	6.0
Michigan	W	W	W	W
Ohio	196	329	306	-35.8
Wisconsin	-	-	-	-
West North Central Total	W	W	W	W
Iowa	-	-	-	-
Kansas	-	-	-	-
Minnesota	-	-	-	-
Missouri	W	W	W	W
Nebraska	-	-	-	-
North Dakota	-	-	-	-
South Dakota	-	-	-	-
South Atlantic Total	W	W	W	W
Delaware	-	-	-	-
District of Columbia	-	-	-	-
Florida	-	-	-	-
Georgia	-	-	-	-
Maryland	W	W	W	W
North Carolina	-	-	-	-
South Carolina	-	-	-	-
Virginia	W	W	W	W
West Virginia	W	W	W	W
East South Central Total	W	W	W	W
Alabama	304	337	248	22.4
Kentucky	W	W	W	W
Mississippi	-	-	-	-
Tennessee	W	W	W	W
West South Central Total	21	21	21	.0
Arkansas	-	-	-	-
Louisiana	-	-	-	-
Oklahoma	-	-	-	-
Texas	21	21	21	.0
Mountain Total	W	W	W	W
Arizona	-	-	-	-
Colorado	-	-	-	-
Idaho	-	-	-	-
Montana	-	-	-	-
Nevada	-	-	-	-
New Mexico	-	-	-	-
Utah	W	W	W	W
Wyoming	-	-	-	-
Pacific Total	-	-	-	-
Alaska	-	-	-	-
California	-	-	-	-
Hawaii	-	-	-	-
Oregon	-	-	-	-
Washington	-	-	-	-
Unknown	-	-	-	-
U.S. Total	3,518	3,641	3,361	4.7

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table 36. Coal Stocks at Coal Producers and Distributors by Coal-Producing State
(Thousand Short Tons)

Coal-Producing State	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
Alabama	2,808	2,705	3,235	-13.2
Alaska	124	126	134	-7.6
Arizona	1,369	1,470	1,386	-1.2
Arkansas	2	-	-	-
California	73	90	-	-
Colorado	1,183	1,123	890	33.0
Illinois	2,289	2,694	1,516	51.0
Indiana	592	657	323	83.4
Iowa	(*)	(*)	(*)	NM
Kansas	14	13	31	-53.4
Kentucky Total	5,620	5,574	4,451	26.3
Eastern	4,352	4,194	3,638	19.6
Western	1,268	1,380	812	56.1
Louisiana	12	9	-	-
Maryland	138	48	207	-33.4
Missouri	-	-	1	-
Montana	758	553	737	2.8
New Mexico	2,526	2,384	2,143	17.8
North Dakota	1,811	1,745	1,891	-4.2
Ohio	688	596	865	-20.5
Oklahoma	56	44	66	-15.7
Pennsylvania Total	2,855	2,379	2,299	24.2
Anthracite	324	269	404	-19.8
Bituminous	2,531	2,111	1,894	33.6
Tennessee	119	119	92	29.1
Texas	894	804	634	41.0
Utah	1,848	1,259	1,223	51.1
Virginia	2,052	1,980	1,652	24.2
Washington	65	25	37	76.9
West Virginia Total	5,575	5,445	3,006	85.5
Northern	1,764	1,516	1,416	24.6
Southern	3,811	3,929	1,591	139.6
Wyoming	3,164	2,994	3,127	1.2
Unknown State	-	-	651	-
Appalachian Total	18,586	17,467	14,996	23.9
Interior Total	5,127	5,601	3,383	51.6
Western Total	12,921	11,768	11,568	11.7
East of the Miss. River	22,736	22,199	17,647	28.8
West of the Miss. River	13,899	12,638	12,301	13.0
U.S. Total	36,635	34,836	30,598	19.7

NM Not meaningful. Small quantities involved.

(*) Rounded to zero.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-6, "Coal Distribution Report."

Table 37. Coal Stocks at Manufacturing Plants by Standard Industrial Classification (SIC) Code
(Thousand Short Tons)

SIC Code	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
20 Food and kindred products	662	483	628	5.3
21 Tobacco products	100	92	128	-21.7
22 Textile mill products	143	136	128	11.9
23 Apparel, other textile products	1	1	1	-40.5
24 Lumber and wood products	18	19	15	17.9
25 Furniture and fixtures	21	15	20	2.1
26 Paper and allied products	1,047	1,009	1,047	(*)
27 Printing and publishing	w	w	w	w
28 Chemicals, allied products	1,300	1,341	1,294	.5
29 Petroleum and coal products ¹	178	189	228	-22.1
30 Rubber, misc. plastic products	11	7	10	9.6
31 Leather, leather products	(*)	(*)	1	-73.1
32 Stone, clay, glass products	1,878	1,764	1,586	18.4
33 Primary metal industries ²	1,471	1,398	1,002	46.8
34 Fabricated metal products	84	92	69	21.4
35 Machinery, except electric	111	98	150	-26.4
36 Electric, electronic equipment	20	19	17	20.8
37 Transportation equipment	287	218	255	12.5
38 Instruments, related products	w	w	w	w
39 Misc. manufacturing industries	w	w	w	w
U.S. Total	7,410	6,984	6,671	11.1

¹ Includes coal gasification projects.

² Excludes coke plants.

(*) Rounded to zero.

^w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants."

Appendix A

Coke

Appendix A

A steel company employee monitors a coke oven battery where coal is converted to coke which is then used in the steel-making process.

Figure A1. Coke Production, Imports, Consumption, Exports and Stocks

Sources: Production, Consumption, and Producer and Distributor Stocks: Energy Information Administration, Form EIA-6, "Coke Plant Report - Quarterly". Imports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145". Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522".
 Note: Each increment represents end of quarter data.

Table A1. Coke Production, Imports, Consumption, Exports, and Stocks
(Thousand Short Tons)

Year and Quarter	Production	Imports	Consumption ¹	Exports	Producer and Distributor Stocks ²
1982 January - March	8,828	74	7,942	229	7,455
April - June	7,507	39	6,819	311	7,871
July - September	6,270	4	5,868	308	7,969
October - December	5,509	4	5,147	145	8,190
Total	28,115	120	25,776	993	
1983 January - March	5,579	4	7,861	131	5,781
April - June	6,451	4	7,467	200	4,569
July - September	6,753	6	7,319	134	3,875
October - December	7,025	21	7,203	200	3,518
Total	25,808	35	29,850	665	
1984 January - March	7,696	177	8,134	104	3,153
April - June	8,227	96	8,275	235	2,966
July - September	7,522	147	6,914	280	3,441
October - December	7,115	161	6,576	425	3,716
Total	30,561	582	29,899	1,045	
1985 January - March	7,211	226	7,536	146	3,471
April - June	7,601	160	7,606	347	3,279
July - September	7,150	92	6,977	327	3,217
October - December	6,689	100	7,151	302	2,553
Total	28,651	578	29,270	1,122	
1986 January - March	7,252	91	7,437	140	2,319
April - June	7,156	129	7,183	247	2,174
July - September	5,513	17	5,231	332	2,141
October - December	5,618	92	5,500	285	2,066
Total	25,540	329	25,351	1,004	
1987 January - March	5,937	80	6,081	149	1,853
April - June	7,073	209	7,476	113	1,546
July - September	7,438	342	7,739	151	1,436
October - December	7,589	291	8,091	161	1,064
Total	28,037	922	29,387	574	
1988 January - March	7,846	606	8,386	174	956
April - June	8,112	630	8,223	335	1,140
July - September	8,195	746	8,594	216	1,271
October - December	8,251	706	8,277	368	1,583
Total	32,404	2,688	33,480	1,093	
1989 January - March	8,172	687	9,102	173	1,167
April - June	8,360	929	8,933	259	1,264
July - September	8,302	546	8,115	234	1,763
October - December	8,181	149	7,754	420	1,919
Total	33,015	2,311	33,904	1,085	
1990 January - March	7,364	167	7,346	132	1,972
April - June	7,449	148	7,496	144	1,929
Total	14,813	315	14,843	276	

¹ Apparent consumption.

² Reported as of the last day of the quarter.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: • Production, Consumption, and Producer and Distributor Stocks: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly" • Imports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145" • Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"

Table A2. Coal Receipts at Coke Plants
(Thousand Short Tons)

Coal Receipts	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
By State						
Alabama	798	826	727	1,624	1,616	0.5
Utah	w	w	w	w	w	w
Maryland, New York	w	w	w	w	w	w
Illinois	w	w	w	w	w	w
Indiana	2,747	2,822	2,849	5,569	5,700	-2.3
Kentucky, Tennessee	w	w	w	w	w	w
Michigan	w	w	w	w	w	w
Ohio	1,340	1,344	1,311	2,684	2,684	(*)
Pennsylvania	2,486	2,391	2,328	4,877	5,078	-4.0
Virginia, West Virginia	w	w	w	w	w	w
By Plant Type						
Merchant Coke Plants	1,191	1,287	1,135	2,479	2,468	.4
Furnace Coke Plants	9,095	9,189	9,158	18,284	18,808	-2.8
By Coal Rank						
Anthracite	6	6	15	12	26	-53.8
Bituminous	10,280	10,470	10,277	20,751	21,251	-2.4
U.S. Total	10,286	10,476	10,293	20,762	21,277	-2.4

(*) Rounded to zero.

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A3. Average Price of Coal Receipts at Coke Plants
(Dollars per Short Ton)

Average Price ¹	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
By State						
Alabama	\$49.46	\$47.58	\$46.44	\$48.50	\$46.20	5.0
Utah	w	w	w	w	w	w
Maryland, New York	w	w	w	w	w	w
Illinois	w	w	w	w	w	w
Indiana	\$49.29	\$49.08	\$50.89	\$49.19	\$51.55	-4.6
Kentucky, Tennessee	w	w	w	w	w	w
Michigan	w	w	w	w	w	w
Ohio	\$48.57	\$48.36	\$46.16	\$48.47	\$46.72	3.7
Pennsylvania	45.26	45.95	44.03	45.60	44.02	3.6
Virginia, West Virginia	w	w	w	w	w	w
By Plant Type						
Merchant Coke Plants	\$47.40	\$48.21	\$44.30	\$47.82	\$45.67	4.7
Furnace Coke Plants	47.68	47.53	47.59	47.61	47.51	.2
By Coal Rank						
Anthracite	73.15	69.64	60.33	71.43	57.88	23.4
Bituminous	47.63	47.60	47.21	47.62	47.28	.7
U.S. Total	47.65	47.61	47.23	47.63	47.29	.7

¹ Based on the cost including insurance and freight (c.i.f. cost).

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A4. Coal Carbonized at Coke Plants
(Thousand Short Tons)

Coal Carbonized	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
By State						
Alabama	824	789	839	1,612	1,669	-3.4
Utah	w	w	w	w	w	w
Maryland, New York	w	w	w	w	w	w
Illinois	w	w	w	w	w	w
Indiana	2,643	2,645	2,715	5,288	5,545	-4.6
Kentucky, Tennessee	w	w	w	w	w	w
Michigan	w	w	w	w	w	w
Ohio	1,247	1,231	1,358	2,478	2,737	-9.5
Pennsylvania	2,554	2,216	2,465	4,769	4,904	-2.7
Virginia, West Virginia	w	w	w	w	w	w
By Plant Type						
Merchant Coke Plants	1,254	1,210	1,233	2,464	2,514	-2.0
Furnace Coke Plants	8,935	8,537	9,273	17,471	18,576	-5.9
By Coal Rank						
Anthracite	12	6	11	18	27	-33.3
Bituminous	10,176	9,741	10,495	19,917	21,064	-5.4
U.S. Total	10,188	9,747	10,506	19,935	21,091	-5.5

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Source: Energy Information Administration, Form EIA 5, "Coke Plant Report - Quarterly."

Table A5. Coke and Breeze Production at Coke Plants
(Thousand Short Tons)

Production	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
Coke Total	7,449	7,364	8,360	14,813	16,531	-10.4
By State						
Alabama	622	592	636	1,214	1,261	-3.7
Utah	w	w	w	w	w	w
Maryland, New York	w	w	w	w	w	w
Illinois	w	w	w	w	w	w
Indiana	1,727	1,787	2,084	3,514	4,089	-14.1
Kentucky, Tennessee	w	w	w	w	w	w
Michigan	w	w	w	w	w	w
Ohio	1,099	1,088	1,169	2,187	2,420	-9.6
Pennsylvania	1,977	1,585	1,759	3,562	3,570	-2
Virginia, West Virginia	w	w	w	w	w	w
By Plant Type						
Merchant Coke Plants	951	909	950	1,861	1,926	-3.4
Furnace Coke Plants	6,497	6,455	7,410	12,952	14,605	-11.3
Breeze Total	421	415	655	836	1,228	-31.9

* Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A6. Coke and Breeze Distributed from Coke Plants
(Thousand Short Tons)

Distribution	April - June 1990			January - March 1990	April - June 1989	Year to Date		
	Used By Producing Companies	Commercial Sales	Total			1990	1989	Percent Change
Coke Total	6,099	2,223	8,323	8,080	8,525	16,402	17,428	-5.9
By Consumer Category								
Blast Furnaces	6,056	1,708	7,764	7,232	7,688	14,996	15,721	-4.6
Foundries	31	365	396	370	404	766	825	-7.1
Other Industrial Plants	13	150	163	477	433	640	881	-27.4
By Plant Type								
Merchant Coke Plants	13	946	959	937	942	1,896	1,937	-2.1
Furnace Coke Plants	6,086	1,277	7,363	7,143	7,582	14,506	15,490	-6.4
Breeze Total	133	323	455	438	595	893	1,172	-23.8

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A7. Coal Stocks at Coke Plants
(Thousand Short Tons)

Coal Stocks	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
By State				
Alabama	304	337	248	22.4
Utah	w	w	w	w
Maryland, New York	w	w	w	w
Illinois	w	w	w	w
Indiana	938	934	884	6.0
Kentucky, Tennessee	w	w	w	w
Michigan	w	w	w	w
Ohio	417	329	306	36.5
Pennsylvania	689	742	715	-3.7
Virginia, West Virginia	w	w	w	w
By Plant Type				
Merchant Coke Plants	400	449	360	11.1
Furnace Coke Plants	3,339	3,192	3,000	11.3
By Coal Rank				
Anthracite	5	12	11	-57.3
Bituminous	3,734	3,629	3,350	11.5
U.S. Total	3,739	3,641	3,361	11.3

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A8. Coke and Breeze Stocks at Coke Plants
(Thousand Short Tons)

Stocks	June 30, 1990	March 31, 1990	June 30, 1989	Percent Difference June 30: 1990 versus 1989
Coke Total	1,929	1,972	1,264	52.6
By State				
Alabama	99	122	47	111.2
Utah	w	w	w	w
Maryland, New York	w	w	w	w
Illinois	w	w	w	w
Indiana	561	538	353	59.1
Kentucky, Tennessee	w	w	w	w
Michigan	w	w	w	w
Ohio	168	182	118	43.1
Pennsylvania	508	514	141	259.8
Virginia, West Virginia	w	w	w	w
By Plant Type				
Merchant Coke Plants	194	195	129	51.1
Furnace Coke Plants	1,734	1,777	1,136	52.7
Breeze Total	205	154	224	-8.3

w Withheld to avoid disclosure of individual company data.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Source: Energy Information Administration, Form EIA-5, "Coke Plant Report - Quarterly."

Table A9. Coke Exports
(Short Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	119,417	76,386	154,077	195,803	272,816	-28.2
Canada	98,764	35,454	116,417	134,218	188,335	-28.7
Mexico	19,935	40,697	37,326	60,632	83,961	-27.8
Other ¹	718	235	334	953	520	83.3
South America Total	24,570	21,761	27,815	46,331	49,290	-6.0
Venezuela	12,594	21,761	27,815	34,355	49,290	-30.3
Other ¹	11,976	-	-	11,976	-	-
Europe Total	-	33,659	5,283	33,659	37,976	-11.4
Asia Total	-	-	71,756	-	71,756	-
Japan	-	-	71,756	-	71,756	-
Total	143,987	131,806	258,931	275,793	431,838	-36.1

¹ Includes countries with exports less than or equal to 50,000 short tons in 1989.
Note: Total may not equal sum of components because of independent rounding.
Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table A10. Coke Imports
(Short Tons)

Continent and Country of Origin	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	37,234	25,219	75,635	62,453	181,600	-65.6
Canada	37,234	3,432	75,592	40,666	181,123	-77.5
Mexico	-	21,787	43	21,787	477	(¹)
Europe Total	20,492	19,080	354,727	39,572	543,538	-92.7
Belgium & Luxembourg	-	-	38,581	-	98,283	-
France	-	-	-	-	36,872	-
Italy	20,492	19,080	-	39,572	-	-
Netherlands	-	-	17,244	-	17,244	-
Poland	-	-	57,506	-	57,506	-
United Kingdom	-	-	-	-	28,582	-
West Germany	-	-	193,549	-	257,204	-
Yugoslavia	-	-	47,847	-	47,847	-
Asia Total	-	122,986	336,734	122,986	514,346	-76.1
China (Peking)	-	-	23,103	-	67,054	-
Japan	-	122,986	313,631	122,986	447,292	-72.5
Oceania & Australia Total	90,446	-	162,358	90,446	376,778	-76.0
Australia	90,446	-	162,358	90,446	376,778	-76.0
Total	148,172	167,285	929,454	315,457	1,616,262	-80.5

¹ Changes of 500 percent or more are not shown.
Note: Total may not equal sum of components because of independent rounding.
Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Appendix B

Annual Trends

Table B1. Trends in Coal Production, Imports, Consumption, Exports, and Stocks
(Million Short Tons)

Year	Production	Imports	Producer and Distributor Stocks ¹	Consumption	Exports ²	Consumer Stocks ^{1 3}
1960	434.3	0.3	NA	398.1	38.0	74.5
1961	420.4	.2	NA	390.4	36.4	72.5
1962	439.0	.2	NA	402.3	40.2	70.8
1963	477.2	.3	NA	423.5	50.4	71.0
1964	504.2	.3	NA	445.7	49.5	76.4
1965	527.0	.2	NA	472.0	51.0	78.3
1966	546.8	.2	NA	497.7	50.1	75.4
1967	564.9	.2	NA	491.4	50.1	94.4
1968	556.7	.2	NA	509.8	51.2	86.8
1969	571.0	.1	NA	516.4	56.9	81.7
1970	612.7	(*)	NA	523.2	71.7	92.7
1971	560.9	.1	NA	501.6	57.3	90.7
1972	602.5	(*)	NA	524.3	56.7	116.5
1973	598.6	.1	NA	562.6	53.6	104.3
1974	610.0	2.1	NA	558.4	60.7	96.3
1975	654.6	.9	NA	562.6	66.3	128.1
1976	684.9	1.2	NA	603.8	60.0	134.4
1977	697.2	1.6	NA	625.3	54.3	157.1
1978	670.2	3.0	NA	625.2	40.7	145.6
1979	781.1	2.1	NA	680.5	66.0	181.6
1980	829.7	1.2	24.4	702.7	91.7	204.0
1981	823.8	1.0	24.1	732.6	112.5	185.3
1982	838.1	.7	36.8	706.9	106.3	195.3
1983	782.1	1.3	33.9	736.7	77.8	168.7
1984	895.9	1.3	34.1	791.3	81.5	197.2
1985	883.6	2.0	33.1	818.0	92.7	170.2
1986	890.3	2.2	32.1	804.3	85.5	175.2
1987	918.8	1.7	28.3	836.9	79.6	185.5
1988	950.3	2.1	30.4	883.7	95.0	158.4
1989	979.6	2.9	29.0	889.5	100.8	146.1
1995	PJ 1,085.0	PJ 5.0	NA	PJ 984.0	PJ 104.0	NA
2000	PJ 1,178.0	PJ 8.0	NA	PJ 1,049.0	PJ 133.0	NA
2005	PJ 1,379.0	PJ 10.0	NA	PJ 1,207.0	PJ 175.0	NA
2010	PJ 1,617.0	PJ 12.0	NA	PJ 1,388.0	PJ 232.0	NA

¹ Reported as of the last day of the year.

² Exports for 1960 through 1977 exclude lignite.

³ The Residential and Commercial Sector is not included. See Technical Note 6 in Appendix E.

PJ Projection.

(*) Rounded to zero.

NA Not available

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Annual Energy Outlook 1990*; and Form EIA-6, "Coal Distribution Report."

Figure B2. Coal Production Trends

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Annual Energy Outlook 1990*; and *Coal Data: A Reference*

Table B2. Coal Production Trends
(Million Short Tons)

Year	Anthracite			Bituminous and Lignite ¹			Total		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
1960	7.7	11.1	18.8	284.9	130.6	415.5	292.6	141.7	434.3
1961	6.8	10.7	17.4	272.8	130.2	403.0	279.6	140.9	420.4
1962	6.7	10.2	16.9	281.3	140.9	422.1	287.9	151.1	439.0
1963	6.7	11.6	18.3	302.3	156.7	458.9	309.0	168.2	477.2
1964	5.9	11.3	17.2	321.8	165.2	487.0	327.7	176.5	504.2
1965	5.3	9.6	14.9	332.7	179.4	512.1	338.0	189.0	527.0
1966	4.1	8.9	12.9	338.5	195.4	533.9	342.6	204.2	546.8
1967	3.3	9.0	12.3	349.1	203.5	552.6	352.4	212.5	564.9
1968	2.5	9.0	11.5	344.1	201.1	545.2	346.6	210.1	556.7
1969	2.1	8.4	10.5	347.1	213.4	560.5	349.2	221.7	571.0
1970	1.7	8.0	9.7	338.8	264.1	602.9	340.5	272.1	612.7
1971	1.3	7.4	8.7	275.9	276.3	552.2	277.2	283.7	560.9
1972	.9	6.2	7.1	304.1	291.3	595.4	305.0	297.4	602.5
1973	.7	6.1	6.8	299.4	292.4	591.7	300.1	298.5	598.6
1974	.7	6.0	6.6	277.3	326.1	603.4	278.0	332.1	610.0
1975	.6	5.6	6.2	292.8	355.6	648.4	293.5	361.2	654.6
1976	.6	5.6	6.2	294.9	383.8	678.7	295.5	389.4	684.9
1977	.6	5.2	5.9	266.0	425.4	691.3	266.6	430.6	697.2
1978	.6	4.4	5.0	242.2	423.0	665.1	242.8	427.4	670.2
1979	.6	4.3	4.8	320.3	456.0	776.3	320.9	460.2	781.1
1980	.6	5.5	6.1	336.9	486.7	823.6	337.5	492.2	829.7
1981	.6	4.8	5.4	315.9	502.5	818.4	316.5	507.3	823.8
1982	.6	4.0	4.6	338.6	495.0	833.5	339.2	499.0	838.1
1983	.5	3.6	4.1	299.9	478.1	778.0	300.4	481.7	782.1
1984	.6	3.6	4.2	351.5	540.3	891.8	352.1	543.9	895.9
1985	.7	4.0	4.7	350.1	528.9	878.9	350.8	532.8	883.6
1986	.6	3.7	4.3	359.8	526.2	886.0	360.4	529.9	890.3
1987	.6	2.9	3.6	372.2	543.0	915.2	372.9	545.9	918.8
1988	.6	2.9	3.6	381.5	565.2	946.7	382.1	568.1	950.3
1989	NA	NA	NA	NA	NA	NA	NA	NA	979.6
1995	NA	NA	NA	NA	NA	NA	NA	NA	PJ 1,085.0
2000	NA	NA	NA	NA	NA	NA	NA	NA	PJ 1,178.0
2005	NA	NA	NA	NA	NA	NA	NA	NA	PJ 1,379.0
2010	NA	NA	NA	NA	NA	NA	NA	NA	PJ 1,617.0

¹ Also includes subbituminous coal.

PJ Projection.

NA Not available.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Annual Energy Outlook 1990*; and *Coal Data: A Reference*.

Figure B3. Coal Consumption Trends

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Annual Energy Outlook 1990*, and *Coal Data: A Reference*

Table B3. Coal Consumption Trends
(Million Short Tons)

Year	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
1960	176.7	81.4	99.1	40.9	398.1
1961	182.2	74.2	96.7	37.3	390.4
1962	193.3	74.7	97.7	36.5	402.3
1963	211.3	78.1	102.6	31.5	423.5
1964	225.4	89.2	103.8	27.2	445.7
1965	244.8	95.3	106.2	25.7	472.0
1966	266.5	96.4	109.3	25.6	497.7
1967	274.2	92.8	102.3	22.1	491.4
1968	297.8	91.3	100.8	20.0	509.8
1969	310.6	93.4	93.5	18.9	516.4
1970	320.2	96.5	90.5	16.1	523.2
1971	327.3	83.2	75.8	15.2	501.6
1972	351.8	87.7	73.0	11.7	524.3
1973	389.2	94.1	68.2	11.1	562.6
1974	391.8	90.2	65.0	11.4	558.4
1975	406.0	83.6	63.7	9.4	562.6
1976	448.4	84.7	61.8	8.9	603.8
1977	477.1	77.7	61.5	9.0	625.3
1978	481.2	71.4	63.1	9.5	625.2
1979	527.1	77.4	67.7	8.4	680.5
1980	569.3	66.7	60.3	6.5	702.7
1981	596.8	61.0	67.4	7.4	732.6
1982	593.7	40.9	64.1	8.2	706.9
1983	625.2	37.0	66.0	8.4	736.7
1984	664.4	44.0	73.7	9.1	791.3
1985	693.8	41.1	75.4	7.8	818.0
1986	685.1	36.0	75.6	7.7	804.3
1987	717.9	37.0	75.2	6.9	836.9
1988	758.4	41.9	76.3	7.1	883.7
1989	765.8	41.4	76.1	6.2	889.5
1995	PJ 856.0	PJ 43.0	PJ 80.0	PJ 6.0	PJ 984.0
2000	PJ 922.0	PJ 39.0	PJ 83.0	PJ 5.0	PJ 1,049.0
2005	PJ 1,074.0	PJ 36.0	PJ 91.0	PJ 5.0	PJ 1,207.0
2010	PJ 1,238.0	PJ 34.0	PJ 112.0	PJ 4.0	PJ 1,388.0

PJ Projection.

Note: Small amounts of bituminous coal and lignite consumed by the Transportation sector are included in the Other Industrial category. Total may not equal sum of components because of independent rounding.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, *Annual Energy Review 1989*; and *Annual Energy Outlook 1990*.

Figure B4. Year-End Coal Stock Trends

Sources: Energy Information Administration, *Annual Energy Review 1989*, and Form EIA-6, "Coal Distribution Report."

Table B4. Year-End Coal Stock Trends
(Million Short Tons)

End of Year	Coal Consumers ¹				Coal Producers and Distributors	Total
	Electric Utilities	Coke Plants	Other Industrial ²	Total		
1960	51.7	11.1	11.6	74.5	NA	NA
1961	50.1	10.5	11.9	72.5	NA	NA
1962	50.4	8.4	12.0	70.8	NA	NA
1963	50.6	8.1	12.3	71.0	NA	NA
1964	53.9	10.2	12.2	76.4	NA	NA
1965	54.5	10.6	13.1	78.3	NA	NA
1966	53.9	9.3	12.2	75.4	NA	NA
1967	71.0	11.1	12.3	94.4	NA	NA
1968	65.5	9.7	11.7	86.8	NA	NA
1969	61.9	9.1	10.8	81.7	NA	NA
1970	71.9	9.0	11.8	92.7	NA	NA
1971	77.8	7.3	5.6	90.7	NA	NA
1972	99.7	9.1	7.6	116.5	NA	NA
1973	87.0	7.0	10.4	104.3	NA	NA
1974	83.5	6.2	6.6	96.3	NA	NA
1975	110.7	8.8	8.5	128.1	NA	NA
1976	117.4	9.9	7.1	134.4	NA	NA
1977	133.2	12.8	11.1	157.1	NA	NA
1978	128.2	8.3	9.0	145.6	NA	NA
1979	159.7	10.2	11.8	181.6	NA	NA
1980	183.0	9.1	12.0	204.0	24.4	228.4
1981	168.9	6.5	9.9	185.3	24.1	209.4
1982	181.1	4.6	9.5	195.3	36.8	232.0
1983	155.6	4.3	8.7	168.7	33.9	202.6
1984	179.7	6.2	11.3	197.2	34.1	231.3
1985	156.4	3.4	10.4	170.2	33.1	203.4
1986	161.8	3.0	10.4	175.2	32.1	207.3
1987	170.8	3.9	10.8	185.5	28.3	213.8
1988	146.5	3.1	8.8	158.4	30.4	188.8
1989	135.9	2.9	7.4	146.1	29.0	175.1

¹ The Residential and Commercial Sector is not included. See Technical Note 6 in Appendix E.

² Manufacturing plants only.

NA Not available.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, *Annual Energy Review 1989*; and Form EIA-6, "Coal Distribution Report."

Figure B5. Coal Mining Trends

Productivity

Price

Average Number of Miners

Number of Mines

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Coal Data: A Reference*; *Coal Production Report*; *Bituminous Coal and Lignite Production and Mine Operation*; Bureau of Mines, U.S. Department of the Interior, *Minerals Yearbook*; Mine Safety and Health Administration, U.S. Department of Labor, and Pennsylvania Department of Natural Resources.

Table B5. Coal Mining Trends

Year	Bituminous and Lignite ¹						Anthracite			
	Average Price ²	Number of Mines	Average Number of Miners Working Daily	Productivity (Average Tons per Miner per Hour)			Average Price ³	Number of Mines	Average Number of Miners Working Daily	Productivity (Average Tons per Miner per Hour)
				Underground	Surface	Total				
1960	\$4.69	7,865	169,400	1.33	2.91	1.60	\$8.01	1,365	19,051	0.70
1961	4.58	7,648	150,474	1.43	3.16	1.73	8.26	1,310	15,792	.70
1962	4.48	7,740	143,822	1.50	3.40	1.84	7.99	1,279	14,010	.74
1963	4.39	7,940	141,646	1.60	3.66	1.98	8.64	1,188	13,498	.78
1964	4.45	7,630	128,698	1.72	3.76	2.11	8.93	1,050	13,144	.76
1965	4.44	7,228	133,732	1.75	4.10	2.19	8.51	987	11,132	.82
1966	4.54	6,749	131,752	1.83	4.28	2.32	8.08	717	9,292	.86
1967	4.62	5,873	131,523	1.88	4.48	2.40	8.15	540	7,750	.90
1968	4.67	5,327	127,894	1.93	4.33	2.42	8.78	510	6,932	.95
1969	4.99	5,118	124,532	1.95	4.50	2.49	9.91	517	5,927	.93
1970	6.26	5,601	140,140	1.72	4.53	2.36	11.03	485	5,938	.89
1971	7.07	5,149	145,664	1.50	4.49	2.25	12.08	424	5,800	.79
1972	7.66	4,879	149,265	1.49	4.54	2.22	12.40	391	4,783	.86
1973	8.53	4,744	148,121	1.46	4.58	2.20	13.65	370	4,083	.89
1974	15.75	5,247	166,701	1.41	4.74	2.35	22.19	332	3,847	.98
1975	19.23	6,168	189,880	1.19	3.26	1.83	32.26	389	3,907	.93
1976	19.43	6,161	202,280	1.14	3.25	1.80	33.92	392	3,686	.90
1977	19.82	6,077	221,428	1.09	3.16	1.82	34.86	390	3,655	.87
1978	21.78	6,230	242,295	1.04	3.03	1.79	35.25	362	3,472	.81
1979	23.65	5,837	224,203	1.13	3.12	1.82	41.06	332	3,094	1.06
1980	24.52	5,598	224,938	1.21	3.27	1.94	42.51	306	3,631	1.11
1981	26.29	5,569	226,250	1.29	3.50	2.11	44.28	232	3,052	.92
1982	27.14	5,363	214,400	1.37	3.48	2.14	49.85	220	2,717	.59
1983	25.85	4,265	173,543	1.62	3.87	2.52	52.29	224	2,099	1.01
1984	25.51	4,902	175,746	1.72	4.10	2.65	48.22	149	2,102	1.02
1985	25.10	4,547	167,009	1.79	4.32	2.76	45.80	217	2,272	1.05
1986	23.70	4,203	152,668	2.00	4.69	3.04	44.12	221	1,977	1.03
1987	23.00	3,894	141,065	2.21	5.06	3.32	43.65	200	1,602	1.13
1988	22.00	3,654	133,913	2.38	5.41	3.58	44.16	206	1,453	1.21

¹ Also includes subbituminous coal.

² Based on the free on board (f.o.b.) mine value.

³ Based on the free on board (f.o.b.) preparation plant value.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Coal Data: A Reference*; *Coal Production Report*; *Bituminous Coal and Lignite Production and Mine Operation*; Bureau of Mines, U.S. Department of the Interior, *Minerals Yearbook*; Mine Safety and Health Administration, U.S. Department of Labor, and Pennsylvania Department of Natural Resources.

Table B6. Coal Production Trends by State
(Thousand Short Tons)

Coal-Producing Region and State	1983	1984	1985	1986	1987	1988	1989
Alabama	23,812	27,088	27,797	25,826	25,540	26,518	28,532
Alaska	786	859	1,433	1,570	1,492	1,745	1,436
Arizona	11,404	11,522	9,625	11,556	11,379	12,398	11,935
Arkansas	88	82	80	167	84	276	94
California	-	-	71	-	46	54	117
Colorado	16,732	17,967	17,243	15,237	14,420	15,913	16,881
Georgia	187	125	-	-	-	-	-
Illinois	56,846	63,769	59,201	61,866	59,155	58,594	59,737
Indiana	31,835	37,555	33,316	32,852	34,208	31,271	33,677
Iowa	385	527	591	484	468	341	424
Kansas	1,271	1,328	994	1,486	2,021	737	1,062
Kentucky Total	131,217	159,541	152,272	153,933	165,192	157,852	158,560
Eastern	95,615	117,274	113,251	112,732	119,906	117,524	116,283
Western	35,602	42,267	39,021	41,201	45,285	40,328	42,277
Louisiana	-	-	207	2,254	2,751	2,889	2,976
Maryland	3,184	4,103	2,985	3,906	3,962	3,242	3,149
Missouri	4,982	6,733	5,571	4,687	4,292	4,169	3,206
Montana	28,930	33,000	33,290	33,978	34,399	38,881	37,705
New Mexico	20,415	21,279	22,203	21,496	19,131	21,803	23,583
North Dakota	19,190	22,112	26,873	25,640	25,142	29,731	29,784
Ohio	33,770	39,256	35,602	36,441	35,788	34,043	32,511
Oklahoma	3,694	4,640	3,337	3,048	2,870	2,136	2,003
Pennsylvania Total	69,828	77,494	71,408	71,648	70,423	70,645	72,293
Anthracite	4,089	4,162	4,708	4,292	3,560	3,555	3,294
Bituminous	65,739	73,332	66,699	67,356	66,863	67,091	68,999
Tennessee	6,640	7,313	7,446	6,870	6,442	6,510	6,583
Texas	38,947	41,145	45,459	48,590	50,529	52,281	53,961
Utah	11,768	12,323	12,780	14,269	16,508	18,163	20,407
Virginia	35,027	40,368	40,940	41,178	44,543	45,886	51,236
Washington	3,891	3,872	4,438	4,601	4,449	5,170	5,013
West Virginia	115,049	131,008	127,764	129,907	136,676	145,005	151,249
Wyoming	112,214	130,914	140,714	136,826	146,850	164,014	171,454
Appalachian Total	383,111	444,029	427,193	428,508	443,281	449,373	461,837
Interior Total	173,651	198,045	187,776	196,634	201,663	193,022	199,415
Western Total	225,329	253,846	268,669	265,172	273,818	307,871	318,316
East of the Miss. River	507,395	587,620	558,730	564,427	581,929	579,565	597,527
West of the Miss. River	274,697	308,301	324,908	325,887	336,833	370,700	382,041
U.S. Total	782,091	895,921	883,638	890,315	918,762	950,265	979,568

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.
Sources: Energy Information Administration, Form EIA-6, "Coal Distribution Report"; and State mining agency coal production reports.

Appendix C

U.S. Coal Imports

Appendix C

U.S. Coal Imports

U.S. coal imports for the first half of 1990 totaled 1.4 million short tons according to the Bureau of the Census, U.S. Department of Commerce. This was 16 percent higher than for the same period in 1989, due primarily to a 55-percent rise in coal imports to electric utility plants. Most of the additional coal imported by electric utility plants appears to be for test burns.

Colombia sent one-third more coal to the United States than in the first six months of 1989 and accounted for

about half of all imported coal in the first half of 1990. Most of the Colombian coal was delivered to the Jacksonville Electric Authority, St. Johns River Plant, in Florida. Canada accounted for approximately one-third of total U.S. coal imports in the first half of 1990. Most of this coal was metallurgical coal destined for industrial plants in the Midwest. Venezuela accounted for most of the remaining coal imported to the United States. Most of this coal went to electric utility plants in New England.

Table C1. Quantity and Average Price of U. S. Coal Imports¹
(Thousand Short Tons and Dollars per Short Ton)

Year	January - March		April - June		July - September		October - December		U.S. Total	
	Quantity	Average Price	Quantity	Average Price	Quantity	Average Price	Quantity	Average Price	Quantity	Average Price
1982	114	\$33.53	128	\$35.45	271	\$28.04	230	\$28.82	742	\$30.40
1983	269	32.83	379	33.09	299	34.66	323	33.84	1,271	33.59
1984	276	32.74	269	33.90	435	35.49	306	38.83	1,286	35.37
1985	330	37.74	500	35.24	623	36.75	500	34.82	1,952	36.04
1986	485	34.21	576	36.14	537	35.90	614	37.44	2,212	36.02
1987	331	35.04	483	31.69	475	31.94	459	30.35	1,747	32.04
1988	542	28.94	587	33.74	437	26.77	567	29.47	2,134	29.96
1989	531	33.65	687	34.19	925	34.92	708	33.44	2,851	34.14
1990	735	35.07	674	33.67	NA	NA	NA	NA	1,409	34.40

¹ Includes Puerto Rico and the Virgin Islands.

NA Not available.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table C2. Quantity and Average Price¹ of U. S. Coal Imports² by Origin
(Thousand Short Tons and Dollars per Short Ton)

Year and Quarter	Australia	Canada	Colombia	Poland	South Africa	Venezuela	Other Countries	Total
Quantity								
1982	23	155	-	-	565	-	(*)	742
1983	23	202	241	-	804	-	1	1,271
1984	28	266	269	109	612	-	(*)	1,286
1985	39	404	594	-	909	-	6	1,952
1986	6	433	742	-	1,030	-	1	2,212
1987	211	507	957	-	-	30	43	1,747
1988	66	552	1,225	-	-	203	88	2,134
1989								
January - March	-	190	259	-	-	65	17	531
April - June	-	294	275	-	-	60	59	687
July - September	-	300	491	-	-	103	31	925
October - December	35	221	313	-	-	129	10	708
Total	35	1,004	1,339	-	-	357	117	2,851
1990								
January - March	-	245	416	-	-	68	6	735
April - June	-	253	305	-	-	117	-	674
Total	-	498	720	-	-	184	6	1,409
Average Price								
1982	\$42.03	\$43.26	-	-	\$26.39	-	(³)	\$30.40
1983	44.42	44.74	\$37.96	-	28.98	-	(³)	33.59
1984	31.17	40.26	38.91	\$34.14	32.08	-	(³)	35.37
1985	31.57	37.10	36.21	-	35.06	-	(³)	36.04
1986	(³)	33.86	35.20	-	37.41	-	\$36.38	36.02
1987	27.17	32.97	32.89	-	-	\$35.22	23.89	32.04
1988	29.86	31.44	28.83	-	-	26.09	45.43	29.96
1989								
January - March	-	23.04	33.19	-	-	33.95	29.24	30.21
April - June	-	23.54	33.79	-	-	31.52	26.57	29.08
July - September	-	30.26	36.87	-	-	33.96	37.14	34.47
October - December	34.44	23.79	36.70	-	-	33.76	36.57	32.41
Total	34.44	25.73	35.49	-	-	33.48	33.40	31.97
1990								
January - March	-	26.27	37.41	-	-	40.63	38.36	34.21
April - June	-	22.52	38.36	-	-	41.04	-	34.29
Total	-	24.64	37.81	-	-	40.89	38.36	34.25

¹ Beginning in 1989, the average prices presented in this table are representative prices for coal imports that fall within the range of \$20.00 and \$50.00, inclusively. Therefore, the *Total* price column in this table will not equal the *U.S. Total* prices in Table C1.

² Includes Puerto Rico and the Virgin Islands.

³ Average prices of \$50.00 or more are not shown.

(*) Rounded to zero.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table C3. U. S. Coal Imports by Origin and by Customs District
(Short Tons)

Customs District	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
U.S. Total	674,347	734,634	687,289	1,408,981	1,218,710	15.6
Exporting Country: Canada						
Chicago, IL	115,622	29,184	192,974	144,806	192,974	-25.0
Portland, ME	-	33,625	-	33,625	-	-
Duluth, MN	-	-	431	-	431	-
Great Falls, MT	13,502	12,299	22,468	25,801	61,069	-57.8
Pembina, ND	105,985	161,864	77,789	267,849	221,496	20.9
Buffalo, NY	69	-	-	69	-	-
Ogdensburg, NY	24	21	18	45	18	150.0
Seattle, WA	17,700	8,267	220	25,967	7,744	235.3
Total	252,902	245,260	293,900	438,162	483,732	3.0
Exporting Country: Colombia						
Tampa, FL	172,162	304,443	186,347	476,605	374,493	27.3
Boston, MA	-	61,095	-	61,095	-	-
Philadelphia, PA	34,842	-	33,914	34,842	33,914	2.7
San Juan, PR	70,063	46,815	55,068	116,878	126,073	-7.3
Virgin Islands	27,558	3,268	-	30,826	-	-
Total	304,625	415,621	275,329	720,246	534,480	34.8
Exporting Country: Venezuela						
Tampa, FL	40,104	-	-	40,104	40,951	-2.1
Boston, MA	-	38,628	-	38,628	-	-
Portland, ME	52,465	28,921	-	81,386	-	-
Philadelphia, PA	-	-	33,248	-	33,248	-
San Juan, PR	24,251	-	26,281	24,251	50,460	-51.9
Total	116,820	67,549	59,529	184,369	124,659	47.9
Other Exporting Countries						
San Diego, CA	-	-	19	-	19	-
San Francisco, CA	-	-	47,694	-	47,745	-
Laredo, TX	-	6,204	10,818	6,204	28,075	-77.9
Total	-	6,204	58,531	6,204	75,839	-91.8

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table C4. Average Price¹ of U. S. Coal Imports by Origin and by Customs District
(Dollars per Short Ton)

Customs District	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
Total	\$34.29	\$34.21	\$29.08	\$34.25	\$29.58	15.8
Exporting Country: Canada						
Chicago, IL	\$20.62	\$24.70	\$23.96	\$21.98	\$23.90	-8.0
Portland, ME	-	41.64	-	41.64	-	-
Duluth, MN	-	-	40.60	-	40.60	-
Pembina, ND	21.91	23.10	22.30	22.64	22.50	.6
Seattle, WA	32.06	28.56	-	30.95	31.14	-.6
Total	22.52	26.27	23.54	24.64	23.37	5.5
Exporting Country: Colombia						
Tampa, FL	\$37.77	\$37.76	\$35.67	\$37.76	\$34.70	8.8
Boston, MA	-	36.49	-	36.49	-	-
Philadelphia, PA	36.29	-	26.79	36.29	26.79	35.5
San Juan, PR	36.29	36.29	31.75	36.29	31.75	14.3
Virgin Islands	49.89	38.48	-	48.68	-	-
Total	38.36	37.41	33.79	37.81	33.50	12.9
Exporting Country: Venezuela						
Tampa, FL	\$35.38	-	-	\$35.38	\$34.44	2.7
Boston, MA	-	\$38.37	-	38.37	-	-
Portland, ME	47.57	43.65	-	46.18	-	-
Philadelphia, PA	-	-	\$34.57	-	34.57	-
San Juan, PR	36.29	-	27.66	36.29	30.27	19.9
Total	41.04	40.63	31.52	40.89	32.79	24.7
Other Exporting Countries						
Laredo, TX	-	\$38.36	\$26.57	\$38.36	\$28.21	36.0
Total	-	38.36	26.57	38.36	28.21	36.0

¹ Beginning in 1989, the average prices presented in this table are representative prices for coal imports that fall within the range of \$20.00 and \$50.00, inclusively. Therefore, the *Total* prices in this table will not equal the *U.S. Total* prices column in Table C1.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table C5. Imported Coal Received at Electric Utility Plants by Origin
(Short Tons)

Company and Plant	April - June 1990	January - March 1990	April - June 1989	Year to Date		
				1990	1989	Percent Change
U.S. Total	309,790	458,440	279,256	768,230	495,366	55.1
Exporting Country: Canada						
Public Serv Co of New Hampshire, Schiller Plant	-	33,600	-	33,600	-	-
Total	-	33,600	-	33,600	-	-
Exporting Country: Colombia						
Baltimore Gas and Electric, Brandon Shores ..	-	-	23,000	-	23,000	-
Jacksonville Electric Authority, St Johns River Plant	217,290	261,940	233,120	479,230	412,080	16.3
New England Power (NEES), Brayton Point Plant	-	30,100	-	30,100	-	-
New England Power (NEES), Salem Harbor Plant	-	34,100	-	34,100	-	-
Savannah Electric and Power, McIntosh	-	-	16,153	-	16,153	-
Savannah Electric and Power, Port Wentworth	-	-	6,983	-	6,983	-
Total	217,290	326,140	279,256	543,430	458,216	18.6
Exporting Country: Venezuela						
Jacksonville Electric Authority, St Johns River Plant	40,100	-	-	40,100	37,150	7.9
New England Power (NEES), Brayton Point Plant	-	69,800	-	69,800	-	-
Public Serv Co of New Hampshire, Schiller Plant	52,400	28,900	-	81,300	-	-
Total	92,500	98,700	-	191,200	37,150	414.7

Notes: Total may not equal sum of components because of independent rounding. Data for 1988 have been revised and finalized.
Source: Federal Energy Regulatory Commission FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table C6. Cost and Quality of Imported Coal Received at Electric Utility Plants by Origin, 1980-1990

Exporting Country and Time Period	Quantity (Thousand Short Tons)	Average Quality ¹			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Baltimore Gas and Electric, Brandon Shores						
Colombia						
1989						
April - June	23.0	12,791	0.51	4.81	160.6	41.09
July - September	109.0	12,270	.58	5.40	200.5	49.20
Total	132.0	12,361	.57	5.30	193.3	47.79
Company and Plant: Baltimore Gas and Electric, Wagner Plant						
Colombia						
1989						
July - September	115.0	12,159	0.60	6.00	196.2	47.71
Total	115.0	12,159	.60	6.00	196.2	47.71
Company and Plant: Central Power and Light (CSW), Coletto Creek Plant						
Australia						
1987	57.1	12,549	0.54	11.80	149.5	37.52
Colombia						
1987	37.2	11,951	.53	6.50	188.8	45.13
Company and Plant: Florida Power Corp, Crystal River Plant ²						
Australia						
1987	26.1	12,345	0.69	9.71	141.6	34.95
1988	38.4	12,415	.66	9.31	154.4	38.34
Canada						
1986	37.0	10,005	.63	13.50	133.4	26.70
Colombia						
1984	17.7	12,588	.71	9.50	248.0	62.44
1985	361.7	12,483	.64	8.94	223.8	55.88
1986	418.3	12,257	.50	5.45	155.9	38.22
1987	333.3	12,236	.54	5.39	175.0	42.83
Venezuela						
1987	19.3	12,744	.68	7.90	150.0	38.23
1988	192.8	13,302	.49	3.57	137.6	36.62
Company and Plant: Gulf Power, Smith Plant						
South Africa						
1980	749.8	11,908	0.67	12.96	187.8	44.72
1981	712.3	11,894	.71	13.06	211.4	50.29
1982	605.0	11,950	.68	12.71	216.2	51.68
1983	813.7	12,056	.65	11.96	224.5	54.12
1984	616.4	11,914	.64	12.52	243.8	58.10
1985	865.5	11,757	.59	12.78	254.5	59.85
1986	1,030.5	11,755	.53	12.45	216.9	50.98
1987	79.3	11,650	.47	12.80	220.8	51.45
Company and Plant: Jacksonville Electric Authority, St Johns River Plant						
Colombia						
1987	93.6	11,646	0.58	7.90	137.0	31.91
1988	686.9	11,838	.70	6.72	144.4	34.19
1989						
January - March	179.0	11,860	.71	7.05	171.8	40.75
April - June	233.1	11,931	.74	6.74	174.0	41.51
July - September	139.8	11,929	.74	6.90	175.4	41.85
October - December	251.6	12,132	.77	8.41	172.9	41.96
Total	803.5	11,978	.74	7.36	173.4	41.54

See footnotes at the end of Table C6.

Table C6. Cost and Quality of Imported Coal Received at Electric Utility Plants by Origin, 1980-1990 (Continued)

Exporting Country and Time Period	Quantity (Thousand Short Tons)	Average Quality ¹			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Jacksonville Electric Authority, St Johns River Plant						
Colombia						
1990						
January - March	261.9	11,963	0.77	6.57	176.7	42.29
April - June	217.3	11,862	.78	7.25	178.3	42.30
Total	479.2	11,917	.78	6.88	177.4	42.29
Venezuela						
1989						
January - March	37.1	13,461	.48	4.00	141.0	37.96
Total	37.1	13,461	.48	4.00	141.0	37.96
1990						
April - June	40.1	12,288	.77	11.50	170.7	41.95
Total	40.1	12,288	.77	11.50	170.7	41.95
Company and Plant: Mississippi Power (Southern Co), Daniel Plant						
Colombia						
1987	65.9	12,206	0.49	4.27	173.5	42.35
Company and Plant: New England Power (NEES), Brayton Point Plant						
Canada						
1984	40.0	12,846	0.53	8.90	199.4	51.23
1985	42.7	12,622	.45	9.61	179.0	45.19
Colombia						
1987	29.0	11,928	.72	7.15	132.5	31.61
1989						
October - December	27.8	12,617	.67	9.09	167.1	42.17
Total	27.8	12,617	.67	9.09	167.1	42.17
1990						
January - March	30.1	12,837	.76	8.70	177.3	45.52
Total	30.1	12,837	.76	8.70	177.3	45.52
Venezuela						
1990						
January - March	69.8	12,773	.61	7.39	181.0	46.23
Total	69.8	12,773	.61	7.39	181.0	46.23
Company and Plant: New England Power (NEES), Salem Harbor Plant						
Colombia						
1989						
July - September	35.0	12,201	0.58	4.61	196.4	47.93
Total	35.0	12,201	.58	4.61	196.4	47.93
1990						
January - March	34.1	11,760	.73	6.84	180.7	42.50
Total	34.1	11,760	.73	6.84	180.7	42.50
Company and Plant: Public Serv Co of New Hampshire, Merrimack Plant						
Canada						
1987	14.1	13,100	1.80	8.50	171.0	44.80
1988	46.3	13,397	2.10	5.61	175.9	47.14
Company and Plant: Public Serv Co of New Hampshire, Schiller Plant						
Canada						
1987	1.5	13,100	1.80	8.50	146.5	38.38
1988	5.6	13,452	1.10	3.10	146.1	39.31

See footnotes at the end of Table C6.

Table C6. Cost and Quality of Imported Coal Received at Electric Utility Plants by Origin, 1980-1990 (Continued)

Exporting Country and Time Period	Quantity (Thousand Short Tons)	Average Quality ¹			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Public Serv Co of New Hampshire, Schiller Plant						
Canada						
1990						
January - March	30.6	13,459	1.30	5.90	181.0	48.72
Total	33.5	13,459	1.30	5.90	181.0	48.72
Colombia						
1987	9.2	11,825	.67	7.30	153.8	36.37
Venezuela						
1990						
January - March	28.9	12,886	.56	5.60	182.7	47.09
April - June	52.4	13,264	.48	4.34	193.0	51.21
Total	81.3	13,130	.51	4.79	189.4	49.74
Company and Plant: Public Serv Electric & Gas Co, Mercer Plant						
Colombia						
1989						
July - September	12.4	13,116	0.57	4.20	175.8	46.12
Total	12.4	13,116	.57	4.20	175.8	46.12
Venezuela						
1989						
July - September	6.0	13,215	.49	4.10	188.1	49.71
October - December	22.6	13,132	.52	4.70	188.2	49.43
Total	28.6	13,149	.51	4.57	188.2	49.49
Company and Plant: Savannah Electric and Power, McIntosh						
Colombia						
1989						
April - June	16.2	13,189	0.71	8.50	174.3	45.98
Total	16.2	13,189	.71	8.50	174.3	45.98
Company and Plant: Savannah Electric and Power, Port Wentworth						
Colombia						
1989						
April - June	7.0	13,189	0.71	8.40	168.5	44.45
Total	7.0	13,189	.71	8.40	168.5	44.45
Company and Plant: Tampa Electric, Big Bend Plant ²						
Poland						
1980	179.5	11,300	1.40	12.00	169.7	38.36
1984	109.1	12,624	.61	7.09	155.5	39.27
Company and Plant: Tampa Electric, Gannon Plant						
Poland						
1980	57.4	12,144	0.81	9.07	183.3	44.53
1984	.2	13,238	.75	4.40	143.5	38.00
Company and Plant: Virginia Electric and Power, Chesterfield Plant						
Colombia						
1985	29.0	11,795	0.73	7.70	175.4	41.38

See footnotes at the end of Table C6.

Table C6. Cost and Quality of Imported Coal Received at Electric Utility Plants by Origin, 1980-1990 (Continued)

Exporting Country and Time Period	Quantity (Thousand Short Tons)	Average Quality ¹			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Total Of U. S. Electric Utility Plants						
Australia						
1987	83.2	12,485	0.59	11.15	147.0	36.72
1988	38.4	12,415	.66	9.31	154.4	38.34
Canada						
1984	40.0	12,846	.53	8.90	199.4	51.23
1985	42.7	12,622	.45	9.61	179.0	45.19
1986	37.0	10,005	.63	13.50	133.4	26.70
1987	15.6	13,100	1.80	8.50	168.6	44.18
1988	51.9	13,403	1.99	5.34	172.7	46.29
1990						
January - March	33.6	13,459	1.30	5.90	181.0	48.72
Total	33.6	13,459	1.30	5.90	181.0	48.72
Colombia						
1984	17.7	12,588	.71	9.50	248.0	62.44
1985	390.7	12,432	.64	8.85	220.4	54.81
1986	418.3	12,257	.50	5.45	155.9	38.22
1987	568.1	12,094	.55	5.87	167.2	40.45
1988	686.9	11,838	.70	6.72	144.4	34.19
1989						
January - March	179.0	11,860	.71	7.05	171.8	40.75
April - June	279.3	12,106	.72	6.72	172.7	41.81
July - September	411.2	12,143	.64	5.97	189.8	46.09
October - December	279.4	12,180	.76	8.48	172.3	41.98
Total	1,148.8	12,099	.70	6.93	178.6	43.22
1990						
January - March	326.1	12,022	.77	6.79	177.2	42.61
April - June	217.3	11,862	.78	7.25	178.3	42.30
Total	543.4	11,958	.77	6.98	177.6	42.48
Poland						
1980	236.8	11,505	1.26	11.29	173.2	39.86
1984	109.3	12,625	.61	7.09	155.5	39.27
South Africa						
1980	749.8	11,908	.67	12.96	187.8	44.72
1981	712.3	11,894	.71	13.06	211.4	50.29
1982	605.0	11,950	.68	12.71	216.2	51.68
1983	813.7	12,056	.65	11.96	224.5	54.12
1984	616.4	11,914	.64	12.52	243.8	58.10
1985	865.5	11,757	.59	12.78	254.5	59.85
1986	1,030.5	11,755	.53	12.45	216.9	50.98
1987	79.3	11,650	.47	12.80	220.8	51.45
Venezuela						
1987	19.3	12,744	.68	7.90	150.0	38.23
1988	192.8	13,302	.49	3.57	137.6	36.62
1989						
January - March	37.1	13,461	.48	4.00	141.0	37.96
July - September	6.0	13,215	.49	4.10	188.1	49.71
October - December	22.6	13,132	.52	4.70	188.2	49.43
Total	65.7	13,325	.49	4.25	161.3	42.97
1990						
January - March	98.7	12,806	.59	6.86	181.5	46.48
April - June	92.5	12,841	.61	7.44	183.8	47.19
Total	191.2	12,823	.60	7.14	182.6	46.83

¹ Data reported on quality of coal as received.

² Average cost and quality data on imported coal delivered to the Crystal River Plant of Florida Power Corporation through August 1985 include coal delivered from Kentucky, Virginia, and West Virginia. Prior to January 1986, the average cost of imported coal delivered to the Crystal River Plant included transportation costs directly to the plant. Beginning in January 1986, the average delivered cost for imported coal to the Crystal River Plant includes only transportation costs to the transfer facility in Myrtle Grove, Louisiana and excludes the transportation costs of approximately \$7.00 to \$10.00 per short ton between the transfer facility and the Crystal River Plant.

³ Average cost data on coal delivered to Tampa Electric, Big Bend plant from the New Orleans transfer facility do not include the transportation cost of approximately \$5.00 per short ton from New Orleans to Tampa.

Notes: Total may not equal sum of components because of independent rounding. Data for 1988 have been revised and finalized.

Source: Federal Energy Regulatory Commission FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Baltimore Gas and Electric, Brandon Shores						
1984						
Kentucky	297.0	13,047	0.71	8.04	203.8	53.17
Virginia	15.0	12,405	.72	9.29	190.6	47.28
West Virginia	768.0	12,667	.69	9.76	197.7	50.08
Total	1,080.0	12,768	.70	9.28	199.3	50.89
1985						
Kentucky	273.0	13,020	.71	8.56	185.6	48.32
West Virginia	750.0	12,743	.71	9.87	190.0	48.42
Total	1,023.0	12,817	.71	9.52	188.8	48.39
1986						
Kentucky	338.0	13,036	.70	8.01	180.7	47.11
West Virginia	1,157.0	12,635	.72	10.23	172.6	43.61
Total	1,495.0	12,726	.72	9.73	174.5	44.40
1987						
Kentucky	316.0	13,047	.73	8.47	167.3	43.66
West Virginia	1,039.0	12,512	.73	11.06	164.3	41.11
Total	1,355.0	12,637	.73	10.46	165.0	41.71
1988						
Kentucky	320.0	13,063	.78	8.56	161.8	42.28
West Virginia	1,165.0	12,616	.71	10.64	158.6	40.01
Total	1,485.0	12,712	.72	10.19	159.3	40.50
1989						
Kentucky	608.0	12,888	.71	8.10	158.5	40.86
West Virginia	1,047.0	12,819	.73	8.95	154.6	39.63
Colombia	132.0	12,361	.57	5.30	193.3	47.79
Total	1,787.0	12,808	.71	8.39	158.7	40.65
1990						
January - March						
Kentucky	190.0	12,908	.73	8.24	165.2	42.65
West Virginia	409.0	12,660	.71	9.65	155.7	39.43
Total	599.0	12,739	.72	9.20	158.8	40.45
April - June						
Kentucky	94.0	12,981	.73	7.87	154.6	40.15
West Virginia	436.0	12,721	.69	9.79	156.3	39.75
Total	530.0	12,767	.69	9.44	156.0	39.82
Year to Date						
Kentucky	284.0	12,932	.73	8.12	161.7	41.82
West Virginia	845.0	12,691	.70	9.71	156.0	39.60
Total	1,129.0	12,752	.71	9.31	157.4	40.15
Company and Plant: Baltimore Gas and Electric, Wagner Plant						
1980						
Pennsylvania	179.8	12,983	0.89	8.15	178.1	46.26
West Virginia	490.0	12,880	.91	8.93	185.7	47.83
Total	669.8	12,908	.90	8.72	183.6	47.41
1981						
Pennsylvania	194.0	13,152	.90	8.33	199.0	52.34
West Virginia	340.0	12,811	.90	9.08	208.3	53.36
Total	534.0	12,935	.90	8.81	204.8	52.99
1982						
Pennsylvania	22.0	12,333	.85	9.70	171.2	42.23
West Virginia	601.0	12,976	.86	8.46	208.7	54.17
Total	623.0	12,954	.86	8.51	207.5	53.75
1983						
West Virginia	600.0	13,052	.85	7.99	201.2	52.53
Total	600.0	13,052	.85	7.99	201.2	52.53
1984						
West Virginia	424.0	13,078	.87	7.95	202.6	52.98
Total	424.0	13,078	.87	7.95	202.6	52.98
1985						
West Virginia	516.0	13,051	.88	8.18	191.9	50.09
Total	516.0	13,051	.88	8.18	191.9	50.09
1986						
Pennsylvania	6.0	12,535	.94	10.40	146.4	36.70
West Virginia	637.0	13,046	.88	7.93	177.3	46.26
Total	643.0	13,041	.88	7.95	177.0	46.17

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Baltimore Gas and Electric, Wagner Plant						
1987						
West Virginia	620.0	13,030	0.86	8.39	159.2	41.49
Total	620.0	13,030	.86	8.39	159.2	41.49
1988						
West Virginia	1,078.0	13,038	.83	8.49	153.4	40.00
Total	1,078.0	13,038	.83	8.49	153.4	40.00
1989						
Kentucky	36.0	12,959	.79	8.29	166.7	43.20
West Virginia	719.0	12,991	.85	8.49	155.8	40.49
Colombia	115.0	12,159	.60	6.00	196.2	47.71
Total	870.0	12,879	.81	8.16	161.3	41.56
1990						
January - March						
Kentucky	1.0	12,814	.74	8.80	167.2	42.85
West Virginia	149.0	13,015	.81	8.22	159.4	41.50
Total	150.0	13,014	.81	8.22	159.5	41.51
April - June						
West Virginia	328.0	13,016	.85	8.10	161.0	41.92
Total	328.0	13,016	.85	8.10	161.0	41.92
Year to Date						
Kentucky	1.0	12,814	.74	8.80	167.2	42.85
West Virginia	477.0	13,016	.84	8.14	160.5	41.79
Total	478.0	13,015	.84	8.14	160.5	41.79
Company and Plant: Central Power and Light (CSW), Coletto Creek Plant						
1980						
Colorado	982.7	10,555	0.36	6.52	207.9	43.88
Total	982.7	10,555	.36	6.52	207.9	43.88
1981						
Colorado	1,775.8	10,584	.32	6.03	225.9	47.82
Total	1,775.8	10,584	.32	6.03	225.9	47.82
1982						
Colorado	2,035.9	10,680	.34	5.53	246.7	52.69
Total	2,035.9	10,680	.34	5.53	246.7	52.69
1983						
Colorado	1,952.3	10,710	.35	5.39	245.6	52.61
Total	1,952.3	10,710	.35	5.39	245.6	52.61
1984						
Colorado	1,519.6	10,837	.39	6.50	254.6	55.18
New Mexico	253.8	12,922	.46	8.71	188.0	48.59
Total	1,773.4	11,136	.40	6.82	243.5	54.24
1985						
Colorado	1,430.7	10,842	.36	5.27	277.4	60.14
New Mexico	198.7	12,499	.48	11.60	190.1	47.51
Total	1,629.4	11,044	.38	6.04	265.3	58.60
1986						
Colorado	1,791.7	10,764	.34	5.18	221.8	47.76
Total	1,791.7	10,764	.34	5.18	221.8	47.76
1987						
Colorado	1,864.1	10,726	.36	5.38	208.2	44.67
Australia	57.1	12,549	.54	11.80	149.5	37.52
Colombia	37.2	11,951	.53	6.50	188.8	45.13
Total	1,958.4	10,802	.37	5.59	205.8	44.47
1988						
Colorado	1,711.8	10,827	.37	5.45	211.6	45.83
Utah	41.6	11,889	.53	8.59	161.9	38.50
Wyoming	74.7	9,908	.37	6.02	141.0	27.94
Total	1,912.1	10,815	.37	5.54	207.9	44.97
1989						
Colorado	1,537.4	10,705	.37	4.98	221.8	47.50
Utah	218.2	11,878	.54	6.56	170.8	40.59
Total	1,755.6	10,851	.39	5.17	214.9	46.64
1990						
January - March						
Colorado	423.1	10,577	.39	6.29	208.8	44.17
Total	423.1	10,577	.39	6.29	208.8	44.17

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Central Power and Light (CSW), Coletto Creek Plant						
1990						
April - June						
Colorado	529.4	10,615	0.36	5.90	202.3	42.95
Total	529.4	10,615	.36	5.90	202.3	42.95
Year to Date						
Colorado	952.5	10,598	.37	6.07	205.2	43.49
Total	952.5	10,598	.37	6.07	205.2	43.49
Company and Plant: Florida Power Corp, Crystal River Plant ³						
1980						
Illinois	759.0	11,748	1.96	9.79	205.0	48.17
Kentucky	1,161.0	11,767	1.93	9.81	206.0	48.47
Total	1,920.0	11,760	1.94	9.80	205.6	48.35
1981						
Illinois	582.5	11,834	1.86	9.99	227.3	53.80
Kentucky	1,900.5	11,802	1.88	10.26	236.1	55.72
Total	2,483.0	11,810	1.88	10.19	234.0	55.27
1982						
Illinois	102.5	12,144	1.30	10.24	244.4	59.35
Kentucky	1,889.4	11,972	1.57	10.46	243.0	58.19
Virginia	282.3	12,358	.93	8.94	274.1	67.74
West Virginia	338.3	12,547	.77	8.36	287.3	72.09
Wyoming	13.4	12,001	.68	8.20	283.1	67.95
Total	2,625.8	12,095	1.38	10.01	252.6	61.10
1983						
Illinois	304.6	12,138	1.32	10.07	249.1	60.46
Kentucky	1,625.5	12,189	1.23	10.07	249.1	60.72
Virginia	541.1	12,559	.81	9.15	270.3	67.90
West Virginia	976.1	12,622	.76	9.05	274.9	69.38
Total	3,447.2	12,365	1.04	9.64	259.9	64.28
1984						
Illinois	31.4	12,219	1.11	10.06	252.5	62.68
Kentucky	2,342.2	12,328	.98	10.13	248.8	61.34
Virginia	601.6	12,547	.74	9.73	251.0	62.99
West Virginia	1,069.1	12,572	.71	9.76	250.9	63.09
Colombia	17.7	12,588	.71	9.50	248.0	62.44
Total	4,062.1	12,425	.87	9.97	249.7	62.06
1985						
Kentucky	2,948.9	12,572	.87	9.63	220.3	55.40
Virginia	757.3	12,656	.68	9.09	244.6	61.91
West Virginia	695.4	12,690	.68	9.04	242.9	61.65
Colombia	361.7	12,483	.64	8.94	223.8	55.88
Total	4,763.4	12,596	.79	9.41	227.8	57.39
1986						
Alabama	27.5	12,083	.70	10.65	176.1	42.55
Kentucky	3,727.0	12,704	.89	8.79	185.8	47.20
Virginia	598.6	12,540	.71	9.23	246.7	61.88
West Virginia	1.8	12,651	.72	10.41	165.4	41.84
Canada	17.0	10,005	.63	13.50	133.4	26.70
Colombia	418.3	12,257	.50	5.45	155.9	38.22
Total	5,660.2	12,623	.82	8.85	188.2	47.51
1987						
Alabama	56.8	11,951	.65	11.20	168.8	40.36
Kentucky	3,938.5	12,702	.89	8.64	175.4	44.55
Virginia	795.0	12,463	.70	9.52	231.3	57.65
West Virginia	661.3	12,674	.72	10.08	182.9	46.35
Australia	26.1	12,345	.69	9.71	141.6	34.95
Colombia	333.3	12,236	.54	5.39	175.0	42.83
Venezuela	19.3	12,744	.68	7.90	150.0	38.23
Total	5,830.1	12,631	.82	8.77	183.4	46.34
1988						
Kentucky	3,811.8	12,743	.87	8.34	179.1	45.65
Virginia	845.7	12,514	.70	9.26	221.6	55.46
West Virginia	942.9	12,557	.75	10.09	183.9	46.19
Australia	38.4	12,415	.66	9.31	154.4	38.34
Venezuela	192.8	13,302	.49	3.57	137.6	36.62
Total	5,831.6	12,696	.81	8.60	184.4	46.81

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Florida Power Corp, Crystal River Plant ³						
1989						
Kentucky	4,059.1	12,670	0.88	8.24	162.1	41.09
Virginia	821.2	12,480	.72	8.99	233.7	58.33
West Virginia	783.6	12,569	.69	10.62	174.4	43.84
Total	5,663.8	12,628	.83	8.68	174.1	43.97
1990						
January - March						
Kentucky	993.3	12,744	.85	7.89	171.3	43.67
Virginia	214.3	12,352	.71	9.19	259.0	63.99
West Virginia	172.0	12,593	.69	10.03	182.9	46.06
Total	1,379.6	12,664	.81	8.36	186.0	47.12
April - June						
Kentucky	996.4	12,736	.86	8.10	162.1	41.29
Virginia	231.1	12,408	.72	9.02	242.1	60.08
West Virginia	179.4	12,656	.66	9.68	149.0	37.72
Total	1,406.8	12,672	.81	8.45	173.3	43.92
Year to Date						
Kentucky	1,989.7	12,740	.86	8.00	166.7	42.48
Virginia	445.4	12,381	.71	9.10	250.2	61.96
West Virginia	351.4	12,625	.68	9.85	165.6	41.80
Total	2,786.4	12,668	.81	8.41	179.6	45.51
Company and Plant: Gulf Power, Smith Plant						
1980						
Illinois	207.0	11,809	2.64	9.99	179.0	42.26
South Africa	749.8	11,908	.67	12.96	187.8	44.72
Total	956.8	11,886	1.10	12.32	185.9	44.19
1981						
Alabama	82.1	11,929	.75	13.50	220.2	52.54
Illinois	234.0	11,832	2.71	10.04	197.6	46.76
Kentucky	35.1	12,133	2.50	8.53	165.3	40.12
South Africa	712.3	11,894	.71	13.06	211.4	50.29
Total	1,063.5	11,891	1.21	12.28	207.5	49.35
1982						
Illinois	298.4	11,673	2.76	10.31	212.0	49.50
South Africa	605.0	11,950	.68	12.71	216.2	51.68
Total	903.4	11,858	1.37	11.91	214.9	50.96
1983						
Illinois	15.4	11,729	2.62	10.48	219.3	51.44
Kentucky	3.3	12,381	2.33	8.80	195.4	48.38
South Africa	813.7	12,056	.65	11.96	224.5	54.12
Total	832.4	12,051	.70	11.92	224.3	54.05
1984						
Alabama	12.6	12,321	3.08	11.82	208.6	51.40
South Africa	616.4	11,914	.64	12.52	243.8	58.10
Total	629.0	11,922	.68	12.50	243.1	57.96
1985						
Alabama	4.2	11,811	2.76	11.49	211.0	49.84
Kentucky	33.0	11,975	3.05	10.25	175.5	42.03
South Africa	865.5	11,757	.59	12.78	254.5	59.85
Total	902.7	11,765	.69	12.68	251.4	59.16
1986						
Kentucky	13.4	12,476	3.18	10.22	182.5	45.53
South Africa	1,030.5	11,755	.53	12.45	216.9	50.98
Total	1,043.9	11,764	.57	12.42	216.4	50.91
1987						
Alabama	17.5	11,982	3.00	13.90	118.2	28.33
Illinois	336.6	12,083	2.78	9.74	220.1	53.18
Kentucky	422.0	12,490	2.96	9.66	120.6	30.14
South Africa	79.3	11,650	.47	12.80	220.8	51.45
Total	855.4	12,242	2.66	10.07	168.0	41.14
1988						
Illinois	416.8	12,155	2.60	8.48	199.3	48.45
Kentucky	507.6	12,433	3.01	9.66	123.1	30.61
West Virginia	11.8	12,855	2.63	9.20	173.7	44.66
Total	936.2	12,315	2.82	9.13	157.2	38.73

See footnotes at the end of Table C7.

Appendix B

In days gone by, coal-fired steam locomotives hauled coal from mine to market. Diesel and electric locomotives have long since replaced these workhorses, but railroads continue to serve as the leading transporter of coal in the United States.

Figure B1. Trends in Coal Production, Imports, Consumption, Exports, and Stocks

Sources: Energy Information Administration, *Annual Energy Review 1989*; *Annual Energy Outlook 1990*; and Form EIA-6, "Coal Distribution Report."

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Mississippi Power (Southern Co), Daniel Plant						
1981						
Colorado	755.6	11,579	0.59	9.97	260.7	60.37
Utah	584.3	12,062	.55	7.62	278.6	67.21
Total	1,339.9	11,789	.57	8.95	268.7	63.36
1982						
Alabama	.1	11,531	1.00	13.90	100.7	23.22
Colorado	804.5	11,573	.61	9.40	286.5	66.32
Utah	815.0	12,076	.53	7.30	305.6	73.80
Total	1,619.6	11,826	.57	8.34	296.3	70.08
1983						
Colorado	875.6	11,648	.61	8.82	297.5	69.31
Utah	684.7	12,093	.54	7.18	315.1	76.21
Total	1,560.3	11,844	.58	8.10	305.4	72.34
1984						
Colorado	1,037.1	11,668	.63	8.67	305.7	71.33
Utah	608.2	12,103	.53	7.79	319.8	77.41
Total	1,645.3	11,829	.59	8.34	311.0	73.58
1985						
Colorado	1,182.0	11,725	.54	8.07	319.8	74.99
Utah	424.7	12,237	.53	8.03	329.6	80.67
Total	1,606.7	11,860	.54	8.06	322.5	76.49
1986						
Colorado	1,047.8	11,700	.54	7.05	322.0	75.34
Utah	226.4	12,126	.52	8.47	330.7	80.21
West Virginia	104.7	13,380	.72	5.95	195.3	52.25
Total	1,378.9	11,898	.55	7.81	312.6	74.39
1987						
Kentucky	1,130.2	13,002	.69	7.23	200.6	52.16
Virginia	138.9	13,400	.69	6.87	193.9	51.96
West Virginia	708.3	13,072	.67	7.72	213.7	55.86
Colombia	65.9	12,206	.49	4.27	173.5	42.35
Total	2,043.3	13,028	.68	7.28	203.8	53.11
1988						
Kentucky	1,911.1	13,007	.70	6.96	193.9	50.45
Virginia	64.2	13,458	.71	6.54	166.7	44.86
West Virginia	330.6	12,702	.68	9.29	159.2	40.43
Total	2,305.9	12,976	.70	7.28	188.3	48.86
1989						
Kentucky	1,105.2	13,031	.71	6.72	179.5	46.78
Total	1,105.2	13,031	.71	6.72	179.5	46.78
1990						
January - March						
Kentucky	197.6	13,076	.73	6.56	163.3	42.70
Total	197.6	13,076	.73	6.56	163.3	42.70
April - June						
Kentucky	332.8	12,930	.71	7.14	165.4	42.78
Total	332.8	12,930	.71	7.14	165.4	42.78
Year to Date						
Kentucky	530.4	12,984	.72	6.92	164.6	42.75
Total	530.4	12,984	.72	6.92	164.6	42.75
Company and Plant: New England Power (NEES), Brayton Point Plant						
1980						
Kentucky	77.3	13,708	1.17	4.72	197.5	54.15
Pennsylvania	100.2	13,080	1.26	8.61	191.8	50.17
Virginia	182.9	13,510	1.19	6.39	199.6	53.92
West Virginia	273.1	13,300	1.09	8.05	191.4	50.91
Total	633.5	13,376	1.16	7.26	194.6	52.06
1981						
Pennsylvania	176.6	13,030	1.44	7.36	243.7	63.51
Virginia	550.2	13,031	1.37	9.33	251.4	65.52
West Virginia	317.6	13,142	.98	8.85	239.6	62.97
Total	1,044.4	13,065	1.26	8.85	246.5	64.41
1982						
Pennsylvania	286.8	13,071	1.41	7.10	247.9	64.81
Virginia	895.6	13,134	1.28	7.32	255.5	67.11
West Virginia	977.0	13,142	1.15	8.34	244.3	64.20
Total	2,159.4	13,129	1.24	7.75	249.4	65.49

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Mississippi Power (Southern Co), Daniel Plant						
1981						
Colorado	755.6	11,579	0.59	9.97	260.7	60.37
Utah	584.3	12,062	.55	7.62	278.6	67.21
Total	1,339.9	11,789	.57	8.95	268.7	63.36
1982						
Alabama	.1	11,531	1.00	13.90	100.7	23.22
Colorado	804.5	11,573	.51	9.40	286.5	66.32
Utah	815.0	12,076	.53	7.30	305.6	73.90
Total	1,619.6	11,826	.57	8.34	296.3	70.08
1983						
Colorado	875.6	11,648	.61	8.82	297.5	69.31
Utah	684.7	12,093	.54	7.18	315.1	76.21
Total	1,560.3	11,844	.58	8.10	305.4	72.34
1984						
Colorado	1,037.1	11,668	.63	8.67	305.7	71.33
Utah	608.2	12,103	.53	7.79	319.8	77.41
Total	1,645.3	11,829	.59	8.34	311.0	73.58
1985						
Colorado	1,182.0	11,725	.54	8.07	319.8	74.99
Utah	424.7	12,237	.53	8.03	329.6	80.67
Total	1,606.7	11,860	.54	8.06	322.5	76.49
1986						
Colorado	1,047.8	11,700	.54	7.85	322.0	75.34
Utah	226.4	12,126	.52	8.47	330.7	80.21
West Virginia	104.7	13,380	.72	5.95	195.3	52.25
Total	1,378.9	11,898	.55	7.81	312.6	74.39
1987						
Kentucky	1,130.2	13,002	.69	7.23	200.6	52.16
Virginia	138.9	13,400	.69	6.87	193.9	51.96
West Virginia	708.3	13,072	.67	7.72	213.7	55.86
Colombia	65.9	12,206	.49	4.27	173.5	42.35
Total	2,043.3	13,028	.68	7.28	203.8	53.11
1988						
Kentucky	1,911.1	13,007	.70	6.96	193.9	50.45
Virginia	64.2	13,458	.71	6.54	166.7	44.86
West Virginia	330.6	12,702	.68	9.29	159.2	40.43
Total	2,305.9	12,976	.70	7.28	188.3	48.86
1989						
Kentucky	1,105.2	13,031	.71	6.72	179.5	46.78
Total	1,105.2	13,031	.71	6.72	179.5	46.78
1990						
January - March						
Kentucky	197.6	13,076	.73	6.56	163.3	42.70
Total	197.6	13,076	.73	6.56	163.3	42.70
April - June						
Kentucky	332.8	12,930	.71	7.14	165.4	42.78
Total	332.8	12,930	.71	7.14	165.4	42.78
Year to Date						
Kentucky	530.4	12,984	.72	6.92	164.6	42.75
Total	530.4	12,984	.72	6.92	164.6	42.75
Company and Plant: New England Power (NEES), Brayton Point Plant						
1980						
Kentucky	77.3	13,708	1.17	4.72	197.5	54.15
Pennsylvania	100.2	13,080	1.26	8.61	191.8	50.17
Virginia	182.9	13,510	1.19	6.39	199.6	53.92
West Virginia	273.1	13,300	1.09	8.05	191.4	50.91
Total	633.5	13,376	1.16	7.26	194.6	52.06
1981						
Pennsylvania	176.6	13,030	1.44	7.36	243.7	63.51
Virginia	550.2	13,031	1.37	9.33	251.4	65.52
West Virginia	317.6	13,142	.98	8.85	239.6	62.97
Total	1,044.4	13,065	1.26	8.85	246.5	64.41
1982						
Pennsylvania	286.8	13,071	1.41	7.10	247.9	64.81
Virginia	895.6	13,134	1.28	7.32	255.5	67.11
West Virginia	977.0	13,142	1.15	8.34	244.3	64.20
Total	2,159.4	13,129	1.24	7.75	249.4	65.49

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: New England Power (NEEs), Brayton Point Plant						
1983						
Pennsylvania	3.9	13,384	1.37	5.60	239.5	64.11
Virginia	689.1	13,221	1.21	7.05	235.4	62.24
West Virginia	1,114.3	13,112	1.19	8.72	219.1	57.45
Total	1,807.3	13,154	1.20	8.08	225.3	59.29
1984						
Kentucky	30.6	13,148	.76	6.20	188.6	49.59
Pennsylvania	39.8	13,346	1.34	6.70	194.9	52.02
Virginia	1,268.3	13,279	1.06	7.43	213.5	56.70
West Virginia	1,034.2	13,206	1.09	8.04	207.8	54.89
Canada	40.0	12,846	.53	6.90	199.4	51.23
Total	2,412.9	13,240	1.06	7.69	210.2	55.66
1985						
Pennsylvania	142.3	13,250	1.35	6.48	186.7	49.48
Virginia	695.0	13,282	1.10	7.30	196.8	52.82
West Virginia	1,232.5	13,263	1.12	8.25	191.3	50.74
Canada	42.7	12,622	.45	9.61	179.0	45.19
Total	2,112.5	13,256	1.12	7.84	193.2	51.23
1986						
Pennsylvania	121.8	13,402	1.24	6.23	170.6	45.72
Virginia	807.4	13,249	1.21	7.09	180.5	49.95
West Virginia	1,344.7	13,198	1.13	8.45	166.3	43.89
Total	2,273.9	13,227	1.17	7.85	174.4	46.14
1987						
Kentucky	21.0	12,838	.81	9.65	152.4	39.13
Maryland	78.3	13,171	1.24	8.89	146.9	38.69
Pennsylvania	106.4	13,209	1.18	7.13	159.6	42.15
Virginia	919.4	13,096	1.18	7.62	161.9	42.39
West Virginia	1,182.8	13,021	1.11	9.20	155.4	40.48
Colombia	29.0	11,928	.72	7.15	132.5	31.61
Total	2,336.9	13,049	1.14	8.47	157.6	41.13
1988						
Maryland	125.8	13,063	1.25	9.10	154.8	40.45
Pennsylvania	7.5	12,983	1.07	8.65	159.5	41.42
Virginia	1,127.2	13,097	1.18	7.91	158.7	41.58
West Virginia	1,294.0	13,058	1.22	8.92	156.0	40.74
Total	2,554.5	13,075	1.20	8.48	157.1	41.09
1989						
Kentucky	21.1	12,825	.89	9.12	137.6	35.29
Pennsylvania	520.3	13,060	1.47	5.49	157.7	41.20
Virginia	763.3	13,007	1.20	7.63	157.3	40.91
West Virginia	1,258.2	12,995	1.24	8.65	153.4	39.87
Colombia	27.8	12,617	.67	9.09	167.1	42.17
Total	2,590.7	13,006	1.26	8.52	155.4	40.43
1990						
January - March						
Pennsylvania	118.4	12,942	1.47	9.56	166.0	42.96
Virginia	175.9	12,857	1.22	8.34	164.4	42.28
West Virginia	307.6	12,957	1.31	8.32	163.4	42.34
Colombia	30.1	12,837	.76	8.70	177.3	45.52
Venezuela	69.8	12,773	.61	7.39	181.0	46.23
Total	701.8	12,906	1.22	8.46	166.4	42.95
April - June						
Kentucky	2.5	12,725	.79	6.96	173.8	44.23
Maryland	40.1	13,684	1.02	6.61	185.2	50.69
Pennsylvania	115.1	13,038	1.41	9.42	166.2	43.33
Virginia	175.0	12,887	1.29	8.52	171.3	44.16
West Virginia	228.4	13,111	1.25	8.29	164.7	43.20
Total	561.1	13,066	1.28	8.47	168.6	44.07
Year to Date						
Kentucky	2.5	12,725	.79	6.96	173.8	44.23
Maryland	40.1	13,684	1.02	6.61	185.2	50.69
Pennsylvania	233.5	12,990	1.44	9.49	166.1	43.14
Virginia	350.9	12,872	1.26	8.43	167.9	43.22
West Virginia	536.0	13,023	1.29	8.31	164.0	42.71
Colombia	30.1	12,837	.76	8.70	177.3	45.52
Venezuela	69.8	12,773	.61	7.39	181.0	46.23
Total	1,262.9	12,977	1.25	8.46	167.4	43.45

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: New England Power (NEES), Salem Harbor Plant						
1982						
Pennsylvania	372.9	13,247	1.38	6.13	252.9	67.01
Virginia	133.1	13,167	1.28	7.37	262.2	69.04
West Virginia	36.1	13,340	1.39	8.26	259.6	69.26
Total	542.1	13,234	1.36	6.58	255.6	67.66
1983						
Pennsylvania	606.5	13,308	1.32	5.87	246.9	65.70
Virginia	37.1	13,740	1.41	5.60	205.0	56.33
Total	643.6	13,333	1.33	5.85	244.4	65.16
1984						
Pennsylvania	507.2	13,341	1.33	6.11	220.7	58.89
Virginia	248.1	13,345	1.06	6.89	217.8	58.14
Total	755.3	13,343	1.24	6.37	219.8	58.64
1985						
Kentucky	.1	13,443	.86	8.10	183.2	49.26
Pennsylvania	388.6	13,357	1.32	6.34	197.6	52.79
Virginia	391.7	13,279	1.15	7.18	206.0	54.70
West Virginia	111.4	13,445	1.07	7.58	187.7	50.46
Total	891.8	13,334	1.22	6.87	200.0	53.34
1986						
Pennsylvania	235.6	13,362	1.27	6.42	179.0	47.85
Virginia	242.0	13,210	1.22	6.99	191.2	50.51
West Virginia	433.8	13,144	1.14	8.60	163.6	43.01
Total	911.4	13,218	1.20	7.61	175.0	46.25
1987						
Pennsylvania	137.1	13,265	1.31	6.03	159.7	42.36
Virginia	279.9	13,073	1.16	7.79	166.4	43.52
West Virginia	237.1	13,176	1.18	9.07	156.9	41.34
Total	654.1	13,151	1.20	7.89	161.5	42.49
1988						
Maryland	5.2	13,324	1.12	7.76	152.8	40.71
Pennsylvania	14.2	13,291	1.64	8.08	156.1	41.50
Virginia	383.8	13,063	1.15	8.22	165.3	43.20
West Virginia	447.8	13,024	1.22	9.19	159.2	41.48
Total	851.0	13,048	1.19	8.72	161.9	42.25
1989						
Kentucky	1.7	12,825	.89	9.12	137.9	35.37
Pennsylvania	15.8	13,073	1.51	9.29	162.8	42.56
Virginia	467.9	12,919	1.25	7.98	158.8	41.02
West Virginia	334.2	12,931	1.09	8.43	159.7	41.29
Colombia	35.0	12,201	.58	4.61	196.4	47.93
Total	854.6	12,897	1.16	8.05	160.6	41.43
1990						
January - March						
Pennsylvania	74.0	13,090	1.50	8.72	177.9	46.56
Virginia	80.1	12,883	1.25	8.35	167.1	43.04
West Virginia	88.6	13,029	1.29	8.29	170.9	44.53
Colombia	34.1	11,760	.73	6.84	180.7	42.50
Total	276.8	12,847	1.27	8.25	172.8	44.39
April - June						
Pennsylvania	110.8	13,177	1.38	7.92	177.7	46.82
West Virginia	136.7	13,119	1.29	7.32	172.9	45.36
Total	247.5	13,145	1.33	7.59	175.0	46.01
Year to Date						
Pennsylvania	184.8	13,142	1.43	8.24	177.7	46.72
Virginia	80.1	12,883	1.25	8.35	167.1	43.04
West Virginia	225.3	13,084	1.29	7.70	172.1	45.03
Colombia	34.1	11,760	.73	6.84	180.7	42.50
Total	524.3	12,988	1.30	7.94	173.9	45.16
Company and Plant: Public Serv Co of New Hampshire, Merrimack Plant						
1980						
Pennsylvania	140.4	12,993	2.30	7.67	162.4	42.20
West Virginia	911.9	13,472	2.58	7.82	159.4	42.96
Total	1,052.3	13,408	2.54	7.80	159.8	42.86

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Public Serv Co of New Hampshire, Merrimack Plant						
1981						
West Virginia	858.0	13,476	2.52	7.73	171.5	46.23
Total	858.0	13,476	2.52	7.73	171.5	46.23
1982						
Pennsylvania	25.8	12,698	1.59	8.57	179.8	45.66
West Virginia	836.2	13,545	2.43	7.92	188.6	51.11
Total	862.0	13,520	2.40	7.94	188.4	50.94
1983						
West Virginia	1,016.0	13,547	2.52	7.80	193.8	52.50
Total	1,016.0	13,547	2.52	7.80	193.8	52.50
1984						
West Virginia	1,187.9	13,547	2.55	7.71	199.9	54.17
Total	1,187.9	13,547	2.55	7.71	199.9	54.17
1985						
Pennsylvania	36.9	13,414	1.44	6.51	196.1	52.62
West Virginia	1,014.6	13,551	2.49	7.53	194.6	52.75
Total	1,051.5	13,546	2.45	7.49	194.7	52.75
1986						
Kentucky	80.1	13,527	1.26	4.82	223.6	60.50
West Virginia	718.4	13,517	2.34	7.55	191.7	51.82
Total	798.5	13,518	2.23	7.28	194.9	52.69
1987						
Virginia	6.6	14,114	.86	5.00	193.2	54.54
West Virginia	928.9	13,474	2.41	7.34	191.8	51.68
Canada	14.1	13,100	1.80	8.50	171.0	44.80
Total	949.6	13,473	2.39	7.34	191.5	51.60
1988						
Pennsylvania	147.7	13,150	1.64	6.54	173.4	45.61
West Virginia	998.3	13,374	2.47	7.22	176.6	47.24
Canada	46.3	13,397	2.10	5.61	175.9	47.14
Total	1,192.3	13,347	2.36	7.07	176.2	47.04
1989						
Ohio	16.3	12,534	3.00	7.20	182.7	45.80
Pennsylvania	220.8	13,201	1.30	6.56	174.3	46.02
Virginia	42.0	14,014	1.19	5.27	216.9	60.79
West Virginia	744.9	13,404	2.29	6.94	168.2	45.08
Total	1,024.0	13,371	2.04	6.79	171.8	45.94
1990						
January - March						
Pennsylvania	18.5	13,160	1.28	6.90	174.7	45.98
West Virginia	257.2	13,414	2.34	7.18	172.6	46.31
Total	275.7	13,397	2.27	7.16	172.7	46.29
April - June						
Pennsylvania	29.6	13,202	1.40	6.63	178.8	47.20
West Virginia	101.9	13,353	2.37	7.01	174.3	46.54
Total	131.5	13,319	2.15	6.92	175.3	46.69
Year to Date						
Pennsylvania	48.1	13,186	1.35	6.74	177.2	46.73
West Virginia	359.1	13,397	2.35	7.13	173.1	46.37
Total	407.2	13,372	2.23	7.09	173.6	46.42
Company and Plant: Public Serv Co of New Hampshire, Schiller Plant						
1984						
Virginia	19.5	13,135	1.03	7.80	214.8	56.43
Total	19.5	13,135	1.03	7.80	214.8	56.43
1985						
Virginia	381.2	13,193	1.02	8.12	218.4	57.63
Total	381.2	13,193	1.02	8.12	218.4	57.63
1986						
Virginia	143.6	13,007	1.00	8.38	222.9	57.99
West Virginia	10.2	13,765	.98	6.36	198.6	54.66
Total	153.8	13,058	1.00	8.24	221.2	57.77
1987						
Virginia	69.6	13,176	1.15	8.08	192.3	50.67
West Virginia	85.6	13,155	1.19	7.99	199.6	52.53
Canada	1.5	13,100	1.80	8.50	146.5	38.38
Colombia	9.2	11,825	.67	7.30	153.8	36.37
Total	165.9	13,090	1.15	7.99	193.8	50.73

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Public Serv Co of New Hampshire, Schiller Plant						
1988						
Virginia	9.7	12,993	1.10	8.30	198.7	51.63
West Virginia	54.0	13,071	1.23	7.92	210.9	55.13
Canada	5.6	13,452	1.10	3.10	146.1	39.31
Total	69.3	13,091	1.20	7.58	203.8	53.36
1989						
West Virginia	40.0	13,043	.76	7.17	200.6	52.33
Total	40.0	13,043	.76	7.17	200.6	52.33
1990						
January - March						
Kentucky	17.2	12,968	.88	6.60	201.2	52.20
Pennsylvania	8.4	12,972	1.10	6.53	185.1	48.02
West Virginia	30.8	12,956	.89	6.92	194.8	50.47
Canada	33.6	13,459	1.30	5.90	181.0	48.72
Venezuela	28.9	12,886	.56	5.60	182.7	47.09
Total	118.9	13,084	.94	6.24	188.1	49.23
April - June						
Pennsylvania	13.5	13,134	1.44	6.50	183.5	48.20
West Virginia	39.4	12,999	.85	7.94	195.8	50.89
Venezuela	52.4	13,264	.48	4.34	193.0	51.21
Total	105.3	13,148	.74	5.96	192.8	50.70
Year to Date						
Kentucky	17.2	12,968	.88	6.60	201.2	52.20
Pennsylvania	21.9	13,072	1.31	6.51	184.1	48.13
West Virginia	70.2	12,980	.87	7.50	195.3	50.71
Canada	33.6	13,459	1.30	5.90	181.0	48.72
Venezuela	81.3	13,130	.51	4.79	189.4	49.74
Total	224.2	13,114	.85	6.11	190.3	49.92
Company and Plant: Public Serv Electric & Gas Co, Mercer Plant						
1980						
Georgia	5.1	13,739	0.89	5.79	215.1	59.10
Pennsylvania	90.2	13,190	1.30	8.11	185.0	48.80
Tennessee	.4	13,443	1.04	7.10	208.7	56.11
Virginia	510.0	13,463	1.21	6.88	211.7	57.01
West Virginia	365.3	13,262	1.23	8.02	187.9	49.84
Total	971.0	13,363	1.22	7.42	200.4	53.56
1981						
Kentucky	1.5	13,125	1.32	5.73	254.1	66.71
Pennsylvania	151.0	13,231	1.31	6.70	219.4	58.05
Virginia	502.8	13,400	1.20	6.99	236.6	63.40
West Virginia	410.5	13,365	1.15	7.23	213.6	57.10
Total	1,065.8	13,362	1.20	7.04	225.4	60.22
1982						
Kentucky	.1	13,018	1.06	7.00	242.3	63.09
Pennsylvania	113.0	13,245	1.25	6.39	220.3	58.36
Virginia	534.4	13,481	.90	6.89	243.0	65.51
West Virginia	493.7	13,356	1.18	7.06	224.0	59.84
Total	1,141.2	13,403	1.06	6.91	232.6	62.35
1983						
Virginia	673.0	13,504	.97	6.51	216.7	58.52
West Virginia	549.1	13,427	1.11	6.87	208.4	55.97
Total	1,222.1	13,469	1.03	6.67	213.0	57.37
1984						
Virginia	735.2	13,430	.98	6.76	212.9	57.17
West Virginia	552.1	13,503	1.12	6.72	198.1	53.11
Total	1,287.3	13,461	1.04	6.75	206.5	55.60
1985						
Kentucky	.5	13,436	1.45	8.50	176.4	47.40
Pennsylvania	7.6	13,428	1.22	6.70	187.6	50.38
Virginia	703.0	13,507	1.06	6.37	204.3	55.19
West Virginia	389.3	13,469	1.09	6.97	188.0	50.65
Total	1,100.4	13,493	1.07	6.59	198.4	53.55
1986						
Virginia	530.1	13,545	1.04	6.03	198.9	53.87
West Virginia	258.0	13,333	1.05	7.31	185.8	49.56
Total	788.1	13,476	1.04	6.45	194.6	52.46

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Public Serv Electric & Gas Co, Mercer Plant						
1987						
Virginia	647.2	13,594	1.01	5.96	194.2	52.81
West Virginia	146.9	13,268	1.07	8.69	184.8	49.04
Total	794.1	13,534	1.03	6.46	192.5	52.11
1988						
Virginia	883.0	13,719	.83	5.87	172.2	47.26
West Virginia	1.4	13,222	.70	9.26	162.2	42.90
Total	884.4	13,718	.83	5.87	172.2	47.25
1989						
Kentucky	.3	12,997	.74	7.40	190.9	49.62
Virginia	1,121.6	13,878	.85	5.30	172.7	47.94
West Virginia	14.5	13,421	.87	7.32	173.3	46.51
Colombia	12.4	13,116	.57	4.20	175.8	46.12
Venezuela	28.6	13,149	.51	4.57	188.2	49.49
Total	1,177.4	13,846	.84	5.29	173.1	47.94
1990						
January - March						
Virginia	393.0	14,118	.82	4.58	175.8	49.64
Total	393.0	14,118	.82	4.58	175.8	49.64
April - June						
Kentucky	.1	13,045	.84	7.10	189.2	49.36
Virginia	299.7	14,160	.83	4.62	178.1	50.44
Total	299.8	14,159	.83	4.62	178.1	50.44
Year to Date						
Kentucky	.1	13,045	.84	7.10	189.2	49.36
Virginia	692.7	14,136	.82	4.59	176.8	49.99
Total	692.8	14,136	.82	4.60	176.8	49.99
Company and Plant: Savannah Electric and Power, McIntosh						
1982						
Kentucky	71.8	12,511	1.01	9.77	191.0	47.80
Virginia	264.3	12,789	.92	10.41	189.3	48.43
Total	336.1	12,730	.94	10.28	189.7	48.30
1983						
Kentucky	2.6	12,867	1.20	10.00	170.7	43.93
Tennessee	.9	12,828	.91	6.93	165.0	42.33
Virginia	371.4	13,079	.90	9.20	182.5	47.75
Total	374.9	13,077	.90	9.20	182.4	47.71
1984						
Kentucky	61.5	12,831	.92	9.36	188.6	48.39
Virginia	370.3	12,968	.90	9.25	189.5	49.15
Total	431.8	12,948	.90	9.26	189.4	49.04
1985						
Kentucky	133.8	13,000	1.00	6.26	180.3	46.89
Virginia	182.8	12,951	.85	9.09	176.5	45.70
Total	316.6	12,972	.92	7.89	178.1	46.20
1986						
Kentucky	166.0	12,878	.94	7.53	167.1	43.03
Virginia	248.7	12,896	.86	9.07	169.3	43.66
Total	414.8	12,889	.89	8.45	168.4	43.41
1987						
Kentucky	264.9	12,976	.79	7.75	165.1	42.84
Virginia	151.8	12,863	.83	9.05	163.0	41.94
Total	416.7	12,935	.81	8.23	164.3	42.51
1988						
Kentucky	461.6	12,905	.81	7.11	171.5	44.27
Total	461.6	12,905	.81	7.11	171.5	44.27
1989						
Kentucky	404.1	12,389	.95	8.93	177.0	43.85
Virginia	32.9	12,374	1.08	9.18	196.2	48.55
Colombia	16.2	13,189	.71	8.50	174.3	45.98
Total	453.1	12,416	.95	8.93	178.3	44.27
1990						
January - March						
Kentucky	48.4	12,477	.88	9.36	178.3	44.50
Total	48.4	12,477	.88	9.36	178.3	44.50

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Savannah Electric and Power, McIntosh						
1990						
April - June						
Kentucky	67.1	12,430	0.80	9.76	173.7	43.19
Total	67.1	12,430	.80	9.76	173.7	43.19
Year to Date						
Kentucky	115.5	12,450	.84	9.59	175.7	43.74
Total	115.5	12,450	.84	9.59	175.7	43.74
Company and Plant: Savannah Electric and Power, Port Wentworth						
1980						
Kentucky	255.4	12,165	0.84	11.92	165.4	40.23
Tennessee	68.5	12,256	1.22	11.97	162.4	39.82
Virginia	256.2	12,328	.97	11.65	161.3	39.77
Total	580.1	12,248	.94	11.81	163.2	39.98
1981						
Kentucky	259.2	12,116	.98	12.05	190.9	46.26
Tennessee	154.1	12,176	1.12	10.37	184.6	44.97
Virginia	265.8	12,209	.98	12.02	190.4	46.49
West Virginia	3.1	12,436	1.18	11.54	179.5	44.65
Total	682.3	12,167	1.01	11.66	189.2	46.05
1982						
Kentucky	110.5	12,311	.93	10.53	188.1	46.30
Tennessee	25.0	13,116	1.03	7.72	205.7	53.97
Virginia	291.3	12,780	.92	9.57	193.7	49.50
Total	426.8	12,678	.93	9.71	193.0	48.94
1983						
Tennessee	5.9	12,886	1.32	7.70	172.4	44.43
Virginia	413.4	13,145	1.00	8.35	178.5	46.93
Total	419.2	13,141	1.00	8.34	178.4	46.90
1984						
Kentucky	67.5	12,565	.88	8.99	192.9	48.48
Tennessee	30.1	12,564	1.25	9.65	189.8	47.70
Virginia	439.3	12,982	.97	8.65	186.9	48.53
Total	536.9	12,906	.97	8.75	187.8	48.48
1985						
Kentucky	39.2	12,800	.91	8.54	174.9	44.78
Tennessee	79.7	12,454	1.32	10.12	179.8	44.79
Virginia	324.6	13,009	1.04	8.85	178.5	46.45
West Virginia	10.8	13,684	.80	5.65	176.7	48.37
Total	454.3	12,910	1.07	8.97	178.4	46.06
1986						
Tennessee	3	13,043	.91	7.70	137.7	35.92
Virginia	435.3	12,983	.82	9.11	168.2	43.67
West Virginia	8.0	12,439	.99	9.45	167.8	41.75
Total	443.5	12,974	.83	9.11	168.1	43.63
1987						
Virginia	360.3	13,132	.93	9.16	164.3	43.16
Total	360.3	13,132	.93	9.16	164.3	43.16
1988						
Kentucky	37.7	12,965	.84	7.70	168.7	43.74
Virginia	371.0	13,008	.90	8.98	168.6	43.86
Total	408.7	13,004	.89	8.87	168.6	43.85
1989						
Kentucky	160.9	12,714	.94	9.20	172.4	43.84
Tennessee	7.7	12,834	1.08	7.46	183.2	47.02
Virginia	333.2	12,920	1.04	8.70	173.1	44.72
Colombia	7.0	13,189	.71	8.40	168.5	44.45
Total	508.8	12,858	1.00	8.84	173.0	44.48
1990						
January - March						
Virginia	89.2	12,945	1.14	8.25	172.9	44.76
Total	89.2	12,945	1.14	8.25	172.9	44.76
April - June						
Virginia	64.7	12,955	1.07	8.90	167.0	43.26
Total	64.7	12,955	1.07	8.90	167.0	43.26

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Savannah Electric and Power, Port Wentworth						
1990						
Year to Date						
Virginia	153.9	12,949	1.11	8.52	170.4	44.13
Total	153.9	12,949	1.11	8.52	170.4	44.13
Company and Plant: Tampa Electric, Big Bend Plant ⁴						
1980						
Illinois	44.8	11,000	3.00	9.50	169.8	37.35
Kentucky	2,418.9	11,559	3.02	11.17	145.0	33.51
Oklahoma	36.6	12,190	.60	8.10	175.5	42.79
Tennessee	39.9	11,300	1.40	12.00	199.2	45.03
Poland	179.5	11,300	1.40	12.00	169.7	38.36
Total	2,719.7	11,537	2.85	11.17	148.2	34.19
1981						
Illinois	120.1	11,000	3.00	13.49	151.1	33.23
Indiana	51.1	11,400	2.20	8.50	157.9	36.00
Kentucky	2,418.0	11,533	2.97	11.18	162.7	37.53
Missouri	26.0	12,390	.65	8.56	191.7	47.50
Oklahoma	234.5	12,445	.64	8.19	202.7	50.46
Total	2,849.6	11,591	2.74	10.96	166.0	38.47
1982						
Indiana	7.1	10,406	1.50	8.60	143.9	29.94
Kentucky	2,548.4	11,578	2.98	10.32	164.0	37.97
Oklahoma	317.0	12,699	.71	8.04	211.5	53.70
Texas	19.8	12,636	.66	8.57	209.5	52.93
Total	2,892.3	11,705	2.71	10.58	169.9	39.77
1983						
Illinois	22.2	11,705	3.00	11.00	132.4	31.00
Kentucky	2,996.6	11,563	3.03	11.08	167.6	38.75
Oklahoma	253.3	13,230	.70	6.91	191.3	50.63
Total	3,272.1	11,693	2.85	10.75	169.4	39.62
1984						
Colorado	32.2	11,876	.39	16.45	216.8	51.49
Illinois	460.4	11,276	2.94	10.30	141.8	31.98
Kentucky	3,459.3	11,849	2.58	9.40	178.5	42.31
Oklahoma	437.8	12,874	.59	6.74	184.8	47.59
Pennsylvania	1.6	13,000	1.50	8.00	119.2	31.00
Virginia	11.1	13,326	.56	4.38	174.1	46.39
Poland	109.1	12,624	.61	7.09	155.5	39.27
Total	4,511.6	11,913	2.36	9.22	175.3	41.77
1985						
Illinois	1,694.4	11,034	2.97	9.87	194.3	42.87
Kentucky	3,127.8	12,112	2.29	8.41	179.9	43.58
Oklahoma	170.7	12,826	.60	6.37	178.6	45.81
Virginia	114.0	13,353	.65	5.09	192.6	51.43
Total	5,106.9	11,806	2.42	8.75	184.6	43.60
1986						
Illinois	1,217.3	11,118	2.98	9.52	193.2	42.97
Indiana	16.4	11,087	2.36	11.20	92.5	20.51
Kentucky	3,537.4	12,241	2.20	7.95	183.4	44.91
Oklahoma	249.4	12,859	.58	6.28	190.9	49.09
Virginia	85.5	13,242	.69	6.36	199.7	52.89
West Virginia	74.9	13,097	2.51	9.05	182.3	47.75
Total	5,180.9	12,032	2.28	8.23	185.9	44.75
1987						
Illinois	1,151.2	11,483	2.82	9.25	165.2	37.94
Indiana	258.8	11,071	2.89	9.40	119.0	26.35
Kentucky	4,416.1	12,412	2.03	7.73	183.0	45.44
Oklahoma	416.7	12,397	.76	8.19	194.2	48.15
West Virginia	232.8	13,069	2.62	8.45	152.3	39.80
Total	6,475.7	12,216	2.15	8.13	177.3	43.31
1988						
Illinois	1,172.0	11,090	2.84	9.07	173.9	38.57
Indiana	91.1	11,043	2.79	9.32	118.6	26.19
Kentucky	3,984.0	12,392	2.13	7.72	170.0	42.12
Oklahoma	53.3	12,582	.69	7.16	202.0	50.84
West Virginia	705.1	13,132	2.52	8.14	154.5	40.57
Total	6,005.5	12,206	2.32	8.05	168.3	41.08

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Tampa Electric, Big Bend Plant ⁴						
1989						
Illinois	939.0	11,058	2.85	9.08	179.2	39.64
Indiana	271.9	11,258	3.31	9.32	98.2	22.11
Kentucky	4,356.1	12,579	2.02	7.42	167.2	42.07
Tennessee	89.6	12,733	1.02	6.79	216.1	55.03
West Virginia	563.4	13,186	2.13	7.80	184.1	48.55
Total	6,220.1	12,349	2.19	7.78	168.4	41.60
1990						
January - March						
Illinois	343.4	11,035	2.90	8.85	189.5	41.82
Indiana	127.8	11,278	3.28	8.96	109.2	24.63
Kentucky	1,028.1	12,529	2.23	7.69	176.8	44.31
Tennessee	35.1	12,685	1.02	7.54	221.3	56.15
West Virginia	123.4	13,287	2.04	7.28	195.5	51.94
Total	1,657.9	12,183	2.41	8.00	176.9	43.10
April - June						
Illinois	277.2	11,037	2.92	8.90	189.2	41.77
Indiana	116.9	11,251	3.11	8.69	108.5	24.42
Kentucky	948.2	12,476	2.27	7.83	179.4	44.76
Tennessee	26.7	12,878	1.12	6.38	216.9	55.87
West Virginia	145.0	13,212	1.97	7.27	184.6	48.77
Total	1,514.0	12,196	2.40	8.01	177.2	43.22
Year to Date						
Illinois	620.6	11,036	2.91	8.87	189.4	41.80
Indiana	244.7	11,265	3.20	8.83	108.9	24.53
Kentucky	1,976.3	12,504	2.25	7.76	178.1	44.53
Tennessee	61.8	12,768	1.06	7.04	219.4	56.03
West Virginia	268.4	13,247	2.00	7.27	189.6	50.23
Total	3,171.9	12,189	2.41	8.00	177.0	43.16
Company and Plant: Tampa Electric, Gannon Plant						
1980						
Alabama	3.4	12,737	1.51	8.30	200.3	51.02
Kentucky	997.9	12,385	1.29	8.60	211.3	52.34
Tennessee	68.5	12,522	1.48	9.15	188.4	47.19
Poland	57.4	12,144	.81	9.07	183.3	44.53
Total	1,127.2	12,382	1.28	8.65	208.5	51.63
1981						
Kentucky	1,060.0	12,282	1.32	8.64	233.4	57.34
Total	1,060.0	12,282	1.32	8.64	233.4	57.34
1982						
Kentucky	1,068.0	12,364	1.22	8.35	246.1	60.86
Total	1,068.0	12,364	1.22	8.35	246.1	60.86
1983						
Kentucky	1,161.2	13,016	1.13	5.98	250.8	65.29
Total	1,161.2	13,016	1.13	5.98	250.8	65.29
1984						
Alabama	11.2	12,407	.93	5.35	229.9	57.04
Kentucky	1,239.9	12,956	1.13	6.79	244.0	63.23
Tennessee	13.4	12,500	1.25	9.00	215.0	53.76
Poland	.2	13,238	.75	4.40	143.5	38.00
Total	1,264.7	12,946	1.13	6.80	243.6	63.07
1985						
Kentucky	757.5	12,812	1.09	6.74	238.3	61.08
Total	757.5	12,812	1.09	6.74	238.3	61.08
1986						
Kentucky	450.9	13,013	1.05	6.18	227.9	59.32
Total	450.9	13,013	1.05	6.18	227.9	59.32
1987						
Kentucky	471.7	12,952	1.09	6.18	232.3	60.17
Total	471.7	12,952	1.09	6.18	232.3	60.17
1988						
Kentucky	743.4	12,895	1.11	6.00	236.6	61.03
Total	743.4	12,895	1.11	6.00	236.6	61.03

See footnotes at the end of Table C7.

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Tampa Electric, Gannon Plant						
1989						
Kentucky	453.6	12,769	1.12	6.45	232.1	59.27
Total	453.6	12,769	1.12	6.45	232.1	59.27
1990						
January - March						
Kentucky	85.3	12,745	1.12	6.23	238.3	60.75
Total	85.3	12,745	1.12	6.23	238.3	60.75
April - June						
Kentucky	141.9	12,850	1.14	6.44	238.7	61.35
Total	141.9	12,850	1.14	6.44	238.7	61.35
Year to Date						
Kentucky	227.2	12,811	1.13	6.36	238.6	61.13
Total	227.2	12,811	1.13	6.36	238.6	61.13
Company and Plant: Virginia Electric and Power, Chesterfield Plant						
1980						
Kentucky	756.0	12,770	1.29	8.36	192.9	49.26
Virginia	3.0	13,249	.93	8.50	169.0	44.79
Total	759.0	12,772	1.29	8.36	192.8	49.24
1981						
Kentucky	1,370.0	12,606	1.06	9.59	191.4	48.25
Tennessee	2.0	12,326	1.48	10.80	207.6	51.18
Virginia	55.0	12,663	.99	10.54	199.7	50.58
West Virginia	145.0	12,433	.86	10.28	202.4	50.33
Total	1,572.0	12,592	1.04	9.69	192.7	48.52
1982						
Kentucky	1,812.0	12,615	1.02	8.96	189.7	47.86
Virginia	95.0	12,636	.92	9.85	189.1	47.79
West Virginia	122.0	12,465	1.04	9.65	179.9	44.85
Total	2,029.0	12,607	1.01	9.05	189.1	47.67
1983						
Kentucky	1,184.0	12,572	1.04	8.92	157.3	39.56
Virginia	391.0	12,743	1.19	9.88	162.0	41.28
West Virginia	636.0	12,758	.90	8.88	155.6	39.71
Total	2,211.0	12,656	1.02	9.08	157.6	39.90
1984						
Kentucky	2,197.0	12,504	1.06	9.26	177.5	44.38
Pennsylvania	2.0	12,500	1.00	10.00	185.0	46.25
Virginia	599.0	12,590	1.21	9.88	179.9	45.31
West Virginia	163.0	12,620	.91	9.25	174.5	44.04
Total	2,961.0	12,528	1.08	9.38	177.8	44.55
1985						
Kentucky	1,352.0	12,849	1.02	8.20	175.9	45.21
Virginia	415.0	12,919	1.10	8.83	177.8	45.94
West Virginia	373.0	12,791	.80	8.73	178.8	45.74
Colombia	29.0	11,795	.73	7.70	175.4	41.38
Total	2,169.0	12,838	.99	8.41	176.8	45.39
1986						
Kentucky	1,065.0	12,937	1.08	7.89	166.6	43.11
Virginia	367.0	13,179	1.09	7.80	182.3	48.05
West Virginia	949.0	12,802	.79	9.17	155.8	39.90
Total	2,381.0	12,921	.97	8.39	164.8	42.59
1987						
Kentucky	752.0	12,723	1.02	9.08	153.5	39.06
Virginia	783.0	12,725	1.06	9.31	152.9	38.92
West Virginia	1,210.0	12,790	.80	9.74	150.7	38.55
Total	2,745.0	12,753	.93	9.44	152.1	38.80
1988						
Kentucky	834.0	12,711	1.09	8.63	148.0	37.62
Virginia	322.0	12,952	1.05	8.31	154.5	40.01
West Virginia	1,130.0	12,738	.74	9.40	151.9	38.69
Total	2,286.0	12,758	.91	8.97	150.8	38.49
1989						
Kentucky	1,699.8	12,613	1.01	8.59	152.8	38.55
Virginia	120.4	12,691	1.12	9.23	166.1	42.17
West Virginia	1,040.3	12,609	.80	9.30	147.3	37.14
Total	2,860.5	12,615	.94	8.87	151.4	38.19

See footnotes at the end of Table C7

**Table C7. Cost and Quality of All Coal Received at Electric Utility Plants¹
by Origin, 1980-1990 (Continued)**

Time Period and State or Country of Origin	Quantity (Thousand Short Tons)	Average Quality ²			Average Cost Delivered	
		Btu per Pound	Sulfur Percent by Weight	Ash Percent by Weight	Cents per Million Btu	Dollars per Short Ton
Company and Plant: Virginia Electric and Power, Chesterfield Plant						
1990						
January - March						
Kentucky	505.0	12,559	1.08	8.60	158.3	39.76
Virginia	77.7	13,219	.96	6.81	157.9	41.74
West Virginia	169.4	12,608	.97	9.73	153.5	38.70
Total	752.1	12,639	1.04	8.67	157.2	39.73
April - June						
Kentucky	302.3	12,670	1.08	8.85	150.9	38.24
Virginia	55.3	13,485	.94	6.69	156.0	42.08
West Virginia	205.1	12,763	1.06	9.59	148.6	37.94
Total	562.7	12,784	1.06	8.90	150.6	38.51
Year to Date						
Kentucky	807.3	12,601	1.08	8.69	155.5	39.19
Virginia	133.0	13,330	.95	6.76	157.1	41.88
West Virginia	374.6	12,693	1.02	9.65	150.8	38.28
Total	1,314.9	12,701	1.05	8.77	154.3	39.20

¹ Only plants that have received imported coal since January 1, 1980 are included.

² Data reported on quality of coal as received.

³ Average cost and quality data on imported coal delivered to the Crystal River Plant of Florida Power Corporation through August 1985 include coal delivered from Kentucky, Virginia, and West Virginia. Beginning in September 1985, the average cost of domestic coal delivered to the Crystal River Plant does not include all transportation costs. Prior to January 1986, the average cost of imported coal delivered to the Crystal River Plant included transportation costs directly to the plant. Beginning in January 1986, the average delivered cost for imported coal to the Crystal River Plant includes only transportation costs to the transfer facility in Myrtle Grove, Louisiana and excludes the transportation costs of approximately \$7.00 to \$10.00 per short ton between the transfer facility and the Crystal River Plant.

⁴ Average cost data on coal delivered to Tampa Electric, Big Bend plant from the New Orleans transfer facility do not include the transportation cost of approximately \$5.00 per short ton from New Orleans to Tampa.

Notes: Total may not equal sum of components because of independent rounding. Data for 1988 have been revised and finalized.

Source: Federal Energy Regulatory Commission FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants"

Appendix D

Metric Tables

Appendix D

Metric Tables

In response to requests from international users of U.S. coal statistics, certain summary data have been converted from the customary short tons to metric tons. This enables U.S. statistics to be compared with data published by countries using the metric system. The conversion to metric tons is made by multiplying short tons by .907185.

The data converted to metric tons are from Tables 1, 23, 31, 4/5, 6, 7, 8, 9, 10, 11, 13, and 14. The comparable data in this section are in Tables D1 through D12, respectively.

Table D1. Coal Production, Imports, Consumption, Exports, and Stocks
(Thousand Metric Tons)

Year and Quarter	Production	Imports	Producer and Distributor Stocks ¹	Consumption	Exports	Consumer Stocks ¹
1982 January - March	201,622	103	29,933	169,349	23,192	162,825
April - June	196,346	116	33,454	148,839	28,686	179,965
July - September	182,693	245	35,995	167,004	22,906	172,335
October - December	179,662	209	33,370	156,107	21,630	177,131
Total	760,323	674		641,299	96,413	
1983 January - March	174,435	244	36,167	157,074	13,738	174,465
April - June	169,502	344	34,256	150,031	18,457	178,745
July - September	180,363	272	31,978	186,645	19,999	157,617
October - December	185,202	293	30,781	174,548	18,360	153,000
Total	709,502	1,153		668,298	70,554	
1984 January - March	202,406	250	31,085	181,385	13,722	158,107
April - June	208,858	244	27,978	168,570	21,534	176,053
July - September	221,890	395	26,944	188,797	22,918	188,712
October - December	179,512	278	30,926	179,100	15,746	178,906
Total	812,766	1,166		717,852	73,920	
1985 January - March	193,446	299	32,088	186,412	16,823	162,798
April - June	206,983	453	31,930	175,566	21,961	170,562
July - September	202,145	565	29,604	194,081	23,434	159,841
October - December	199,049	453	30,058	186,063	21,861	154,433
Total	801,623	1,771		742,121	84,078	
1986 January - March	206,814	440	34,495	187,365	15,644	150,954
April - June	199,582	522	34,607	171,161	21,926	159,681
July - September	198,384	487	30,666	192,932	21,489	149,582
October - December	202,900	557	29,114	178,791	18,521	158,963
Total	807,680	2,006		729,660	77,581	
1987 January - March	201,576	300	33,167	181,004	15,037	157,100
April - June	198,513	438	30,789	181,098	18,246	159,698
July - September	211,336	431	26,104	208,105	19,081	150,228
October - December	222,063	416	25,692	189,052	19,854	168,246
Total	833,487	1,585		759,260	72,219	
1988 January - March	214,903	492	33,352	200,295	14,570	159,011
April - June	205,609	533	32,730	186,650	22,589	157,222
July - September	219,196	397	28,449	216,521	25,121	140,006
October - December	222,359	514	27,594	198,181	23,923	143,710
Total	862,066	1,936		801,647	86,203	
1989 January - March	223,984	482	32,212	202,706	19,440	135,307
April - June	216,633	623	27,758	188,486	25,805	144,243
July - September	220,192	839	26,171	210,597	21,764	133,496
October - December	227,841	642	26,308	205,144	24,448	132,558
Total	888,649	2,587		806,933	91,458	
1990 January - March	239,655	666	31,603	195,887	20,305	146,450
April - June	230,632	612	33,234	191,285	25,159	157,554
Total	470,287	1,278		387,173	45,464	

¹ Reported as of the last day of the quarter.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: • Production: Energy Information Administration (EIA), Form EIA-6, "Coal Distribution Report", and State mining agency coal production reports; • Imports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145"; • Producer and Distributor Stocks: EIA, Form EIA-6, "Coal Distribution Report"; • Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"; • Consumption and Consumer Stocks: EIA, Form EIA-759, "Monthly Power Plant Report"; Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants"; Form EIA-5, "Coke Plant Report - Quarterly"; and Form EIA-6, "Coal Distribution Report".

Table D2. Coal Consumption by End-Use Sector
(Thousand Metric Tons)

Year and Quarter	Electric Utilities	Coke Plants	Other Industrial	Residential and Commercial	Total
1982 January - March	139,332	11,754	16,222	2,040	169,349
April - June	123,863	9,807	13,778	1,391	148,839
July - September	143,789	8,259	13,202	1,755	167,004
October - December	131,580	7,291	14,947	2,288	156,107
Total	538,565	37,111	58,148	7,475	641,299
1983 January - March	132,661	7,368	15,042	2,003	157,074
April - June	126,659	8,247	13,676	1,449	150,031
July - September	161,814	8,815	14,277	1,739	186,645
October - December	146,049	9,165	16,860	2,473	174,548
Total	567,182	33,596	59,856	7,664	667,298
1984 January - March	151,514	10,184	17,316	2,370	181,385
April - June	139,745	10,745	16,328	1,752	168,570
July - September	161,296	9,812	15,672	2,016	188,797
October - December	150,177	9,195	17,584	2,144	179,100
Total	602,733	39,936	66,900	8,282	717,852
1985 January - March	157,777	9,304	17,450	1,881	186,412
April - June	147,991	9,900	16,234	1,442	175,566
July - September	167,020	9,269	16,273	1,518	194,081
October - December	156,654	8,773	18,420	2,216	186,063
Total	629,442	37,246	68,377	7,057	742,121
1986 January - March	156,927	9,423	18,792	2,024	187,165
April - June	143,721	9,259	16,662	1,520	171,161
July - September	168,978	6,989	15,602	1,363	192,932
October - December	151,846	6,994	17,512	2,049	178,401
Total	621,472	32,664	68,568	6,956	729,660
1987 January - March	154,926	7,104	17,333	1,641	181,004
April - June	155,508	8,477	15,976	1,138	181,098
July - September	181,501	8,806	16,335	1,463	208,105
October - December	159,328	9,140	18,555	2,030	189,052
Total	651,263	33,527	68,198	6,272	759,260
1988 January - March	170,559	9,396	18,521	1,818	200,295
April - June	159,671	9,568	16,135	1,276	186,650
July - September	189,186	9,511	16,259	1,565	216,521
October - December	168,568	9,545	18,259	1,809	198,181
Total	687,983	38,021	69,175	6,468	801,647
1989 January - March	173,398	9,603	18,039	1,667	202,706
April - June	161,398	9,531	16,521	1,037	188,486
July - September	184,218	9,238	15,994	1,146	210,597
October - December	175,726	9,158	18,514	1,745	205,144
Total	694,741	37,530	69,068	5,595	806,933
1990 January - March	167,538	8,842	17,768	1,739	195,887
April - June	164,989	8,758	16,388	1,149	191,285
Total	332,527	17,601	34,157	2,888	387,173

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration (EIA) • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report" • Residential and Commercial: Form EIA-6, "Coal Distribution Report."

Table D3. Coal Stocks
(Thousand Metric Tons)

Last Day of Quarter	Coal Consumers ¹				Coal Producers and Distributors	Total
	Electric Utilities	Coke Plants	Other Industrial ²	Total		
1982 March 31	149,248	5,091	8,485	162,825	29,933	192,758
June 30	165,573	5,926	8,465	179,965	33,454	213,418
September 30	158,961	4,930	8,444	172,335	35,995	208,330
December 31	164,321	4,211	8,599	177,131	33,370	210,501
1983 March 31	163,902	3,382	7,181	174,465	36,167	210,632
June 30	167,136	4,365	7,244	178,745	34,256	213,001
September 30	146,405	3,485	7,728	157,617	31,978	189,595
December 31	141,156	3,943	7,902	153,000	30,781	183,781
1984 March 31	144,945	5,579	7,583	158,107	31,085	189,192
June 30	157,991	8,362	9,700	176,053	27,978	204,031
September 30	166,152	9,563	10,997	188,712	26,944	215,656
December 31	163,046	5,594	10,267	178,906	30,926	209,832
1985 March 31	150,915	4,005	7,878	162,798	32,088	194,886
June 30	158,345	4,161	8,057	170,562	31,930	202,493
September 30	147,930	3,026	8,883	159,841	29,604	189,445
December 31	141,862	3,102	9,469	154,433	30,058	184,491
1986 March 31	140,083	2,782	8,089	150,954	34,495	185,449
June 30	147,789	3,208	8,684	159,681	34,607	194,288
September 30	137,842	2,600	9,139	149,582	30,666	180,248
December 31	146,788	2,714	9,461	158,963	29,114	188,077
1987 March 31	146,600	2,427	8,029	157,100	33,167	190,267
June 30	148,199	3,388	8,111	159,698	30,789	190,487
September 30	137,857	3,030	9,341	150,228	26,104	176,332
December 31	154,945	3,524	9,777	168,246	25,692	193,938
1988 March 31	147,511	3,681	7,819	159,011	33,352	192,363
June 30	146,251	3,413	7,557	157,222	32,730	189,952
September 30	129,573	2,610	7,824	140,006	28,449	168,456
December 31	132,909	2,846	7,955	143,710	27,594	171,305
1989 March 31	126,053	3,191	6,063	135,307	32,212	167,519
June 30	135,142	3,049	6,052	144,243	27,758	172,002
September 30	123,041	3,363	7,092	133,496	26,171	159,666
December 31	123,281	2,598	6,680	132,558	26,308	158,866
1990 March 31	136,811	3,303	6,336	146,450	31,603	178,053
June 30	147,640	3,192	6,722	157,554	33,234	190,788

¹ The Residential and Commercial Sector is not included. See Technical Note 6 in Appendix E.

² Manufacturing plants only.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Energy Information Administration (EIA) • Electric Utilities: Form EIA-759, "Monthly Power Plant Report" • Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly" • Other Industrial: Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" • Producer and Distributor: Form EIA-6, "Coal Distribution Report."

Table D4. U.S. Coal Exports and Imports
(Thousand Metric Tons)

Year	1983	1984	1985	1986	1987	1988	1989	1990
January - March								
Exports								
Quantity	13,738	13,722	16,823	15,644	15,037	14,570	19,440	20,305
Price	\$60.63	\$56.45	\$54.17	\$51.28	\$49.37	\$46.35	\$46.59	\$47.65
Imports								
Quantity	244	250	299	440	300	492	482	666
Price	\$36.19	\$36.09	\$41.60	\$37.71	\$38.62	\$31.90	\$37.09	\$38.66
April - June								
Exports								
Quantity	18,457	21,534	21,961	21,926	18,246	22,589	25,805	25,159
Price	\$57.22	\$56.25	\$53.74	\$51.04	\$47.62	\$46.98	\$46.82	\$46.86
Imports								
Quantity	344	244	453	522	438	533	623	612
Price	\$36.48	\$37.37	\$38.85	\$39.84	\$34.93	\$37.19	\$37.69	\$37.11
July - September								
Exports								
Quantity	19,999	22,918	23,434	21,489	19,081	25,121	21,764	NA
Price	\$56.49	\$55.85	\$52.69	\$50.06	\$46.31	\$46.12	\$46.97	NA
Imports								
Quantity	272	395	565	487	431	397	839	NA
Price	\$38.21	\$39.12	\$40.51	\$39.57	\$35.21	\$29.51	\$38.49	NA
October - December								
Exports								
Quantity	18,360	15,746	21,861	18,521	19,854	23,923	24,448	NA
Price	\$56.54	\$55.02	\$52.11	\$50.36	\$45.85	\$46.72	\$47.06	NA
Imports								
Quantity	293	278	453	557	416	514	642	NA
Price	\$37.30	\$42.80	\$38.38	\$41.27	\$33.46	\$32.49	\$36.86	NA
Total								
Exports								
Quantity	70,554	73,920	84,078	77,581	72,219	86,203	91,458	NA
Price	\$57.50	\$55.91	\$53.11	\$50.65	\$47.15	\$46.55	\$46.87	NA
Imports								
Quantity	1,153	1,166	1,771	2,006	1,585	1,936	2,587	NA
Price	\$37.03	\$38.99	\$39.73	\$39.71	\$35.32	\$33.03	\$37.63	NA

NA Not available.

Notes: Total may not equal sum of components because of independent rounding. All data shown for 1988 have been revised and finalized.

Sources: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522"; and "Monthly Report IM 145."

Table D5. Coal Exports
(Metric Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	4,655,953	713,699	5,364,202	5,369,652	6,155,654	-12.8
Canada ¹	4,617,456	666,662	5,307,164	5,284,118	6,056,576	-12.8
Jamaica	-	14,742	18,011	14,742	18,011	-18.2
Mexico	20,301	11,757	14,459	32,058	39,341	-18.5
Other ²	18,196	20,538	24,568	38,734	41,726	-7.2
South America Total	1,023,458	2,054,502	1,571,184	3,077,960	3,571,066	-13.8
Argentina	28,381	235,711	116,761	264,092	352,263	-25.0
Brazil	883,105	1,688,464	1,285,137	2,571,569	2,898,424	-11.3
Chile	95,558	129,483	162,825	225,041	312,842	-28.1
Other ²	16,414	844	6,459	17,258	7,537	129.0
Europe Total	14,102,614	12,133,609	12,369,577	26,236,223	23,653,293	10.9
Albania	22,553	42,060	22,491	64,613	43,990	46.9
Belgium & Luxembourg	2,073,655	1,788,465	1,844,504	3,862,120	3,495,571	10.5
Bulgaria	-	79,791	-	79,791	-	-
Denmark	740,169	406,975	997,879	1,147,144	1,429,074	-19.7
Finland	44,104	-	46,413	44,104	46,497	-5.1
France	1,718,978	2,095,339	1,368,137	3,814,317	2,945,869	29.5
Greece	139	263	68,377	402	66,377	-99.4
Ireland	362,305	274,430	286,158	636,735	488,895	30.2
Italy	2,875,221	2,609,553	2,738,599	5,484,774	5,455,137	.5
Netherlands	1,914,383	1,391,188	1,406,278	3,305,571	2,833,777	16.6
Norway	58,759	25,134	34,534	83,893	67,869	23.6
Portugal	454,965	164,774	314,541	619,739	494,129	25.4
Romania	883,664	245,025	238,555	1,128,689	377,933	198.6
Spain	752,051	894,685	797,945	1,646,736	1,565,758	5.2
Sweden	156,703	71,159	110,401	231,862	178,280	30.1
Turkey	469,787	479,301	445,565	949,088	762,430	24.5
United Kingdom	1,132,569	1,044,346	1,048,650	2,176,915	2,317,706	-6.1
West Germany	321,486	209,281	226,783	530,767	358,029	48.2
Yugoslavia	111,482	292,668	345,716	404,150	688,748	-41.3
Other ²	9,641	15,172	28,051	24,813	35,224	-29.6
Asia Total	4,901,060	5,013,026	5,786,423	9,914,086	10,720,996	-7.5
China (Taiwan)	1,232,364	1,138,373	1,166,252	2,370,737	1,686,353	40.6
Israel	121,034	189,712	377,464	310,746	377,464	-17.7
Japan	2,790,053	2,713,135	3,214,951	5,503,188	6,711,568	-18.0
Korea, Republic of	756,827	971,392	998,501	1,728,219	1,885,998	-8.4
Pakistan	-	-	27,370	-	54,840	-
Other ²	782	414	1,845	1,196	4,773	-74.9
Oceania & Australia Total	170	504	-	674	-	-
Africa Total	475,653	390,093	713,919	865,746	1,144,117	-24.3
Algeria	102,062	40,011	280,152	142,073	450,923	-68.5
Egypt	132,490	181,475	134,837	313,965	302,999	3.6
Other ²	241,101	168,607	298,930	409,708	390,195	5.0
Total	25,158,908	20,305,433	25,805,303	45,464,341	45,245,126	.5

¹ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

² Includes countries with exports less than or equal to 50,000 short tons in 1989.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D6. Average Price¹ of Coal Exports
(Dollars per Metric Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$36.43	\$37.84	\$46.76	\$36.62	\$46.43	-21.1
Canada ²	36.38	37.77	46.85	36.56	46.52	-21.4
Jamaica	-	33.70	33.70	33.70	33.70	(*)
Mexico	46.15	44.79	47.31	45.68	46.79	-2.4
Other ³	40.22	40.11	38.96	40.16	39.44	1.8
South America Total	50.40	49.86	48.99	50.04	48.94	2.3
Argentina	49.32	48.38	50.40	48.48	49.15	-1.4
Brazil	51.15	50.87	50.66	50.97	49.90	2.1
Chile	43.29	39.44	34.84	40.79	34.75	17.4
Other ³	40.04	44.07	43.60	40.29	43.82	-8.1
Europe Total	48.63	48.32	46.76	48.49	46.44	4.4
Albania	55.00	52.44	49.50	53.33	46.85	13.8
Belgium & Luxembourg	48.57	49.78	48.12	49.14	47.53	3.4
Bulgaria	-	54.28	-	54.28	-	-
Denmark	38.31	37.49	36.95	38.04	36.67	3.7
Finland	50.40	-	46.75	50.40	46.74	7.8
France	47.85	45.73	45.15	46.69	44.78	4.3
Greece	44.19	44.00	40.01	44.07	40.01	10.1
Ireland	41.32	43.14	39.50	42.06	41.39	1.6
Italy	50.48	48.35	48.33	49.47	47.75	3.6
Netherlands	46.59	48.36	44.69	47.33	44.44	6.5
Norway	-	-	44.06	-	44.06	-
Portugal	46.26	45.05	44.83	45.94	44.04	4.3
Romania	53.54	51.02	50.25	52.99	48.87	8.4
Spain	47.51	51.95	50.41	50.92	50.22	1.4
Sweden	53.97	52.45	51.58	53.47	46.79	14.3
Turkey	52.72	47.91	47.85	50.30	47.53	5.8
United Kingdom	53.10	51.52	51.62	52.34	50.18	4.3
West Germany	46.45	46.93	50.33	46.70	46.89	-4
Yugoslavia	47.22	50.69	46.99	49.82	47.46	5.0
Other ³	44.06	44.21	49.00	44.06	48.98	-10.0
Asia Total	47.92	46.64	45.72	47.27	46.28	2.1
China (Taiwan)	42.88	41.15	39.06	42.05	40.27	4.4
Israel	45.18	42.25	43.04	43.39	43.04	.8
Japan	49.17	48.14	47.19	48.67	47.15	3.2
Korea, Republic of	52.10	49.83	49.77	50.80	49.23	3.2
Other ³	43.56	44.03	42.50	43.72	41.72	4.8
Oceania & Australia Total	40.52	40.58	-	40.56	-	-
Africa Total	42.21	42.46	43.67	42.33	45.04	-6.0
Algeria	50.95	49.70	49.81	50.39	50.36	.1
Egypt	51.17	49.66	50.63	50.29	50.33	-.1
Other ³	35.48	33.00	34.77	34.46	34.78	-.9
Total	46.20	47.58	46.58	46.83	46.56	.6
U.S. Total⁴	46.86	47.66	46.82	47.22	46.72	1.1

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 198

⁴ Average price of all coal exports in this category.

(*) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D7. Steam¹ Coal Exports
(Metric Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	3,279,138	688,957	3,153,303	3,968,095	3,839,341	3.4
Canada ²	3,240,836	641,920	3,096,288	3,882,756	3,757,387	3.3
Jamaica	-	14,742	18,011	14,742	18,011	-18.2
Mexico	20,301	11,757	14,459	32,058	39,341	-18.5
Other ³	18,001	20,538	24,545	38,539	24,602	56.6
South America Total	138,496	132,889	169,500	271,385	320,685	-15.4
Argentina	-	-	216	-	306	-
Brazil	52,332	26,318	-	78,650	-	-
Chile	69,750	105,727	162,825	175,477	312,842	-43.9
Other ³	16,414	844	6,459	17,258	7,537	129.0
Europe Total	5,291,287	3,260,624	3,893,286	8,551,911	7,259,705	17.8
Belgium & Luxembourg	692,344	330,851	197,945	1,023,195	440,339	132.4
Bulgaria	-	35,439	-	35,439	-	-
Denmark	740,169	356,561	997,879	1,096,730	1,429,074	-23.3
Finland	-	-	-	-	84	-
France	579,953	684,090	261,982	1,264,043	826,551	52.9
Greece	139	263	68,377	402	68,377	-99.4
Ireland	362,305	274,430	209,752	636,735	335,377	89.9
Italy	979,511	956,685	1,150,967	1,936,196	2,176,872	-11.1
Netherlands	1,270,362	289,455	661,285	1,559,817	1,306,575	19.4
Norway	23,001	10,642	12,294	33,643	18,351	83.3
Portugal	316,348	104,607	203,111	420,955	308,855	36.3
Romania	-	-	-	-	2,987	-
Spain	103,825	257	91,173	104,082	91,290	14.0
Sweden	-	-	-	-	67,879	-
Turkey	730	6,544	88	7,274	184	(*)
United Kingdom	177,926	144,599	-	322,525	85,740	276.2
West Germany	27,617	66,135	852	93,752	62,852	49.2
Yugoslavia	7,416	-	14,249	7,416	14,934	-50.3
Other ³	9,641	66	23,332	9,707	23,384	-58.5
Asia Total	1,605,366	1,960,122	1,995,116	3,565,488	2,671,353	33.5
China (Taiwan)	1,140,063	1,043,064	1,065,122	2,183,127	1,394,044	56.6
Israel	121,034	189,712	242,459	310,746	242,459	28.2
Japan	265,617	515,948	535,915	781,565	748,020	4.5
Korea, Republic of	77,870	210,984	149,775	288,854	282,057	2.4
Other ³	782	414	1,845	1,196	4,773	-74.9
Oceania & Australia Total	170	504	-	674	-	-
Africa Total	241,491	168,607	298,930	410,098	390,195	5.1
Egypt	390	-	-	390	-	-
Other ³	241,101	168,607	298,930	409,708	390,195	5.0
Total	10,555,948	6,211,703	9,510,135	16,767,651	14,481,279	15.8

¹ Includes bituminous, subbituminous, lignite, and anthracite.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁴ Changes of 500 percent or more are not shown.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D8. Average Price¹ of Steam² Coal Exports
(Dollars per Metric Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$34.43	\$37.78	\$43.89	\$35.04	\$43.89	-20.2
Canada ³	34.34	37.70	43.98	34.93	43.95	-20.5
Jamaica	-	33.70	33.70	33.70	33.70	(*)
Mexico	46.15	44.79	47.31	45.68	46.79	-2.4
Other ⁴	40.06	40.11	38.96	40.08	38.97	2.9
South America Total	44.58	38.04	34.91	41.30	34.85	18.5
Argentina	-	-	38.55	-	38.55	-
Brazil	47.60	45.25	-	46.78	-	-
Chile	43.29	36.20	34.84	39.02	34.75	12.3
Other ⁴	40.04	44.07	43.60	40.29	43.82	-8.1
Europe Total	42.49	42.13	40.47	42.35	40.33	5.0
Belgium & Luxembourg	40.95	39.99	38.28	40.64	36.43	11.6
Bulgaria	-	54.00	-	54.00	-	-
Denmark	38.31	37.49	36.95	38.04	36.67	3.7
Finland	-	-	-	-	43.93	-
France	42.56	40.69	35.47	41.55	37.66	10.3
Greece	44.19	44.00	40.01	44.07	40.01	10.1
Ireland	41.32	43.14	40.66	42.06	42.07	(*)
Italy	44.71	44.17	44.46	44.44	44.17	.6
Netherlands	43.48	40.39	40.28	42.91	39.90	7.5
Norway	-	-	44.06	-	44.06	-
Portugal	45.14	40.76	43.78	44.06	42.60	3.4
Romania	-	-	-	-	42.75	-
Spain	37.75	43.95	36.01	37.76	36.03	4.8
Sweden	-	-	-	-	39.00	-
Turkey	39.73	-	44.18	39.73	44.02	-9.8
United Kingdom	47.47	50.59	-	48.87	44.45	9.9
West Germany	37.42	44.40	44.11	42.34	33.85	25.1
Yugoslavia	-	-	-	-	38.57	-
Other ⁴	44.06	44.21	49.00	44.06	48.98	-10.0
Asia Total	42.76	41.24	39.76	41.93	39.72	5.5
China (Taiwan)	42.04	40.31	38.04	41.21	38.38	7.4
Israel	45.18	42.25	42.50	43.39	42.50	2.1
Japan	44.43	41.99	41.22	42.80	40.50	5.7
Korea, Republic of	44.00	43.11	42.29	43.35	41.93	3.4
Other ⁴	43.56	44.03	42.50	43.72	41.72	4.8
Oceania & Australia Total	40.52	40.58	-	40.56	-	-
Africa Total	35.49	33.00	34.77	34.47	34.78	- .9
Egypt	39.59	-	-	39.59	-	-
Other ⁴	35.48	33.00	34.77	34.46	34.78	- .9
Total	40.00	41.03	41.13	40.38	40.89	-1.2
U.S. Total⁵	40.95	41.24	41.88	41.06	41.42	- .9

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Includes bituminous, subbituminous, lignite, and anthracite.

³ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

⁴ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁵ Average price of all steam coal exports.

(*) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D9. Metallurgical Coal Exports
(Metric Tons)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	1,376,815	24,742	2,210,899	1,401,557	2,316,313	-39.5
Canada ¹	1,376,620	24,742	2,210,876	1,401,362	2,299,189	-39.0
Other ²	195	-	23	195	17,124	-98.9
South America Total	884,962	1,921,613	1,401,682	2,806,575	3,250,381	-13.7
Argentina	28,381	235,711	116,545	264,092	351,957	-25.0
Brazil	830,773	1,662,146	1,285,137	2,492,919	2,898,424	-14.0
Chile	25,808	23,756	-	49,564	-	-
Europe Total	8,811,327	8,872,985	8,476,291	17,684,312	16,393,588	7.9
Albania	22,553	42,060	22,491	64,613	43,990	46.9
Belgium & Luxembourg	1,381,311	1,457,614	1,646,559	2,838,925	3,055,232	-7.1
Bulgaria	-	44,352	-	44,352	-	-
Denmark	-	50,414	-	50,414	-	-
Finland	44,104	-	46,413	44,104	46,413	-5.0
France	1,139,025	1,411,249	1,106,155	2,550,274	2,119,318	20.3
Ireland	-	-	76,406	-	153,518	-
Italy	1,895,710	1,652,868	1,587,632	3,548,578	3,278,265	8.2
Netherlands	644,021	1,101,733	744,993	1,745,754	1,527,202	14.3
Norway	35,758	14,492	22,240	50,250	49,518	1.5
Portugal	138,617	60,167	111,430	198,784	185,274	7.3
Romania	883,664	245,025	238,555	1,128,689	374,946	201.0
Spain	648,226	894,428	706,772	1,542,654	1,474,468	4.6
Sweden	156,703	75,159	110,401	231,862	110,401	110.0
Turkey	469,057	472,757	445,477	941,814	762,246	23.6
United Kingdom	954,643	899,747	1,048,650	1,854,390	2,231,966	-16.9
West Germany	293,869	143,146	225,931	43,015	295,177	48.1
Yugoslavia	104,066	292,668	331,467	396,734	673,814	-41.1
Other ²	-	15,106	4,719	15,106	11,840	27.6
Asia Total	3,295,694	3,052,904	3,791,307	6,348,598	8,049,643	-21.1
China (Taiwan)	92,301	95,309	101,130	187,610	292,309	-35.8
Israel	-	-	135,005	-	135,005	-
Japan	2,524,436	2,197,187	2,679,076	4,721,623	5,963,548	-20.8
Korea, Republic of	678,957	760,408	848,726	1,439,365	1,603,141	-10.3
Pakistan	-	-	27,370	-	54,840	-
Africa Total	234,162	221,486	414,989	455,648	753,922	-39.6
Algeria	102,062	40,011	280,152	142,073	450,923	-68.5
Egypt	132,100	181,475	134,837	313,575	302,999	3.5
Total	14,602,960	14,093,730	16,295,168	28,696,690	30,763,847	-6.7

¹ Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

² Includes countries with exports less than or equal to 50,000 short tons in 1989.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D10. Average Price¹ of Metallurgical Coal Exports
(Dollars per Metric Ton)

Continent and Country of Destination	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$40.86	\$39.57	\$50.60	\$40.84	\$50.49	-19.1
Canada ²	40.86	39.57	50.60	40.84	50.57	-19.2
Other ³	55.05	-	-	55.05	40.10	37.3
South America Total	51.29	50.68	50.64	50.87	49.82	2.1
Argentina	49.32	48.38	50.43	48.48	49.15	-1.4
Brazil	51.36	50.96	50.66	51.09	49.90	2.4
Chile	-	53.84	-	53.84	-	-
Europe Total	52.62	50.59	49.57	51.56	49.10	5.0
Albania	55.00	52.44	49.50	51.33	46.85	13.8
Belgium & Luxembourg	52.49	52.00	49.30	52.24	49.03	6.5
Bulgaria	-	54.50	-	54.50	-	-
Finland	50.40	-	46.75	50.40	46.75	7.8
France	50.54	48.18	47.44	49.23	47.55	3.5
Ireland	-	-	36.33	-	39.91	-
Italy	53.46	50.77	51.14	52.21	50.13	4.2
Netherlands	52.71	50.46	48.60	51.29	48.32	6.2
Portugal	48.80	52.51	46.75	49.92	46.45	7.5
Romania	53.54	51.02	50.25	52.99	48.92	8.3
Spain	53.66	51.95	51.61	52.22	50.78	2.8
Sweden	53.97	52.45	51.58	53.47	51.58	3.7
Turkey	52.74	47.91	47.85	50.31	47.53	5.9
United Kingdom	54.15	51.66	51.62	52.94	50.40	5.0
West Germany	48.00	48.10	50.35	48.05	49.67	-3.3
Yugoslavia	47.22	50.69	46.99	49.82	47.47	4.9
Asia Total	50.44	50.18	48.87	50.32	48.47	3.8
China (Taiwan)	53.25	50.31	49.76	51.76	49.28	5.0
Israel	-	-	44.00	-	44.00	-
Japan	49.66	49.63	48.38	49.65	47.98	3.5
Korea, Republic of	53.07	51.69	51.09	52.33	50.52	3.6
Africa Total	51.13	49.66	50.08	50.33	50.35	(*)
Algeria	50.95	49.70	49.81	50.39	50.36	.1
Egypt	51.20	49.66	50.63	50.31	50.33	-1
Total	50.83	50.48	49.66	50.65	49.15	3.1
U.S. Total⁴	51.14	50.48	49.70	50.82	49.21	3.3

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal exports and fall within the range of \$28 to \$50 per short ton inclusively.

² Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantities for both coal and coke, coal type (metallurgical and steam), and value (of both coal and coke) are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

³ Includes countries with exports less than or equal to 50,000 short tons in 1989.

⁴ Average price of all metallurgical coal exports.

(*) Rounded to zero

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 522."

Table D11. Coal Imports¹
(Metric Tons)

Continent and Country of Origin	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	229,430	228,124	276,450	457,554	464,318	-1.5
Canada	229,430	222,496	266,619	451,926	438,832	3.0
Mexico	-	5,628	9,831	5,628	25,486	-77.9
South America Total	382,328	438,326	303,777	820,654	597,959	37.2
Colombia	276,351	377,046	249,773	653,397	484,870	34.8
Venezuela	105,977	61,280	54,004	167,257	113,089	47.9
Asia Total	-	-	43,267	-	43,313	-
China (Peking)	-	-	43,267	-	43,267	-
Korea, Republic of	-	-	-	-	46	-
Total	611,758	666,450	623,494	1,278,208	1,105,590	15.6

¹ Includes Puerto Rico and the Virgin Islands.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Table D12. Average Price¹ of Coal Imports²
(Dollars per Metric Ton)

Continent and Country of Origin	April - June 1990	January - March 1990	April - June 1989	Year to date		
				1990	1989	Percent Change
North America Total	\$24.82	\$29.32	\$26.09	\$27.40	\$26.11	4.9
Canada	24.82	28.96	25.95	27.17	25.76	5.5
Mexico	-	42.29	29.29	42.29	31.10	36.0
South America Total	43.10	41.73	36.81	42.37	36.78	15.2
Colombia	42.28	41.24	37.25	41.68	36.93	12.9
Venezuela	45.24	44.79	34.74	45.08	36.14	24.7
Total	37.79	37.71	32.05	37.75	32.61	15.8
U.S. Total³	37.11	38.66	37.69	37.92	37.43	1.3

¹ Based on the free alongside ship (f.a.s.) value. The average prices presented in this table are considered to be representative prices for coal imports and fall within the range of \$20 to \$50 per short ton inclusively.

² Includes Puerto Rico and the Virgin Islands.

³ Average price of all coal imports.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."

Appendix E

Explanatory Notes

Explanatory Notes

Sources of Data

All data in this report were collected by the Energy Information Administration (EIA), except import and export data, which were collected by the Bureau of the Census, U.S. Department of Commerce. All of the EIA data were collected by mail from respondents who were required to report; no sampling procedures were used. Followup of nonrespondents was conducted through EIA's standard procedures, which include written and telephone requests.

Copies of the survey forms and instructions used to collect data appearing in this publication can be obtained by calling EIA's National Energy Information Center at (202) 586-8800.

Coal Surveys

EIA began collecting coal data on October 1, 1977. Before then, the Bureau of Mines, U.S. Department of the Interior, conducted surveys of coal production, distribution, and consumption, and published the data in the *Minerals Yearbook*.

As early as the 1880's, the U.S. Geological Survey began collecting coal data under a voluntary reporting system. The responsibility for gathering this information was transferred to the Bureau of Mines, initially under the U.S. Department of Commerce and later under the U.S. Department of the Interior. Except for a brief period from 1937 to 1943, when bituminous coal data were collected under authority of the Bituminous Coal Act, the Bureau of Mines continued to conduct voluntary coal surveys until the Department of Energy was created in October 1977.

EIA conducts three quarterly coal surveys--of manufacturers consuming coal, of coke plants, and of distributors of coal--and one annual survey of mines producing coal. All data, with a few exceptions that are stated below in the Technical Notes, are presented as reported on the surveys with no estimations or other adjustments for missing data. Data from the annual

survey of mines producing coal appear in Appendix B, "Annual Trends." The data are maintained in a computer system and are edited to ensure that they are reasonable, consistent, and complete.

So that EIA may fulfill its data collection functions as specified in the Federal Energy Administration Act of 1974 (P.L. 93-275), response to these surveys is mandatory.

Quarterly Coal Consumption Report - Manufacturing Plants (Form EIA-3)

Form EIA-3 is used to survey U.S. manufacturers that consume 1,000 tons or more of coal per year for all uses other than coke production. These data were collected on a monthly basis until 1980, when the reporting cycle was revised to a quarterly schedule. Data on manufacturers' coal stocks, receipts, prices, and consumption are reported.

Through the end of 1988, all manufacturers that consumed coal were required to file Form EIA-3. Beginning with the first quarter of 1989, only those manufacturers that consumed 1,000 or more tons in the past year were required to report. At present, approximately 1,000 manufacturers respond to the EIA-3 survey. The response rate for the current quarter was 100 percent. In order to identify undercoverage problems, the data from this survey are compared with shipments to *manufacturers* reported on EIA's "Coal Distribution Report," Form EIA-6 (see below). At present, the coal receipts reported by *manufacturers* on Form EIA-3 cover approximately 97 percent of the coal shipments to *manufacturers* on Form EIA-6.

Current year data from this survey are preliminary and unrevised in the January - March, April - June, and July - September issues of this publication. In the October - December issue, any revisions necessary for the entire year are applied and the data are considered final.

The respondent list of manufacturers for Form EIA-3 is compared with lists of coal-consuming manufacturing plants from State Air Quality and Energy Offices.

When new respondents are found, they are added to the survey mailing list.

Coke Plant Report (Form EIA-5)

Form EIA-5, a quarterly report of coal receipts, carbonization, and stocks, and of coke and breeze production, distribution, and stocks, is used to survey all U.S. coke plants.

Coke plants were surveyed monthly and a supplemental survey was taken annually until 1981, when the reporting cycle was revised to a quarterly schedule with an annual supplemental survey. In 1985, collection of the annual supplement was ended.

Presently, there are approximately 40 respondents to the EIA-5 survey, and the response rate was 100 percent. The respondent list for this survey is updated by continuous monitoring of the industry literature.

Current year data from this survey are preliminary and unrevised in the January - March, April - June, and July - September issues of this publication. In the October - December issue, any revisions necessary for the entire year are applied and the data are considered final.

Coal Distribution Report (Form EIA-6)

Form EIA-6 is used to survey all U.S. companies (producers and/or distributors) that own or purchase and distribute more than 50,000 short tons of coal annually. Data on coal production and purchases, distribution by consumer category, and method of transportation are reported. The EIA quarterly publication, *Coal Distribution*, (DOE/EIA-0125) is prepared from data reported on this survey.

At present, there are approximately 1,400 respondents to the EIA-6 survey. Until the end of 1988, coal distribution companies were required to report production on a Bureau of Mines (BOM) district basis. Beginning with the first quarter 1989, respondents were required to report on a BOM district/State basis. The response rate for the current quarter was 100 percent. The annual production total reported on Form EIA-6 exceeds 99 percent of total production as reported by mines on Form EIA-7A, "Coal Production Report" (see below), due to the difference in reporting thresholds.

Current year data from this survey are preliminary and unrevised in the January - March, April - June, and July - September issues of this publication. In the October - December issue, any revisions necessary for the entire year are applied and the data are considered final.

The respondent list for this survey is updated by comparing it with lists of coal producers from the Mine Safety and Health Administration, U.S. Department of Labor, and from similar lists maintained by various State agencies. Also, new respondents are frequently identified on Form EIA-6 itself when other companies are named as sources of coal purchases.

Coal Production Report (Form EIA-7A)

Form EIA-7A is used to survey all coal mining companies that own a mining operation that produces, processes, or prepares 10,000 or more short tons of coal annually in the United States. Data on coal production, coalbeds mined, stocks, employment, productivity, productive capacity, and recoverable reserves are reported. The EIA annual publication *Coal Production* (DOE/EIA-0118) is prepared from data reported on this survey.

There are approximately 5,000 respondents to the EIA-7A survey. Data for nonrespondents, if unobtainable through EIA's standard procedures for nonrespondents, were derived from coal production reports from State mining agencies, from coal distributors on Form EIA-6, "Coal Distribution Report" (see above), and from Form 7000-2, "Quarterly Mine Employment and Coal Production Report," which contains data collected by the Mine Safety and Health Administration. The respondents on this survey are compared with lists of mining operations maintained by various State agencies and by the Mine Safety and Health Administration, U.S. Department of Labor, to identify new respondents.

Data from this survey are considered final at the time of publication.

Electric Utility Surveys

Coal data appear in this report from two monthly surveys of electric utilities - from all generating electric utilities and from fossil-fueled plants.

The Bureau of the Census collected and published the results of a census taken every 5 years from 1902 to 1937 on the electric light and power industries and some data on industrial production of electric energy. The U.S. Geological Survey collected data on capacity and generation of electric utilities from 1920 to 1936, when this activity was turned over to the Federal Power Commission (FPC).

All data are presented as reported on the surveys. No estimates or other adjustments are made for missing data. The data are maintained in a computer system and are edited to ensure that they are reasonable, con-

sistent, and complete. For additional information from these surveys and other electric utility data, see the EIA publications *Electric Power Monthly* (DOE/EIA-0226).

Monthly Power Plant Report (Form EIA-759)

Form EIA-759 (which until 1982 was called FPC Form 4) is used to survey all generating electric utilities. The Federal Power Act and FPC Order 141 define the legislative authority to collect power production data. Consumption and stocks of coal and other fuels at each plant are reported. The respondents to Form EIA-759, approximately 3,000 plants, account for 100 percent of total electric utility generation.

Current year data from this survey are preliminary and unrevised in the January - March, April - June, and July - September issues of this publication. In the October - December issue, initial revisions for the year are applied and the data are considered revised. In the following Year's April - June issue, any further revisions necessary for the entire prior year are applied and the data are considered final.

Monthly Report of Cost and Quality of Fuels for Electric Plants (FERC Form 423)

FERC Form 423 is used to survey all fossil-fueled plants with a total steam-generating capacity of 50 megawatts or more. It is submitted by approximately 225 electric utilities. (Before 1983, this form was called FPC Form 423, and all fossil-fueled plants with a total generating capacity of 25 megawatts or more were surveyed.) In 1972, the FPC issued Order Number 453, which included the legislative authority to create Form 423. Cost, quality, and source of fuels (by State or country of origin), including coal, are reported.

Data from this survey are preliminary and unrevised in all four quarterly issues of the publication for the reporting year. In the following year's January - March issue, any revisions necessary for the entire prior year are applied and the data are considered final.

Export and Import Data

Export and import data (except imports to electric utilities which are reported on the FERC Form 423, discussed above) are obtained from the Bureau of the Census, U.S. Department of Commerce-export data from the monthly EM 522 report, import data from the monthly IM 145 report. The Bureau of the Census compiles these data monthly from documents filed

with the U.S. Customs Service as required by law. They include shippers' export declaration forms, import entry forms, and warehouse withdrawal forms. No sampling procedures are used. The Bureau of the Census publication, *Guide to Foreign Trade Statistics*, describes the foreign trade statistics program, including the above-mentioned monthly reports.

Data from these surveys are considered final at the time of publication.

Projections

Annual projections are from the *Annual Energy Outlook 1990* (DOE/EIA-0383(90)).

Technical Notes

1. Other Industrial Plants and Manufacturing

The *other industrial plants* end-use sector includes the *manufacturing*, agriculture forestry and fishing, mining, and construction industries. Manufacturing accounts for approximately 97 percent of the coal receipts and consumption and 100 percent of the coal stocks in the *other industrial plants* sector as reported herein. Data sources for the *other industrial plants* sector and the *manufacturing* sector are Forms EIA-6 and EIA-3, respectively. The source statement in each table identifies the survey used to collect coal data for the *other industrial plants* sector, and the following technical notes describe the methodology used when data were derived.

2. Residential and Commercial

To reduce the reporting burden to coal users, the EIA does not conduct any survey of coal data from residential and commercial users of coal. Shipments of coal to this sector, reported by producers and distributors of coal on Form EIA-6, are equated to coal receipts and consumption by the *residential and commercial* sector, assuming no stock changes.

3. Receipts

Coal receipts data are derived for each end-use sector as follows:

Electric Utilities. Receipts are reported on FERC Form 423.

Coke Plants. Receipts are reported on Form EIA-5.

Other Industrial Plants. Receipts are derived for each State by two methods, and the method producing the larger value for a State is chosen. The two methods are (1) receipts as reported on Form EIA-3, and (2) shipments to the *other industrial plants* sector as reported on Form EIA-6, which includes shipments to the *transportation* sector.

Residential and Commercial. Shipments to the *residential and commercial* sector are reported on Form EIA-6 and are defined as receipts for this end-use sector.

4. Prices

Prices are derived for each end-use sector as follows:

Electric Utilities. Prices are reported for each plant in cents-per-million Btu on FERC Form 423. The price per ton of coal is calculated at each plant using cents-per-million Btu and the average Btu content per pound of coal for the appropriate rank of coal. The average prices appearing in the tables (e.g., across all States) are calculated by summing the dollar value at each plant (short tons of coal x price per short ton) and dividing by the corresponding total tons. For more information about prices of coal at *electric utilities*, see the EIA publication, *Electric Power Quarterly* (DOE/EIA-0397).

Coke Plants. Respondents are asked to report the number of tons of coal received (or coke distributed) on Form EIA-5 and the total value of that coal (or coke) in dollars. Average prices are calculated by summing the reported values (e.g., across all States) and dividing by the corresponding total tons.

Other Industrial Plants. Respondents (manufacturing plants only) are asked to report the number of tons of coal received on Form EIA-3 and the total value of that coal in dollars. Average prices are calculated by summing the reported values across all States and dividing by the corresponding total tons.

Residential and Commercial. Data are not collected. See Technical Note 2 above.

5. Consumption

Quarterly Data

Coal consumption data are derived for each end-use sector as follows:

Electric Utilities. Consumption is reported on Form EIA-759.

Coke Plants. Consumption is reported on Form EIA-5.

Other Industrial Plants. In deriving a quarterly estimate for coal consumption for the *other industrial plants* sector, the first step is to equate consumption to beginning stocks plus receipts minus ending stocks. In terms of an equation, consumption can be expressed as $C = Sb + R - Se$, where Sb = beginning stocks, R = receipts, and Se = ending stocks.

From the above equation, consumption is $C = (Sb - Se \text{ (change in stocks)}) + R$. Next, stock change at the State level is equated to the stock change for that State as reported on Form EIA-3, receipts at the State level are derived as described in Section 3 above, and a computed consumption is derived using the equation above for each State. Finally, the quarterly consumption (C) at the State level is equated to the maximum of the computed consumption at the State level as described above and the quarterly consumption for that State as reported on Form EIA-3. This process ensures that State-level consumption for the *other industrial plants* sector is always greater than or equal to the *manufacturing* sector consumption for that State. Total quarterly consumption for the *other industrial plants* sector is computed by summing the quarterly State-level consumption figures.

Residential and Commercial. Shipments to the *residential and commercial* sector as reported on Form EIA-6 are defined as consumption as well as receipts for this end-use sector.

Monthly Data

EIA publishes monthly estimates of coal consumption in the *Monthly Energy Review* (DOE/EIA-0035) and in the *Weekly Coal Production* report (DOE/EIA-0218).

Monthly coal consumption at electric utility plants is derived directly from Form EIA-759. Prior to 1980, monthly coal consumption at coke plants was derived directly from Form EIA-5. For 1981 through 1987, it was derived from the quarterly coal consumption reported on Form EIA-5, using the ratios of monthly to quarterly consumption in 1979, the last year that coke plant data were collected monthly on Form EIA-5. These ratios by month (January-December) are 0.3377,

0.3200, 0.3423; 0.3529, 0.3462, 0.3009; 0.3364, 0.3347, 0.3289; and 0.3273, 0.3301, 0.3426.

Starting with 1988, monthly coal consumption at coke plants is derived from quarterly coal consumption reported on Form EIA-5 using ratios derived from monthly data on raw steel production published by the American Iron and Steel Institute on Form AIS7. The ratio is the proportion of monthly raw steel production from open hearth and basic oxygen process furnaces to the quarterly raw steel production from those furnace types.

Prior to 1978, coal consumption for the *other industrial plants* sector (i.e., industrial users minus coke plants) was derived by using monthly data reported on Form EIA-3 to modify baseline coal consumption figures from the most recent Census of Manufactures or Annual Survey of Manufactures, Bureau of the Census, U.S. Department of Commerce. For 1978 through 1987, data from Forms EIA-3 and EIA-6 are used to compute monthly coal consumption for the *other industrial plants* sector.

Given the quarterly consumption for the *other industrial plants* sector (C), the monthly consumption for the sector (Cm) is estimated for each month in the quarter as $C_m = (C_{m3}/C_3) \times C$ where C_{m3}/C_3 is the ratio of monthly to quarterly coal consumption as reported on Form EIA-3. For the 1978 coal consumption figures, the ratios used are based on 1978 EIA-3 data. For 1979 through 1987, the ratios used are based on the 1979 EIA-3 data. These 1979 ratios by month (January-December) are 0.3593, 0.3264, 0.3143; 0.3485, 0.3332, 0.3183; 0.3317, 0.3407, 0.3276; and 0.3045, 0.3253, 0.3702.

Starting with 1988, monthly coal consumption for the other industrial plants sector is derived from quarterly coal consumption reported on Form EIA-3 using monthly ratios derived from the industrial production indices published by the Board of Governors of the Federal Reserve System. Six major industry groups' indices are used as the basis for calculating the monthly ratios. These groups are foods (SIC 20), paper and products (SIC 26), chemicals and products (SIC 28), petroleum products (SIC 29), clay, glass, stone products (SIC 32), and primary metals (SIC 33).

The monthly ratios are computed as the monthly sum of weighted indices as a proportion of the quarterly sum of weighted indices, using the 1977 proportion as the weight.

Prior to 1980, monthly coal consumption for the *residential and commercial* sector was derived by using monthly data reported on Form EIA-2, "Monthly Coal Report - Retail Dealers and Upper Lake Docks," to modify baseline coal consumption figures developed by the Bureau of Mines, U.S. Department of the Interior.

For 1980, the quarterly coal consumption figures in the *residential and commercial* sector are converted to monthly coal consumption figures using the ratios of monthly to quarterly coal deliveries to this sector in 1979 as reported on Form EIA-2. These 1979 ratios by month (January-December) are 0.4002, 0.3502, 0.2496; 0.4305, 0.2901, 0.2294; 0.3126, 0.2952, 0.3922; and 0.2931, 0.3101, 0.3968. The 1981 and 1982 monthly coal consumption figures were derived using the 1979 ratios but were also modified according to heating/cooling degree-days. For 1983 through 1987, coal consumption figures are converted to monthly coal consumption figures using only the ratios of monthly to quarterly coal deliveries to this sector in 1979.

Starting with 1988, monthly coal consumption figures are derived using the monthly national average population weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The ratio is the proportion of the monthly national sum of heating and cooling degree-days to the quarterly sum.

6. Stocks

Quarterly Data

Coal stocks are derived for each end-use sector as follows:

Electric Utilities. Stocks are reported on Form EIA-759.

Coke Plants. Stocks are reported on Form EIA-5.

Other Industrial Plants. Stocks are reported on Form EIA-3, i.e., stocks at *manufacturing* plants only. Technical Note 1 above discusses the difference between *other industrial plants* and *manufacturing plants*.

Residential and Commercial. Data are not available. See Technical Note 2 above.

Producer and Distributor. Stocks are reported on Form EIA-6.

Monthly Data

EIA publishes monthly estimates of coal stocks in the *Monthly Energy Review* (DOE/EIA-0035) and in the *Weekly Coal Production* report (DOE/EIA-0218).

Coal stocks at electric utility plants are derived directly from Form EIA-759. Prior to 1980, coal stocks at coke plants were derived directly from Form EIA-5. For 1980 and subsequent years, the stock level at the end

of the first month of a quarter is derived as ending stocks for the previous quarter plus (minus) one-third of the current quarterly stock increase (decrease), as reported on the Form EIA-5. The stock level at the end of the second month is equal to the stock level at the end of the first month plus (minus) one-third of the current quarterly stock increase (decrease). The stock level at the end of the third month is equal to the stock level at the end of the current quarter.

Prior to 1978, coal stocks for the *other industrial plants* sector (i.e., industrial users minus coke plants) were derived by using monthly data reported on Form EIA-3, to modify baseline coal stock figures from a one-time survey of coal consumers by the Bureau of the Mines, U.S. Department of the Interior. For 1978 and subsequent years, the data source for stocks in the *other industrial plants* sector is Form EIA-3. Quarterly stock changes in the period 1978-1982 were judgmentally apportioned by month, based on seasonal influences on supply and demand for coal in steam-coal markets. For 1983 and subsequent years, quarterly stock changes reported on Form EIA-3 are apportioned by month in the same manner as described for coke plants in the preceding paragraph.

7. Production

Estimates of coal production by region and State are published in this report for the current quarter (Table 3). These estimates are derived from Form EIA-6, Form 7000-2 (Mine Safety and Health Administration (MSHA), U.S. Department of Labor), and from State mining agency coal production reports. The EIA also publishes monthly estimates of total coal production in the *Monthly Energy Review* (DOE/EIA-0035) and monthly and weekly estimates by State in the *Weekly Coal Production* report (DOE/EIA-0218). Final coal production data for the year are shown both in this publication and in the *Coal Production* annual report (DOE/EIA-0118).

Weekly Data

Estimates of national weekly coal production are based on weekly carload data collected by the Association of American Railroads (AAR) from its members (Class I Railroads) and certain other railroads. EIA calculates the average number of tons per carload for each railroad's coal car fleet from information obtained from the most recent Quarterly Freight Commodity Statistics filed by Class I Railroads with the Interstate Commerce Commission (ICC) and from data made available by individual railroads. The average number of tons per carload is then multiplied by the number of cars loaded to obtain an estimate of weekly production shipped by AAR railroads.

Next, the estimate of coal shipped by AAR railroads for the week is converted to total coal produced by all States for the week. This U.S. weekly coal production estimate for a specific week is obtained by dividing the AAR rail tonnage for the week by a factor representing the proportion of quarterly AAR rail shipments to total quarterly coal production. Because this is done on a weekly basis, and prior to completion of current quarterly statistics, the factor used is derived, using ICC data on tons per carload and total carloadings and from EIA data on total production for the same quarter of the previous year. Figures for the same quarter of the year are used in order to reflect seasonal variation. In some cases, the ratio of rail tonnage to total production is adjusted to take additional, more current information into consideration, such as rail or coal strikes.

Once the U.S. weekly coal production estimate is determined, this total is split into two subtotals - the portion representing States with little or no rail coal shipments, and the portion representing the remaining States, where a significant percentage of production is shipped by rail. The States with little or no railroad coal shipments are Alaska, Arizona, California and Georgia (when producing), Iowa, Kansas, Louisiana, Missouri, Texas, and Washington. Excepting California and Louisiana, the weekly production data for each "nonrail" State are developed by multiplying the estimate of U.S. weekly coal production by the ratio of projected production for each State to U.S. total projected production, for the current quarter. The methodology used to project State coal production is given in the EIA publication *Model Documentation of the Short-Term Coal Analysis System* (DOE/EIA-0394). The EIA contacts the Dolet Hills surface mine directly to obtain weekly production data for Louisiana. California production is irregular and is checked with the sole licensed mine.

Estimates for the remaining States are in aggregate equal to the U.S. weekly coal production minus the estimated production from the nonrail States. Estimates for "rail States" are based on the AAR carload data compiled by State of origin, including separate estimates for the anthracite and bituminous coal regions in Pennsylvania and eastern and western Kentucky. To determine State of origin, EIA uses information obtained directly from the AAR railroads.

Each railroad's share of rail traffic originating in the States it serves is applied to the current week's tonnage derived from system-wide carloading reports filed with AAR. The tonnages loaded by the various railroads are then summed by each State to estimate total production shipped by AAR rail for that State. These tonnages are divided by the most recent ratio of annual AAR rail tonnage to total annual production for each State. The resulting weekly coal production estimates for the rail States are then adjusted to ensure that each State's production figure contributes proportionately to the weekly coal production estimate previously derived in aggregate for the rail States.

Monthly Data

Preliminary estimates of monthly coal production by State are obtained by summing weekly coal production estimates published in the *Weekly Coal Production* report. If a week extends into a new month, the production is allocated by day, and the days are added to the month in which they occur. For weeks without holidays, the allocation is Monday through Friday, 18.4 percent each day; Saturday, 8 percent; and Sunday, 0 percent. For weeks with a holiday occurring on a day other than Sunday, the allocation is the holiday, 0 percent; and any other day, 20 percent.

Preliminary weekly and monthly production estimates are revised quarterly when quarterly production data become available. Preliminary weekly and monthly estimates are proportionately adjusted to conform to the quarterly production figure.

Quarterly Data

Estimates of quarterly coal production are based on data collected quarterly on Form EIA-6, with certain adjustments. The national estimate of quarterly coal production is set equal to the quarterly U.S. coal production total as reported on the Form EIA-6. Quarterly State production figures are determined as follows:

Appalachian Region. Quarterly production for the Appalachian Region States is equated to the production reported on Form EIA-6 for the Appalachian Region (i.e., Coal-Producing Districts 1-4, 6-8, 13, 24). Quarterly production in Georgia, Ohio, and Pennsylvania (anthracite only) can be identified from EIA-6 reports. Quarterly coal production in Alabama is obtained from that State's mining agency. Quarterly production in Maryland and West Virginia are derived from monthly State coal production reports. Quarterly production in Virginia and Tennessee are derived from the quarterly MSHA production data for these States, with adjustments by EIA for missing data.

Quarterly production for Pennsylvania (bituminous coal) is derived from the total production reported on Form EIA-6 for Coal-Producing Districts 1 and 2. Subtracted from this sum are: the quarterly production for Maryland (from the monthly State reports) and a quarterly production figure for Grant, Mineral, and Tucker Counties in West Virginia (estimated as one-fourth of the most recent annual production for these three counties).

Quarterly coal production for eastern Kentucky is equated to the total for the Appalachian Region minus the quarterly production totals for the other States in the Region.

Interior Region. Quarterly production for the Interior Region States is equated to the production reported on Form EIA-6 for the Interior Region (i.e., Coal-

Producing Districts 5, 9-12, 14, and 15). Quarterly coal production in Illinois, Indiana, Iowa, western Kentucky, and Texas can be identified from Form EIA-6 reports. Preliminary quarterly production data for Arkansas, Kansas, Missouri, and Oklahoma are compared to quarterly production data collected by MSHA. If the MSHA data for any of these States differs substantially from the preliminary production figure, then the quarterly production figure is set equal to the MSHA figure. Otherwise, the preliminary figure is unrevised. In Louisiana, EIA contacts the State's only coal mine directly to obtain its quarterly production.

Western Region. Quarterly production for the Western Region States is equated to the production reported on Form EIA-6 for the Western Region (i.e., Coal-Producing Districts 16-23). Quarterly production for each State in the Western Region can be identified from Form EIA-6 reports.

The quarterly production data, although published throughout the year, are considered preliminary until EIA annual production data are finalized in September of the following year. At that time quarterly production data are revised (proportionately adjusted) to conform to the final annual production figures.

Finalizing of Annual Production

Preliminary total annual U.S. coal production, as reported in the *Weekly Coal Production* report in the first week in January of the following year, is the sum of revised monthly/quarterly estimates of production for the first 9 months (first three quarters) and a preliminary estimate of fourth quarter production derived from weekly estimates. When production data for the fourth quarter of the year become available from Form EIA-6 in March of the following year, the preliminary fourth-quarter U.S. total production figure and the preliminary State-level corresponding production figures may or may not be revised, depending on the size of the difference between the estimates and fourth-quarter data. EIA attempts not to revise the initial annual production estimates (determined initially in January of the following year) until production data are finalized in September of the following year. In some cases, quarterly, monthly, or weekly estimates may be revised without revisions to U.S. total estimates, based on available monthly or quarterly State coal production reports.

Weekly, monthly, and quarterly State and national production data are adjusted to conform to finalized annual production figures in September of the following year.

8. Census Export and Import Data

Export and import data are obtained from the Bureau of the Census, U.S. Department of Commerce, where they are compiled monthly from documents filed with the U.S. Customs Service, as required by law.

Each coal shipment is reported in short tons with corresponding total dollar values. EIA converts all value data obtained from the Census Bureau to average price data by dividing the dollar value by the quantity.

Based on an analysis and sample validation of the Census Bureau import and export data conducted by the EIA, it was determined that some of the coal and coke data collected from the Bureau of the Census may be misleading or incorrect (particularly those data associated with very small quantities or very high prices). Because of this, a methodology was developed to edit the Census price data.

Prior to 1989, certain data cells had been suppressed for publication purposes only: 1) average import coal prices of \$50.00 or more per short ton; 2) average export coal prices of \$60.00 or more per short ton; 3) average coke prices of \$200.00 or more per short ton; 4) all percent changes of 500 percent or more.

Beginning with 1989, coal export data was categorized as metallurgical coal and steam coal, rather than as bituminous steam coal, lignite, anthracite and bituminous metallurgical coal.

In addition, coal export tables were revised to present those countries to which the United States exported more than 50,000 short tons in the prior calendar year. The remaining countries in each continent were aggregated in an "other" category. This reduces the number of empty cells and highlights the major importers of U.S. coal. All coke export, coal import and coke import countries and quantities are displayed.

The following methodology was used to derive the typical average prices as presented in the price tables. For each of the two coal categories, metallurgical and steam, a price distribution was derived from the prior calendar year (in this case 1988) export price data. For the price distribution, the extreme price values (both high and low) and the single most common price value (mode) were ascertained. Since extreme price variations in the Census Bureau data are the exception rather than the rule, the derived price distribution was used to identify a typical price range. Starting from the single most common price value and including the contiguous price classes both above and below that value, the price range that covered at least 90 percent of the exports was determined. This price range was considered to include typical or representative prices. Considering the records that fell within the typical price range, the weighted average price was calculated by country of destination and type of coal.

The same procedure was used to determine the typical average prices of coal imports. In addition to the average prices based on the above methodology, a U.S. total row is presented in the price tables, which represents the average price using all the Census data.

For reporting purposes, the month of exportation reflects the month in which the shipment leaves the United States; the month of importation generally is based on the month in which the U.S. Customs Service releases the merchandise to the importer. For both sets of data, however, there can exist a small carry-over from the actual month of exportation or importation to a subsequent month, usually the succeeding month. A number of factors in processing account for this, e.g., late receipt of a document for an end-of-month shipment, or rejection of a shipment by the computer due to failure to meet established edit criteria. These limitations should be considered when making comparisons.

Based on the U.S. - Canada Free Trade Agreement, as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government. For this reason the quantity for both coal and coke, coal type (metallurgical and steam), and value of both coal and coke are no longer strictly comparable to the historical U.S. series. This is due to the additional time lag in reporting.

9. Metric Data

Selected quarterly tables are converted to metric tons by multiplying the underlying data by the factor .907185. The metric data in Appendix D are derived from the following tables:

Tables 1, 23, 31, 4/5, 6, 7, 8, 9, 10, 11, 13, and 14 are presented, respectively, in Tables D1 through D12.

10. Revisions

Revisions to data appearing in this publication are made according to the schedules described in the discussions of the individual survey forms. The magnitudes of revisions are generally less than .25% at the National level. For 1988, the revisions for the first through fourth quarters, respectively, were: (1) for production - .04%, .02%, .06%, and .08%; (2) for consumption - .17%, .23%, .25%, and .06%; (3) for consumer stocks - .78%, 0%, 0%, and .23%; (4) for receipts - .33%, .20%, .18%, and .20%.

Appendix F

Reference Tables and Maps

Appendix F

Reference Tables and Maps

Figure F1. Census Divisions

Classification of Coals by Rank¹

Coal Rank by Coal Group	Fixed carbon limits in percent on a dry mineral-matter-free basis		Volatile matter limits in percent on a dry mineral-matter-free basis	
	Equal or Greater than	Less than	Greater than	Equal or Less than
I. Anthracitic				
1. Meta-anthracite	98	-	-	2
2. Anthracite	92	98	2	8
3. Semianthracite ²	86	92	8	14
II. Bituminous				
1. Low-volatile bituminous coal	78	86	14	22
2. Medium-volatile bituminous coal	69	78	22	31
3. High-volatile A bituminous coal	-	69	31	-
4. High-volatile B bituminous coal	-	-	-	-
5. High-volatile C bituminous coal	-	-	-	-
III. Subbituminous				
1. Subbituminous A coal	-	-	-	-
2. Subbituminous B coal	-	-	-	-
3. Subbituminous C coal	-	-	-	-
IV. Lignite				
1. Lignite A	-	-	-	-
2. Lignite B	-	-	-	-

	Calorific value limits in Btu per lb. on a moist ³ mineral-matter-free basis		Agglomerating character
	Equal or Greater than	Less than	
I. Anthracitic			
1. Meta-anthracite	-	-	Non-agglomerating
2. Anthracite	-	-	Non-agglomerating
3. Semianthracite ²	-	-	Non-agglomerating
II. Bituminous			
1. Low-volatile bituminous coal	-	-	Commonly agglomerating
2. Medium-volatile bituminous coal	-	-	Commonly agglomerating
3. High-volatile A bituminous coal	14,000 ⁴	-	Commonly agglomerating ⁵
4. High-volatile B bituminous coal	13,000 ⁴	14,000	Commonly agglomerating
5. High-volatile C bituminous coal	11,500	13,000	Commonly agglomerating
	10,500	11,500	Agglomerating
III. Subbituminous			
1. Subbituminous A coal	10,500	11,500	Non-agglomerating
2. Subbituminous B coal	9,500	10,500	Non-agglomerating
3. Subbituminous C coal	8,300	9,500	Non-agglomerating
IV. Lignite			
1. Lignite A	6,300	8,300	Non-agglomerating
2. Lignite B	-	6,300	Non-agglomerating

¹ This classification does not include a few coals, principally nonbanded varieties, which have unusual physical and chemical properties and which come within the limits of fixed carbon or calorific value of the high-volatile bituminous and subbituminous ranks. All of these coals either contain less than 48 percent dry, mineral-matter-free fixed carbon, or have more than 15,500 Btu per pound, calculated on the moist, mineral-matter-free basis.

² If agglomerating, classify in low-volatile group of the bituminous class.

³ Moist refers to coal containing its natural inherent moisture but not including visible water on the surface of the coal.

⁴ Coals having 69 percent or more fixed carbon on the dry, mineral-matter-free basis shall be classified according to fixed carbon, regardless of calorific value.

⁵ It is recognized that there may be nonagglomerating varieties in these groups of the bituminous class, and there are notable exceptions in the high-volatile C bituminous group.

Source: American Society for Testing and Materials 1974, Standard Specifications for Classification of Coal by Rank, ASTM Designation D 388-66.

Approximate Heat Content of Coal
(Million Btu per Short Ton)

	1975	1976	1977	1978	1979	1980	1981
Anthracite							
Production	21.582	22.045	22.661	23.079	23.170	22.869	23.291
Consumption	20.762	21.254	22.066	22.398	22.069	21.405	22.080
Non-electric utility users	22.272	22.618	24.101	24.388	24.272	22.719	23.749
Electric utilities	17.064	17.526	17.244	17.104	17.454	17.652	18.168
Imports and exports	25.400	25.400	25.400	25.400	25.400	25.400	25.400
Bituminous Coal and Lignite							
Production	22.910	22.863	22.597	22.242	22.449	22.411	22.301
Consumption	22.522	22.509	22.266	22.014	22.100	21.950	21.710
Residential and commercial	22.250	22.819	22.594	22.078	21.884	22.488	22.010
Coke plants	26.800	26.800	26.800	26.800	26.800	26.800	26.800
Other industrial and transportation	22.439	22.528	22.290	22.175	22.436	22.690	22.572
Electric utilities	21.659	21.692	21.521	21.284	21.372	21.301	21.091
Imports	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	26.573	26.613	26.561	26.501	26.570	26.404	26.176
Coal Coke	24.800	24.800	24.800	24.800	24.800	24.800	24.800
	1982	1983	1984	1985	1986	1987	1988
Anthracite							
Production	23.289	22.734	23.107	22.428	23.084	23.108	23.266
Consumption	22.518	21.583	22.322	20.817	21.512	22.435	22.423
Non-electric utility users	24.578	24.536	25.128	23.031	24.399	26.293	26.021
Electric utilities	18.160	16.516	17.018	16.784	15.578	15.962	17.312
Imports and exports	25.400	25.400	25.400	25.400	25.400	25.400	25.400
Bituminous Coal and Lignite							
Production	22.233	22.048	22.005	21.867	21.908	21.918	21.817
Consumption	21.670	21.576	21.570	21.368	21.462	21.514	21.324
Residential and commercial	22.226	22.438	22.406	22.568	22.669	22.800	23.135
Coke plants	26.800	26.800	26.800	26.800	26.800	26.800	26.800
Other industrial and transportation	22.695	22.680	22.525	22.013	22.185	22.360	22.341
Electric utilities	21.200	21.141	21.108	20.965	21.091	21.143	20.905
Imports	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	26.231	26.300	26.410	26.320	26.308	26.304	26.308
Coal Coke	24.800	24.800	24.800	24.800	24.800	24.800	24.800

Note: Values for 1988 are final.

Glossary

Anthracite: Anthracite, or hard coal, is the highest rank of economically usable coal. It is jet black with a high luster. The moisture content generally is less than 15 percent. Anthracite contains approximately 22 to 28 million Btu per ton as received and averages about 25 million Btu per ton. Its ignition temperature is approximately 925 to 970 degrees Fahrenheit. Virtually all of the anthracite mined is from northeastern Pennsylvania. It is used mostly for space heating and generating electricity.

Ash: Impurities consisting of silica, iron, alumina, and other incombustible matter which are contained in coal. Ash increases the weight of coal, adds to the cost of handling, and can affect the burning characteristics. Ash content is measured as a percent by weight of coal on an "as received" or a "dry" (moisture-free, usually part of a laboratory analysis) basis.

Bituminous Coal: Bituminous coal, or soft coal, is the most common coal. It is dense, black, often with well-defined bands of bright and dull material. Its moisture content usually is less than 20 percent. The heating value ranges from 19 to 30 million Btu per ton as received and averages about 24 million Btu per ton. The ignition temperature ranges from about 700 to almost 900 degrees Fahrenheit. Bituminous coal is mined chiefly in the Appalachian and Interior coal fields. It is used for generating electricity, making coke, space heating, and supplying heat for industrial use.

Blast Furnace: A furnace in which solid fuel (coke) is burned with an air blast to smelt ore.

Breeze: The fine screenings from crushed coke. Usually breeze will pass through a 1/2-inch or 3/4-inch screen opening. It is most often used as a fuel source in the process of agglomerating iron ore.

Btu (British thermal unit): The amount of heat needed to raise the temperature of 1 pound of water by 1

degree Fahrenheit. The Btu is a convenient measure by which to compare the energy content of various fuels.

Census Divisions: The nine geographic divisions of the United States established by the Bureau of the Census, U.S. Department of Commerce for statistical analysis. The boundaries of Census divisions coincide with State boundaries. In some cases, the Pacific Division is subdivided into the Pacific Contiguous and Pacific Noncontiguous areas.

Coal Carbonized: The amount of coal decomposed into solid coke and gaseous products by heating in a coke oven in a limited air supply or in the absence of air.

Coal-Producing Regions: A geographic classification of coal-producing States. The States in the Appalachian Region are Alabama, Georgia, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. The States in the Interior Region are Arkansas, Illinois, Indiana, Iowa, Kansas, Western Kentucky, Louisiana, Missouri, Oklahoma, and Texas. The States in the Western Region are Alaska, Arizona, California, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming.

Coal Rank: A classification of coal based on fixed carbon, volatile matter, heating value, and agglomerating character. It is an indication of the progressive alteration, or coalification, from lignite to anthracite. The rank of coal can also be determined by measuring the reflectance of vitrinite, one of the several organic components (macerals) of coal.

Coke (coal): In general, coke is made from bituminous coal (or blends of bituminous coal) from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit, so that the fixed carbon and ash are fused together. Coke is hard and porous, has a gray,

submetallic luster, and is strong enough to support a load of iron ore in a blast furnace. It is used both as a fuel and a reducing agent in smelting iron ore in a blast furnace. Coke has a heating value of 24.8 million Btu per short ton.

Coke Plants: Plants where coal is carbonized in slot or beehive ovens for the manufacture of coke.

Electric Utilities: All privately owned companies and all publicly owned agencies engaged in the generation, transmission, or distribution of electric power for public use. Publicly owned agencies include municipal electric utilities, Federal power projects, such as the Tennessee Valley Authority (TVA), and rural electrification cooperatives, power districts, and State power projects.

f.a.s. Value: Free alongside ship value. The value of a commodity at the port of exportation, generally including the purchase price plus all charges incurred in placing the commodity alongside the carrier at the port of exportation in the country of exportation.

f.o.b. Value: Free on board value. This is the value of coal at the coal mine or of coke and breeze at the coke plant without any insurance or freight transportation charges added.

Foundry: An operation where metal castings are produced, using coke as a fuel.

Furnace Coke Plant: A coke plant whose coke production is used primarily by the producing company.

Lignite: Lignite, the lowest rank of coal, is brownish black and has a high moisture content, sometimes as high as 45 percent. It tends to disintegrate when exposed to the weather. The heat content of lignite ranges from 9 to 17 million Btu per ton as received and averages about 14 million Btu per ton. The ignition temperature is approximately 600 degrees Fahrenheit. Lignite is mined in California, Louisiana, Montana, North Dakota, and Texas, and is used mainly to generate electricity in power plants that are relatively close to the mines.

Merchant Coke Plant: A coke plant where coke is produced primarily for sale on the commercial (open) market.

Other Industrial Plant: Industrial users, not including coke plants, engaged in the mechanical or chemical transformation of materials or substances into new products (manufacturing); and companies engaged in the agriculture, mining, or construction industries.

Preparation Plant: A mining facility at which coal is crushed, screened, and mechanically cleaned.

Residential and Commercial: Housing units; wholesale and retail businesses (except coal wholesale dealers); health institutions (hospitals); social and educational institutions (schools and universities); and Federal, State, and local governments (military installations, prisons, office buildings).

Short Ton: A unit of weight equal to 2,000 pounds.

Stocks: The supply of coal or coke at the mine, plant, or utility at the end of the reporting period.

Subbituminous Coal: Subbituminous coal, or black lignite, is dull black and generally contains 20 to 30 percent moisture. The heat content of subbituminous coal ranges from 16 to 24 million Btu per ton as received and averages about 18 million Btu per ton. Subbituminous coal, mined in the western coal fields, is used for generating electricity and space heating.

Sulfur: One of the elements present in varying quantities in coal which contributes to environmental degradation when coal is burned. In terms of sulfur content by weight, coal is generally classified as low (less than or equal to one percent), medium (greater than one percent and less than or equal to three percent), and high (greater than three percent). Sulfur content is measured as a percent by weight of coal on an "as received" or a "dry" (moisture-free, usually part of a laboratory analysis) basis.

Surface Mine: A coal-producing mine that is usually within a few hundred feet of the surface. Earth above or around the coal (overburden) is removed to expose the coalbed, which is then mined with surface excavation equipment such as draglines, power shovels, bulldozers, loaders, and augers. It may also be known as an area, contour, open-pit, strip, or auger mine.

Underground Mine: A mine where coal is produced by tunneling into the earth to the coalbed, which is

then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines. Underground mines are

classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).

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