

Annual Coal Report

2001

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Preface

Annual Coal Report (ACR) provides information about U.S. coal production, number of mines, prices, productivity, employment, productive capacity, and recoverable reserves to a wide audience, including Congress, Federal and State agencies, the coal industry, and the general public. This report is 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 report presents annual data on coal production, prices, recoverable reserves, employment, productivity, and productive capacity. U.S. coal production, employment, and productivity are based on the U.S. Department of Labor's Mine Safety and Health Administration's Form 7000-2, "Quarterly Mine Employment and Coal Production Report." Prices,

recoverable reserves, and productive capacity are based on EIA's annual survey form, EIA-7A, "Coal Production Report."

This report is the 26th annual report on coal production published by EIA and continues the series formerly included in the *Minerals Yearbook* published by the Bureau of Mines.

The Office of Coal, Nuclear, Electric and Alternate Fuels acknowledges the cooperation of the respondents in supplying the information published in the *Annual Coal Report* and appreciates the valuable assistance of State coal mining agencies; the U.S. Department of the Interior: the Bureau of Land Management, the Minerals Management Service; and the U.S. Department of Labor: the Mine Safety and Health Administration.

Notice

This is the first issue of the *Annual Coal Report* (ACR) and as such the audience needs to be aware of certain changes to the methodology used to calculate specific data items. This notice will provide to the reader explanations of these changes.

The Energy Information Administration had historically not included any bituminous coal refuse recovery data in its annual coal production totals. It had included anthracite coal refuse recovery in the anthracite production totals. This policy was a continuation of the methodology used by the Bureau of Mines prior to the inception of the U.S. Department of Energy, Energy Information Administration (EIA). Starting with the 2001 coal production data, EIA will be including all clean coal refuse recovery in a separate category,

regardless of coal rank. As a result of this change, some of the tables in this issue will show no data for refuse recovery in 2000. In future issues, refuse recovery data will be provided for both years.

There is also a change in the methodology in calculating the number of employees and productivity. Historically, EIA had not included in either employment or productivity totals any data from mines that annually produced less than 10,000 short tons. In this issue of the ACR, the employment and productivity totals will include these mines. As a consequence, the 2000 data shown in this publication may not match what had been published in the *Coal Industry Annual 2000*.

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Executive Summary

Coal production increased to a record level in 2001 according to data from the Energy Information Administration. Production in 2001 rose by 5 percent from 2000 to 1,127.7 million short tons (Table ES1), surpassing the prior record level of 1,117.5 million short tons set in 1998. Overall coal consumption declined by 2 percent in 2001. The additional production was used to replenish the depleted stockpiles that had resulted after 2 years of declining coal production and increasing coal consumption.

Driven by the electric power industry—the impetus of all coal production—coal consumption in 2001 in the United States totaled 1,060.8 million short tons, 23.3 million short tons lower than in 2000. The electric power industry used 965.1 million short tons of coal, 91 percent of total U.S. consumption. Coal-based electric power accounted for 51 percent of total electric generation. A decrease of 20.7 million short tons in coal consumed to generate electricity between 2000 and 2001 was for the most part a response to the milder-than-normal weather across most of the country and to the slowdown in the U.S. economy during the year. Coal use in the non-electricity sector declined somewhat from 2000 level. The total sector declined by 2.4 percent to a total of 95.8 million short tons.

Year-end coal stocks in 2001 increased in both the consuming and producing sectors. Consumer stocks increased by 37.8 million short tons, replacing much of the stock decrease experienced in 2000, while producer and distributor stocks rose by 4.0 million short tons.

In response to the tight supply market during the year, the delivered price of coal to most sectors reversed the downward trend that started more than a decade ago. On an annual basis, the average price per ton of coal delivered to utilities rose by 2 percent in 2001, the price of coking coal increased by 5 percent, while the price of coal in other industrial sector increased by 3 percent.

Production

Coal production in 2001 totaled 1,127.7 million short tons, rising 5 percent from 2000 (Figure ES1 and Table

ES1). The increase of 54.1 million short tons in production was fueled primarily by a replenishment in coal stocks. In a departure from the trend of the past several years, production levels in all regions increased (Table ES2).

Even with the increase in production in 2001, there were several issues that had a dampening effect on the total coal production level. Labor shortages, equipment problems, geological problems, permitting and bonding issues, legal issues, and weather related phenomena all played a role in influencing the amount of coal mined in 2001. Labor shortages of qualified experienced workers, particularly in the East and to some extent in the Powder River Basin (the Powder River Basin is an area of thick subbituminous coal fields encompassing parts of northeastern Wyoming and southeastern Montana), added to some companies' production problems. In some cases, equipment problems occurred as companies delayed regularly scheduled maintenance to continue providing coal in times of tight supplies.

Geological problems including sandstone intrusions in some underground mines slowed production, particularly in Appalachia and to a lesser extent in the West. The bonding problems experienced in 2001 were a result of financial problems at some of the insurance companies that provide reclamation bonds for mines. A few of these companies were declared insolvent for insurance purposes and, as a consequence, some mining companies had to scramble to replace the bonds or face closure of their mines.

The suspension of the issuing of Section 404 water permits by the Army Corp of Engineers in early October caused some permitting problems. These general permits are required before existing operations can move into new mining areas, or before a new mine can open, thereby delaying coal production that might have otherwise entered the marketplace. Weather-related issues also affected the production level as floods impacted both transportation (spring floods of the upper Mississippi) and production (summer floods in southern West Virginia). Milder temperatures over portions of the United States during the year helped to keep electricity demand down.

Table ES1. U.S. Coal Supply, Disposition, and Prices, 2000-2001
(Million Short Tons and Nominal Dollars per Short Ton)

Item	2000	2001
Production by Region		
Appalachian	419.4	431.2
Interior	143.5	146.9
Western	510.7	547.9
Refuse Recovery	0.0	1.8
Total	1,073.6	1,127.7
Consumption by Sector		
Electric Power	985.8	965.1
Coke Plants	28.9	26.1
Other Industrial Plants	65.2	65.3
Residential/Commercial	4.1	4.4
Total	1,084.1	1,060.8
Year-End Coal Stocks		
Electric Power	102.0	138.5
Coke Plants	1.5	1.5
Other Industrial Plants	4.6	6.0
Producers/Distributors	31.9	35.9
Total	140.0	181.9
Average Delivered Price		
Electric Utilities	\$24.28	\$24.68
Coke Plants	\$44.38	\$46.42
Other Industrial Plants	\$31.46	\$32.26

Notes: Totals may not equal sum of components due to independent rounding. Sum of stock changes and consumption may not equal production, primarily because the supply and disposition data are obtained from different surveys.

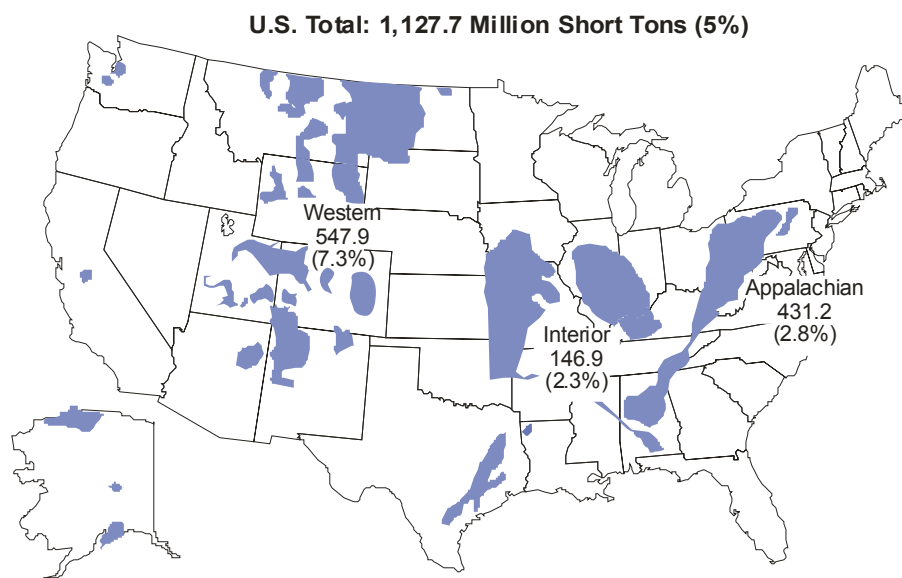
Sources: Energy Information Administration, *Annual Coal Report 2001*, tables 1; 27; 28; and 35; DOE/EIA-0584(2001) (Washington, DC, April 2003).

Appalachian Region

Although geological and other production-related problems plagued some of the mines in the region, coal production in the Appalachian Region was 431.2 million short tons in 2001, an increase of 2.8 percent. Over 70 percent of the 11.8-million-short-ton increase in 2001 was accounted for by the two major coal producing States in the region—Eastern Kentucky and West Virginia. Coal production in West Virginia, the largest coal producing State in the region, rose by 4.2 million short tons (2.6 percent) to a level of 162.4 million short tons. Even though coal production increased slightly in West Virginia in 2001, it was still constrained in part by a lawsuit that had been brought by an environmental group in Federal court involving mountaintop removal

and valley fills. Although the legal controversy was seemingly resolved with a circuit court ruling that the original suit should have been filed in State court, the finding has been appealed. Eastern Kentucky's production rose by 4.2 million short tons to end the year at 109.1 million short tons. In 2001, Pennsylvania produced 74.1 million short tons, about the same as in the previous year. Ohio, the fourth largest coal producing State in the Appalachian Region, reversed a 3-year declining trend by increasing coal production by 3.1 million short tons to reach 25.4 million short tons in 2001. Alabama, Maryland and Tennessee had slight increases in their coal production in 2001, while Virginia had a slight decrease.

Figure ES1. Coal Production by Coal-Producing Region, 2001
 (Million Short Tons and Percent Change from 2000; Regional totals do not include refuse recovery.)



Source: Energy Information Administration, *Annual Coal Report 2001*, table 1; DOE/EIA-0584(2001) (Washington, DC, April 2003).

Interior Region

The Interior Region increased coal production in 2001 by 3.4 million short tons (3 percent) to a level of 146.9 million short tons, reversing a 4-year downward trend. Reflecting the opening of four new mines in 2001 in Indiana, as well as the first full year of production by four other coal mines in the State, the greatest increase (31 percent) in tonnage in the Interior Region, was registered by Indiana. Indiana accounted for the entire increase in the Interior Region offsetting a decline in production in Texas, the largest coal-producing State in the region. Indiana's increase of 8.7 million short tons was almost double the decline in production of 4.5 million short tons in Texas.

Coal production in Western Kentucky dropped by 1.1 million short tons (4 percent) in 2001, while production in Illinois increased marginally by 1 percent. Coal production in Texas decreased by 9 percent to 45.0 million short tons. The decline in Texas coal production reflects the continuing displacement of State-produced lignite by Powder River Basin coal at several electric generating facilities in the State. All other States in the Interior Region fluctuated slightly from their respective 2000 levels.

Western Region

Although some of the regularly scheduled maintenance in the region had been postponed, resulting in some equipment failure in 2001, coal production in the Western Region still increased by 37.2 million short tons to 547.9 million short tons (7 percent). Coal production in this region, as well as in the entire United States, was dominated by Wyoming, which accounted for two-thirds of the regional production and almost one third of total U.S. production in 2001. Wyoming produced 368.7 million short tons of coal—less than 0.5 percent less than the next three largest coal-producing States combined (West Virginia, Kentucky, and Pennsylvania). In 2001, Wyoming, continuing a 9-year trend of increasing coal production, grew by 29.8 million short tons (9 percent). The continued penetration of Powder River Basin coal into the eastern electric power markets has helped to drive Wyoming production to record levels for another year as shown by deliveries of Wyoming coal into West Virginia for testing in utility boilers in 2001. Even though Wyoming had another record year of coal production in 2001, coal transportation problems out of the Powder River Basin arose regarding the use of joint rail lines by the two Class 1 railroads out of the area. Due

to the large amount of coal transported from the Powder River Basin by rail over a joint-rail line, scheduling conflicts occurred for the use of the line by Burlington Northern and the Union Pacific.

Montana, the second leading coal producing State in the Western Region, had an increase in production of 0.7 million short tons, resulting in a total of 39.1 million short tons, about 11 percent of Wyoming's production level. With the exception of slight declines in coal production for Alaska and North Dakota (0.1 million short tons and 0.8 million short tons, respectively) production levels in the other States in the Western Region increased in 2001.

Colorado produced 33.4 million short tons, an increase of 15 percent, as the West Elk mine recovered from a fire it experienced in 2000. New Mexico registered an increase of 2.3 million short tons in 2001 (8 percent), as production began at a new underground mine and the problems experienced in the State in 2000 (localized miners strike and equipment problems) did not reoccur. Both Arizona and Utah had increases in coal production of 0.3 million short tons or 2 percent and 1 percent, respectively.

Consumption

Coal consumption in the United States in 2001 decreased 23.3 million short tons to a level of 1,060.8 million short tons (Table ES1). More than 91 percent of all coal was consumed in the electric power sector. The 965.1 million short tons of coal consumed in this sector were used to produce 51 percent of all electricity generated in the United States.

Two factors affected the decline in coal consumption for power generation in 2001. The decrease of 20.7 million short tons for the generation of electricity was in part a result of a slowdown in the national economy in 2001. The other factor affecting the lower level of consumption was the milder than normal weather experienced over many portions of the country. With the exception of the Pacific Census Division, all other Census Divisions had experienced warmer winter weather in 2001. Two of the five Census Divisions that rely on coal for a large portion of total electricity generation, the South Atlantic and the Mountain Census Divisions, experienced milder weather

during the year. The South Atlantic experienced a decrease in heating-degree days of 9 percent relative to 2000, while the Mountain Census Division had a decline of 4 percent in heating-degree days. Another Census Division that is somewhat less dependent on coal-based generation, the West South Central, also experienced milder weather during 2001 with a 5-percent decline in heating-degree days.

These drops in heating-degree days accounted for about 8.8 million short tons of 20.7 million short tons decline of coal consumption for electric generation. Overall coal use in the non-electric power sector also declined in 2001. The two largest of the three categories in this sector decreased in their respective coal consumption. Coal consumption in the residential and commercial sector increased slightly, while consumption by coke plants declined and consumption at other industrial plants decreased.

Coal consumed at coke plants decreased in 2001 by 2.9 million short tons, a decline of 10 percent, as one of the coking plants in the country closed at the end of the third quarter. U.S. producers of coal coke experienced significant financial problems during 2001, with one producer filing for Chapter 11 bankruptcy and another placing its coke ovens up for sale. In 2001, other industrial coal consumption was 65.3 million short tons, essentially unchanged from the prior year.

Coal Prices

Overall, coal prices on an annual basis reversed the downward trend of the past several years. As a result of the tight coal supply market, there were increasing prices for most of the consuming sectors. The average price of utility coal on a delivered basis increased by 2 percent for an annual average of \$24.68 per short ton (123.5 cents per million Btu). Coking coal prices rose to \$46.42 per short ton, a 5-percent increase over the 2000 price. The price of other industrial steam coal was higher by 3 percent in 2001 with an annual average price of \$32.26 per short ton.

Table ES2. U.S. Coal Production by Coal-Producing Region and State, 2000-2001
(Million Short Tons)

Coal-Producing Region and State	2000	2001
Appalachian Total	419.4	431.2
Alabama	19.3	19.4
Kentucky, Eastern	104.9	109.1
Maryland	4.5	4.6
Ohio	22.3	25.4
Pennsylvania Total	74.6	74.1
Anthracite	4.6	1.5
Bituminous	70.0	72.7
Tennessee	2.7	3.3
Virginia	32.8	32.8
West Virginia Total	158.3	162.4
Northern	37.6	38.2
Southern	120.7	124.2
Interior Total	143.5	146.9
Arkansas	*	*
Illinois	33.4	33.8
Indiana	28.0	36.7
Kansas	0.2	0.2
Kentucky, Western	25.8	24.7
Louisiana	3.7	3.7
Mississippi	0.9	0.6
Missouri	0.4	0.4
Oklahoma	1.6	1.7
Texas	49.5	45.0
Western Total	510.7	547.9
Alaska	1.6	1.5
Arizona	13.1	13.4
Colorado	29.1	33.4
Montana	38.4	39.1
New Mexico	27.3	29.6
North Dakota	31.3	30.5
Utah	26.7	27.0
Washington	4.3	4.6
Wyoming	338.9	368.7
Refuse Recovery	0.0	1.8
U.S. Total	1,073.6	1,127.7

* = Less than 50,000 short tons.

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

Sources: U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Coal Production

Table 1. Coal Production and Number of Mines by State and Mine Type, 2001-2000
(Thousand Short Tons)

Coal-Producing State and Region ¹	2001		2000		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	40	19,364	42	19,324	-4.8	0.2
Underground.....	10	15,172	9	15,895	11.1	-4.5
Surface.....	30	4,192	33	3,430	-9.1	22.2
Alaska	1	1,514	1	1,641	-	-7.7
Surface.....	1	1,514	1	1,641	-	-7.7
Arizona	2	13,418	2	13,111	-	2.3
Surface.....	2	13,418	2	13,111	-	2.3
Arkansas	3	14	3	12	-	23.5
Underground.....	1	1	-	-	-	-
Surface.....	2	13	3	12	-33.3	14.9
Colorado	13	33,372	12	29,137	8.3	14.5
Underground.....	8	23,547	8	19,982	-	17.8
Surface.....	5	9,825	4	9,155	25.0	7.3
Illinois	20	33,783	18	33,444	11.1	1.0
Underground.....	13	28,112	12	29,642	8.3	-5.2
Surface.....	7	5,671	6	3,802	16.7	49.2
Indiana	33	36,738	30	27,965	10.0	31.4
Underground.....	6	7,191	5	3,688	20.0	95.0
Surface.....	27	29,546	25	24,277	8.0	21.7
Kansas	1	176	1	201	-	-12.4
Surface.....	1	176	1	201	-	-12.4
Kentucky	467	133,834	408	130,688	14.5	2.4
Underground.....	264	80,896	246	80,177	7.3	0.9
Eastern	440	109,098	382	104,901	15.2	4.0
Underground.....	253	61,836	234	59,787	8.1	3.4
Surface.....	187	47,262	148	45,114	26.4	4.8
Western	27	24,736	26	25,787	3.8	-4.1
Underground.....	11	19,061	12	20,390	-8.3	-6.5
Surface.....	16	5,676	14	5,397	14.3	5.2
Surface.....	203	52,938	162	50,511	25.3	4.8
Louisiana	2	3,715	2	3,699	-	0.4
Surface.....	2	3,715	2	3,699	-	0.4
Maryland	15	4,644	16	4,546	-6.3	2.2
Underground.....	3	3,245	2	3,196	50.0	1.5
Surface.....	12	1,399	14	1,350	-14.3	3.7
Mississippi	1	604	1	902	-	-33.1
Surface.....	1	604	1	902	-	-33.1
Missouri	2	366	2	436	-	-16.0
Surface.....	2	366	2	436	-	-16.0
Montana	6	39,143	6	38,352	-	2.1
Surface.....	6	39,143	6	38,352	-	2.1
New Mexico	7	29,618	7	27,323	-	8.4
Underground.....	1	680	1	4	-	17,778.4
Surface.....	6	28,937	6	27,320	-	5.9
North Dakota	4	30,475	4	31,270	-	-2.5
Surface.....	4	30,475	4	31,270	-	-2.5
Ohio	60	25,400	60	22,269	-	14.1
Underground.....	10	12,894	9	11,933	11.1	8.1
Surface.....	50	12,506	51	10,336	-2.0	21.0
Oklahoma	6	1,714	8	1,588	-25.0	8.0
Underground.....	1	415	1	241	-	71.8
Surface.....	5	1,300	7	1,346	-28.6	-3.4
Pennsylvania	266	74,146	307	74,619	-13.4	-0.6
Underground.....	73	58,135	81	57,951	-9.9	0.3
Anthracite	68	1,484	112	4,572	-39.3	-67.5
Underground.....	25	341	33	301	-24.2	13.2
Surface.....	43	1,143	79	4,271	-45.6	-73.2
Bituminous	198	72,662	195	70,046	1.5	3.7
Underground.....	48	57,793	48	57,650	-	0.2
Surface.....	150	14,868	147	12,396	2.0	19.9
Surface.....	193	16,011	226	16,667	-14.6	-3.9
Tennessee	23	3,324	20	2,669	15.0	24.6
Underground.....	11	1,321	11	1,456	-	-9.2
Surface.....	12	2,003	9	1,213	33.3	65.1
Texas	14	45,042	14	49,498	-	-9.0
Surface.....	14	45,042	14	49,498	-	-9.0
Utah	13	26,966	13	26,656	-	1.2
Underground.....	13	26,966	13	26,656	-	1.2
Virginia	157	32,774	156	32,834	0.6	-0.2

See footnotes at end of table.

Table 1. Coal Production and Number of Mines by State and Mine Type, 2001-2000 (Continued)
(Thousand Short Tons)

Coal-Producing State and Region ¹	2001		2000		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Virginia (continued)						
Underground.....	109	22,503	107	23,181	1.9	-2.9
Surface.....	48	10,271	49	9,654	-2.0	6.4
Washington.....	1	4,624	2	4,270	-50.0	8.3
Surface.....	1	4,624	2	4,270	-50.0	8.3
West Virginia.....	304	162,416	297	158,257	2.4	2.6
Underground.....	196	99,550	200	98,439	-2.0	1.1
Northern.....	62	38,170	68	37,601	-8.8	1.5
Underground.....	38	32,753	39	32,281	-2.6	1.5
Surface.....	24	5,418	29	5,319	-17.2	1.9
Southern.....	242	124,245	229	120,656	5.7	3.0
Underground.....	158	66,798	161	66,158	-1.9	1.0
Surface.....	84	57,447	68	54,498	23.5	5.4
Surface.....	108	62,865	97	59,818	11.3	5.1
Wyoming.....	17	368,749	21	338,900	-19.0	8.8
Underground.....	-	-	1	1,210	-100.0	-100.0
Surface.....	17	368,749	20	337,691	-15.0	9.2
Appalachian Total.....	1,305	431,165	1,280	419,419	2.0	2.8
Underground.....	665	274,654	653	271,837	1.8	1.0
Surface.....	640	156,511	627	147,582	2.1	6.1
Northern.....	403	142,360	451	139,035	-10.6	2.4
Underground.....	124	107,025	131	105,362	-5.3	1.6
Surface.....	279	35,335	320	33,673	-12.8	4.9
Central.....	862	269,442	787	261,060	9.5	3.2
Underground.....	531	152,457	513	150,581	3.5	1.2
Surface.....	331	116,984	274	110,479	20.8	5.9
Southern.....	40	19,364	42	19,324	-4.8	0.2
Underground.....	10	15,172	9	15,895	11.1	-4.5
Surface.....	30	4,192	33	3,430	-9.1	22.2
Interior Total.....	109	146,890	105	143,531	3.8	2.3
Underground.....	32	54,780	30	53,962	6.7	1.5
Surface.....	77	92,111	75	89,570	2.7	2.8
Illinois Basin Total.....	80	95,258	74	87,196	8.1	9.2
Underground.....	30	54,364	29	53,720	3.4	1.2
Surface.....	50	40,894	45	33,476	11.1	22.2
Western Total.....	64	547,879	68	510,661	-5.9	7.3
Underground.....	22	51,193	23	47,852	-4.3	7.0
Surface.....	42	496,686	45	462,809	-6.7	7.3
Powder River Basin.....	17	392,693	20	361,294	-15.0	8.7
Underground.....	-	-	-	-	-	-
Surface.....	17	392,693	20	361,294	-15.0	8.7
Uinta Region.....	22	59,685	22	55,046	-	8.4
Underground.....	19	50,244	19	46,255	-	8.6
Surface.....	3	9,441	3	8,791	-	7.4
East of Miss. River.....	1,386	527,027	1,355	507,517	2.3	3.8
West of Miss. River.....	92	598,908	98	566,094	-6.1	5.8
U.S. Subtotal.....	1,478	1,125,935	1,453	1,073,612	1.7	4.9
Refuse Recovery.....	34	1,754	-	-	-	-
U.S. Total.....	1,512	1,127,689	1,453	1,073,612	4.1	5.0

¹ For a definition of coal producing regions, see the Glossary.

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

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2001
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	10	15,172	30	4,192	40	19,364
Bibb.....	-	-	1	83	1	83
Jackson.....	1	1	-	-	1	1
Jefferson.....	2	5,954	6	692	8	6,647
Marion.....	-	-	1	70	1	70
Shelby.....	2	44	-	-	2	44
Tuscaloosa.....	4	9,062	5	1,014	9	10,076
Walker.....	1	110	14	2,011	15	2,120
Winston.....	-	-	3	322	3	322
Alaska	-	-	1	1,514	1	1,514
Yukon-Koyukuk Division.....	-	-	1	1,514	1	1,514
Arizona	-	-	2	13,418	2	13,418
Navajo.....	-	-	2	13,418	2	13,418
Arkansas	1	1	2	13	3	14
Johnson.....	-	-	1	4	1	4
Sebastian.....	1	1	1	10	2	11
Colorado	8	23,547	5	9,825	13	33,372
Delta.....	1	5,389	-	-	1	5,389
Fremont.....	1	1	-	-	1	1
Garfield.....	1	323	-	-	1	323
Gunnison.....	2	7,833	-	-	2	7,833
La Plata.....	1	269	-	-	1	269
Las Animas.....	-	-	1	13	1	13
Moffat.....	-	-	2	7,710	2	7,710
Montrose.....	-	-	1	371	1	371
Rio Blanco.....	1	2,027	-	-	1	2,027
Routt.....	1	7,705	1	1,731	2	9,436
Illinois	13	28,112	7	5,671	20	33,783
Gallatin.....	1	1,316	2	3,565	3	4,881
Jackson.....	-	-	1	1,204	1	1,204
Jefferson.....	1	1,951	-	-	1	1,951
Macoupin.....	2	4,622	-	-	2	4,622
Mcdonough.....	-	-	1	483	1	483
Montgomery.....	1	2,428	-	-	1	2,428
Perry.....	-	-	1	396	1	396
Randolph.....	1	2,634	-	-	1	2,634
Saline.....	2	8,667	-	-	2	8,667
Sangamon.....	1	2,075	-	-	1	2,075
Vermilion.....	2	1,066	-	-	2	1,066
Wabash.....	1	1,463	-	-	1	1,463
White.....	1	1,889	-	-	1	1,889
Williamson.....	-	-	2	23	2	23
Indiana	6	7,191	27	29,546	33	36,738
Clay.....	-	-	3	647	3	647
Daviess.....	-	-	3	4,385	3	4,385
Gibson.....	1	1,666	5	10,712	6	12,378
Greene.....	-	-	2	921	2	921
Knox.....	4	3,616	3	2,245	7	5,861
Owen.....	-	-	1	281	1	281
Parke.....	-	-	1	123	1	123
Pike.....	1	1,909	3	3,235	4	5,144
Spencer.....	-	-	1	199	1	199
Sullivan.....	-	-	1	1,320	1	1,320
Vigo.....	-	-	2	4,071	2	4,071
Warrick.....	-	-	2	1,407	2	1,407
Kansas	-	-	1	176	1	176
Linn.....	-	-	1	176	1	176
Kentucky	264	80,896	203	52,938	467	133,834
Bell.....	10	1,604	7	978	17	2,582
Breathitt.....	-	-	3	1,303	3	1,303
Christian.....	-	-	2	404	2	404
Clay.....	1	23	7	44	8	67
Daviess.....	-	-	2	75	2	75
Floyd.....	32	2,470	7	895	39	3,365
Harlan.....	36	10,215	19	2,194	55	12,410
Henderson.....	-	-	1	1,096	1	1,096
Hopkins.....	4	4,130	4	2,173	8	6,304
Johnson.....	3	535	3	8	6	543
Knott.....	24	6,689	24	6,205	48	12,894

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2001 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Kentucky (continued)						
Knox	9	335	2	90	11	425
Laurel	-	-	1	28	1	28
Lawrence	1	4	4	625	5	629
Lee	-	-	1	3	1	3
Leslie	10	4,393	8	2,067	18	6,460
Letcher	23	6,351	22	4,298	45	10,649
Martin	16	4,993	6	4,829	22	9,822
McLean	-	-	1	268	1	268
Morgan	-	-	1	41	1	41
Muhlenberg	2	3,219	4	1,444	6	4,663
Ohio	-	-	1	106	1	106
Owsley	-	-	1	37	1	37
Perry	9	5,086	24	8,586	33	13,672
Pike	77	19,083	42	14,967	119	34,049
Union	2	3,632	-	-	2	3,632
Webster	3	8,079	1	108	4	8,187
Whitley	2	54	5	64	7	118
Louisiana	-	-	2	3,715	2	3,715
De Soto	-	-	1	2,803	1	2,803
Red River	-	-	1	912	1	912
Maryland	3	3,245	12	1,399	15	4,644
Allegany	1	9	9	1,140	10	1,149
Garrett	2	3,235	3	260	5	3,495
Mississippi	-	-	1	604	1	604
Choctaw	-	-	1	604	1	604
Missouri	-	-	2	366	2	366
Bates	-	-	2	366	2	366
Montana	-	-	6	39,143	6	39,143
Big Horn	-	-	3	24,963	3	24,963
Richland	-	-	1	340	1	340
Rosebud	-	-	2	13,839	2	13,839
New Mexico	1	680	6	28,937	7	29,618
Colfax	-	-	1	1,123	1	1,123
Mckinley	-	-	2	12,848	2	12,848
San Juan	1	680	3	14,967	4	15,647
North Dakota	-	-	4	30,475	4	30,475
McLean	-	-	1	7,706	1	7,706
Mercer	-	-	2	18,858	2	18,858
Oliver	-	-	1	3,911	1	3,911
Ohio	10	12,894	50	12,506	60	25,400
Athens	1	1,258	-	-	1	1,258
Belmont	1	4,611	9	2,408	10	7,019
Carroll	-	-	3	114	3	114
Columbiana	-	-	3	190	3	190
Coshocton	-	-	1	56	1	56
Gallia	-	-	1	221	1	221
Guernsey	-	-	3	682	3	682
Harrison	1	1,720	5	1,454	6	3,174
Holmes	-	-	1	176	1	176
Jackson	-	-	2	1,576	2	1,576
Jefferson	4	572	5	382	9	954
Mahoning	-	-	1	10	1	10
Meigs	2	4,285	-	-	2	4,285
Monroe	1	448	-	-	1	448
Muskingum	-	-	1	706	1	706
Noble	-	-	1	550	1	550
Perry	-	-	1	1,052	1	1,052
Stark	-	-	4	728	4	728
Tuscarawas	-	-	7	841	7	841
Vinton	-	-	2	1,359	2	1,359
Oklahoma	1	415	5	1,300	6	1,714
Craig	-	-	1	238	1	238
Haskell	-	-	1	513	1	513
Le Flore	1	415	1	370	2	784
Okmulgee	-	-	1	4	1	4
Rogers	-	-	1	175	1	175
Pennsylvania	73	58,135	193	16,011	266	74,146
Allegheny	1	*	-	-	1	*
Armstrong	13	3,180	13	1,076	26	4,255
Beaver	1	300	-	-	1	300

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2001 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Pennsylvania (continued)						
Bedford	-	-	1	14	1	14
Butler	-	-	4	531	4	531
Cambria	2	372	10	1,012	12	1,384
Clarion	-	-	5	477	5	477
Clearfield	1	92	31	3,391	32	3,483
Columbia	1	181	4	127	5	308
Elk	-	-	5	527	5	527
Fayette	-	-	9	375	9	375
Greene	9	44,037	6	266	15	44,303
Indiana	8	3,191	14	641	22	3,832
Jefferson	1	208	16	1,045	17	1,253
Lackawanna	-	-	3	18	3	18
Lawrence	-	-	2	72	2	72
Luzerne	-	-	8	402	8	402
Lycoming	-	-	1	355	1	355
Northumberland	5	26	2	20	7	47
Schuylkill	19	134	26	575	45	709
Somerset	9	1,538	17	3,624	26	5,163
Venango	-	-	2	89	2	89
Washington	3	4,875	5	670	8	5,545
Westmoreland	-	-	9	704	9	704
Tennessee	11	1,321	12	2,003	23	3,324
Anderson	-	-	1	46	1	46
Campbell	5	487	4	436	9	923
Claiborne	5	813	5	1,170	10	1,983
Cumberland	-	-	1	268	1	268
Fentress	-	-	1	83	1	83
Scott	1	22	-	-	1	22
Texas	-	-	14	45,042	14	45,042
Atascosa	-	-	1	3,379	1	3,379
Freestone	-	-	1	3,690	1	3,690
Harrison	-	-	2	3,477	2	3,477
Hopkins	-	-	1	2,189	1	2,189
Leon	-	-	1	7,386	1	7,386
Milam	-	-	1	5,709	1	5,709
Panola	-	-	2	6,362	2	6,362
Robertson	-	-	1	2,144	1	2,144
Rusk	-	-	1	5,260	1	5,260
Titus	-	-	2	5,312	2	5,312
Webb	-	-	1	134	1	134
Utah	13	26,966	-	-	13	26,966
Carbon	7	9,484	-	-	7	9,484
Emery	3	9,227	-	-	3	9,227
Sevier	3	8,255	-	-	3	8,255
Virginia	109	22,503	48	10,271	157	32,774
Buchanan	35	9,290	11	2,299	46	11,590
Dickenson	22	2,916	6	315	28	3,231
Lee	3	402	1	97	4	498
Russell	4	196	2	469	6	665
Tazewell	7	1,550	1	76	8	1,627
Wise	38	8,149	27	7,015	65	15,164
Washington	-	-	1	4,624	1	4,624
Lewis	-	-	1	4,624	1	4,624
West Virginia	196	99,550	108	62,865	304	162,416
Barbour	3	521	2	46	5	568
Boone	24	18,921	12	13,756	36	32,677
Brooke	1	1,035	-	-	1	1,035
Clay	-	-	3	4,570	3	4,570
Fayette	2	848	8	2,544	10	3,392
Grant	1	250	1	525	2	774
Greenbrier	2	630	2	149	4	779
Harrison	8	5,888	4	253	12	6,141
Kanawha	7	7,441	9	8,789	16	16,231
Lincoln	3	1,766	-	-	3	1,766
Logan	11	3,159	10	7,209	21	10,368
Marion	2	1,150	2	43	4	1,194
Marshall	2	10,688	-	-	2	10,688
Mcdowell	47	3,153	12	1,789	59	4,942
Mercer	-	-	1	22	1	22
Mineral	-	-	2	90	2	90

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2001 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
West Virginia (continued)						
Mingo.....	25	11,275	13	10,807	38	22,082
Monongalia.....	5	6,260	3	716	8	6,976
Nicholas.....	5	1,984	3	3,626	8	5,610
Preston.....	1	2,384	6	82	7	2,465
Raleigh.....	13	8,808	4	496	17	9,304
Tucker.....	-	-	1	277	1	277
Upshur.....	7	2,052	2	78	9	2,130
Wayne.....	5	3,836	1	1,748	6	5,584
Webster.....	8	2,524	1	3,308	9	5,832
Wyoming.....	14	4,977	6	1,941	20	6,918
Wyoming	-	-	17	368,749	17	368,749
Campbell.....	-	-	11	329,370	11	329,370
Carbon.....	-	-	2	815	2	815
Converse.....	-	-	1	24,520	1	24,520
Lincoln.....	-	-	1	4,495	1	4,495
Sweetwater.....	-	-	2	9,548	2	9,548
U.S. Subtotal.....	719	380,627	759	745,308	1,478	1,125,935
Refuse Recovery.....	-	-	-	-	34	1,754
U.S. Total.....	719	380,627	759	745,308	1,512	1,127,689

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • Coal production is attributed to the county in which the mine originally opened, unless the mine crosses State boundaries.

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 3. Underground Coal Production by State and Mining Method, 2001
(Thousand Short Tons)

Coal-Producing State and Region ¹	Continuous ²	Conventional ³	Longwall ⁴	Other ⁵	Total
Alabama.....	151	-	15,017	3	15,172
Arkansas.....	-	-	-	1	1
Colorado.....	592	-	22,954	1	23,547
Illinois.....	15,951	-	12,161	-	28,112
Indiana.....	7,187	-	-	5	7,191
Kentucky Total.....	70,032	2,637	8,067	160	80,896
Eastern.....	57,885	2,637	1,153	160	61,836
Western.....	12,147	-	6,914	-	19,061
Maryland.....	552	-	2,684	9	3,245
New Mexico.....	680	-	-	-	680
Ohio.....	2,732	1,258	8,896	8	12,894
Oklahoma.....	415	-	-	-	415
Pennsylvania Total.....	10,202	64	47,804	64	58,135
Anthracite.....	230	64	-	47	341
Bituminous.....	9,972	-	47,804	17	57,793
Tennessee.....	1,321	-	-	-	1,321
Utah.....	2,110	-	24,856	-	26,966
Virginia.....	15,640	-	6,782	81	22,503
West Virginia Total.....	52,771	562	46,083	134	99,550
Northern.....	10,090	-	22,659	3	32,753
Southern.....	42,681	562	23,424	132	66,798
Appalachian Total.....	141,256	4,520	128,418	460	274,654
Northern.....	23,577	1,322	82,043	84	107,025
Central.....	117,528	3,199	31,359	372	152,457
Southern.....	151	-	15,017	3	15,172
Interior Total.....	35,699	-	19,075	6	54,780
Illinois Basin.....	35,284	-	19,075	5	54,364
Western Total.....	3,382	-	47,811	1	51,193
Powder River Basin.....	-	-	-	-	-
Uinta Region.....	2,433	-	47,811	-	50,244
East of Miss. River.....	176,540	4,520	147,493	464	329,018
West of Miss. River.....	3,797	-	47,811	2	51,609
U.S. Total.....	180,337	4,520	195,304	466	380,627

¹ For a definition of coal producing regions, see the Glossary.

² Mines that produce greater than 50 percent of their coal by continuous mining methods.

³ Mines that produce greater than 50 percent of their coal by conventional mining methods.

⁴ Mines that have any production from the longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

⁵ Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods or a 50/50 percent continuous conventional split in mining method, or mines that produce less than 10,000 short tons, which are not required to provide data.

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

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 4. Coal Production by Coalbed Thickness and Mine Type, 2001
(Thousand Short Tons)

Coalbed Thickness (inches)	Underground	Surface	Total
< 7	-	163	163
7-12	-	4,678	4,678
13-18	-	13,621	13,621
19-24	168	15,887	16,055
25-30	3,601	23,360	26,961
31-36	21,910	29,185	51,095
37-42	23,661	26,934	50,595
43-48	41,805	25,220	67,025
49-54	36,560	18,238	54,799
55-60	43,641	31,852	75,493
61-66	22,911	15,489	38,400
67-72	49,630	11,857	61,487
73-78	40,795	8,475	49,270
79-84	18,901	12,779	31,680
85-90	11,658	7,435	19,093
91-96	12,779	4,415	17,195
97-102	14,579	9,266	23,845
103-108	5,757	13,534	19,291
109-114	10,329	6,174	16,502
115-120	923	6,484	7,407
> 120	20,709	459,619	480,327
Unknown¹	309	643	2,707
U.S. Total	380,627	745,308	1,127,689

¹ Includes mines with production of less than 10,000 short tons, which are not required to provide data and refuse recovery.

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

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 5. Coal Production and Coalbed Thickness by Major Coalbeds and Mine Type, 2001

Coalbed ID Number ¹ Coalbed Name	Production (thousand short tons)			Thickness (inches)		
	Underground	Surface	Total	Average ²	Low	High
1699 Wyodak.....	-	320,199	320,199	776	56	994
0036 Pittsburgh.....	78,574	2,831	81,405	72	25	159
0489 No. 9.....	31,644	10,853	42,497	63	42	80
0111 Hazard No. 5-A.....	12,392	22,446	34,837	69	11	138
1569 Beulah-Zap.....	-	28,378	28,378	156	144	180
1697 Canyon.....	-	24,235	24,235	627	390	851
0151 Upper Elkhorn No. 3.....	17,273	5,248	22,522	49	12	99
0103 Stockton-Lewiston.....	5,567	14,588	20,154	69	8	108
0084 Lower Kittanning.....	5,630	14,121	19,751	55	7	117
0484 No. 6.....	15,483	3,619	19,102	74	48	96
0135 Hazard No. 4.....	12,895	5,635	18,531	47	10	90
1808 Rosebud.....	-	17,107	17,107	266	216	288
0168 Pond Creek.....	13,267	2,483	15,749	49	14	96
1696 Anderson-Dietz 1-Dietz 2.....	-	15,437	15,437	825	600	960
0176 Eagle.....	12,524	759	13,283	54	13	67
0142 Williamson (Amburgy).....	8,252	2,728	10,980	45	18	72
0344 Pocahontas No. 3.....	10,682	-	10,682	65	36	75
0087 Clarion (No. 4-A).....	4,415	5,969	10,383	44	5	100
0071 Upper Freeport.....	6,870	3,409	10,279	55	12	84
1787 Roland.....	-	9,930	9,930	497	497	497
1753 Somerset B.....	9,860	-	9,860	171	108	264
0121 Winifrede.....	5,600	3,954	9,554	70	6	120
1750 Wadge.....	7,705	1,731	9,436	109	100	150
0080 Middle Kittanning.....	2,531	6,819	9,350	52	10	96
0076 Upper Kittanning.....	3,741	5,502	9,242	52	12	81
Major Coalbeds Total.....	264,903	527,982	792,885	398	5	994
Other Coalbeds.....	115,415	216,683	332,097	87	6	735
Unknown³.....	309	643	2,707	NA	NA	NA
U.S. Total.....	380,627	745,308	1,127,689	305	5	994

¹ The coalbed ID number is a unique code assigned by EIA to each correlated coalbed or to coal-bearing geologic formations, coal groups, or coal zones. See Coalbed name discussion in note below.

² Average thickness is the bed thickness weighted by bed production.

³ Includes mines with production of less than 10,000 short tons, which are not required to provide data, and refuse recovery.

NA = This estimated value is not available due to insufficient data or inadequate data/model performance.

Notes: • Major coalbeds for this table are the top 25 producing coalbeds. The category "Other Coalbeds" includes all coalbeds from which less than 9.2 million short tons were produced during the year. In some regions, coalbeds are characteristically discontinuous or uncorrelatable from one location to another, and production is identified by the geological formations, coal groups, or coal zones of the native rock where the coalbeds occur. These types of coalbeds are found primarily in the Rocky Mountain States and even in the Gulf Coast lignite belt. Coalbeds of these types are also included in "Other Coalbeds," even though production may exceed 8.2 million short tons. Totals may not equal sum of components due to independent rounding. • The coalbed name given is the name most commonly used in the State having the greatest production from that coalbed. The States having greatest production for each coalbed are Eastern Kentucky (coalbeds 0111, 0135, 0151, 0168, and 0176); West Virginia (0036, 0084, 0103, and 0344); Pennsylvania (0071); Western Kentucky (0489); Illinois (0484); North Dakota (1569); Montana (1808); and Wyoming (1699). In some other States where these are major producing beds, the following alternative coalbed names are also used: 0084, No 5 Block (Eastern Kentucky); 0111, Coalburg (West Virginia); 0135, Chilton (West Virginia); 0151, Jellico (Tennessee); Taggart (Virginia); Cedar Grove (West Virginia); 0168, No 2 Gas (West Virginia); 0176, Middle Eagle (West Virginia); 0484, No 11 (Western Kentucky); 0489, No 5 (Illinois and Indiana).

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 6. Coal Production and Number of Mines by State and Coal Rank, 2001
(Thousand Short Tons)

Coal-Producing State and Region ¹	Bituminous		Subbituminous		Lignite		Anthracite		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama.....	37	19,357	-	-	-	-	-	-	37	19,357
Alaska.....	-	-	1	1,514	-	-	-	-	1	1,514
Arizona.....	2	13,418	-	-	-	-	-	-	2	13,418
Colorado.....	10	25,661	2	7,710	-	-	-	-	12	33,371
Illinois.....	19	33,774	-	-	-	-	-	-	19	33,774
Indiana.....	31	36,728	-	-	-	-	-	-	31	36,728
Kansas.....	1	176	-	-	-	-	-	-	1	176
Kentucky Total.....	396	133,535	-	-	-	-	-	-	396	133,535
Eastern.....	372	108,819	-	-	-	-	-	-	372	108,819
Western.....	24	24,715	-	-	-	-	-	-	24	24,715
Louisiana.....	-	-	-	-	2	3,715	-	-	2	3,715
Maryland.....	12	4,617	-	-	-	-	-	-	12	4,617
Mississippi.....	-	-	-	-	1	604	-	-	1	604
Missouri.....	2	366	-	-	-	-	-	-	2	366
Montana.....	-	-	5	38,802	1	340	-	-	6	39,143
New Mexico ²	5	15,557	2	14,061	-	-	-	-	7	29,618
North Dakota.....	-	-	-	-	4	30,475	-	-	4	30,475
Ohio.....	51	25,352	-	-	-	-	-	-	51	25,352
Oklahoma.....	5	1,710	-	-	-	-	-	-	5	1,710
Pennsylvania Total.....	153	72,492	-	-	-	-	31	1,374	184	73,866
Anthracite.....	-	-	-	-	-	-	31	1,374	31	1,374
Bituminous.....	153	72,492	-	-	-	-	-	-	153	72,492
Tennessee.....	21	3,312	-	-	-	-	-	-	21	3,312
Texas.....	1	134	-	-	13	44,909	-	-	14	45,042
Utah.....	13	26,966	-	-	-	-	-	-	13	26,966
Virginia.....	140	32,694	-	-	-	-	-	-	140	32,694
Washington.....	1	231	1	4,393	-	-	-	-	1	4,624
West Virginia Total.....	273	162,255	-	-	-	-	-	-	273	162,255
Northern.....	53	38,123	-	-	-	-	-	-	53	38,123
Southern.....	220	124,131	-	-	-	-	-	-	220	124,131
Wyoming.....	2	815	15	367,934	-	-	-	-	17	368,749
Appalachian Total.....	1,059	428,898	-	-	-	-	31	1,374	1,090	430,272
Northern.....	269	140,584	-	-	-	-	31	1,374	300	141,958
Central.....	753	268,957	-	-	-	-	-	-	753	268,957
Southern.....	37	19,357	-	-	-	-	-	-	37	19,357
Interior Total.....	83	97,604	-	-	16	49,228	-	-	99	146,831
Illinois Basin.....	74	95,218	-	-	-	-	-	-	74	95,218
Western Total.....	33	82,648	26	434,414	5	30,816	-	-	63	547,879
Powder River Basin.....	-	-	17	392,693	-	-	-	-	17	392,693
Uinta Region.....	20	51,975	2	7,710	-	-	-	-	22	59,685
East of Miss. River.....	1,133	524,116	-	-	1	604	31	1,374	1,167	529,809
West of Miss. River.....	42	85,035	26	434,414	20	79,440	-	-	85	595,173
U.S. Subtotal.....	1,175	609,150	26	434,414	21	80,043	31	1,374	1,252	1,124,982
Unknown³.....	-	-	-	-	-	-	-	-	237	997
Refuse Recovery⁴.....	18	1,275	-	-	-	-	5	434	23	1,710
U.S. Total.....	1,193	610,426	26	434,414	21	80,043	36	1,808	1,512	1,127,689

¹ For a definition of coal producing regions, see Glossary.

² One Mine in New Mexico periodically produces both bituminous and subbituminous coal. When this occurs, it is double counted as a subbituminous and bituminous mine, but is not double counted in the total.

³ Includes all mines and refuse recovery operations producing less than 10,000 short tons.

⁴ Excludes refuse recovery operations producing less than 10,000 short tons.

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

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 7. Coal Production by State, Mine Type, and Union Status, 2001
(Thousand Short Tons)

Coal-Producing State and Region ¹	Union		Nonunion		Total	
	Underground	Surface	Underground	Surface	Underground	Surface
Alabama.....	15,017	-	151	4,189	15,168	4,189
Alaska.....	-	-	-	1,514	-	1,514
Arizona.....	-	13,418	-	-	-	13,418
Colorado.....	2,027	4,044	21,519	5,781	23,546	9,825
Illinois.....	14,756	1,840	13,356	3,822	28,112	5,662
Indiana.....	-	3,975	7,187	25,566	7,187	29,542
Kansas.....	-	-	-	176	-	176
Kentucky Total.....	8,494	2,468	72,303	50,270	80,797	52,738
Eastern.....	544	1,684	61,192	45,399	61,736	47,083
Western.....	7,950	784	11,111	4,870	19,061	5,655
Louisiana.....	-	-	-	3,715	-	3,715
Maryland.....	-	-	3,235	1,382	3,235	1,382
Mississippi.....	-	-	-	604	-	604
Missouri.....	-	-	-	366	-	366
Montana.....	-	29,478	-	9,665	-	39,143
New Mexico.....	680	22,897	-	6,041	680	28,937
North Dakota.....	-	6,990	-	23,485	-	30,475
Ohio.....	8,896	1,138	3,990	11,328	12,886	12,466
Oklahoma.....	-	-	415	1,295	415	1,295
Pennsylvania Total.....	28,319	680	29,752	15,115	58,070	15,795
Anthracite.....	-	387	294	693	294	1,080
Bituminous.....	28,319	293	29,458	14,422	57,776	14,715
Tennessee.....	137	-	1,184	1,991	1,321	1,991
Texas.....	-	28,752	-	16,291	-	45,042
Utah.....	6,516	-	20,451	-	26,966	-
Virginia.....	5,236	578	17,207	9,674	22,443	10,252
Washington.....	-	4,624	-	-	-	4,624
West Virginia Total.....	41,568	14,982	57,923	47,781	99,491	62,764
Northern.....	23,381	-	9,369	5,373	32,750	5,373
Southern.....	18,187	14,982	48,554	42,408	66,741	57,390
Wyoming.....	-	10,606	-	358,143	-	368,749
Appalachian Total.....	99,715	19,062	174,635	136,859	274,351	155,921
Northern.....	60,595	1,818	46,346	33,198	106,941	35,017
Central.....	24,104	17,244	128,137	99,472	152,241	116,716
Southern.....	15,017	-	151	4,189	15,168	4,189
Interior Total.....	22,706	35,351	32,068	56,706	54,774	92,057
Illinois Basin.....	22,706	6,599	31,653	34,259	54,359	40,858
Western Total.....	9,223	92,057	41,969	404,629	51,193	496,686
Powder River Basin.....	-	29,137	-	363,555	-	392,693
Uinta Region.....	8,543	3,674	41,701	5,768	50,244	9,441
East of Miss. River.....	122,422	25,662	206,288	171,722	328,710	197,383
West of Miss. River.....	9,223	120,809	42,384	426,473	51,607	547,281
Unknown².....	-	-	-	-	309	643
U.S. Total.....	131,645	146,470	248,672	598,194	380,627	745,308

¹ For a definition of coal producing regions, see Glossary.

² Includes mines with production of less than 10,000 short tons, which are not required to provide data.

Note: • Totals may not equal sum of components because of independent rounding. Excludes refuse recovery operations.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 8. Coal Disposition by State, 2001
(Thousand Short Tons)

Coal-Producing State	Open Market Sales ¹	Captive Sales/Transactions ²	Total
Alabama.....	W	W	19,307
Alaska.....	W	-	W
Arizona.....	W	-	W
Colorado.....	W	W	33,202
Illinois.....	34,056	-	34,056
Indiana.....	W	W	36,592
Kansas.....	W	-	W
Kentucky Total.....	131,702	1,582	133,284
Eastern.....	W	W	108,549
Western.....	W	W	24,735
Louisiana.....	W	-	W
Maryland.....	W	W	4,567
Mississippi.....	W	-	W
Missouri.....	W	-	W
Montana.....	W	W	39,185
New Mexico.....	28,890	-	28,890
North Dakota.....	W	W	30,498
Ohio.....	21,150	4,514	25,664
Oklahoma.....	1,694	-	1,694
Pennsylvania Total.....	72,175	910	73,085
Anthracite.....	1,378	-	1,378
Bituminous.....	70,797	910	71,707
Tennessee.....	W	W	3,341
Texas.....	9,282	35,746	45,028
Utah.....	20,458	6,175	26,633
Virginia.....	30,861	1,910	32,771
Washington.....	-	W	W
West Virginia Total.....	154,835	6,716	161,551
Northern.....	35,338	2,894	38,232
Southern.....	119,498	3,822	123,319
Wyoming.....	350,280	18,419	368,699
U.S. Total³.....	1,036,955	84,930	1,121,885

¹ Open market sales include all coal sold on the open market to other coal companies or consumers.

² Captive sales transactions include all coal used by the producing company or sold to affiliated or parent companies.

³ Excludes mines producing less than 10,000 short tons, which are not required to provide data, and refuse recovery.

W = Withheld to avoid disclosure of individual company data.

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

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report."

Table 9. Coal Mining Acreage, Production and Royalties from Federal and American Indian Leases by State, 2001

Coal-Producing State and Region ¹	Federal Leases			American Indian Leases		
	Acres Leased	Production (thousand short tons)	Royalties (thousand dollars)	Acres Leased	Production (thousand short tons)	Royalties (thousand dollars)
Alabama.....	1,609	4	-	-	-	-
Arizona.....	-	-	-	64,858	13,738	36,820
Colorado.....	49,897	22,835	35,271	-	-	-
Kentucky, Western.....	820	42	65	-	-	-
Montana.....	29,408	21,937	24,539	14,746	5,367	2,571
New Mexico.....	13,760	7,590	24,567	36,026	10,313	24,459
North Dakota.....	4,358	2,511	1,541	-	-	-
Oklahoma.....	9,970	793	596	-	-	-
Utah.....	49,800	20,053	27,672	-	-	-
Washington.....	280	2,466	4,451	-	-	-
Wyoming.....	127,155	315,279	219,037	-	-	-
Appalachian Total.....	1,609	4	-	-	-	-
Interior Total.....	10,790	835	661	-	-	-
Western Total.....	274,658	392,671	337,078	115,630	29,418	63,850
East of Miss. River.....	2,429	46	65	-	-	-
West of Miss. River.....	284,628	393,464	337,674	115,630	29,418	63,850
U.S. Total.....	287,057	393,510	337,739	115,630	29,418	63,850

¹ For a definition of coal producing regions, see Glossary.

Note: • U.S. Total for this table represents Federal and American Indian Leases only. Output from Federal and American Indian Lands is reported as sales volume, the basis for royalties. It is approximately equivalent to production, which includes coal sold and coal added to stockpiles. Totals may not equal sum of components due to independent rounding.

Source: • U.S. Department of Interior, Minerals Management Service (MMS), Mineral Revenues, 2001, Report on Receipts from Federal and Indian Leases.

Table 10. Major U.S. Coal Mines, 2001

Rank	Mine Names/Company	Mine Type	State	Production (short tons)
1	North Antelope Rochelle Comple/Powder River Coal Company	Surface	Wyoming	74,777,460
2	Black Thunder/Thunder Basin Coal Company, LI	Surface	Wyoming	67,621,885
3	Cordero Mine/Cordero Mining Co.	Surface	Wyoming	43,358,546
4	Jacobs Ranch Mine/Jacobs Ranch Coal Company	Surface	Wyoming	29,335,345
5	Caballo Mine/Caballo Coal Company	Surface	Wyoming	27,095,831
6	Eagle Butte Mine/Rag Coal West, Inc.	Surface	Wyoming	24,823,834
7	Antelope Coal Mine/Antelope Coal Company	Surface	Wyoming	24,520,144
8	North Rochelle/Triton Coal Company	Surface	Wyoming	23,872,327
9	Buckskin Mine/Triton Coal Company	Surface	Wyoming	19,176,796
10	Freedom Mine/The Coteau Properties Company	Surface	North Dakota	15,779,220
11	Belle Ayr Mine/Rag Coal West, Inc.	Surface	Wyoming	11,760,831
12	Rosebud #6 Mine&Crusher & Conv/Western Energy Company	Surface	Montana	11,246,730
13	Bailey Mine/Consol Pennsylvania Coal Compa	Underground	Pennsylvania	10,327,224
14	Enlow Fork Mine/Consol Pennsylvania Coal Compa	Underground	Pennsylvania	10,326,124
15	Spring Creek Coal Company/Spring Creek Coal Company	Surface	Montana	9,664,986
16	Decker Mine/Decker Coal Co.	Surface	Montana	9,462,298
17	Kayenta/Peabody Western Coal Company	Surface	Arizona	8,484,056
18	Navajo Mine/Bhp Navajo Coal Company	Surface	New Mexico	8,020,215
19	Falkirk Mine/The Falkirk Mining Company	Surface	North Dakota	7,705,809
20	Foidel Creek Mine/Twenty mile Coal Company	Underground	Colorado	7,705,045
21	Jewett Mine/Northwestern Resources Company	Surface	Texas	7,386,216
22	Galatia Mine/American Coal Company	Underground	Illinois	7,009,349
23	Sufco/Canyon Fuel Company, Llc	Underground	Utah	7,001,405
24	Mckinley/The Pittsburg & Midway Coal Co	Surface	New Mexico	6,806,726
25	Emerald Mine No 1/Rag Emerald Resources Lp	Underground	Pennsylvania	6,738,254
26	Cumberland Mine/Rag Cumberland Resources Lp	Underground	Pennsylvania	6,654,799
27	Mcelroy Mine/Mc Elroy Coal Company	Underground	West Virginia	6,599,665
28	Jim Bridger Mine/Bridger Coal Company	Surface	Wyoming	6,110,696
29	Beckville Strip/Txu Mining Company	Surface	Texas	6,086,153
30	Lee Ranch Coal Co./Lee Ranch Coal Company	Surface	New Mexico	6,040,830
31	Absaloka/Washington Group International	Surface	Montana	5,835,951
32	Samples Mine/Catenary Coal Company	Surface	West Virginia	5,786,007
33	Colowyo Mine/Colowyo Coal Company L P	Surface	Colorado	5,767,595
34	Sandow Mine/Alcoa Inc	Surface	Texas	5,709,325
35	Bowie Mine #2/Bowie Resources Ltd	Underground	Colorado	5,388,989
36	Oak Hill Strip/Txu Mining Company	Surface	Texas	5,260,223
37	Blacksville No 2/Consolidation Coal Company	Underground	Pennsylvania	5,034,038
38	West Elk Mine/Mountain Coal Company Llc	Underground	Colorado	5,022,172
39	Black Mesa/Peabody Western Coal Company	Surface	Arizona	4,933,468
40	Robinson Run No. 95/Consolidation Coal Company	Underground	West Virginia	4,910,055
41	Federal No. 2/Eastern Associated Coal Corp	Underground	West Virginia	4,878,400
42	Hobet 21 Surface Mine/Hobet Mining, Inc.	Surface	West Virginia	4,806,132
43	La Plata/San Juan Coal Company	Surface	New Mexico	4,745,589
44	Dilworth Mine/Consolidation Coal Company	Underground	Pennsylvania	4,715,583
45	Centralia Coal Mine/Transalta Centralia Mining Llc	Surface	Washington	4,624,245
46	Dotiki Mine/Webster County Coal, Llc	Underground	Kentucky	4,621,666
47	Powhatan No 6 Mine/The Ohio Valley Coal Company	Underground	Ohio	4,611,287
48	Kemmerer Mine/The Pittsburg & Midway Coal Mn	Surface	Wyoming	4,495,264
49	Surface Mine No. 2/Fola Coal Company, Llc	Surface	West Virginia	4,468,804
50	Buchanan Mine #1/Consolidation Coal Co	Underground	Virginia	4,452,468
51	Deer Creek Mine/Energy West Mining Company	Underground	Utah	4,338,303
52	Shoal Creek Mine/Drummond Company, Inc.	Underground	Alabama	4,115,795
53	Shoemaker Mine/Consolidation Coal Company	Underground	West Virginia	4,088,210
54	Dry Fork Mine/Dry Fork Coal Company	Surface	Wyoming	4,029,100
	Subtotal			628,137,468
	All Other Mines			499,551,338
	U.S. Total			1,127,688,806

Note: • Major mines are mines that produced more than 4 million short tons in 2001. The company is the firm operating the mine.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and/or U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 11. Major U.S. Coal Producers, 2001

Rank	Company Name	Production (thousand short tons)	Percent of Total Production
1	Peabody Coal Sales Co.	146,132	13.0
2	Arch Coal, Inc.	116,462	10.3
3	Kennecott Energy & Coal Co.	112,656	10.0
4	Consol Energy Inc.	70,299	6.2
5	RAG American Coal Holding, Inc.	65,131	5.8
6	Horizon Natural Resources Inc.	47,457	4.2
7	A.T. Massey Coal Co., Inc.	43,400	3.8
8	Vulcan Partners, L.P.	43,049	3.8
9	North American Coal Corp.	26,728	2.4
10	TXU Corporation	22,814	2.0
11	Westmoreland Mining LLC	22,053	2.0
12	Black Beauty Coal Co.	20,109	1.8
13	Alliance Coal, LLC	17,745	1.6
14	Robert Murray	15,706	1.4
15	Pittsburg & Midway Coal Mining Co.	15,655	1.4
16	BHP Minerals Group	15,643	1.4
17	PacifiCorp	11,373	1.0
18	James River Coal Co.	10,360	0.9
19	Peter Kiewit/Kennecott	9,462	0.8
20	El Paso Energy Corp.	8,232	0.7
21	Lodestar Energy, Inc.	7,193	0.6
22	Andalex Resources, Inc.	7,086	0.6
23	Pittston Co.	6,782	0.6
24	AEP Kentucky Coal, LLC	6,265	0.6
25	Westmoreland Resources Inc.	5,836	0.5
26	Walter Industries, Inc.	5,833	0.5
27	Alcoa, Inc.	5,709	0.5
	Subtotal	885,171	78.5
	All Other Coal Producers	242,518	21.5
	U.S. Total	1,127,689	100.0

Note: • Major coal producers are companies that produced more than 5 million short tons in 2001. A controlling company of a mine is defined as the company "controlling the coal, particularly the sale of the coal." Most often, but not always, this is the owner of the mine.

Source: • COAL.dat, a product of RDI/Platts and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Productive Capacity

Table 12. Productive Capacity of Coal Mines by State, 2001, 2000
(Thousand Short Tons)

Coal-Producing State	2001			2000			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama.....	18,072	5,085	23,158	17,765	4,518	22,283	1.7	12.5	3.9
Alaska.....	-	W	W	-	W	W	-	W	W
Arizona.....	-	W	W	-	W	W	-	W	W
Colorado.....	30,839	10,358	41,197	31,814	9,732	41,546	-3.1	6.4	-0.8
Illinois.....	34,130	6,306	40,436	34,371	4,656	39,027	-0.7	35.4	3.6
Indiana.....	9,079	33,459	42,538	6,326	27,821	34,147	43.5	20.3	24.6
Kansas.....	-	W	W	-	W	W	-	W	W
Kentucky Total.....	107,184	66,669	173,853	102,091 ^R	62,219 ^R	164,310 ^R	5.0	7.2	5.8
Eastern.....	83,888	60,066	143,954	77,299 ^R	56,162 ^R	133,461 ^R	8.5	6.9	7.9
Western.....	23,296	6,603	29,899	24,792	6,057	30,848	-6.0	9.0	-3.1
Louisiana.....	-	W	W	-	W	W	-	W	W
Maryland.....	W	W	4,873	W	W	4,627	W	W	5.3
Mississippi.....	-	W	W	-	W	W	-	W	W
Missouri.....	-	W	W	-	W	W	-	W	W
Montana.....	-	51,634	51,634	-	54,682	54,682	-	-5.6	-5.6
New Mexico.....	W	W	33,953	-	33,118	33,118	W	W	2.5
North Dakota.....	-	32,300	32,300	-	32,961	32,961	-	-2.0	-2.0
Ohio.....	14,219	16,781	31,001	12,911	13,777	26,688	10.1	21.8	16.2
Oklahoma.....	W	W	2,180	W	W	2,447	W	W	-10.9
Pennsylvania Total.....	67,094	20,513	87,606	67,371 ^R	20,653 ^R	88,025 ^R	-0.4	-0.7	-0.5
Anthracite.....	315	2,637	2,952	300	3,277 ^R	3,577 ^R	4.9	-19.5	-17.5
Bituminous.....	66,779	17,876	84,655	67,071 ^R	17,377 ^R	84,448 ^R	-0.4	2.9	0.2
Tennessee.....	2,666	2,925	5,591	2,123	2,062	4,185	25.6	41.9	33.6
Texas.....	-	47,534	47,534	-	51,779	51,779	-	-8.2	-8.2
Utah.....	35,526	-	35,526	35,091	-	35,091	1.2	-	1.2
Virginia.....	26,448	13,479	39,927	26,908	12,104 ^R	39,013 ^R	-1.7	11.4	2.3
Washington.....	-	W	W	-	W	W	-	W	W
West Virginia Total.....	128,115	75,778	203,893	131,391 ^R	73,655	205,045 ^R	-2.5	2.9	-0.6
Northern.....	37,150	5,667	42,818	38,742	5,864	44,607	-4.1	-3.4	-4.0
Southern.....	90,964	70,111	161,075	92,648 ^R	67,790	160,439 ^R	-1.8	3.4	0.4
Wyoming.....	-	401,200	401,200	W	W	393,965	W	W	1.8
U.S. Total.....	478,425	850,344	1,328,769	472,981^R	828,396^R	1,301,377^R	1.2	2.6	2.1

W = Withheld to avoid disclosure of individual company data.

R = Revised.

Note: • Productive capacity is the maximum amount of coal that can be produced annually as reported by mining companies on Form EIA-7A. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report."

Table 13. Capacity Utilization of Coal Mines by State, 2001, 2000
(Thousand Short Tons)

Coal-Producing State	2001			2000		
	Underground	Surface	Total	Underground	Surface	Total
Alabama.....	83.93	82.38	83.59	89.47	75.60	86.66
Alaska.....	-	W	W	-	W	W
Arizona.....	-	W	W	-	W	W
Colorado.....	76.35	94.86	81.00	62.81	94.07	70.13
Illinois.....	82.37	89.79	83.52	86.24	81.66	85.70
Indiana.....	79.16	88.29	86.34	58.30	87.26	81.90
Kansas.....	-	W	W	-	W	W
Kentucky Total.....	75.38	79.10	76.81	78.40 ^R	80.93	79.36 ^R
East.....	73.59	78.39	75.59	77.17 ^R	80.06	78.39 ^R
West.....	81.82	85.64	82.66	82.24	88.98	83.57
Louisiana.....	-	W	W	-	W	W
Maryland.....	W	W	94.74	W	W	97.67
Mississippi.....	-	W	W	-	W	W
Missouri.....	-	W	W	-	W	W
Montana.....	-	75.81	75.81	-	70.14	70.14
New Mexico.....	W	W	87.23	-	82.49	82.49
North Dakota.....	-	94.35	94.35	-	94.87	94.87
Ohio.....	90.62	74.29	81.78	92.42	74.73	83.29
Oklahoma.....	W	W	78.44	W	W	64.69
Pennsylvania Total.....	86.55	77.00	84.32	85.89 ^R	66.96 ^R	81.45 ^R
Anthracite.....	93.37	40.97	46.55	80.44	48.36 ^R	51.05 ^R
Bituminous.....	86.52	82.32	85.63	85.92 ^R	70.47 ^R	82.74 ^R
Tennessee.....	49.55	68.05	59.23	68.46	58.14	63.38
Texas.....	-	94.76	94.76	-	95.59	95.59
Utah.....	75.91	-	75.91	75.94	-	75.94
Virginia.....	84.86	76.06	81.89	86.03 ^R	79.54 ^R	84.02 ^R
Washington.....	-	W	W	-	W	W
West Virginia Total.....	77.66	82.83	79.58	74.88 ^R	81.11	77.12 ^R
Northern.....	88.15	94.81	89.04	83.29	89.87	84.16
Southern.....	73.37	81.86	77.06	71.37 ^R	80.35	75.16 ^R
Wyoming.....	-	91.91	91.91	W	W	86.02
U.S. Total.....	79.49	87.65	84.71	78.93^R	84.11^R	82.23^R

W = Withheld to avoid disclosure of individual company data.

R = Revised.

Note: • Capacity utilization is the ratio of annual production to annual productive capacity. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," for annual production.

Table 14. Productive Capacity and Capacity Utilization of Underground Coal Mines by State and Mining Method, 2001
(Thousand Short Tons)

Coal-Producing State	Continuous		Conventional		Longwall		Other		Total	
	Productive Capacity	Capacity Utilization	Productive Capacity	Capacity Utilization	Productive Capacity	Capacity Utilization	Productive Capacity	Capacity Utilization	Productive Capacity	Capacity Utilization
Alabama.....	W	W	-	-	W	W	-	-	18,072	83.93
Colorado.....	W	W	-	-	W	W	-	-	30,839	76.35
Illinois.....	W	W	-	-	W	W	-	-	34,130	82.37
Indiana.....	9,079	79.16	-	-	-	-	-	-	9,079	79.16
Kentucky Total.....	93,414	74.97	W	W	9,971	80.91	W	W	107,184	75.38
Eastern.....	W	W	W	W	W	W	W	W	83,888	73.59
Western.....	W	W	-	-	W	W	-	-	23,296	81.82
Maryland.....	W	W	-	-	W	W	-	-	W	W
New Mexico.....	W	W	-	-	-	-	-	-	W	W
Ohio.....	3,362	81.27	W	W	W	W	-	-	14,219	90.62
Oklahoma.....	W	W	-	-	-	-	-	-	W	W
Pennsylvania Total.....	13,534	75.38	W	W	W	W	-	-	67,094	86.55
Anthracite.....	W	W	W	W	-	-	-	-	315	93.37
Bituminous.....	W	W	-	-	W	W	-	-	66,779	86.52
Tennessee.....	2,666	49.55	-	-	-	-	-	-	2,666	49.55
Utah.....	2,893	72.95	-	-	32,634	76.17	-	-	35,526	75.91
Virginia.....	18,627	83.96	-	-	W	W	W	W	26,448	84.86
West Virginia Total.....	71,110	74.21	W	W	56,368	81.75	W	W	128,115	77.66
Northern.....	11,443	88.18	-	-	25,708	88.14	-	-	37,150	88.15
Southern.....	59,668	71.53	W	W	30,660	76.40	W	W	90,964	73.37
U.S. Total.....	237,267	76.01	5,643	80.11	235,358	82.98	156	100.00	478,425	79.49

W = Withheld to avoid disclosure of individual company data.

Note: • Productive capacity is the maximum amount of coal that can be produced annually. Capacity utilization is the ratio of total production to annual productive capacity. Excludes mines producing less than 10,000 short tons, which are not required to provide data and recovery operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," for annual production.

Recoverable Reserves

Table 15. Recoverable Coal Reserves and Average Percentage at Producing Mines by State, 2001, 2000
(Million Short Tons)

Coal-Producing State	2001		2000		Percent Change Recoverable Coal Reserves
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	
Alabama.....	352	55.54	368	55.70	-4.5
Alaska.....	W	W	W	W	W
Arizona.....	W	W	W	W	W
Colorado.....	562	75.55	584	74.28	-3.8
Illinois.....	819	59.03	716	54.62	14.3
Indiana.....	397	70.62	318	74.98	24.9
Kansas.....	W	W	W	W	W
Kentucky Total.....	1,087	58.54	948	55.82	14.6
Eastern.....	829	60.05	669	57.03	23.8
Western.....	258	53.68	279	52.90	-7.5
Louisiana.....	W	W	W	W	W
Maryland.....	72	61.47	75	61.24	-4.1
Mississippi.....	W	W	W	W	W
Missouri.....	W	W	W	W	W
Montana.....	1,155	91.30	1,104	91.17	4.6
New Mexico.....	1,404	92.44	1,323	93.64	6.1
North Dakota.....	1,151	89.27	1,237	89.70	-7.0
Ohio.....	450	73.12	336	74.79	33.7
Oklahoma.....	19	69.55	34	74.63	-42.9
Pennsylvania Total.....	558	68.68	498	68.08	12.1
Anthracite.....	16	46.72	24 ^R	47.38 ^R	-30.1
Bituminous.....	541	69.35	474	69.10	14.2
Tennessee.....	24	74.94	37	68.34	-35.6
Texas.....	724	92.14	794	91.31	-8.8
Utah.....	364	52.05	429	50.72	-15.1
Virginia.....	240	58.20	246	55.26	-2.6
Washington.....	W	W	W	W	W
West Virginia Total.....	1,502	62.11	1,562	61.26	-3.9
Northern.....	521	63.47	577	60.95	-9.8
Southern.....	981	61.39	985	61.44	-0.4
Wyoming.....	6,100	93.47	6,864	92.91	-11.1
U.S. Total.....	17,801	81.70	18,330	81.95	-2.9

W = Withheld to avoid disclosure of individual company data.

R = Revised.

Note: • Recoverable reserves represent the quantity of coal that can be recovered (i.e., mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 16. Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, and Demonstrated Reserve Base by Mining Method, 2001
(Million Short Tons)

Coal-Resource State	Underground - Minable Coal			Surface - Minable Coal			Total		
	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base
Alabama.....	327	568	1,127	24	2,298	3,226	352	2,866	4,353
Alaska.....	-	2,745	5,423	W	549	694	W	3,295	6,117
Arizona.....	-	51	102	W	-	-	W	51	102
Arkansas.....	-	127	272	-	101	144	-	228	417
Colorado.....	353	6,151	11,721	209	3,754	4,771	562	9,905	16,493
Georgia.....	-	1	2	-	1	2	-	2	4
Idaho.....	-	2	4	-	-	-	-	2	4
Illinois.....	787	27,995	88,131	32	10,088	16,578	819	38,083	104,710
Indiana.....	235	3,652	8,817	162	509	870	397	4,160	9,687
Iowa.....	-	807	1,732	-	320	457	-	1,127	2,189
Kansas.....	-	-	-	W	681	973	W	681	973
Kentucky Total.....	812	7,715	17,635	275	7,611	13,191	1,087	15,326	30,826
Eastern.....	582	896	1,604	246	5,328	9,539	829	6,223	11,143
Western.....	229	6,819	16,031	29	2,284	3,651	258	9,103	19,682
Louisiana.....	-	-	-	W	327	441	W	327	441
Maryland.....	W	331	604	W	50	74	72	381	678
Michigan.....	-	55	123	-	3	5	-	59	128
Mississippi.....	-	-	-	W	-	-	W	-	-
Missouri.....	-	689	1,479	W	3,159	4,512	W	3,848	5,992
Montana.....	-	35,923	70,958	1,155	39,182	48,465	1,155	75,105	119,423
New Mexico.....	W	2,862	6,202	W	4,144	6,085	1,404	7,006	12,287
North Carolina.....	-	5	11	-	-	-	-	5	11
North Dakota.....	-	-	-	1,151	7,022	9,205	1,151	7,022	9,205
Ohio.....	242	7,767	17,653	208	3,797	5,801	450	11,564	23,454
Oklahoma.....	W	575	1,234	W	231	329	19	806	1,564
Oregon.....	-	7	15	-	2	3	-	9	17
Pennsylvania Total.....	456	10,940	23,652	101	1,084	4,312	558	12,024	27,965
Anthracite.....	2	340	3,846	14	420	3,360	16	761	7,206
Bituminous.....	454	10,599	19,807	87	664	953	541	11,263	20,759
South Dakota.....	-	-	-	-	277	366	-	277	366
Tennessee.....	10	284	518	14	186	274	24	469	792
Texas.....	-	-	-	724	9,711	12,616	724	9,711	12,616
Utah.....	364	2,607	5,317	-	212	268	364	2,819	5,585
Virginia.....	206	723	1,288	34	394	615	240	1,117	1,902
Washington.....	-	674	1,332	W	24	31	W	699	1,363
West Virginia Total.....	1,158	15,956	29,898	343	2,567	4,069	1,502	18,523	33,966
Northern.....	506	NA	NA	15	NA	NA	521	NA	NA
Southern.....	653	NA	NA	328	NA	NA	981	NA	NA
Wyoming.....	-	22,950	42,501	6,100	20,091	23,257	6,100	43,041	65,758
U.S. Total.....	5,172	152,162	337,753	12,629	118,375	161,633	17,801	270,537	499,386

W = Withheld to avoid disclosure of individual company data.

NA = This estimated value is not available due to insufficient data or inadequate data/model performance.

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. EIA's estimated recoverable reserves include the coal in the demonstrated reserve base considered recoverable after excluding coal estimated to be unavailable due to land use restrictions or currently economically unattractive for mining, and after applying assumed mining recovery rates; see Glossary for criteria. The demonstrated reserve base includes publicly available data on coal mapped to measured and indicated degrees of accuracy and found at depths and in coalbed thicknesses considered technologically minable at the time of determinations; see Glossary for criteria. Excludes silt, culm, refuse bank, slurry dam, and dredge operations except for Pennsylvania anthracite. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," and EIA estimates.

Table 17. Recoverable Coal Reserves and Average Recovery Percentage at Producing Underground Coal Mines by State and Mining Method, 2001
(Million Short Tons)

Coal-Producing State	Continuous ¹		Conventional ²		Longwall ³		Other ⁴		Total	
	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage
Alabama.....	W	W	-	-	W	W	-	-	327	53.17
Colorado.....	W	W	-	-	W	W	-	-	353	67.96
Illinois.....	W	W	-	-	W	W	-	-	787	58.26
Indiana.....	235	63.54	-	-	-	-	-	-	235	63.54
Kentucky Total.....	751	50.26	W	W	W	W	-	-	812	50.39
Eastern.....	W	W	W	W	W	W	-	-	582	50.82
Western.....	W	W	-	-	W	W	-	-	229	49.30
Maryland.....	W	W	-	-	W	W	-	-	W	W
New Mexico.....	W	W	-	-	-	-	-	-	W	W
Ohio.....	122	60.29	W	W	W	W	-	-	242	60.09
Oklahoma.....	W	W	-	-	-	-	-	-	W	W
Pennsylvania Total.....	75	59.99	W	W	W	W	-	-	456	65.89
Anthracite.....	W	W	W	W	-	-	-	-	2	78.91
Bituminous.....	W	W	-	-	W	W	-	-	454	65.84
Tennessee.....	10	71.59	-	-	-	-	-	-	10	71.59
Utah.....	12	60.84	-	-	353	51.76	-	-	364	52.05
Virginia.....	W	W	-	-	W	W	-	-	206	53.25
West Virginia Total.....	W	W	W	W	W	W	-	-	1,158	57.62
Northern.....	W	W	-	-	W	W	-	-	506	63.10
Southern.....	W	W	W	W	W	W	-	-	653	53.37
U.S. Total.....	2,465	55.97	40	51.06	2,667	60.50	-	-	5,172	58.27

¹ Mines that produce greater than 50 percent of their coal by continuous mining methods.

² Mines that produce greater than 50 percent of their coal by conventional mining methods.

³ Mines that have any production from the longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

⁴ Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods or 50/50 percent continuous conventional split in mining method.

W = Withheld to avoid disclosure of individual company data.

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 18. Recoverable Coal Reserves and Average Recovery Percentage at Producing U.S. Mines by Mine Production Range and Mine Type, 2001
(Million Short Tons)

Mine Production Range (thousand short tons)	Underground		Surface		Total	
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage
Over 1,000	3,779	58.97	11,649	91.85	15,428	83.80
500 to 1,000	490	58.21	483	87.07	973	72.53
200 to 500	536	55.35	340	82.95	876	66.06
100 to 200	147	58.05	67	79.91	214	64.93
50 to 100	94	56.87	38	80.91	132	63.72
10 to 50	125	51.08	52	81.33	178	60.00
U.S. Total.....	5,172	58.27	12,629	91.29	17,801	81.70

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Employment

Table 19. Average Number of Employees by State and Mine Type, 2001, 2000

Coal-Producing State and Region ¹	2001			2000			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama.....	2,702	631	3,333	2,775	548	3,323	-2.6	15.1	0.3
Alaska.....	-	119	119	-	119	119	-	-	-
Arizona.....	-	698	698	-	718	718	-	-2.8	-2.8
Arkansas.....	13	4	17	-	7	7	-	-42.9	142.9
Colorado.....	1,325	626	1,951	1,246	589	1,835	6.3	6.3	6.3
Illinois.....	3,025	428	3,453	3,106	348	3,454	-2.6	23.0	*
Indiana.....	756	1,787	2,543	510	1,520	2,030	48.2	17.6	25.3
Kansas.....	-	9	9	-	8	8	-	12.5	12.5
Kentucky Total.....	11,779	5,755	17,534	11,064	4,806	15,870	6.5	19.7	10.5
Eastern.....	9,915	5,197	15,112	9,044	4,315	13,359	9.6	20.4	13.1
Western.....	1,864	558	2,422	2,020	491	2,511	-7.7	13.6	-3.5
Louisiana.....	-	186	186	-	172	172	-	8.1	8.1
Maryland.....	290	180	470	296	174	470	-2.0	3.4	-
Mississippi.....	-	128	128	-	108	108	-	18.5	18.5
Missouri.....	-	38	38	-	43	43	-	-11.6	-11.6
Montana.....	-	843	843	-	867	867	-	-2.8	-2.8
New Mexico.....	142	1,586	1,728	14	1,600	1,614	914.3	-0.9	7.1
North Dakota.....	-	912	912	-	896	896	-	1.8	1.8
Ohio.....	1,513	1,409	2,922	1,556	1,216	2,772	-2.8	15.9	5.4
Oklahoma.....	38	115	153	40	141	181	-5.0	-18.4	-15.5
Pennsylvania Total.....	5,635	2,751	8,386	5,414	2,808	8,222	4.1	-2.0	2.0
Anthracite.....	272	683	955	292	980	1,272	-6.8	-30.3	-24.9
Bituminous.....	5,363	2,068	7,431	5,122	1,828	6,950	4.7	13.1	6.9
Tennessee.....	276	290	566	282	199	481	-2.1	45.7	17.7
Texas.....	-	2,470	2,470	-	2,435	2,435	-	1.4	1.4
Utah.....	1,479	6	1,485	1,669	3	1,672	-11.4	100.0	-11.2
Virginia.....	4,084	1,371	5,455	4,031	1,331	5,362	1.3	3.0	1.7
Washington.....	-	557	557	-	517	517	-	7.7	7.7
West Virginia Total.....	11,840	4,739	16,579	11,119	4,084	15,203	6.5	16.0	9.1
Northern.....	3,562	427	3,989	3,384	429	3,813	5.3	-0.5	4.6
Southern.....	8,278	4,312	12,590	7,735	3,655	11,390	7.0	18.0	10.5
Wyoming.....	-	4,365	4,365	50	4,319	4,369	-100.0	1.1	*
Appalachian Total.....	36,255	16,568	52,823	34,517	14,675	49,192	5.0	12.9	7.4
Northern.....	11,000	4,767	15,767	10,650	4,627	15,277	3.3	3.0	3.2
Central.....	22,553	11,170	33,723	21,092	9,500	30,592	6.9	17.6	10.2
Southern.....	2,702	631	3,333	2,775	548	3,323	-2.6	15.1	0.3
Interior Total.....	5,696	5,723	11,419	5,676	5,273	10,949	0.4	8.5	4.3
Illinois Basin.....	5,645	2,773	8,418	5,636	2,359	7,995	0.2	17.5	5.3
Western Total.....	2,946	9,712	12,658	2,979	9,628	12,607	-1.1	0.9	0.4
Powder River Basin.....	-	4,365	4,365	-	4,353	4,353	-	0.3	0.3
Uinta Region.....	2,758	568	3,326	2,843	559	3,402	-3.0	1.6	-2.2
East of Miss. River.....	41,900	19,469	61,369	40,153	17,142	57,295	4.4	13.6	7.1
West of Miss. River.....	2,997	12,534	15,531	3,019	12,434	15,453	-0.7	0.8	0.5
U.S. Subtotal.....	44,897	32,003	76,900	43,172	29,576	72,748	4.0	8.2	5.7
Refuse Recovery.....	-	-	188	-	-	-	-	-	-
U.S. Total.....	44,897	32,003	77,088	43,172	29,576	72,748	4.0	8.2	6.0

¹ For a definition of coal producing regions, see Glossary.

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 20. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2001

Coal-Producing State, Region ¹ , and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero ²	
Alabama	2,453	42	255	136	87	90	25	245	3,333
Underground.....	2,453	-	-	26	7	42	25	149	2,702
Surface.....	-	42	255	110	80	48	-	96	631
Alaska	119	-	-	-	-	-	-	-	119
Surface.....	119	-	-	-	-	-	-	-	119
Arizona	662	-	-	-	-	-	-	36	698
Surface.....	662	-	-	-	-	-	-	36	698
Arkansas	-	-	-	-	-	-	17	-	17
Underground.....	-	-	-	-	-	-	13	-	13
Surface.....	-	-	-	-	-	-	4	-	4
Colorado	1,772	-	91	-	-	34	6	48	1,951
Underground.....	1,210	-	61	-	-	-	6	48	1,325
Surface.....	562	-	30	-	-	34	-	-	626
Illinois	3,087	102	105	-	-	42	5	112	3,453
Underground.....	2,899	-	-	-	-	26	-	100	3,025
Surface.....	188	102	105	-	-	16	5	12	428
Indiana	1,853	385	139	67	18	27	14	40	2,543
Underground.....	694	2	39	-	-	-	9	12	756
Surface.....	1,159	383	100	67	18	27	5	28	1,787
Kansas	-	-	-	9	-	-	-	-	9
Surface.....	-	-	-	9	-	-	-	-	9
Kentucky	4,733	2,806	3,380	1,492	1,347	1,319	446	2,011	17,534
Underground.....	3,163	1,930	2,328	933	913	999	188	1,325	11,779
Surface.....	1,570	876	1,052	559	434	320	258	686	5,755
Eastern	3,160	2,579	3,102	1,443	1,272	1,319	412	1,825	15,112
Underground.....	1,750	1,782	2,239	933	856	999	188	1,168	9,915
Surface.....	1,410	797	863	510	416	320	224	657	5,197
Western	1,573	227	278	49	75	-	34	186	2,422
Underground.....	1,413	148	89	-	57	-	-	157	1,864
Surface.....	160	79	189	49	18	-	34	29	558
Louisiana	147	39	-	-	-	-	-	-	186
Surface.....	147	39	-	-	-	-	-	-	186
Maryland	201	56	118	8	23	22	10	32	470
Underground.....	201	56	-	-	-	-	1	32	290
Surface.....	-	-	118	8	23	22	9	-	180
Mississippi	-	128	-	-	-	-	-	-	128
Surface.....	-	128	-	-	-	-	-	-	128
Missouri	-	-	-	38	-	-	-	-	38
Surface.....	-	-	-	38	-	-	-	-	38
Montana	830	-	13	-	-	-	-	-	843
Surface.....	830	-	13	-	-	-	-	-	843
New Mexico	1,586	142	-	-	-	-	-	-	1,728
Underground.....	-	142	-	-	-	-	-	-	142
Surface.....	1,586	-	-	-	-	-	-	-	1,586
North Dakota	912	-	-	-	-	-	-	-	912
Surface.....	912	-	-	-	-	-	-	-	912
Ohio	1,375	469	547	189	43	118	67	114	2,922
Underground.....	1,218	-	153	52	-	-	37	53	1,513
Surface.....	157	469	394	137	43	118	30	61	1,409
Oklahoma	-	44	91	16	-	-	2	-	153
Underground.....	-	-	38	-	-	-	-	-	38
Surface.....	-	44	53	16	-	-	2	-	115
Pennsylvania	4,086	399	1,182	662	319	388	313	1,037	8,386
Underground.....	3,977	209	406	328	57	73	128	457	5,635
Surface.....	109	190	776	334	262	315	185	580	2,751
Anthracite	-	-	-	132	51	182	174	416	955
Underground.....	-	-	-	45	-	57	83	87	272
Surface.....	-	-	-	87	51	125	91	329	683
Bituminous	4,086	399	1,182	530	268	206	139	621	7,431
Underground.....	3,977	209	406	283	57	16	45	370	5,363
Surface.....	109	190	776	247	211	190	94	251	2,068
Tennessee	-	-	223	157	53	69	6	58	566
Underground.....	-	-	58	109	39	34	-	36	276
Surface.....	-	-	165	48	14	35	6	22	290
Texas	2,362	-	67	39	-	-	-	2	2,470
Surface.....	2,362	-	67	39	-	-	-	2	2,470
Utah	1,079	302	35	-	-	16	-	53	1,485
Underground.....	1,079	302	35	-	-	16	-	47	1,479
Surface.....	-	-	-	-	-	-	-	6	6

See footnotes at end of table.

Table 20. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2001 (Continued)

Coal-Producing State, Region ¹ , and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero ²	
Virginia	788	818	1,517	602	625	364	140	601	5,455
Underground.....	701	576	1,075	408	482	293	110	439	4,084
Surface.....	87	242	442	194	143	71	30	162	1,371
Washington	557	-	-	-	-	-	-	-	557
Surface.....	557	-	-	-	-	-	-	-	557
West Virginia	7,874	1,729	2,639	924	607	573	178	2,055	16,579
Underground.....	5,459	1,266	1,927	739	526	385	106	1,432	11,840
Surface.....	2,415	463	712	185	81	188	72	623	4,739
Northern Total	2,543	293	401	205	82	142	37	286	3,989
Underground.....	2,401	219	378	179	50	100	11	224	3,562
Surface.....	142	74	23	26	32	42	26	62	427
Southern Total	5,331	1,436	2,238	719	525	431	141	1,769	12,590
Underground.....	3,058	1,047	1,549	560	476	285	95	1,208	8,278
Surface.....	2,273	389	689	159	49	146	46	561	4,312
Wyoming	4,321	-	44	-	-	-	-	-	4,365
Surface.....	4,321	-	44	-	-	-	-	-	4,365
Appalachian Total	19,937	6,092	9,583	4,121	3,029	2,943	1,151	5,967	52,823
Underground.....	15,759	3,889	5,858	2,595	1,967	1,826	595	3,766	36,255
Surface.....	4,178	2,203	3,725	1,526	1,062	1,117	556	2,201	16,568
Northern	8,205	1,217	2,248	1,064	467	670	427	1,469	15,767
Underground.....	7,797	484	937	559	107	173	177	766	11,000
Surface.....	408	733	1,311	505	360	497	250	703	4,767
Central	9,279	4,833	7,080	2,921	2,475	2,183	699	4,253	33,723
Underground.....	5,509	3,405	4,921	2,010	1,853	1,611	393	2,851	22,553
Surface.....	3,770	1,428	2,159	911	622	572	306	1,402	11,170
Southern	2,453	42	255	136	87	90	25	245	3,333
Underground.....	2,453	-	-	26	7	42	25	149	2,702
Surface.....	-	42	255	110	80	48	-	96	631
Interior Total	9,022	925	680	218	93	69	72	340	11,419
Underground.....	5,006	150	166	-	57	26	22	269	5,696
Surface.....	4,016	775	514	218	36	43	50	71	5,723
Illinois Basin	6,513	714	522	116	93	69	53	338	8,418
Underground.....	5,006	150	128	-	57	26	9	269	5,645
Surface.....	1,507	564	394	116	36	43	44	69	2,773
Western Total	11,838	444	183	-	-	50	6	137	12,658
Underground.....	2,289	444	96	-	-	16	6	95	2,946
Surface.....	9,549	-	87	-	-	34	-	42	9,712
Powder River Basin	4,365	-	-	-	-	-	-	-	4,365
Surface.....	4,365	-	-	-	-	-	-	-	4,365
Uinta Region	2,851	302	56	-	-	16	-	101	3,326
Underground.....	2,289	302	56	-	-	16	-	95	2,758
Surface.....	562	-	-	-	-	-	-	6	568
East of Miss. River	26,450	6,934	10,105	4,237	3,122	3,012	1,204	6,305	61,369
Underground.....	20,765	4,039	5,986	2,595	2,024	1,852	604	4,035	41,900
Surface.....	5,685	2,895	4,119	1,642	1,098	1,160	600	2,270	19,469
West of Miss. River	14,347	527	341	102	-	50	25	139	15,531
Underground.....	2,289	444	134	-	-	16	19	95	2,997
Surface.....	12,058	83	207	102	-	34	6	44	12,534
Subtotal	40,797	7,461	10,446	4,339	3,122	3,062	1,229	6,444	76,900
Underground.....	23,054	4,483	6,120	2,595	2,024	1,868	623	4,130	44,897
Surface.....	17,743	2,978	4,326	1,744	1,098	1,194	606	2,314	32,003
Refuse Recovery	-	-	16	18	55	55	44	-	188
U.S. Total	40,797	7,461	10,462	4,357	3,177	3,117	1,273	6,444	77,088

¹ For a definition of coal producing regions, see Glossary.

² Includes all employees at preparation plants and tipples not co-located with a mine.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 21. Average Number of Employees at Underground and Surface Mines by State and Union Status, 2001

Coal-Producing State and Region ¹	Union ²		Nonunion ²	
	Underground	Surface	Underground	Surface
Alabama.....	2,514	27	163	621
Alaska.....	-	-	-	119
Arizona.....	-	698	-	-
Colorado.....	157	276	1,162	350
Illinois.....	1,726	208	1,299	215
Indiana.....	-	344	747	1,438
Kansas.....	-	-	-	9
Kentucky Total.....	1,024	221	10,567	5,334
Eastern.....	101	135	9,626	4,882
Western.....	923	86	941	452
Louisiana.....	-	-	-	186
Maryland.....	-	-	289	171
Mississippi.....	-	-	-	128
Missouri.....	-	-	-	38
Montana.....	-	712	-	131
New Mexico.....	142	1,285	-	301
North Dakota.....	-	272	-	640
Ohio.....	962	190	514	1,189
Oklahoma.....	-	-	38	113
Pennsylvania Total.....	3,459	310	2,048	2,288
Anthracite.....	-	231	189	374
Bituminous.....	3,459	79	1,859	1,914
Tennessee.....	19	-	257	284
Texas.....	-	1,629	-	841
Utah.....	577	-	902	6
Virginia.....	800	88	3,174	1,267
Washington.....	-	557	-	-
West Virginia Total.....	4,971	1,182	6,763	3,508
Northern.....	2,271	-	1,280	401
Southern.....	2,700	1,182	5,483	3,107
Wyoming.....	-	626	-	3,739
Appalachian Total.....	12,826	1,932	22,834	14,210
Northern.....	6,692	500	4,131	4,049
Central.....	3,620	1,405	18,540	9,540
Southern.....	2,514	27	163	621
Interior Total.....	2,649	2,267	3,025	3,420
Illinois Basin.....	2,649	638	2,987	2,105
Western Total.....	876	4,426	2,064	5,286
Powder River Basin.....	-	699	-	3,666
Uinta Region.....	734	246	2,024	322
East of Miss. River.....	15,475	2,570	25,821	16,443
West of Miss. River.....	876	6,055	2,102	6,473
U.S. Total.....	16,351	8,625	27,923	22,916

¹ For a definition of coal producing regions, see Glossary.

² Includes all employees at preparation plants and tipples not co-located with a mine.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons and preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Productivity

Table 22. Coal Mining Productivity by State and Mine Type, 2001, 2000

Coal-Producing State, Region ¹ , and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee per Hour (short tons) ⁴		
	2001	2000	Percent Change	2001	2000	Percent Change	2001	2000	Percent Change
Alabama	60	59	1.7	3,333	3,323	0.3	2.75	2.75	0.1
Underground.....	20	17	17.6	2,702	2,775	-2.6	2.70	2.68	0.8
Surface.....	40	42	-4.8	631	548	15.1	2.97	3.15	-5.6
Alaska	1	1	-	119	119	-	5.99	6.05	-1.1
Surface.....	1	1	-	119	119	-	5.99	6.05	-1.1
Arizona	3	3	-	698	718	-2.8	7.69	7.15	7.5
Surface.....	3	3	-	698	718	-2.8	7.69	7.15	7.5
Arkansas	3	3	-	17	7	142.9	*	1.30	-67.4
Underground.....	1	-	-	13	-	-	*	-	-
Surface.....	2	3	-33.3	4	7	-42.9	1.86	1.30	42.7
Colorado	15	14	7.1	1,951	1,835	6.3	8.43	7.64	10.2
Underground.....	10	10	-	1,325	1,246	6.3	8.58	7.84	9.5
Surface.....	5	4	25.0	626	589	6.3	8.09	7.26	11.5
Illinois	28	23	21.7	3,453	3,454	*	4.22	4.32	-2.4
Underground.....	19	16	18.8	3,025	3,106	-2.6	4.07	4.30	-5.3
Surface.....	9	7	28.6	428	348	23.0	5.11	4.47	14.3
Indiana	41	37	10.8	2,543	2,030	25.3	5.69	5.67	0.4
Underground.....	9	9	-	756	510	48.2	4.02	3.40	18.3
Surface.....	32	28	14.3	1,787	1,520	17.6	6.33	6.31	0.4
Kansas	1	1	-	9	8	12.5	10.42	11.10	-6.1
Surface.....	1	1	-	9	8	12.5	10.42	11.10	-6.1
Kentucky	601	534	12.5	17,534	15,870	10.5	3.66	3.95	-7.4
Underground.....	334	313	6.7	11,779	11,064	6.5	3.32	3.53	-6.1
Surface.....	267	221	20.8	5,755	4,806	19.7	4.34	4.86	-10.7
Eastern	566	496	14.1	15,112	13,359	13.1	3.52	3.84	-8.4
Underground.....	318	293	8.5	9,915	9,044	9.6	3.10	3.32	-6.7
Surface.....	248	203	22.2	5,197	4,315	20.4	4.28	4.85	-11.7
Western	35	38	-7.9	2,422	2,511	-3.5	4.43	4.46	-0.7
Underground.....	16	20	-20.0	1,864	2,020	-7.7	4.30	4.34	-0.8
Surface.....	19	18	5.6	558	491	13.6	4.92	4.99	-1.4
Louisiana	2	2	-	186	172	8.1	9.08	10.30	-11.8
Surface.....	2	2	-	186	172	8.1	9.08	10.30	-11.8
Maryland	16	17	-5.9	470	470	-	4.46	4.39	1.5
Underground.....	4	3	33.3	290	296	-2.0	4.94	4.76	3.7
Surface.....	12	14	-14.3	180	174	3.4	3.63	3.70	-1.9
Mississippi	1	1	-	128	108	18.5	2.58	3.84	-32.8
Surface.....	1	1	-	128	108	18.5	2.58	3.84	-32.8
Missouri	2	2	-	38	43	-11.6	3.97	4.17	-4.8
Surface.....	2	2	-	38	43	-11.6	3.97	4.17	-4.8
Montana	6	6	-	843	867	-2.8	23.67	22.85	3.6
Surface.....	6	6	-	843	867	-2.8	23.67	22.85	3.6
New Mexico	7	7	-	1,728	1,614	7.1	8.03	8.45	-4.9
Underground.....	1	1	-	142	14	914.3	2.25	*	1,054.6
Surface.....	6	6	-	1,586	1,600	-0.9	8.55	8.50	0.6
North Dakota	4	4	-	912	896	1.8	17.12	17.63	-2.9
Surface.....	4	4	-	912	896	1.8	17.12	17.63	-2.9
Ohio	72	71	1.4	2,922	2,772	5.4	3.82	3.53	8.2
Underground.....	15	14	7.1	1,513	1,556	-2.8	4.03	3.47	16.3
Surface.....	57	57	-	1,409	1,216	15.9	3.62	3.61	0.2
Oklahoma	6	8	-25.0	153	181	-15.5	4.39	3.46	27.0
Underground.....	1	1	-	38	40	-5.0	4.61	2.52	82.5
Surface.....	5	7	-28.6	115	141	-18.4	4.33	3.71	16.8
Pennsylvania	358	395	-9.4	8,386	8,222	2.0	4.07	4.27	-4.7
Underground.....	109	120	-9.2	5,635	5,414	4.1	4.70	4.93	-4.7
Surface.....	249	275	-9.5	2,751	2,808	-2.0	2.74	2.90	-5.5
Anthracite	118	158	-25.3	955	1,272	-24.9	0.82	1.89	-56.5
Underground.....	43	50	-14.0	272	292	-6.8	0.71	0.64	10.6
Surface.....	75	108	-30.6	683	980	-30.3	0.86	2.14	-60.0
Bituminous	240	237	1.3	7,431	6,950	6.9	4.43	4.66	-4.9
Underground.....	66	70	-5.7	5,363	5,122	4.7	4.86	5.11	-4.9
Surface.....	174	167	4.2	2,068	1,828	13.1	3.29	3.30	-0.1
Tennessee	31	28	10.7	566	481	17.7	3.09	2.83	9.1
Underground.....	15	16	-6.3	276	282	-2.1	2.99	2.77	7.8
Surface.....	16	12	33.3	290	199	45.7	3.16	2.90	8.8
Texas	15	14	7.1	2,470	2,435	1.4	8.67	9.71	-10.8
Surface.....	15	14	7.1	2,470	2,435	1.4	8.67	9.71	-10.8
Utah	19	18	5.6	1,485	1,672	-11.2	8.99	7.58	18.6
Underground.....	17	17	-	1,479	1,669	-11.4	9.03	7.59	19.0
Surface.....	2	1	100.0	6	3	100.0	-	-	-

See footnotes at end of table.

Table 22. Coal Mining Productivity by State and Mine Type, 2001, 2000 (Continued)

Coal-Producing State, Region ¹ , and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee per Hour (short tons) ⁴		
	2001	2000	Percent Change	2001	2000	Percent Change	2001	2000	Percent Change
Virginia	199	201	-1.0	5,455	5,362	1.7	2.94	3.13	-6.2
Underground.....	132	131	0.8	4,084	4,031	1.3	2.69	2.94	-8.5
Surface.....	67	70	-4.3	1,371	1,331	3.0	3.67	3.71	-1.0
Washington	1	2	-50.0	557	517	7.7	3.95	3.84	2.9
Surface.....	1	2	-50.0	557	517	7.7	3.95	3.84	2.9
West Virginia	409	402	1.7	16,579	15,203	9.1	4.54	4.91	-7.5
Underground.....	259	263	-1.5	11,840	11,119	6.5	4.01	4.30	-6.7
Surface.....	150	139	7.9	4,739	4,084	16.0	5.74	6.41	-10.4
Northern	80	88	-9.1	3,989	3,813	4.6	4.62	4.75	-2.8
Underground.....	47	50	-6.0	3,562	3,384	5.3	4.45	4.58	-2.7
Surface.....	33	38	-13.2	427	429	-0.5	5.96	6.21	-3.9
Southern	329	314	4.8	12,590	11,390	10.5	4.52	4.96	-8.9
Underground.....	212	213	-0.5	8,278	7,735	7.0	3.83	4.18	-8.4
Surface.....	117	101	15.8	4,312	3,655	18.0	5.72	6.43	-11.0
Wyoming	17	21	-19.0	4,365	4,369	*	39.67	38.29	3.6
Underground.....	-	1	-100.0	-	50	-100.0	-	11.61	-100.0
Surface.....	17	20	-15.0	4,365	4,319	1.1	39.67	38.60	2.7
Appalachian Total	1,711	1,669	2.5	52,823	49,192	7.4	3.85	4.08	-5.6
Underground.....	872	857	1.8	36,255	34,517	5.0	3.64	3.82	-4.7
Surface.....	839	812	3.3	16,568	14,675	12.9	4.28	4.65	-7.9
Northern	526	571	-7.9	15,767	15,277	3.2	4.17	4.25	-1.9
Underground.....	175	187	-6.4	11,000	10,650	3.3	4.54	4.60	-1.3
Surface.....	351	384	-8.6	4,767	4,627	3.0	3.33	3.42	-2.6
Central	1,125	1,039	8.3	33,723	30,592	10.2	3.81	4.14	-8.0
Underground.....	677	653	3.7	22,553	21,092	6.9	3.30	3.56	-7.4
Surface.....	448	386	16.1	11,170	9,500	17.6	4.77	5.31	-10.1
Southern	60	59	1.7	3,333	3,323	0.3	2.75	2.75	0.1
Underground.....	20	17	17.6	2,702	2,775	-2.6	2.70	2.68	0.8
Surface.....	40	42	-4.8	631	548	15.1	2.97	3.15	-5.6
Interior Total	134	129	3.9	11,419	10,949	4.3	5.56	5.80	-4.2
Underground.....	46	46	-	5,696	5,676	0.4	4.14	4.22	-2.1
Surface.....	88	83	6.0	5,723	5,273	8.5	6.99	7.49	-6.7
Illinois Basin	104	98	6.1	8,418	7,995	5.3	4.75	4.72	0.5
Underground.....	44	45	-2.2	5,645	5,636	0.2	4.14	4.24	-2.3
Surface.....	60	53	13.2	2,773	2,359	17.5	5.90	5.79	1.9
Western Total	73	76	-3.9	12,658	12,607	0.4	20.64	19.58	5.4
Underground.....	28	29	-3.4	2,946	2,979	-1.1	8.48	7.73	9.7
Surface.....	45	47	-4.3	9,712	9,628	0.9	24.22	23.26	4.1
Powder River Basin	17	20	-15.0	4,365	4,353	0.3	42.71	41.04	4.1
Underground.....	-	-	-	-	-	-	-	-	-
Surface.....	17	20	-15.0	4,365	4,353	0.3	42.71	41.04	4.1
Uinta Region	30	29	3.4	3,326	3,402	-2.2	8.79	7.74	13.6
Underground.....	25	25	-	2,758	2,843	-3.0	8.90	7.82	13.9
Surface.....	5	4	25.0	568	559	1.6	8.21	7.34	11.8
East of Miss. River	1,816	1,768	2.7	61,369	57,295	7.1	3.99	4.18	-4.6
Underground.....	916	902	1.6	41,900	40,153	4.4	3.72	3.89	-4.4
Surface.....	900	866	3.9	19,469	17,142	13.6	4.53	4.82	-6.0
West of Miss. River	102	106	-3.8	15,531	15,453	0.5	18.32	17.62	4.0
Underground.....	30	30	-	2,997	3,019	-0.7	8.39	7.66	9.6
Surface.....	72	76	-5.3	12,534	12,434	0.8	20.63	20.04	2.9
Subtotal	1,918	1,874	2.3	76,900	72,748	5.7	6.83	6.99	-2.3
Underground.....	946	932	1.5	44,897	43,172	4.0	4.02	4.15	-3.1
Surface.....	972	942	3.2	32,003	29,576	8.2	10.61	11.01	-3.6
Refuse Recovery	34	-	-	188	-	-	5.28	-	-
U.S. Total	1,952	1,874	4.2	77,088	72,748	6.0	6.82	6.99	-2.5

¹ For a definition of coal producing regions, see Glossary.

² Mining operations that consist of a mine and preparation plant or preparation plant only processing both underground and surface coal are reported as two operations.

³ Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

⁴ Calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 23. Underground Coal Mining Productivity by State and Mining Method, 2001
(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region ¹	Continuous ²	Conventional ³	Longwall ⁴	Other ⁵	Total
Alabama.....	1.34	-	2.74	-	2.71
Colorado.....	4.35	-	8.82	-	8.59
Illinois.....	4.04	-	4.12	-	4.07
Indiana.....	3.97	-	-	-	3.97
Kentucky Total.....	3.35	2.43	3.58	2.08	3.33
East.....	3.15	2.43	3.10	2.08	3.11
West.....	4.80	-	3.68	-	4.32
Maryland.....	3.88	-	5.22	-	4.93
New Mexico.....	2.25	-	-	-	2.25
Ohio.....	3.02	8.33	4.19	-	4.06
Oklahoma.....	4.61	-	-	-	4.61
Pennsylvania Total.....	3.27	0.83	5.25	-	4.72
Anthracite.....	0.74	0.83	-	-	0.75
Bituminous.....	3.56	-	5.25	-	4.85
Tennessee.....	2.99	-	-	-	2.99
Utah.....	4.06	-	10.08	-	9.03
Virginia.....	2.34	-	4.20	2.88	2.71
West Virginia Total.....	3.58	2.94	4.71	2.75	4.02
Northern.....	3.90	-	4.76	-	4.46
Southern.....	3.51	2.94	4.66	2.75	3.83
Appalachian Total.....	3.17	2.99	4.43	2.46	3.65
Northern.....	3.49	5.70	4.97	-	4.55
Central.....	3.12	2.50	4.47	2.46	3.31
Southern.....	1.34	-	2.74	-	2.71
Interior Total.....	3.78	-	3.57	-	3.70
Illinois Basin.....	4.26	-	3.95	-	4.14
Western Total.....	3.53	-	9.43	-	8.49
Powder River Basin.....	-	-	-	-	-
Uinta Region.....	4.28	-	9.42	-	8.90
East of Miss. River.....	3.34	2.99	4.36	2.46	3.73
West of Miss. River.....	3.62	-	9.43	-	8.43
U.S. Total.....	3.35	2.99	5.02	2.46	4.03

¹ For a definition of coal producing regions, see Glossary.

² Mines that produce greater than 50 percent of their coal by continuous mining methods.

³ Mines that produce greater than 50 percent of their coal by conventional mining methods.

⁴ Mines that have any production from longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

⁵ Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods, or a 50/50 percent conventional/conventional split in mining method.

Note: • For each State, stand alone preparation plant hours are distributed across mining methods by the proportion of production for all stand alone mines. Productivity is calculated by dividing total coal production by the total direct labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 24. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2001
(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region ¹ , and Mine Type	Mine Production Range							Total ²
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Alabama	2.86	4.40	3.28	2.70	3.13	2.52	*	2.75
Underground.....	2.86	-	-	2.41	-	1.12	*	2.70
Surface.....	-	4.40	3.28	2.75	3.13	3.47	*	2.97
Alaska	5.99	-	-	-	-	-	-	5.99
Surface.....	5.99	-	-	-	-	-	-	5.99
Arizona	7.99	-	-	-	-	-	-	7.69
Surface.....	7.99	-	-	-	-	-	-	7.69
Arkansas	-	-	-	-	-	-	*	*
Underground.....	-	-	-	-	-	-	*	*
Surface.....	-	-	-	-	-	-	1.86	1.86
Colorado	8.77	-	5.09	-	-	0.67	*	8.43
Underground.....	8.97	-	4.54	-	-	-	*	8.58
Surface.....	8.31	-	6.32	-	-	0.67	*	8.09
Illinois	4.47	3.52	3.39	-	-	0.80	*	4.22
Underground.....	4.24	-	-	-	-	0.78	-	4.07
Surface.....	7.31	3.52	3.39	-	-	0.85	*	5.11
Indiana	5.90	5.77	5.19	3.95	3.76	2.45	*	5.69
Underground.....	4.11	-	4.26	-	-	-	*	4.02
Surface.....	6.84	5.80	5.53	3.95	3.76	2.45	*	6.33
Kansas	-	-	-	10.42	-	-	-	10.42
Surface.....	-	-	-	10.42	-	-	-	10.42
Kentucky	4.97	4.46	3.70	3.26	2.86	2.26	*	3.66
Underground.....	4.46	4.10	3.43	2.92	2.49	1.93	*	3.32
Surface.....	5.97	5.18	4.26	3.90	3.83	3.19	*	4.34
Eastern	4.98	4.47	3.67	3.21	2.80	2.26	*	3.52
Underground.....	4.17	4.06	3.47	2.92	2.48	1.93	*	3.10
Surface.....	5.94	5.29	4.16	3.80	3.65	3.19	*	4.28
Western	4.97	4.36	4.03	4.99	3.96	-	*	4.43
Underground.....	4.82	4.54	2.31	-	2.72	-	-	4.30
Surface.....	6.30	4.02	4.75	4.99	9.32	-	*	4.92
Louisiana	8.63	10.81	-	-	-	-	-	9.08
Surface.....	8.63	10.81	-	-	-	-	-	9.08
Maryland	5.91	4.39	3.87	9.41	1.55	2.74	*	4.46
Underground.....	5.91	4.39	-	-	-	-	*	4.94
Surface.....	-	-	3.87	9.41	1.55	2.74	0.99	3.63
Mississippi	-	2.58	-	-	-	-	-	2.58
Surface.....	-	2.58	-	-	-	-	-	2.58
Missouri	-	-	-	3.97	-	-	-	3.97
Surface.....	-	-	-	3.97	-	-	-	3.97
Montana	23.83	-	13.49	-	-	-	-	23.67
Surface.....	23.83	-	13.49	-	-	-	-	23.67
New Mexico	8.55	2.25	-	-	-	-	-	8.03
Underground.....	-	2.25	-	-	-	-	-	2.25
Surface.....	8.55	-	-	-	-	-	-	8.55
North Dakota	17.12	-	-	-	-	-	-	17.12
Surface.....	17.12	-	-	-	-	-	-	17.12
Ohio	4.46	4.17	3.71	3.09	0.92	1.64	*	3.82
Underground.....	4.39	-	2.61	3.44	-	-	*	4.03
Surface.....	4.90	4.17	4.00	3.00	0.92	1.64	*	3.62
Oklahoma	-	4.26	4.43	5.04	-	-	1.04	4.39
Underground.....	-	-	4.61	-	-	-	-	4.61
Surface.....	-	4.26	4.32	5.04	-	-	1.04	4.33
Pennsylvania	5.53	2.70	4.12	3.35	2.92	2.47	*	4.07
Underground.....	5.48	2.83	5.29	3.12	2.33	0.94	*	4.70
Surface.....	7.16	2.56	3.53	3.55	3.04	2.83	*	2.74
Anthracite	-	-	-	1.91	2.05	1.70	*	0.82
Underground.....	-	-	-	1.85	-	1.10	*	0.71
Surface.....	-	-	-	1.94	2.05	1.93	*	0.86
Bituminous	5.53	2.70	4.12	3.70	3.07	3.32	*	4.43
Underground.....	5.48	2.83	5.29	3.33	2.33	*	*	4.86
Surface.....	7.16	2.56	3.53	4.05	3.27	3.60	*	3.29
Tennessee	-	-	3.90	3.21	2.66	2.57	*	3.09
Underground.....	-	-	4.77	3.46	2.46	2.62	-	2.99
Surface.....	-	-	3.68	2.85	3.14	2.51	*	3.16
Texas	8.84	-	8.57	1.22	-	-	-	8.67
Surface.....	8.84	-	8.57	1.22	-	-	-	8.67
Utah	10.49	6.01	3.45	-	-	0.72	-	8.99
Underground.....	10.49	6.01	3.45	-	-	0.72	-	9.03
Virginia	4.30	3.87	3.20	2.94	2.41	1.96	*	2.94

See footnotes at end of table.

Table 24. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2001 (Continued)
(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region ¹ , and Mine Type	Mine Production Range							Total ²
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Virginia (continued)								
Underground.....	4.20	3.38	2.76	2.57	2.36	1.80	*	2.69
Surface.....	5.05	4.93	4.19	4.06	2.57	2.80	*	3.67
Washington.....	3.95	-	-	-	-	-	-	3.95
Surface.....	3.95	-	-	-	-	-	-	3.95
West Virginia.....	5.91	5.17	4.27	3.35	2.90	2.64	*	4.54
Underground.....	5.21	4.48	3.92	3.29	2.71	2.31	*	4.01
Surface.....	7.32	6.84	5.20	3.58	4.13	3.33	*	5.74
Northern Total.....	5.10	5.86	4.70	3.87	3.67	2.76	*	4.62
Underground.....	4.76	5.53	4.69	4.06	3.63	2.74	*	4.45
Surface.....	11.05	6.84	4.86	2.96	3.71	2.77	*	5.96
Southern Total.....	6.27	5.04	4.21	3.21	2.75	2.60	*	4.52
Underground.....	5.55	4.26	3.76	3.06	2.60	2.24	*	3.83
Surface.....	7.13	6.84	5.21	3.70	4.65	3.75	*	5.72
Wyoming.....	39.99	-	8.54	-	-	-	-	39.67
Surface.....	39.99	-	8.54	-	-	-	-	39.67
Appalachian Total.....	5.16	4.44	3.82	3.21	2.70	2.31	*	3.85
Underground.....	4.70	4.03	3.62	3.01	2.50	1.91	*	3.64
Surface.....	6.69	5.09	4.10	3.54	3.04	2.81	*	4.28
Northern.....	5.23	4.06	4.09	3.43	2.73	2.36	*	4.17
Underground.....	5.11	4.18	4.70	3.41	2.83	1.48	*	4.54
Surface.....	7.37	3.98	3.73	3.45	2.71	2.54	*	3.33
Central.....	5.64	4.54	3.75	3.15	2.67	2.28	*	3.81
Underground.....	4.91	4.01	3.42	2.90	2.47	1.98	*	3.30
Surface.....	6.62	5.67	4.45	3.76	3.37	3.20	*	4.77
Southern.....	2.86	4.40	3.28	2.70	3.13	2.52	*	2.75
Underground.....	2.86	-	-	2.41	-	1.12	*	2.70
Surface.....	-	4.40	3.28	2.75	3.13	3.47	*	2.97
Interior Total.....	5.98	4.95	4.44	3.79	3.92	1.16	*	5.56
Underground.....	4.40	4.47	3.43	-	2.72	0.78	*	4.14
Surface.....	7.98	5.04	4.76	3.79	6.01	1.65	*	6.99
Illinois Basin.....	5.02	5.02	4.23	4.36	3.92	1.16	*	4.75
Underground.....	4.40	4.47	3.02	-	2.72	0.78	*	4.14
Surface.....	6.85	5.16	4.58	4.36	6.01	1.65	*	5.90
Western Total.....	21.64	4.66	6.10	-	-	0.70	*	20.64
Underground.....	9.68	4.66	4.11	-	-	0.72	*	8.48
Surface.....	24.47	-	8.51	-	-	0.67	*	24.22
Powder River Basin.....	42.71	-	-	-	-	-	-	42.71
Surface.....	42.71	-	-	-	-	-	-	42.71
Uinta Region.....	9.42	6.01	4.69	-	-	0.72	-	8.79
Underground.....	9.68	6.01	4.69	-	-	0.72	-	8.90
Surface.....	8.31	-	-	-	-	-	-	8.21
East of Miss. River.....	5.13	4.48	3.84	3.24	2.73	2.28	*	3.99
Underground.....	4.63	4.05	3.61	3.01	2.50	1.89	*	3.72
Surface.....	6.74	5.02	4.14	3.59	3.11	2.79	*	4.53
West of Miss. River.....	19.39	5.11	5.75	3.36	-	0.70	*	18.32
Underground.....	9.68	4.66	4.25	-	-	0.72	*	8.39
Surface.....	21.20	6.96	6.96	3.36	-	0.67	*	20.63
Subtotal.....	9.82	4.51	3.90	3.24	2.73	2.26	*	6.83
Underground.....	5.09	4.10	3.62	3.01	2.50	1.87	*	4.02
Surface.....	15.93	5.08	4.25	3.58	3.11	2.76	*	10.61
Refuse Recovery.....	-	-	4.74	8.46	2.99	4.04	0.76	3.83
U.S. Total.....	9.82	4.51	3.90	3.26	2.73	2.31	*	6.82

¹ For a definition of coal producing regions, see Glossary.

² Includes all employees at preparation plants and tipples not co-located with a mine.

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • Productivity is calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 25. Coal Mining Productivity by State, Mine Type, and Union Status, 2001
(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region ¹	Union		Nonunion	
	Underground	Surface	Underground	Surface
Alabama.....	2.80	-	0.65	2.95
Alaska.....	-	-	-	5.99
Arizona.....	-	7.69	-	-
Colorado.....	6.08	7.32	8.94	8.73
Illinois.....	3.82	3.44	4.39	6.71
Indiana.....	-	5.15	4.03	6.58
Kansas.....	-	-	-	10.42
Kentucky Total.....	3.65	4.49	3.29	4.33
Eastern.....	3.38	4.98	3.10	4.25
Western.....	3.67	3.71	4.91	5.13
Louisiana.....	-	-	-	9.08
Maryland.....	-	-	4.93	3.76
Mississippi.....	-	-	-	2.58
Missouri.....	-	-	-	3.97
Montana.....	-	20.92	-	39.53
New Mexico.....	2.25	8.31	-	9.61
North Dakota.....	-	13.73	-	18.48
Ohio.....	4.20	2.88	3.77	3.74
Oklahoma.....	-	-	4.61	4.38
Pennsylvania Total.....	3.81	1.00	6.17	2.99
Anthracite.....	-	0.80	0.71	0.89
Bituminous.....	3.81	1.50	6.68	3.38
Tennessee.....	3.46	-	2.94	3.15
Texas.....	-	8.33	-	9.34
Utah.....	6.27	-	10.50	-
Virginia.....	3.02	3.85	2.62	3.67
Washington.....	-	3.95	-	-
West Virginia Total.....	3.88	5.29	4.13	5.91
Northern.....	4.72	-	3.92	6.17
Southern.....	3.15	5.29	4.17	5.88
Wyoming.....	-	8.24	-	44.72
Appalachian Total.....	3.62	4.33	3.68	4.29
Northern.....	4.17	1.69	5.19	3.56
Central.....	3.13	5.20	3.34	4.70
Southern.....	2.80	-	0.65	2.95
Interior Total.....	3.77	7.11	4.47	6.92
Illinois Basin.....	3.77	4.35	4.47	6.34
Western Total.....	5.51	9.76	9.64	36.51
Powder River Basin.....	-	21.05	-	46.54
Uinta Region.....	6.22	7.43	9.77	8.79
East of Miss. River.....	3.64	4.34	3.78	4.58
West of Miss. River.....	5.51	9.38	9.54	31.27
U.S. Total.....	3.73	7.79	4.21	11.69

¹ For a definition of coal producing regions, see Glossary.

Note: • Productivity is calculated by dividing total coal production by the total direct labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Domestic Markets

Table 26. Coal Consumers in the Manufacturing and Coke Sectors, 2001

Company Name	Plant Location
Top Ten Manufacturers	
Aluminum Co of America	(IN)(TX)
Archer Daniels Midland	(IA)(IL)(MN)(NE)
Cemex, Inc	(AL)(CO)(FL)(GA)(MI)(OH)(PA)(TN)(TX)
Dakota Coal Company	(ND)
DAK Americas	(DE)(MS)(NC)(SC)(TN)(VA)(WV)
Eastman Chemical Co	(AR)(NY)(SC)(TN)(TX)
Georgia-Pacific Corp	(AL)(AR)(GA)(MI)(OK)(VA)(WI)
International Paper Co	(AL)(FL)(GA)(IN)(LA)(ME)(MI)(MN)(NC)(PA)(SC)(VA)
Lafarge North America	(AL)(GA)(IA)(IL)(KS)(MI)(MO)(NY)(OK)(PA)(SC)(WA)
Mead Westvaco Corporation	(MD)(MI)(OH)(PA)(SC)(VA)
Other Major Manufacturers	
A E Staley Manufacturing Co	(IL)(IN)(TN)
Amalgamated Sugar Co	(ID)
American Crystal Sugar Co	(MN)(ND)
Ash Grove Cement Co	(AR)(KS)(MT)(NE)(UT)
Blue Ridge Paper Prod Inc	(NC)
Bowater Newsprint	(AL)(TN)
California Portland Cement Co	(AZ)(CA)
Cargill Incorporated	(GA)(IA)(NC)(NY)(OH)(TN)
Carmeuse/Marblehead Lime Co	(IL)(IN)(MI)
Celanese Acetate Corp	(SC)(VA)
Celanese Ltd	(TX)
Central Power & Lime Inc	(FL)
Dravo Corp	(AL)(KY)
ESSROC Materials Inc	(IN)(MD)(PA)
FMC Corp	(WV)(WY)
G E Company	(IN)(KY)(PA)
General Chemical Corporation	(WY)
Holcim Inc	(AL)(CO)(IA)(MI)(MS)(SC)(UT)
Ispat Inland, Inc.	(IN)
IMC Chemical Co	(CA)
Kennecott Utah Copper	(UT)
Lehigh Cement Co	(AL)(IA)(IN)(MD)(PA)
Lone Star Industries Inc	(IL)(IN)(OK)(TX)
PPG Industries Inc	(WV)
Silver Bay Power Company	(MN)
Smurfit Stone Container Corp	(FL)(MI)(SC)(VA)
Solutia Inc	(AL)(MA)
Stora Enso North America	(WI)
TXI Opns LPG	(TX)
Weyerhaeuser Corp.	(AL)(NC)(WA)
Top Ten Coke Producers	
AK Steel Corp	(KY)(OH)
Bethlehem Steel Corp	(IN)(NY)
Drummond Company Inc	(AL)
DTE Energy Services	(IN)
Indiana Harbor Coke Co LP	(IN)
Jewell Coke Company LP	(VA)
LTV Steel Company Inc	(IL)(OH)
National Steel Corp	(IL)(MI)
U S Steel Mining Company LLC	(IN)(PA)
Wheeling-Pittsburgh Steel Corp	(WV)

Note: • Major manufactures are the top 40 coal consumers in the manufacturing sector. Major coke producers are the top 10 coal consumers in the coke plant sector. Manufacturers and coke producers are listed in alphabetical order.

Source: • Energy Information Administration, Manufacturers: Form EIA-3, "Quarterly Coal Consumption Report, Manufacturing Plants;" and, Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly."

Table 27. U.S. Coal Consumption by End Use Sector, by Census Division and State, 2001, 2000
(Thousand Short Tons)

Census Division and State	2001				2000				Total		
	Electric Power ¹	Other Industrial	Coke	Residential and Commercial	Electric Power ¹	Other Industrial	Coke	Residential and Commercial	2001	2000	Percent Change
New England	7,653	179	-	31	7,796	274	-	31	7,863	8,101	-2.9
Connecticut	1,580	-	-	W	1,473	-	-	W	W	W	7.3
Maine	180	W	-	W	165	W	-	W	307	388	-20.7
Massachusetts	4,359	W	-	W	4,485	W	-	W	4,429	4,556	-2.8
New Hampshire	1,533	-	-	W	1,673	-	-	W	W	W	-8.3
Rhode Island	-	-	-	W	-	-	-	W	W	W	-5.0
Vermont	-	-	-	W	-	-	-	W	W	W	28.5
Middle Atlantic	62,623	W	W	W	66,412	W	W	W	75,880	80,523	-5.8
New Jersey	4,305	W	-	W	4,382	W	-	W	4,315	4,395	-1.8
New York	9,249	1,609	W	114	9,763	1,627	W	101	W	W	-7.0
Pennsylvania	49,069	3,355	W	785	52,266	3,498	W	742	W	W	-5.8
East North Central	214,898	14,967	12,981	907	218,560	14,178	13,971	897	243,752	247,606	-1.6
Illinois	45,732	3,479	W	228	46,046	3,491	W	230	W	W	-1.8
Indiana	57,321	5,334	8,100	251	59,431	4,296	8,270	275	71,006	72,273	-1.8
Michigan	33,928	2,177	W	9	33,277	2,009	W	14	W	W	2.2
Ohio	53,835	2,327	W	230	55,734	2,688	W	216	W	W	-4.1
Wisconsin	24,081	1,651	-	189	24,072	1,693	-	162	25,921	25,928	*
West North Central	138,063	W	-	W	136,600	13,797	-	589	151,444	150,986	0.3
Iowa	21,305	2,814	-	279	21,317	2,902	-	261	24,398	24,480	-0.3
Kansas	20,150	165	-	*	20,699	W	-	W	20,316	20,845	-2.5
Minnesota	18,410	1,254	-	2	18,639	2,092	-	5	19,665	20,735	-5.2
Missouri	38,585	1,015	-	212	37,183	941	-	176	39,812	38,300	3.9
Nebraska	12,606	518	-	6	11,503	W	-	W	13,130	11,910	10.2
North Dakota	24,795	W	-	W	25,048	W	-	W	31,524	31,902	-1.2
South Dakota	2,212	378	-	9	2,211	602	-	1	2,599	2,815	-7.7
South Atlantic	164,818	W	W	W	173,331	W	W	W	180,037	188,227	-4.4
Delaware	1,480	W	-	W	1,755	W	-	W	1,653	1,934	-14.5
District of Columbia	-	-	-	W	-	-	-	W	W	W	364.4
Florida	28,630	1,172	-	60	29,846	1,245	-	9	29,861	31,100	-4.0
Georgia	30,891	1,994	-	11	33,150	1,990	-	9	32,896	35,149	-6.4
Maryland	12,498	1,286	-	76	11,327	810	-	84	13,859	12,221	13.4
North Carolina	28,702	1,704	-	128	29,496	1,762	-	113	30,534	31,371	-2.7
South Carolina	14,382	2,038	-	-	15,034	1,912	-	-	16,421	16,946	-3.1
Virginia	15,541	2,348	W	129	16,098	2,348	W	83	W	W	-2.6
West Virginia	32,694	1,611	W	48	36,625	1,564	W	217	W	W	-10.5
East South Central	107,820	W	2,608	W	107,448	W	W	W	118,184	117,936	0.2
Alabama	33,801	2,297	W	16	35,636	2,243	W	53	W	W	-6.0
Kentucky	41,198	1,357	W	218	40,180	1,095	W	191	W	W	2.8
Mississippi	8,334	W	-	W	6,232	W	-	W	8,488	6,387	32.9
Tennessee	24,487	3,575	-	140	25,401	3,349	-	112	28,202	28,862	-2.3
West South Central	142,902	W	-	W	148,330	5,643	-	13	148,600	153,985	-3.5
Arkansas	15,110	437	-	-	14,866	382	-	-	15,547	15,249	2.0
Louisiana	14,854	W	-	W	15,680	W	-	W	14,934	15,736	-5.1
Oklahoma	20,500	724	-	1	20,708	W	-	W	21,224	21,422	-0.9
Texas	92,438	4,439	-	17	97,076	4,490	-	13	96,894	101,578	-4.6
Mountain	115,690	4,848	W	519	116,605	5,301	W	305	W	W	-1.2
Arizona	20,158	672	-	1	20,408	720	-	*	20,830	21,128	-1.4
Colorado	19,787	W	-	W	19,145	W	-	W	20,389	19,652	3.7
Idaho	-	534	-	19	-	603	-	20	553	622	-11.2
Montana	10,511	W	-	W	10,385	W	-	W	10,672	10,554	1.1
Nevada	8,190	W	-	W	8,634	W	-	W	8,399	8,865	-5.3
New Mexico	15,955	W	-	W	16,503	W	-	W	16,031	16,585	-3.3
Utah	14,906	1,235	W	60	15,164	1,166	W	59	W	W	-2.8
Wyoming	26,184	1,660	-	139	26,365	1,913	-	138	27,984	28,416	-1.5
Pacific	10,609	2,179	-	495	10,740	2,228	-	567	13,283	13,535	-1.9
Alaska	518	W	-	W	500	W	-	W	993	1,024	-3.0
California	886	1,937	-	*	939	1,992	-	24	2,823	2,954	-4.5
Hawaii	713	W	-	W	706	W	-	W	825	816	1.1
Oregon	2,490	-	-	W	2,241	-	-	W	W	W	11.2
Washington	6,001	W	-	W	6,355	W	-	W	6,151	6,501	-5.4
U.S. Total	965,076	65,268	26,075	4,369	985,821	65,208	28,939	4,127	1,060,788	1,084,095	-2.1

¹ The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public -- i.e. NAICS 22 plants

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

W = Withheld to avoid disclosure of individual company data.

Note: • Totals may not equal sum of components because of independent rounding. Electric power sector data is preliminary.

Source: • Energy Information Administration, Form EIA-759, "Monthly Power Plant Report," Form EIA-906, "Power Plant Report," Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," Form EIA-5, "Coke Plant Report - Quarterly," Form EIA-6A, "Coal Distribution Report," and, Form EIA-860B, "Annual Electric Generator Report - Nonutility."

Table 28. Year-End Coal Stocks by End-Use Sector, by Census Division, 2001, 2000
(Thousand Short Tons)

Census Division and State	2001			2000			Total		
	Electric Power ¹	Other Industrial	Coke	Electric Power ¹	Other Industrial	Coke	2001	2000	Percent Change
New England	1,195	50	-	655	46	-	1,244	701	77.5
Middle Atlantic	8,713	505	W	6,208	441	W	W	W	39.1
East North Central	35,268	1,823	637	25,967	1,299	814	37,729	28,080	34.4
West North Central	21,165	1,222	-	15,737	995	-	22,387	16,732	33.8
South Atlantic	27,420	924	W	14,921	730	W	W	W	80.8
East South Central.....	12,742	476	266	7,489	406	197	13,484	8,091	66.6
West South Central	18,419	411	-	18,361	301	-	18,830	18,662	0.9
Mountain	12,752	366	W	11,602	199	W	W	W	10.7
Pacific.....	836	230	-	1,092	171	-	1,066	1,263	-15.6
U.S. Total.....	138,510	6,006	1,510	102,033	4,587	1,494	146,026	108,114	35.1

¹ The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public -- i.e. NAICS 22 plants.

W = Withheld to avoid disclosure of individual company data.

Note: • Stocks for residential and commercial sector and the non-utility sector are not included. Electric power sector data is preliminary. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration, Form EIA-759, "Monthly Power Plant Report," Form EIA-906, "Power Plant Report," Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," Form EIA-5, "Coke Plants Report - Quarterly."

F.O.B. Mine Sales Price

Table 29. Average Open Market Sales Price of Coal by State and Mine Type, 2001, 2000
(Dollars per Short Ton)

Coal-Producing State	2001			2000			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama.....	34.95	32.39	34.36	33.88	30.76	33.30	3.1	5.3	3.2
Alaska.....	-	W	W	-	W	W	-	W	W
Arizona.....	-	W	W	-	W	W	-	W	W
Colorado.....	15.89	20.02	17.20	14.74	19.71	16.35	7.8	1.6	5.2
Illinois.....	23.06	25.86	23.52	22.65	23.79	22.78	1.8	8.7	3.3
Indiana.....	24.10	19.89	20.67	21.41	19.55	19.79	12.6	1.7	4.4
Kansas.....	-	W	W	-	W	W	-	W	W
Kentucky Total.....	26.59	27.04	26.77	24.30	22.97	23.79	9.4	17.8	12.5
Eastern.....	28.11	27.76	27.96	25.33	23.60	24.58	11.0	17.7	13.7
Western.....	21.72	21.10	21.58	21.42	17.91	20.69	1.4	17.8	4.3
Louisiana.....	-	W	W	-	W	W	-	W	W
Maryland.....	W	W	23.83	W	W	23.53	W	W	1.3
Mississippi.....	-	W	W	-	W	W	-	W	W
Missouri.....	-	W	W	-	W	W	-	W	W
Montana.....	-	8.83	8.83	-	8.87	8.87	-	-0.3	-0.3
New Mexico.....	W	W	22.02	-	20.87	20.87	W	W	5.5
North Dakota.....	-	8.48	8.48	-	8.28	8.28	-	2.3	2.3
Ohio.....	21.54	21.44	21.48	19.31	21.47	20.44	11.5	-0.2	5.1
Oklahoma.....	W	W	27.07	W	W	25.21	W	W	7.4
Pennsylvania Total.....	24.15	28.42	25.07	22.87	25.21	23.33	5.6	12.8	7.5
Anthracite.....	42.33	49.28	47.67	34.27	46.28	44.51	23.5	6.5	7.1
Bituminous.....	24.04	26.90	24.63	22.81	22.63	22.78	5.4	18.8	8.1
Tennessee.....	29.83	26.00	27.57	26.26	27.99	27.04	13.6	-7.1	1.9
Texas.....	-	18.77	18.77	-	15.78	15.78	-	18.9	18.9
Utah.....	19.86	-	19.86	19.12	-	19.12	3.9	-	3.9
Virginia.....	28.85	28.41	28.72	26.38	25.64	26.18	9.3	10.8	9.7
West Virginia Total.....	27.21	26.75	27.03	25.48	24.68	25.17	6.8	8.4	7.4
Northern.....	22.47	29.86	23.48	21.70	23.32	21.92	3.6	28.0	7.1
Southern.....	29.51	26.48	28.08	27.45	24.81	26.21	7.5	6.7	7.1
Wyoming.....	-	5.62	5.62	W	W	5.29	W	W	6.3
U.S. Total.....	25.37	13.18	17.38	23.84	12.26	16.44	6.4	7.5	5.7

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 30. Average Open Market Sales Price of Coal by State and Underground Mining Method, 2001
(Dollars per Short Ton)

Coal-Producing State	Continuous ¹	Conventional ²	Longwall ³	Other ⁴	Total
Alabama.....	W	-	W	-	34.95
Colorado.....	W	-	W	-	15.89
Illinois.....	W	-	W	-	23.06
Indiana.....	24.10	-	-	-	24.10
Kentucky Total.....	26.96	25.58	W	W	26.59
Eastern.....	W	25.58	W	W	28.11
Western.....	W	-	W	-	21.72
Maryland.....	-	-	W	-	W
New Mexico.....	W	-	-	-	W
Ohio.....	25.44	W	W	-	21.54
Oklahoma.....	W	-	-	-	W
Pennsylvania Total.....	23.49	W	W	-	24.15
Anthracite.....	W	W	-	-	42.33
Bituminous.....	W	-	W	-	24.04
Tennessee.....	29.83	-	-	-	29.83
Utah.....	23.89	-	19.40	-	19.86
Virginia.....	28.48	-	W	W	28.85
West Virginia Total.....	28.63	W	25.59	W	27.21
Northern.....	22.96	-	22.30	-	22.47
Southern.....	29.68	W	29.30	W	29.51
U.S. Total.....	26.98	23.04	23.86	29.61	25.37

¹ Mines that produce greater than 50 percent of their coal by continuous mining methods.

² Mines that produce greater than 50 percent of their coal by conventional mining methods.

³ Mines that have any production from longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

⁴ Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods, or a 50/50 percent conventional/conventional split in mining method.

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 31. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2001
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Alabama	37	18,559	34.36
Bibb.....	1	W	W
Jefferson.....	8	W	W
Marion.....	1	W	W
Shelby.....	1	W	W
Tuscaloosa.....	9	10,112	29.14
Walker.....	14	2,124	32.98
Winston.....	3	W	W
Alaska	1	W	W
Yukon-Koyukuk Division.....	1	W	W
Arizona	2	W	W
Navajo.....	2	W	W
Colorado	12	31,114	17.20
Delta.....	1	W	W
Garfield.....	1	W	W
Gunnison.....	2	W	W
La Plata.....	1	W	W
Las Animas.....	1	W	W
Moffat.....	2	W	W
Montrose.....	1	W	W
Rio Blanco.....	1	-	-
Routt.....	2	W	W
Illinois	19	34,056	23.52
Gallatin.....	3	W	W
Jackson.....	1	W	W
Jefferson.....	1	W	W
Macoupin.....	2	W	W
Mcdonough.....	1	W	W
Montgomery.....	1	W	W
Perry.....	1	W	W
Randolph.....	1	W	W
Saline.....	2	W	W
Sangamon.....	1	W	W
Vermilion.....	2	W	W
Wabash.....	1	W	W
White.....	1	W	W
Williamson.....	1	W	W
Indiana	31	36,148	20.67
Clay.....	3	W	W
Daviess.....	3	W	W
Gibson.....	6	12,374	19.47
Greene.....	2	W	W
Knox.....	6	5,857	21.58
Owen.....	1	W	W
Parke.....	1	W	W
Pike.....	4	4,663	20.57
Spencer.....	1	W	W
Sullivan.....	1	W	W
Vigo.....	2	W	W
Warrick.....	1	W	W
Kansas	1	W	W
Linn.....	1	W	W
Kentucky	396	131,702	26.77
Bell.....	15	2,672	30.25
Breathitt.....	3	W	W
Christian.....	2	W	W
Clay.....	2	W	W
Daviess.....	1	W	W
Floyd.....	33	3,057	26.23
Harlan.....	49	11,760	27.80
Henderson.....	1	W	W
Hopkins.....	7	6,152	20.78
Johnson.....	2	W	W
Knott.....	42	12,844	26.75
Knox.....	10	364	37.38
Laurel.....	1	W	W
Lawrence.....	4	W	W
Leslie.....	15	6,439	26.79
Letcher.....	39	10,688	28.89

See footnotes at end of table.

Table 31. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2001 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Kentucky (continued)			
Martin	20	9,744	27.19
Mclean	1	W	W
Morgan	1	W	W
Muhlenberg	5	W	W
Ohio	1	W	W
Owsley	1	W	W
Perry	29	13,709	27.20
Pike	104	33,368	28.59
Union	2	W	W
Webster	4	W	W
Whitley	2	W	W
Louisiana	2	W	W
De Soto	1	W	W
Red River	1	W	W
Maryland	12	4,020	23.83
Allegany	7	1,083	W
Garrett	5	W	W
Mississippi	1	W	W
Choctaw	1	W	W
Missouri	2	W	W
Bates	2	W	W
Montana	6	39,089	8.83
Big Horn	3	W	W
Richland	1	W	W
Rosebud	2	W	W
New Mexico	7	28,890	22.02
Colfax	1	W	W
Mckinley	2	W	W
San Juan	4	W	W
North Dakota	4	30,095	8.48
Mclean	1	W	W
Mercer	2	W	W
Oliver	1	W	W
Ohio	51	21,150	21.48
Athens	1	W	W
Belmont	9	W	W
Carroll	3	W	W
Columbiana	2	W	W
Coshocton	1	W	W
Gallia	1	W	W
Guernsey	1	-	-
Harrison	5	W	W
Holmes	1	W	W
Jackson	2	W	W
Jefferson	7	375	20.36
Mahoning	1	W	W
Meigs	2	W	W
Monroe	1	W	W
Muskingum	1	W	W
Noble	1	W	W
Perry	1	W	W
Stark	3	W	W
Tuscarawas	6	W	W
Vinton	2	W	W
Oklahoma	5	1,694	27.07
Craig	1	W	W
Haskell	1	W	W
Le Flore	2	W	W
Rogers	1	W	W
Pennsylvania	184	72,175	25.07
Armstrong	24	4,254	23.36
Beaver	1	W	W
Bedford	1	W	W
Butler	3	W	W
Cambria	10	1,343	29.46
Clarion	4	W	W
Clearfield	23	3,586	29.76
Columbia	4	W	W
Elk	5	527	17.95
Fayette	5	W	W

See footnotes at end of table.

Table 31. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2001 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Pennsylvania (continued)			
Greene.....	12	43,151	23.89
Indiana.....	19	3,681	23.24
Jefferson.....	11	1,265	28.51
Lackawanna.....	1	W	W
Lawrence.....	2	W	W
Luzerne.....	3	W	W
Lycoming.....	1	W	W
Northumberland.....	2	W	W
Schuylkill.....	21	608	38.73
Somerset.....	21	4,599	23.64
Venango.....	1	W	W
Washington.....	6	5,410	27.60
Westmoreland.....	4	W	W
Tennessee.....	21	3,330	27.57
Anderson.....	1	W	W
Campbell.....	8	943	33.67
Claiborne.....	9	1,975	24.26
Cumberland.....	1	W	W
Fentress.....	1	W	W
Scott.....	1	W	W
Texas.....	14	9,282	18.77
Atascosa.....	1	-	-
Freestone.....	1	-	-
Harrison.....	2	W	W
Hopkins.....	1	-	-
Leon.....	1	W	W
Milam.....	1	-	-
Panola.....	2	-	-
Robertson.....	1	W	W
Rusk.....	1	-	-
Titus.....	2	-	-
Webb.....	1	W	W
Utah.....	13	20,458	19.86
Carbon.....	7	8,668	19.06
Emery.....	3	W	W
Sevier.....	3	W	W
Virginia.....	140	30,861	28.72
Buchanan.....	43	10,647	30.10
Dickenson.....	21	2,931	33.59
Lee.....	4	W	W
Russell.....	6	W	W
Tazewell.....	7	1,579	31.83
Wise.....	59	14,554	26.50
Washington.....	1	-	-
Lewis.....	1	-	-
West Virginia.....	273	154,835	27.03
Barbour.....	4	W	W
Boone.....	35	33,153	27.32
Brooke.....	1	W	W
Clay.....	3	W	W
Fayette.....	9	3,410	33.57
Grant.....	2	W	W
Greenbrier.....	4	818	33.18
Harrison.....	11	W	W
Kanawha.....	15	15,654	25.65
Lincoln.....	3	W	W
Logan.....	19	9,569	25.90
Marion.....	2	W	W
Marshall.....	2	W	W
Mcdowell.....	47	4,713	32.52
Mercer.....	1	W	W
Mineral.....	2	W	W
Mingo.....	37	22,165	28.56
Monongalia.....	8	W	W
Nicholas.....	7	W	W
Preston.....	3	W	W
Raleigh.....	16	6,938	34.53
Tucker.....	1	W	W
Upshur.....	8	972	17.11
Wayne.....	6	5,597	26.24

See footnotes at end of table.

Table 31. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2001 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
West Virginia (continued)			
Webster.....	9	W	W
Wyoming.....	18	W	W
Wyoming.....	17	350,280	5.62
Campbell.....	11	317,042	5.35
Carbon.....	2	W	W
Converse.....	1	W	W
Lincoln.....	1	W	W
Sweetwater.....	2	W	W
U.S. Total.....	1,252	1,036,955	17.38

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 32. Average Open Market Sales Price of Coal by State and Coal Rank, 2001
(Dollars per Short Ton)

Coal-Producing State	Bituminous	Subbituminous	Lignite	Anthracite	Total
Alabama.....	34.36	-	-	-	34.36
Alaska.....	-	W	-	-	W
Arizona.....	W	-	-	-	W
Colorado.....	W	W	-	-	17.20
Illinois.....	23.52	-	-	-	23.52
Indiana.....	20.67	-	-	-	20.67
Kansas.....	W	-	-	-	W
Kentucky Total.....	26.77	-	-	-	26.77
Eastern.....	27.96	-	-	-	27.96
Western.....	21.58	-	-	-	21.58
Louisiana.....	-	-	W	-	W
Maryland.....	23.83	-	-	-	23.83
Mississippi.....	-	-	W	-	W
Missouri.....	W	-	-	-	W
Montana.....	-	W	W	-	8.83
New Mexico.....	W	W	-	-	22.02
North Dakota.....	-	-	8.48	-	8.48
Ohio.....	21.48	-	-	-	21.48
Oklahoma.....	27.07	-	-	-	27.07
Pennsylvania Total.....	24.63	-	-	47.67	25.07
Anthracite.....	-	-	-	47.67	47.67
Bituminous.....	24.63	-	-	-	24.63
Tennessee.....	27.57	-	-	-	27.57
Texas.....	W	-	W	-	18.77
Utah.....	19.86	-	-	-	19.86
Virginia.....	28.72	-	-	-	28.72
West Virginia Total.....	27.03	-	-	-	27.03
Northern.....	23.48	-	-	-	23.48
Southern.....	28.08	-	-	-	28.08
Wyoming.....	W	W	-	-	5.62
U.S. Total.....	25.36	6.67	11.52	47.67	17.38

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 33. Average Open Market Sales Price of Coal by Mine Production Range and Mine Type, 2001
(Dollars per Short Ton)

Mine Production Range (thousand short tons)	Underground	Surface	Total
Over 1,000	24.34	10.92	14.94
500 to 1,000	27.92	24.40	26.22
200 to 500	27.45	27.60	27.52
100 to 200	27.66	27.89	27.77
50 to 100	28.18	27.04	27.72
10 to 50	29.14	27.80	28.42
U.S. Total	25.37	13.18	17.38

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 34. Average Sales Price of U.S. Coal by State and Disposition, 2001
(Dollars per Short Ton)

Coal-Producing State	Open Market ¹	Captive ²
Alabama.....	34.36	W
Alaska.....	W	-
Arizona.....	W	-
Colorado.....	17.20	W
Illinois.....	23.52	-
Indiana.....	20.67	W
Kansas.....	W	-
Kentucky Total.....	26.77	27.77
Eastern.....	27.96	W
Western.....	21.58	W
Louisiana.....	W	-
Maryland.....	23.83	W
Mississippi.....	W	-
Missouri.....	W	-
Montana.....	8.83	W
New Mexico.....	22.02	-
North Dakota.....	8.48	W
Ohio.....	21.48	68.47
Oklahoma.....	27.07	-
Pennsylvania Total.....	25.07	23.13
Anthracite.....	47.67	-
Bituminous.....	24.63	23.13
Tennessee.....	27.57	W
Texas.....	18.77	15.48
Utah.....	19.86	16.93
Virginia.....	28.72	22.66
Washington.....	-	W
West Virginia Total.....	27.03	29.67
Northern.....	23.48	25.84
Southern.....	28.08	32.57
Wyoming.....	5.62	9.26
U.S. Total.....	17.38	20.01

¹ Open market includes coal sold on the open market to other coal companies or consumers.

² Captive includes all coal used by the producing company or sold to affiliated or parent companies.

W = Withheld to avoid disclosure of individual company data.

Note: • An average open market sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the open market coal sold, by the total open market coal sold. An average captive market sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the captive market coal sold, by the total captive market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Consumer Prices

Table 35. Average Price of Coal Delivered to End Use Sector by Census Division and State, 2001, 2000
(Dollars per Short Ton)

Census Division and State	2001			2000			Annual Percent Change		
	Electric Utility Plants	Other Industrial Plants	Coke Plants	Electric Utility Plants	Other Industrial Plants	Coke Plants	Electric Utility Plants	Other Industrial Plants	Coke Plants
New England	43.52	55.65	-	40.16	55.11	-	8.4	1.0	-
Connecticut	-	W	-	-	W	-	-	-	-
Maine	-	W	-	-	W	-	-	-2.8	-
Massachusetts	-	W	-	45.89	W	-	-100.0	7.3	-
New Hampshire	43.52	W	-	38.94	W	-	11.8	-	-
Rhode Island	-	W	-	-	W	-	-	-	-
Vermont	-	W	-	-	W	-	-	-	-
Middle Atlantic	37.14	W	W	31.16	W	W	19.2	10.1	3.0
New Jersey	58.58	W	-	36.66	W	-	59.8	-13.3	-
New York	37.06	41.27	W	39.11	39.51	W	-5.2	4.5	7.3
Pennsylvania	31.12	38.39	W	29.11	34.08	W	6.9	12.6	4.0
East North Central	25.25	36.47	47.53	26.35	33.38	45.62	-4.2	9.3	4.2
Illinois	23.01	30.17	W	22.31	28.44	W	3.1	6.1	5.9
Indiana	23.91	36.11	48.39	22.91	30.44	46.98	4.4	18.6	3.0
Michigan	26.06	40.72	W	27.18	40.32	W	-4.1	1.0	6.5
Ohio	30.97	38.55	W	34.45	36.45	W	-10.1	5.8	4.3
Wisconsin	19.06	42.39	-	18.64	39.20	-	2.3	8.1	-
West North Central	14.97	W	-	14.69	19.07	-	1.9	W	-
Iowa	14.09	29.83	-	14.08	28.69	-	*	4.0	-
Kansas	18.20	34.91	-	17.08	W	-	6.6	W	-
Minnesota	18.13	32.51	-	19.83	30.51	-	-8.6	6.5	-
Missouri	17.08	33.56	-	16.36	31.19	-	4.4	7.6	-
Nebraska	9.71	22.35	-	9.66	W	-	0.5	W	-
North Dakota	9.74	W	-	9.45	W	-	3.1	-3.8	-
South Dakota	17.41	18.49	-	16.81	26.01	-	3.5	-28.9	-
South Atlantic	38.21	W	W	34.81	W	W	9.8	10.1	4.5
Delaware	54.54	W	-	39.54	W	-	37.9	16.3	-
District of Columbia	-	W	-	38.07	W	-	-100.0	-	-
Florida	41.74	46.14	-	38.69	43.66	-	7.9	5.7	-
Georgia	39.04	48.62	-	35.65	42.73	-	9.5	13.8	-
Maryland	-	37.14	-	34.44	32.00	-	-100.0	16.1	-
North Carolina	39.20	45.05	-	35.53	41.63	-	10.3	8.2	-
South Carolina	39.40	48.95	-	35.37	43.20	-	11.4	13.3	-
Virginia	40.29	46.26	W	34.09	41.92	W	18.2	10.3	9.5
West Virginia	30.31	36.32	W	29.57	33.42	W	2.5	8.7	1.9
East South Central	28.61	W	47.69	27.28	W	W	4.9	9.3	W
Alabama	30.61	40.96	W	30.88	39.30	W	-0.9	4.2	4.4
Kentucky	25.29	46.09	W	23.74	41.69	W	6.5	10.5	12.9
Mississippi	38.31	W	-	35.16	W	-	8.9	8.8	-
Tennessee	28.31	38.18	-	25.73	33.94	-	10.0	12.5	-
West South Central	19.17	W	-	19.08	23.00	-	0.5	W	-
Arkansas	15.23	44.40	-	24.68	43.55	-	-38.3	1.9	-
Louisiana	20.64	W	-	20.94	W	-	-1.4	41.1	-
Oklahoma	15.75	27.63	-	16.46	W	-	-4.3	W	-
Texas	20.39	23.47	-	18.53	20.52	-	10.0	14.4	-
Mountain	21.49	29.83	W	21.13	29.19	W	1.7	2.2	23.4
Arizona	25.43	41.66	-	25.33	41.26	-	0.4	1.0	-
Colorado	17.93	W	-	18.14	W	-	-1.1	-6.2	-
Idaho	-	34.80	-	-	35.70	-	-	-2.5	-
Montana	12.42	W	-	12.12	W	-	2.5	-1.9	-
Nevada	28.35	W	-	28.34	W	-	*	3.3	-
New Mexico	27.43	W	-	25.38	W	-	8.1	1.3	-
Utah	25.96	26.03	W	23.66	25.11	W	9.7	3.7	23.4
Wyoming	13.56	25.41	-	13.72	24.87	-	-1.2	2.2	-
Pacific	19.33	40.10	-	23.09	40.51	-	-16.3	-1.0	-
Alaska	-	W	-	-	W	-	-	-	-
California	-	38.93	-	-	39.48	-	-	-1.4	-
Hawaii	-	W	-	-	W	-	-	2.6	-
Oregon	19.33	W	-	18.45	W	-	4.7	-	-
Washington	-	W	-	28.05	W	-	-100.0	1.3	-
U.S. Total	24.68	32.26	46.42	24.28	31.46	44.38	1.6	2.6	4.6

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

W = Withheld to avoid disclosure of individual company data.

Note: • Includes manufacturing plants only.

Source: • Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants, Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," Form EIA-5, "Coke Plant Report - Quarterly."

Glossary

American Indian Coal Lease: A lease granted to a mining company to produce coal from American Indian lands in exchange for royalties and other revenues; obtained by direct negotiation with Indian tribal authorities, but subject to approval and administration by the U.S. Department of the Interior.

Anthracite: The highest rank of coal; used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per short ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). Note: Since the 1980's, anthracite refuse or mine waste has been used for steam electric power generation. This fuel typically has a heat content of 15 million Btu per short ton or less.

Appalachian Region: See Coal-Producing Regions.

Area (Surface) Mining: A method used on flat terrain to recover coal by mining long cuts or pits successively. The material excavated from the cut being mined is deposited in the cut previously mined.

Auger Mine: A surface mine where coal is recovered through the use of a large-diameter drill driven into a coalbed in a hillside. It usually follows contour surface mining, particularly when the overburden is too costly to excavate.

Average Number of Employees: The arithmetic mean number of employees working each day at a mining operation. Includes maintenance, office, as well as production-related employees.

Average Open Market Sales Price: The ratio of the total value of the open market sales of coal produced at the mine to the total open market sales tonnage.

Average Production per Miner per Hour: The ratio of the total production at a mining operation to the total direct labor hours worked at the operation.

Average Recovery Percentage: Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, averaged for all mines in the reported geographic area.

Bed, Coalbed: All the coal and partings lying between a roof and floor.

Bituminous Coal: A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Capacity Utilization: Capacity utilization is computed by dividing production by productive capacity and multiplying by 100.

Captive Coal: Coal produced and consumed by the mine operator, a subsidiary, or parent company (for example, steel companies and electric utilities).

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.

Central Appalachian Region: See Coal-Producing Regions.

CIF: See Cost, Insurance, Freight.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

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 (coke): See Coke (coal).

Coal Mining Productivity: Coal mining productivity is calculated by dividing total coal production by the total direct labor hours worked by all mine employees.

Coal Preparation/Washing: The treatment of coal to reject waste. In its broadest sense, preparation is any processing of mined coal to prepare it for market, including crushing and screening or sieving the coal to reach a uniform size, which normally results in removal of some non-coal material. The term coal preparation most commonly refers to processing, including crushing and screening, passing the material through one or more processes to remove impurities, sizing the product, and loading for shipment. Many of the processes separate rock, clay, and other minerals from coal in a liquid medium; hence the term washing is widely used. In some cases coal passes through a drying step before loading.

Coal-Producing Regions: A geographic classification of areas where coal is produced.

Appalachian Region. Consists of Alabama, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

Northern Appalachian Region. Consists of Maryland, Pennsylvania Bituminous, and Northern West Virginia.

Central Appalachian Region. Consists of Eastern Kentucky, Virginia, Southern West Virginia, and the Tennessee counties of: Anderson, Campbell, Claiborne, Cumberland, Fentress, Morgan, Overton, Pickett, Putnam, Roane, and Scott.

Southern Appalachian Region: Consists of Alabama, and the Tennessee counties of: Bledsoe, Coffee, Franklin, Grundy, Hamilton, Marion, Rhea, Sequatchie, Van Buren, Warren, and White.

Interior Region (with Gulf Coast). Consists of Arkansas, Illinois, Indiana, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, Texas, and Western Kentucky.

Illinois Basin: Consists of Illinois, Indiana, and Western Kentucky.

Western Region. Consists of Alaska, Arizona, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming.

Powder River Basin: Consists of the Montana counties of Big Horn, Custer, Powder River, Rosebud, and Treasure and the Wyoming counties of Campbell, Converse, Crook, Johnson, Natrona, Niobrara, Sheridan, and Weston.

Uinta Basin: Consists of the Colorado counties of Delta, Garfield, Gunnison, Mesa, Moffat, Pitkin, Rio Blanco, Routt and the Utah counties of Carbon, Duchesne, Emery, Grand, Sanpete, Sevier, Uintah, Utah, and Wasatch.

Coal-Producing States: The States where mined and/or purchased coal originates are defined as follows:

Alabama, Alaska, Arizona, Arkansas, Colorado, Illinois, Indiana, Kansas, Kentucky Eastern, Kentucky Western, Louisiana, Maryland, Mississippi, Missouri, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania anthracite, Pennsylvania bituminous, Tennessee, Texas, Utah, Virginia, Washington, West Virginia Northern, West Virginia Southern, and Wyoming. The following Coal-Producing States are split in origin of coal, as defined by:

Kentucky, Eastern. All mines in the following counties in Eastern Kentucky: Bell, Boyd, Breathitt, Carter, Clay, Clinton, Elliot, Estill, Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Magoffin, Martin, McCreary, Menifee, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley, and Wolfe.

Kentucky, Western. All mines in the following counties in Western Kentucky: Breckinridge, Butler, Caldwell, Christian, Crittenden, Daviess, Edmonson, Grayson, Hancock, Hart, Henderson, Hopkins, Logan, McLean, Muhlenberg, Ohio, Simpson, Todd, Union, Warren, and Webster.

Pennsylvania Anthracite. All mines in the following counties: Carbon, Columbia, Dauphin, Lackawanna, Lebanon, Luzerne, Northumberland, Schuylkill, Sullivan, and Susquehanna. All anthracite mines in Bradford County.

Pennsylvania Bituminous. All mines located in the following counties: Allegheny, Armstrong, Beaver, Bedford, Butler, Cambria, Clarion, Clearfield, Elk, Fayette, Green, Indiana, Jefferson, Lawrence, Lycoming, Somerset, Venango, Washington, and Westmoreland, and all bituminous mines in Bradford County.

West Virginia, Northern. All mines in the following counties (formerly defined as Coal-Producing Districts 1, 3, & 6): Barbour, Brooke, Braxton, Calhoun, Doddridge, Gilmer, Grant, Hancock, Harrison, Jackson, Lewis, Marion, Marshall, Mineral, Monongalia, Ohio, Pleasants, Preston, Randolph, Ritchie, Roane, Taylor, Tucker, Tyler, Upshur, Webster, Wetzel, Wirt, and Wood.

West Virginia, Southern. All mines in the following counties (formerly defined as Coal-Producing Districts 7 & 8): Boone, Cabell, Clay, Fayette, Greenbrier, Kanawha, Lincoln, Logan, Mason, McDowell, Mercer,

Mingo, Nicholas, Pocahontas, Putnam, Raleigh, Summers, Wayne, and Wyoming.

Coal Rank: The classification of coals according to their degree of progressive alteration from lignite to anthracite. In the United States, the standard ranks of coal include lignite, subbituminous coal, bituminous coal, and anthracite and are based on fixed carbon, volatile matter, heating value, and agglomerating (or caking) properties.

Coal Stocks: Coal quantities that are held in storage for future use and disposition. Note: When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of this period.

Coalbed: A bed or stratum of coal. Also called a coal seam.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, and cooling purposes. To receive status as a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA), the facility must produce electric energy and "another form of useful thermal energy through the sequential use of energy," and meet certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC). (See the Code of Federal Regulation, Title 18, Part 292.)

Coke (coal): A solid carbonaceous residue derived from low-ash, low-sulfur 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 residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and 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.

Coking Coal: Bituminous coal suitable for making coke. See Coke (coal).

Continuous Mining: A form of room-and-pillar mining in which a continuous mining machine extracts and removes coal from the working face in one operation; no blasting is required.

Conventional Mining: The oldest form of room-and-pillar mining which consists of a series of operations that involve cutting the coalbed so it breaks easily when

blasted with explosives or high-pressure air, and then loading the broken coal.

Cost, Insurance, Freight (CIF): A type of sale in which the buyer of the product agrees to pay a unit price that includes the F.O.B. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Lading and Quality Report) rather than pay on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an F.O.B. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

Culm: Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton.

Demonstrated Reserve Base: A collective term for the sum of coal in both measured and indicated resource categories of reliability which represents 100 percent of the coal in these categories in place as of a certain date. Includes beds of bituminous coal and anthracite 28 inches or more thick and beds of subbituminous coal 60 inches or more thick that occur at depths to 1 thousand feet. Includes beds of lignite 60 inches or more thick that can be surface mined. Includes also thinner and/or deeper beds that presently are being mined or for which there is evidence that they could be mined commercially at this time. Represents that portion of identified coal resources from which reserves are calculated.

Direct Labor Hours: Direct labor hours worked by all mining employees at a mining operation during the year. Includes hours worked by those employees engaged in production, preparation, development, maintenance, repair, shop or yard work, management, office workers, and technical or engineering work.

Dredge Mining: A method of recovering coal from rivers or streams.

Drift Mine: An underground mine that has a horizontal or nearly horizontal entry driven along to a coalbed exposed in a hillside.

Electric Power Sector: The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

Estimated Recoverable Reserves: See recoverable reserves.

Federal Coal Lease: A lease granted to a mining company to produce coal from land owned and administered by the Federal Government in exchange for royalties and other revenues.

Hand Loading: An underground loading method by which coal is removed from the working face by manual labor through the use of a shovel for conveyance to the surface.

Illinois Basin: See Coal-Producing Regions.

Indicated Resources: Coal for which estimates of the rank, quality, and quantity have been computed partly from sample analyses and measurements and partly from reasonable geologic projections. Indicated resources are computed partly from specified measurements and partly from projection of visible data for a reasonable distance on the basis of geologic evidence. The points of observation are 0.5 to 1.5 miles apart. Indicated coal is projected to extend as a 0.5-mile-wide belt that lies more than 0.25 miles from the outcrop or points of observation or measurement.

Industrial Sector: The industrial sector is comprised of manufacturing industries which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills, to small farms, to companies assembling electronic components.

Interior Region: See Coal-Producing Regions.

Lignite: The lowest rank of coal, often referred to as brown coal, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 13 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Longwall Mining: An automated form of underground coal mining characterized by high recovery and extraction rates, feasible only in relatively flat-lying, thick, and uniform coalbeds. A high-powered cutting machine is passed across the exposed face of coal, shearing away broken coal, which is continuously hauled away by a floor-level conveyor system. Longwall mining extracts all machine-minable coal between the floor and ceiling within a contiguous block of coal, known as a panel, leaving no support pillars within the panel area. Panel dimensions vary over time and with mining conditions but currently average about 900 feet wide (coal face width) and more than 8,000 feet long (the

minable extent of the panel, measured in direction of mining). Longwall mining is done under movable roof supports that are advanced as the bed is cut. The roof in the mined-out area is allowed to fall as the mining advances.

Manufacturing (except coke plants): Those industrial users/plants, not including coke plants, that are engaged in the mechanical or chemical transformation of materials or substances into new (i.e., finished or semifinished) products. Includes coal used for gasification/liquifaction and coal used for coal synfuels.

Minable: Capable of being mined under current mining technology and environmental and legal restrictions, rules, and regulations.

Mine Type: See Surface Mine and Underground Mine.

Northern Appalachian: See Coal-Producing Regions.

Number of Mines: The number of mines, or mines collocated with preparation plants or tipples, located in a particular geographic area (State or region).

Number of Mining Operations: The number of mining operations includes preparation plants. Mining operations that consist of a mine and preparation plant, or a preparation plant only, will be counted as two operations if the preparation plant processes both underground and surface coal.

Open Market Coal: Coal sold in the open market, i.e., coal sold to companies other than the reporting company's parent company or an operating subsidiary of the parent company.

Operating Subsidiary: A company which is controlled through the ownership of voting stock, or a corporate joint venture in which a corporation is owned by a small group of businesses as a separate and specific business or project for the mutual benefit of the members of the group.

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.

Parent Company: A company which solely or jointly owns the reporting company and which is not itself a subsidiary of, or owned by, another company.

Percent Utilization: The ratio of total production to productive capacity, times 100.

Powder River Basin: See Coal-Producing Regions.

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

Productive Capacity: The maximum amount of coal that a mining operation can produce or process during a period with the existing mining equipment and/or preparation plant in place, assuming that the labor and materials sufficient to utilize the plant and equipment are available, and that the market exists for the maximum production.

Recoverability: In reference to accessible coal resources, the condition of being physically, technologically, and economically minable. Recovery rates and recovery factors may be determined or estimated for coal resources without certain knowledge of their economic minability; therefore, the availability of recovery rates or factors does not predict recoverability.

Recoverable Coal: Coal that is, or can be, extracted from a coal bed during mining.

Recoverable Reserves at Producing Mines: The amount of in situ coal that can be recovered by mining existing reserves at mines reporting on Form EIA-7A.

Recoverable Reserves, Estimated Recoverable Reserves: Reserve estimates (broad meaning) based on a demonstrated reserve base adjusted for assumed accessibility factors and recovery factors. The term is used by EIA to distinguish estimated recoverable reserves, which are derived without specific economic feasibility criteria by factoring (downward) from a demonstrated reserve base for one or more study areas or regions, from recoverable reserves at active mines, which are aggregated (upward) from reserve estimates reported by currently active, economically viable mines on Form EIA-7A.

Recoverable Reserves of Coal: An estimate of the amount of coal that can be recovered (mined) from the accessible reserves of the demonstrated reserve base.

Recovery Factor: The percentage of total tons of coal estimated to be recoverable from a given area in relation to the total tonnage estimated to be in the demonstrated reserve base. For the purpose of calculating depletion factors only, the estimated recovery factors for the demonstrated reserve base generally are 50 percent for underground mining methods and 80 percent for surface mining methods. More precise recovery factors can be computed by determining the total coal in place and the total coal recoverable in any specific locale.

Recovery Percentage: The percentage of coal that can be recovered from the coal deposits at existing mines.

Refuse Bank: A repository for waste material generated by the coal cleaning process.

Refuse Recovery: A surface mine where coal is recovered from previously mined coal. It may also be known as a silt bank, culm bank, refuse bank, slurry dam, or dredge operation.

Remaining (Resources/Reserves): The amount of coal in the ground after some mining, excluding coal in the ground spoiled or left in place for which later recovery is not feasible.

Reserve(s): Root meaning: The amount of in-situ coal in a defined area that can be recovered by mining at a sustainable profit at the time of determination. Broad meaning: That portion of the demonstrated reserve base that is estimated to be recoverable at the time of determination. The reserve is derived by applying a recovery factor to that component of the identified resources of coal designated as the demonstrated reserve base.

Residential and Commercial Sector: 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).

Royalties: Payments, in money or kind, of a stated share of production from mineral deposits, by the lessee to the lessor. Royalties may be an established minimum, a sliding-scale, or a step-scale. A step-scale royalty rate increases by steps as the average production on the lease increases. A sliding-scale royalty rate is based on average production and applies to all production from the lease.

Run-of-mine: The raw coal recovered from a mine, prior to any treatment.

Salable Coal: The shippable product of a coal mine or preparation plant. Depending on customer specifications, salable coal may be run-of-mine, crushed-and-screened (sized) coal, or the clean coal yield from a preparation plant.

Sales Volume: The reported output from Federal and/or Indian lands, the basis of royalties. It is approximately equivalent to production, which includes coal sold, and coal added to stockpiles.

Scoop Loading: An underground loading method by which coal is removed from the working face by a tractor unit equipped with a hydraulically operated bucket attached to the front; also called a front-end loader.

Seam: A bed of coal lying between a roof and floor. Equivalent term to bed, commonly used by industry.

Shaft Mine: An underground mine that reaches the coalbed by means of a vertical shaft. In addition to the passages providing entry to the coalbed, a network of other passages are also dug, some to provide access to various parts of the mine and some for ventilation.

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

Shortwall Mining: A form of underground mining that involves the use of a continuous mining machine and movable roof supports to shear coal panels 150 to 200 feet wide and more than half a mile long. Although similar to longwall mining, shortwall mining is generally more flexible because of the smaller working area. Productivity is lower than with longwall mining because the coal is hauled to the mine face by shuttle cars as opposed to conveyors.

Silt: Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton. Synonymous with culm.

Silt, Culm Refuse Bank, or Slurry Dam Mining: A mining operation producing coal from these sources of coal. (See refuse recovery.)

Slope Mine: An underground mine in which the entry is driven at an angle to reach the coal deposit.

Slurry Dam: A repository for the silt or culm from a preparation plant.

Southern Appalachian: See Coal-Producing Regions.

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

Subbituminous Coal: A coal whose properties range from those of lignite to those of bituminous coal and used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Surface Mine: A coal mine that is usually within a few hundred feet of the surface. Earth and rock 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. Surface mines include: area, contour, open-pit, strip, or auger mine.

Tipple: A central facility used in loading coal for transportation by rail or truck.

Uinta Region: See Coal-Producing Regions.

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).

Underground Mining: The extraction of coal or its products from between enclosing rock strata by underground mining methods, such as room and pillar, longwall, and shortwall, or through in-situ gasification.

Western Region: See Coal-Producing Regions.