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Preface

The *Annual Coal Report* (ACR) provides information about U.S. coal production, number of mines, productive capacity, recoverable reserves, employment, productivity, consumption, stocks, and prices to a wide audience, including Congress, federal and state agencies, the coal industry, and the general public. EIA publishes this report to fulfill data collection and dissemination responsibilities under the Federal Energy Administration Act of 1974 (Public Law 93-275), as amended.

Coal production, number of mines, 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*. Productive capacity, recoverable reserves, and prices are based on EIA's Form EIA-7A, *Annual Survey of Coal Production and Preparation*. Consumption and stocks are based on EIA survey forms.

This report is EIA's 43rd annual report on the coal industry, and it continues the series formerly included in the *Minerals Yearbook*, which the U.S. Bureau of Mines previously published. All data for 2018 and previous years are final.

The Office of Energy Production, Conversion, & Delivery acknowledges the cooperation of the respondents in supplying the information published in the *Annual Coal Report*, and we appreciate the valuable assistance of state coal mining agencies and the U.S. Department of Labor, Mine Safety and Health Administration.

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Executive Summary

Publication changes

In this issue of the *Annual Coal Report* (ACR), EIA has added five new tables and revised six tables.

Table ES-5, which presents the average export and import prices of metallurgical coal, non-metallurgical coal, and coke, was expanded to include 2001–2010 data.

Tables 3, 13, 16, 22, and 29 present production, productive capacity and capacity utilization, recoverable reserves, productivity, and average sales price by state and mining method for underground mines. Previously, all data were allocated to the predominant mining method reported by each mine. We revised the methodology to allocate data based on the share of production reported for each mining method.

Tables 3.1, 13.1, 16.1, 22.1, and 29.1 are new tables presenting production, productive capacity and capacity utilization, recoverable reserves, productivity, and average sales price by state and mining method for surface mines.

Production

In 2018, U.S. coal production decreased 2.4% to 756.2 million short tons (MMst) from 2017 levels, while the number of producing mines also decreased to 679 mines from 680 mines in 2017. Coal production in basins east of the Mississippi river increased 2.0% but was more than offset by production declines in western basins.

The Appalachian region's coal production in 2018 was 200,177 MMst, an increase of 1.2% from 2017. West Virginia's production increased 2.8% to 95.4 MMst, Pennsylvania's production increased 1.6% to 49.9 MMst, and Eastern Kentucky's production decreased 7.0% to 16.9 MMst.

Coal production in the Interior region was 136.9 MMst, a decrease of 5.7% from 2017 levels. Production in Illinois increased 2.8% to 49.6 MMst, production in Indiana increased 9.9% to 34.6 MMst, and production in Western Kentucky decreased 4.0% to 22.7 MMst. Production in the rest of the Interior region decreased 28.2% to 30.1 MMst, lead by a production decrease in Texas of 31.8% to 24.8 MMst.

Coal production in the Western region in 2018 decreased 2.9% to 418.3 MMst. Production in Wyoming, the largest coal-producing state in the region, decreased by 3.9% to 304.2 MMst. Other large producing states in the basin include Montana, where production increased by 9.6% to 38.6 MMst; Colorado, where production decreased by 6.8% to 14.0 MMst; and Utah, where production decreased by 4.9% to 13.6 MMst.

Disposition of coal during 2018 amounted to 755.9 MMst, of which 676.5 MMst was marketed as thermal coal, and 79.3 MMst was marketed as metallurgical coal. Of the metallurgical coal dispositions, 61.5 MMst was exported and 17.8 MMst was sold to domestic customers.

Productive capacity

Productive capacity is the maximum amount of coal that can be produced annually as reported by mining companies. In 2018, the collective productive capacity of U.S. coal mines decreased 3.6% to 1,020.5 MMst. Major producing states that reported a decrease in productive capacity include Texas (-29.7% to 25.8 MMst), West Virginia (-6.9% to 121.0 MMst), Eastern Kentucky (-9.7% to 25.3 MMst), Virginia (-5.7% to 16.5 MMst), and Wyoming (-2.9% to 436.0 MMst)

The overall capacity utilization across all mines increased to 73.9% in 2018 from 73.0% in 2017. Capacity utilization is measured as the ratio of annual production to the annual productive capacity of mines.

Recoverable reserves

Total U.S. recoverable coal reserves that are technologically and economically feasible to extract as reported by producers fell to 15,216 MMst at the end of 2018 from 16,102 MMst at the end of 2017. Large producing states that reported an increase in recoverable reserves include Illinois, Indiana, Montana, and Utah.

Employment

The average number of employees at U.S. coal mines in 2018 increased by 532 from 2017 to 53,583 employees. The average number of employees at underground mines increased by 525 employees, and average employment at surface mines decreased by 32 employees. West Virginia, Alabama, and Montana had the largest increases in the average number of employees in 2018, increasing by 740 employees (5.6%), 304 employees (11.7%), and 165 employees (14.4%), respectively. Total U.S. productivity as measured by average production per employee hour decreased by 4.8% to 6.23 short tons per employee hour. Productivity decreased by 3.1% in the Appalachian region to 2.85 tons per employee hour and by 3.2% in the Powder River Basin to 27.6 tons per employee hour.

Consumption

U.S. coal consumption in 2018 was 688.1 MMst, a decline of 4.0% from 2017. Coal consumption in the electric power sector decreased by 27.8 MMst to 637.2 MMst. Coal consumption in the industrial, coke, and commercial and institutional sectors was 50.9 MMst in 2018, a 1.9% decrease from the 2017 level.

Exports

Exports increased by 18.7 MMst in 2018 to 115.6 MMst. Europe was the largest destination of U.S. exports, amounting to 43.8 MMst. Steam coal exports accounted for 54.1 MMst (47%) of the total, and metallurgical coal accounted for 61.5 MMst (53%).

Stocks

U.S. coal stocks in 2018 ended at 130.5 MMst, 21.9% lower than at the same time in 2017. Stocks in the electric power sector declined by 34.3 MMst to 103.5 MMst at the end of 2018. Coal stocks held by the other industrial, coke, and commercial sectors, as well as producers and distributors, decreased by 2.3 MMst to 27.0 MMst at the end of 2018 compared with the end of 2017.

Sales price

The total average sales price of coal from U.S. mines in 2018 increased by 6.7% from 2017 levels to \$35.99 per short ton. The average sales price of thermal coal in 2018 increased by 1.8% from 2017 levels to \$27.02 per short ton, but the average sales price of metallurgical coal in 2018 increased 8.4% from 2017 levels to \$144.00 per short ton. The average sales price of coal from surface mines and underground mines increased by 4.5% and 6.0%, respectively, to \$21.90 and \$60.38 per short ton. The average sales prices of coal by rank are as follows:

- Average sales price of bituminous coal was \$59.43 per short ton in 2018, a 6.9% increase from the 2017 level
- Average sales price of subbituminous coal was \$13.64 per short ton in 2018, a 4.5% decrease from the 2017 level
- Average sales price of lignite coal was \$20.21 per short ton in 2018, a 3.6% increase from the 2017 level
- Average sales price of anthracite coal was \$99.97 per short ton in 2018, a 7.3% increase from the 2017 level

Table ES1. Coal Production, 1949-2018

(short tons)

Year	Rank				Mining Method		Location		Total ¹
	Bituminous Coal ¹	Subbituminous Coal	Lignite	Anthracite ¹	Underground	Surface ¹	East of Mississippi River ¹	West of Mississippi River ¹	
1949	437,868,000	-	-	42,702,000	358,854,000	121,716,000	444,199,000	36,371,000	480,570,000
1950	516,311,000	-	-	44,077,000	421,000,000	139,388,000	524,374,000	36,014,000	560,388,000
1951	533,665,000	-	-	42,670,000	442,184,000	134,151,000	541,703,000	34,632,000	576,335,000
1952	466,841,000	-	-	40,583,000	381,173,000	126,251,000	474,755,000	32,669,000	507,424,000
1953	457,290,000	-	-	30,949,000	367,444,000	120,795,000	457,652,000	30,587,000	488,239,000
1954	391,706,000	-	-	29,083,000	305,964,000	114,825,000	395,413,000	25,376,000	420,789,000
1955	464,633,000	-	-	26,205,000	357,964,000	132,874,000	464,218,000	26,620,000	490,838,000
1956	500,874,000	-	-	28,900,000	380,829,000	148,945,000	504,001,000	25,773,000	529,774,000
1957	492,704,000	-	-	25,338,000	373,565,000	144,477,000	493,377,000	24,665,000	518,042,000
1958	410,446,000	-	-	21,171,000	297,583,000	134,034,000	411,315,000	20,302,000	431,617,000
1959	412,028,000	-	-	20,649,000	292,849,000	139,828,000	412,351,000	20,326,000	432,677,000
1960	415,512,000	-	-	18,817,000	292,584,000	141,745,000	413,033,000	21,296,000	434,329,000
1961	402,977,000	-	-	17,446,000	279,551,000	140,872,000	398,642,000	21,781,000	420,423,000
1962	422,149,000	-	-	16,894,000	287,939,000	151,104,000	417,629,000	21,414,000	439,043,000
1963	458,928,000	-	-	18,267,000	308,971,000	168,224,000	453,485,000	23,710,000	477,195,000
1964	486,998,000	-	-	17,184,000	327,697,000	176,485,000	478,494,000	25,688,000	504,182,000
1965	512,088,000	-	-	14,866,000	337,958,000	188,996,000	499,529,000	27,425,000	526,954,000
1966	533,881,000	-	-	12,941,000	342,612,000	204,210,000	518,773,000	28,049,000	546,822,000
1967	552,626,000	-	-	12,256,000	352,391,000	212,491,000	535,973,000	28,909,000	564,882,000
1968	545,245,000	-	-	11,461,000	346,592,000	210,114,000	526,991,000	29,715,000	556,706,000
1969	547,172,000	8,321,000	5,012,000	10,473,000	349,238,000	221,740,000	537,677,000	33,301,000	570,978,000
1970	578,469,000	16,423,000	8,040,000	9,729,000	340,530,000	272,131,000	567,758,000	44,903,000	612,661,000
1971	521,344,000	22,151,000	8,697,000	8,727,000	277,175,000	283,744,000	509,925,000	50,994,000	560,919,000
1972	556,842,000	27,547,000	10,997,000	7,106,000	305,046,000	297,446,000	538,157,000	64,335,000	602,492,000
1973	543,532,000	33,933,000	14,273,000	6,830,000	300,080,000	298,488,000	522,131,000	76,437,000	598,568,000
1974	545,689,000	42,240,000	15,477,000	6,617,000	277,966,000	332,057,000	518,118,000	91,905,000	610,023,000
1975	577,522,000	51,099,000	19,817,000	6,203,000	293,467,000	361,174,000	543,707,000	110,934,000	654,641,000
1976	588,364,000	64,841,000	25,480,000	6,228,000	295,464,000	389,449,000	548,831,000	136,082,000	684,913,000
1977	580,991,000	82,115,000	28,238,000	5,861,000	266,591,000	430,614,000	533,267,000	163,938,000	697,205,000
1978	534,020,000	96,757,000	34,350,000	5,037,000	242,772,000	427,392,000	487,178,000	182,986,000	670,164,000
1979	612,279,000	121,475,000	42,545,000	4,835,000	320,891,000	460,243,000	559,704,000	221,430,000	781,134,000
1980	628,769,000	147,715,000	47,160,000	6,056,000	337,508,000	492,192,000	578,688,000	251,012,000	829,700,000
1981	607,986,000	159,693,000	50,673,000	5,423,000	316,496,000	507,279,000	553,862,000	269,914,000	823,775,000
1982	620,166,000	160,946,000	52,411,000	4,589,000	339,152,000	498,960,000	564,259,000	273,853,000	838,112,000
1983	568,609,000	151,044,000	58,349,000	4,089,000	300,379,000	481,713,000	507,395,000	274,696,000	782,091,000
1984	649,489,000	179,200,000	63,070,000	4,161,735	352,050,000	543,870,000	587,620,000	308,301,000	895,920,767
1985	613,851,000	192,657,000	72,422,000	4,708,375	350,800,000	532,838,000	558,730,000	324,908,000	883,638,117
1986	620,059,000	189,610,000	76,354,000	4,291,951	360,438,000	529,877,000	564,427,000	325,887,000	890,314,708
1987	636,609,000	200,165,000	78,427,000	3,560,459	372,874,000	545,888,000	581,929,000	336,833,000	918,762,162
1988	638,105,000	223,504,000	85,101,000	3,554,509	382,156,000	568,109,000	579,565,000	370,700,000	950,265,278
1989	659,771,000	231,171,000	86,439,000	3,347,996	393,835,000	586,893,000	599,015,000	381,714,000	980,728,790
1990	693,206,000	244,274,000	88,090,000	3,506,247	424,546,000	604,529,000	630,218,000	398,858,000	1,029,075,527
1991	650,700,000	255,325,000	86,514,000	3,445,080	407,225,000	588,759,000	591,294,000	404,690,000	995,983,881
1992	651,842,000	252,158,000	90,062,000	3,482,861	407,239,000	590,306,000	588,575,000	408,970,000	997,544,933
1993	576,652,000	274,901,000	89,549,000	4,322,263	351,053,000	594,371,000	516,219,000	429,205,000	945,424,286
1994	640,260,000	300,517,000	88,081,000	4,646,032	399,103,000	634,401,000	566,289,000	467,216,000	1,033,504,293
1995	613,764,679	327,997,855	86,499,740	4,711,498	396,249,022	636,724,750	544,245,706	488,728,066	1,032,973,772
1996	630,741,292	340,290,580	88,055,815	4,767,826	409,848,871	654,006,642	563,667,655	500,187,858	1,063,855,513
1997	653,827,506	345,071,099	86,341,244	4,691,939	420,657,474	669,274,314	579,369,281	510,562,507	1,089,931,788
1998	640,586,262	385,930,397	85,766,784	5,251,724	417,727,882	699,807,285	570,575,604	546,959,563	1,117,535,167
1999	601,731,551	406,714,233	87,217,912	4,767,752	391,789,870	708,641,558	529,594,228	570,837,200	1,100,431,428
2000	574,275,630	409,203,124	85,560,584	4,572,223	373,658,726	699,952,835	507,517,246	566,094,315	1,073,611,561
2001	611,291,051	434,414,339	80,043,399	1,940,017	380,626,833	747,061,973	528,777,761	598,911,045	1,127,688,806
2002	572,103,243	438,353,294	82,459,406	1,367,118	357,384,967	736,898,094	492,915,076	601,367,985	1,094,283,061
2003	541,475,747	442,618,093	86,366,464	1,292,269	352,784,686	718,967,887	469,246,727	602,505,846	1,071,752,573

Year	Rank				Mining Method		Location		Total ¹
	Bituminous Coal ¹	Subbituminous Coal	Lignite	Anthracite ¹	Underground	Surface ¹	East of Mississippi River ¹	West of Mississippi River ¹	
2004	561,484,652	465,368,953	83,539,698	1,705,567	367,557,255	744,541,615	484,795,840	627,303,030	1,112,098,870
2005	571,177,133	474,675,461	83,941,728	1,703,777	368,611,500	762,886,599	493,801,042	637,697,057	1,131,498,099
2006	561,631,018	515,332,638	84,248,267	1,537,736	359,021,815	803,727,844	490,797,869	671,951,790	1,162,749,659
2007	542,757,594	523,724,347	78,584,915	1,568,489	351,789,934	794,845,411	478,161,383	668,473,962	1,146,635,345
2008	555,267,210	539,145,383	75,683,638	1,712,438	357,079,371	814,729,298	493,342,095	678,466,574	1,171,808,669
2009	504,101,778	496,421,871	72,478,549	1,921,194	332,061,582	742,861,810	449,593,554	625,329,838	1,074,923,392
2010	489,532,051	514,829,513	78,230,494	1,776,090	337,154,614	747,213,534	446,196,808	638,171,340	1,084,368,148
2011	525,995,943	486,295,739	81,101,129	2,234,725	345,605,509	750,022,027	456,446,210	639,181,326	1,095,627,536
2012	485,363,301	449,799,910	78,927,292	2,367,915	342,386,637	674,071,781	423,475,610	592,982,808	1,016,458,418
2013	471,182,631	434,287,168	77,228,703	2,143,277	341,684,553	643,157,226	407,340,833	577,500,946	984,841,779
2014	479,990,818	438,623,717	79,487,116	1,947,107	354,703,991	645,344,767	409,520,451	590,528,307	1,000,048,758
2015	404,426,770	419,514,932	70,857,085	2,141,776	306,821,302	590,119,261	348,977,735	547,962,828	896,940,563
2016	325,147,260	330,242,617	71,309,951	1,664,670	252,106,254	476,258,244	281,627,159	446,737,339	728,364,498
2017	353,519,714	351,502,385	67,674,760	1,912,498	273,128,860	501,480,497	304,429,935	470,179,422	774,609,357
2018	357,226,100	340,007,405	57,037,552	1,896,038	275,361,378	480,805,717	310,662,897	445,504,198	756,167,095

¹ Beginning in 2001, includes a small amount of refuse recovery.

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

Web Page: For related information, see <http://www.eia.gov/coal/>.

Sources: 1949-1975 Bureau of Mines, Minerals Yearbook, 'Coal Bituminous and Lignite' and 'Coal Pennsylvania Anthracite' chapters. 1976 U.S. Energy Information Administration (EIA), Energy Data Reports, Coal Bituminous and Lignite in 1976 and Coal Pennsylvania Anthracite 1976. 1977 and 1978 EIA, Energy Data Reports, Bituminous Coal and Lignite Production and Mine Operations 1977. 1978, Coal Pennsylvania Anthracite 1977. 1978, and Coal Production, annual reports. 1979 and 1980 EIA, Energy Data Reports, Weekly Coal Report and Coal Production, annual reports. 1981-1988 EIA, Weekly Coal Production and Coal Production, annual reports. 1989-2000 EIA, Coal Industry Annual, annual reports. 2001-2010 EIA, Annual Coal Report, annual reports. 2011 EIA, Quarterly Coal Report October-December 2011 (April 2012), Table 1. EIA, 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 ES2. Coal Mining Productivity, 1949-2018(Short Tons per Employee Hour)¹

Year	Mining Method		East of the Mississippi River			West of the Mississippi River			Total ²
	Underground	Surface ²	Underground	Surface ²	Total ²	Underground	Surface ²	Total ²	
1949	0.68	1.92	NA	NA	NA	NA	NA	NA	0.72
1950	0.72	1.96	NA	NA	NA	NA	NA	NA	0.76
1951	0.76	2.00	NA	NA	NA	NA	NA	NA	0.80
1952	0.80	2.10	NA	NA	NA	NA	NA	NA	0.84
1953	0.88	2.22	NA	NA	NA	NA	NA	NA	0.93
1954	1.00	2.48	NA	NA	NA	NA	NA	NA	1.08
1955	1.04	2.65	NA	NA	NA	NA	NA	NA	1.14
1956	1.08	2.67	NA	NA	NA	NA	NA	NA	1.19
1957	1.11	2.73	NA	NA	NA	NA	NA	NA	1.23
1958	1.17	2.73	NA	NA	NA	NA	NA	NA	1.31
1959	1.26	2.87	NA	NA	NA	NA	NA	NA	1.43
1960	1.33	2.91	NA	NA	NA	NA	NA	NA	1.52
1961	1.43	3.16	NA	NA	NA	NA	NA	NA	1.64
1962	1.50	3.40	NA	NA	NA	NA	NA	NA	1.74
1963	1.60	3.66	NA	NA	NA	NA	NA	NA	1.87
1964	1.72	3.76	NA	NA	NA	NA	NA	NA	1.99
1965	1.75	4.10	NA	NA	NA	NA	NA	NA	2.09
1966	1.83	4.28	NA	NA	NA	NA	NA	NA	2.23
1967	1.88	4.48	NA	NA	NA	NA	NA	NA	2.31
1968	1.93	4.33	NA	NA	NA	NA	NA	NA	2.35
1969	1.95	4.50	NA	NA	NA	NA	NA	NA	2.41
1970	1.72	4.53	NA	NA	NA	NA	NA	NA	2.30
1971	1.50	4.49	NA	NA	NA	NA	NA	NA	2.19
1972	1.49	4.54	NA	NA	NA	NA	NA	NA	2.18
1973	1.46	4.58	NA	NA	NA	NA	NA	NA	2.16
1974	1.41	4.74	NA	NA	NA	NA	NA	NA	2.31
1975	1.19	3.26	NA	NA	NA	NA	NA	NA	1.81
1976	1.14	3.25	NA	NA	NA	NA	NA	NA	1.78
1977	1.09	3.16	NA	NA	NA	NA	NA	NA	1.80
1978	1.04	3.03	NA	NA	NA	NA	NA	NA	1.77
1979	1.13	3.08	NA	NA	NA	NA	NA	NA	1.81
1980	1.20	3.21	NA	NA	NA	NA	NA	NA	1.93
1981	1.29	3.42	NA	NA	NA	NA	NA	NA	2.10
1982	1.37	3.36	NA	NA	NA	NA	NA	NA	2.11
1983	1.61	3.81	NA	NA	NA	NA	NA	NA	2.50
1984	1.72	4.03	1.69	2.56	1.98	2.49	8.15	7.07	2.64
1985	1.78	4.24	1.75	2.52	2.00	2.45	8.61	7.40	2.74
1986	2.00	4.60	1.96	2.75	2.21	2.80	9.02	7.90	3.01
1987	2.20	4.98	2.16	2.97	2.42	3.39	9.86	8.73	3.30
1988	2.38	5.32	2.32	2.99	2.54	3.55	10.73	9.38	3.55
1989	2.46	5.61	2.39	3.13	2.63	3.92	11.86	10.21	3.70
1990	2.54	5.94	2.46	3.32	2.73	4.01	12.26	10.41	3.83
1991	2.69	6.38	2.59	3.49	2.86	4.53	12.36	10.79	4.09
1992	2.93	6.59	2.82	3.61	3.07	4.85	12.49	11.03	4.36
1993	2.95	7.23	2.81	3.74	3.11	5.18	13.94	12.14	4.70
1994	3.19	7.67	3.02	3.85	3.28	5.93	15.19	13.22	4.98
1995	3.39	8.48	3.19	4.03	3.45	6.32	16.23	14.18	5.38
1996	3.57	9.05	3.36	4.25	3.63	7.03	17.89	15.66	5.69
1997	3.83	9.46	3.63	4.49	3.89	6.82	18.63	16.04	6.04
1998	3.90	9.58	3.69	4.31	3.89	6.76	18.82	16.27	6.20
1999	3.99	10.39	3.74	4.48	3.97	7.45	19.57	17.18	6.61
2000	4.15	11.01	3.89	4.82	4.18	7.66	20.04	17.62	6.99
2001	4.02	10.58	3.71	4.53	3.98	8.39	20.63	18.32	6.82
2002	3.98	10.36	3.67	4.22	3.86	7.80	20.67	18.06	6.80
2003	4.04	10.75	3.68	4.18	3.85	8.33	21.42	18.67	6.95
2004	3.96	10.55	3.59	3.95	3.72	8.22	22.04	19.00	6.80
2005	3.62	10.03	3.28	3.75	3.44	7.48	21.98	18.50	6.36

Year	Mining Method		East of the Mississippi River			West of the Mississippi River			Total ²
	Underground	Surface ²	Underground	Surface ²	Total ²	Underground	Surface ²	Total ²	
2006	3.37	10.18	3.06	3.74	3.29	6.62	22.26	18.33	6.26
2007	3.34	10.24	3.03	3.74	3.27	6.52	22.35	18.23	6.27
2008	3.15	9.81	2.87	3.58	3.12	6.07	21.85	17.77	5.96
2009	2.99	9.22	2.74	3.33	2.94	5.51	19.85	16.15	5.61
2010	2.89	9.46	2.66	3.24	2.84	5.54	20.25	16.60	5.55
2011	2.72	8.97	2.49	3.04	2.67	5.25	19.59	15.93	5.19
2012	2.84	8.97	2.58	2.99	2.70	5.65	18.15	15.03	5.19
2013	3.07	9.69	2.80	3.16	2.89	6.09	18.35	15.39	5.53
2014	3.35	10.42	3.07	3.27	3.12	6.47	18.86	15.96	5.95
2015	3.45	10.94	3.24	3.24	3.24	5.74	18.20	15.51	6.28
2016	3.83	10.73	3.68	3.22	3.57	5.18	16.54	14.20	6.61
2017	3.77	10.92	3.55	3.16	3.46	6.10	17.91	15.49	6.55
2018	3.68	10.36	3.50	3.07	3.40	5.64	17.38	14.92	6.24

NA=Not available.

1 Data through 1973 for bituminous coal, subbituminous coal, and lignite, and data through 1978 for anthracite, were originally reported in short tons per employee day these data were converted to short tons per employee hour by assuming an eight-hour day. Through 1997, other data were calculated by dividing total production by total labor hours worked by all mine employees except office workers; beginning in 1998, the calculation also includes office workers.

2 Beginning in 2001, includes a small amount of refuse recovery.

3 Through 1978, data for anthracite are not available by mining method, but are included in 'Total'.

Note: Web Page: For related information, see <http://www.eia.gov/coal/>.

Sources: 1949-1975 Bureau of Mines, Minerals Yearbook, 'Coal Bituminous and Lignite' and 'Coal Pennsylvania Anthracite' chapters. 1976 U.S. Energy Information Administration (EIA), Energy Data Reports, Coal Bituminous and Lignite in 1976 and Coal Pennsylvania Anthracite 1976. 1977 and 1978 EIA, Energy Data Reports, Bituminous Coal and Lignite Production and Mine Operations 1977. 1978 and Coal Pennsylvania Anthracite 1977. 1978. 1979 EIA, Energy Data Report, Coal Production 1979. 1980-1988 EIA, Coal Production, annual reports. 1989-2000 EIA, Coal Industry Annual, annual reports. 2001-2010 EIA, Annual Coal Report, annual reports. 2011 EIA, 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 ES-3 Coke Overview, 1949-2018

(Thousand Short Tons)

Year	Production	Trade			Stock Change ²	Consumption ³
		Imports	Exports	Net Imports ¹		
1949	63,637	279	548	-269	176	63,192
1950	72,718	438	398	40	-659	73,417
1951	79,331	162	1,027	-865	372	78,094
1952	68,254	313	792	-479	419	67,356
1953	78,837	157	520	-363	778	77,696
1954	59,662	116	388	-272	269	59,121
1955	75,302	126	531	-405	-1,248	76,145
1956	74,483	131	656	-525	634	73,324
1957	75,951	118	822	-704	814	74,433
1958	53,604	122	393	-271	675	52,658
1959	55,864	123	460	-337	859	54,668
1960	57,229	126	353	-227	56	56,946
1961	51,711	127	445	-318	-696	52,089
1962	51,910	142	364	-222	-135	51,823
1963	54,278	153	451	-298	-1,022	55,002
1964	62,145	103	524	-421	-913	62,637
1965	66,854	90	834	-744	731	65,379
1966	67,402	96	1,102	-1,006	376	66,020
1967	64,580	92	710	-618	2,390	61,572
1968	63,653	94	792	-698	517	62,438
1969	64,757	173	1,629	-1,456	-2,865	66,166
1970	66,525	153	2,478	-2,325	993	63,207
1971	57,436	174	1,509	-1,335	-588	56,689
1972	60,507	185	1,232	-1,047	-586	60,046
1973	64,325	1,094	1,395	-301	-1,741	65,765
1974	61,581	3,540	1,278	2,262	-249	64,092
1975	57,207	1,819	1,273	546	4,061	53,692
1976	58,333	1,311	1,315	-4	1,495	56,834
1977	53,509	1,829	1,241	588	-47	54,144
1978	49,009	5,722	693	5,029	-2,910	56,948
1979	52,943	3,974	1,440	2,534	1,651	53,826
1980	46,132	659	2,071	-1,412	3,442	41,278
1981	42,786	527	1,170	-643	-1,903	44,046
1982	28,115	120	993	-873	1,466	25,776
1983	25,808	35	665	-630	-4,672	29,850
1984	30,399	582	1,045	-463	199	29,737
1985	28,438	578	1,122	-544	-1,163	29,057
1986	24,917	329	1,004	-675	-486	24,728
1987	26,304	922	574	348	-1,002	27,654
1988	28,945	2,688	1,093	1,595	519	30,021
1989	28,045	2,311	1,085	1,226	337	28,934
1990	27,617	765	572	193	-1	27,811
1991	24,046	1,183	792	391	189	24,248
1992	23,410	2,098	702	1,396	-224	25,030
1993	23,182	2,155	1,062	1,093	-422	24,697
1994	22,686	3,338	986	2,352	-525	25,563
1995	23,749	3,820	1,358	2,462	366	25,845
1996	23,075	2,542	1,622	920	21	23,974
1997	22,116	3,139	1,266	1,873	-29	24,018
1998	20,041	3,834	1,129	2,705	-362	23,108
1999	20,016	3,224	898	2,326	-80	22,422
2000	20,808	3,781	1,146	2,635	201	23,242
2001	18,949	2,526	1,346	1,180	-73	20,202
2002	16,778	3,242	792	2,450	-375	19,603
2003	17,173	2,759	722	2,037	-227	19,436
2004	16,909	6,873	1,319	5,555	-28	22,492
2005	16,719	3,529	1,747	1,782	263	18,239

Year	Production	Trade			Stock Change ²	Consumption ³
		Imports	Exports	Net Imports ¹		
2006	16,404	4,068	1,616	2,451	71	18,784
2007	16,201	2,460	1,444	1,016	-52	17,270
2008	15,646	3,603	1,959	1,644	284	17,006
2009	11,143	347	1,307	-960	-140	10,323
2010	15,022	1,214	1,463	-249	-74	14,847
2011	15,420	1,418	970	448	43	15,825
2012	15,172	1,135	974	161	-139	15,472
2013	15,320	138	840	-703	266	14,351
2014	15,154	77	946	-869	-75	14,359
2015	13,755	140	857	-717	-90	13,128
2016	11,855	229	1,000	-772	-128	11,212
2017	12,948	58	1,209	-1,151	-21	11,818
2018	13,806	117	1,151	-1,034	-204	12,976

(s)=Less than 0.05 million short tons.

1 Net imports equal imports minus exports. Minus sign indicates exports are greater than imports.

2 Producer and distributor stocks at end of year. A negative value indicates a decrease in stocks; a positive value indicates an increase.

3 'Consumption' is calculated as the sum of production and imports minus exports and stock change.

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

Web Page: For related information, see <http://www.eia.gov/coal/>.

Sources: 1949-1975 Bureau of Mines, Minerals Yearbook, 'Coke and Coal Chemicals' chapter. 1976-1980 U.S. Energy Information Administration (EIA), Energy Data Report, Coke and Coal Chemicals, annual reports. 1981-2004 EIA, Quarterly Coal Report (QCR) October-December, quarterly reports. 2005 forward EIA, QCR October-December 2011 (April 2012), Table ES-2.

Table ES-4 Nominal²Coal Prices, 1949- 2018

(dollars per short ton)

Year	Bituminous	Subbituminous	Lignite ¹	Anthracite	Total
1949	4.90	*	2.37	8.90	5.24
1950	4.86	*	2.41	9.34	5.19
1951	4.94	*	2.44	9.94	5.29
1952	4.92	*	2.39	9.58	5.27
1953	4.94	*	2.38	9.87	5.23
1954	4.54	*	2.43	8.76	4.81
1955	4.51	*	2.38	8.00	4.69
1956	4.83	*	2.39	8.33	5.01
1957	5.09	*	2.35	9.11	5.28
1958	4.87	*	2.35	9.14	5.07
1959	4.79	*	2.25	8.55	4.95
1960	4.71	*	2.29	8.01	4.83
1961	4.60	*	2.24	8.26	4.73
1962	4.50	*	2.23	7.99	4.62
1963	4.40	*	2.17	8.64	4.55
1964	4.46	*	2.14	8.93	4.60
1965	4.45	*	2.13	8.51	4.55
1966	4.56	*	1.98	8.08	4.62
1967	4.64	*	1.92	8.15	4.69
1968	4.70	*	1.79	8.78	4.75
1969	5.02	*	1.86	9.91	5.08
1970	6.30	*	1.86	11.03	6.34
1971	7.13	*	1.93	12.08	7.15
1972	7.78	*	2.04	12.40	7.72
1973	8.71	*	2.09	13.65	8.59
1974	16.01	*	2.19	22.19	15.82
1975	19.79	*	3.17	32.26	19.35
1976	20.11	*	3.74	33.92	19.56
1977	20.59	*	4.03	34.86	19.95
1978	22.64	*	5.68	35.25	21.86
1979	27.31	9.55	6.48	41.06	23.75
1980	29.17	11.08	7.60	42.51	24.65
1981	31.51	12.18	8.85	44.28	26.40
1982	32.15	13.37	9.79	49.85	27.25
1983	31.11	13.03	9.91	52.29	25.98
1984	30.63	12.41	10.45	48.22	25.61
1985	30.78	12.57	10.68	45.80	25.20
1986	28.84	12.26	10.64	44.12	23.79
1987	28.19	11.32	10.85	43.65	23.07
1988	27.66	10.45	10.06	44.16	22.07
1989	27.40	10.16	9.91	42.93	21.82
1990	27.43	9.70	10.13	39.40	21.76
1991	27.49	9.68	10.89	36.34	21.49
1992	26.78	9.68	10.81	34.24	21.03
1993	26.15	9.33	11.11	32.94	19.85
1994	25.68	8.37	10.77	36.07	19.41
1995	25.56	8.10	10.83	39.78	18.83
1996	25.17	7.87	10.92	36.78	18.50
1997	24.64	7.42	10.91	35.12	18.14
1998	24.87	6.96	11.08	42.91	17.67
1999	23.92	6.87	11.04	35.13	16.63
2000	24.15	7.12	11.41	40.90	16.78
2001	25.67	7.00	13.29	47.67	17.58
2002	26.54	7.64	12.52	47.78	17.89
2003	26.77	8.11	12.20	49.87	17.92
2004	30.75	8.51	12.59	43.52	20.07
2005	36.70	8.93	13.26	47.70	23.34
2006	39.61	10.12	13.83	51.68	24.63

Year	Bituminous	Subbituminous	Lignite ¹	Anthracite	Total
2007	41.24	11.21	14.99	58.92	25.82
2008	51.39	12.31	16.50	60.76	31.25
2009	55.44	13.35	17.26	57.10	33.24
2010	60.88	14.11	18.76	59.51	35.61
2011	68.50	14.07	18.77	75.70	41.01
2012	66.04	15.34	19.60	80.21	39.95
2013	60.61	14.86	19.96	87.82	37.24
2014	55.99	14.72	19.44	90.98	34.83
2015	51.55	14.63	22.09	97.91	31.81
2016	48.24	14.83	19.98	97.61	30.57
2017	55.60	14.29	19.51	93.17	33.72
2018	59.43	13.64	20.21	99.97	35.99

* = Through 1978, subbituminous coal is included in 'Bituminous Coal'.

1 Because of withholding to protect company confidentiality, lignite prices exclude Texas for 1955- 1977 and Montana for 1974 1978. As a result, lignite prices for 1974-1977 are for North Dakota only.

2 See 'Nominal Dollars' in Glossary.

Notes: Prices are free-on-board (F.O.B.) rail/barge prices, which are the F.O.B. prices of coal at the point of first sale, excluding freight or shipping and insurance costs. Prices are for open market and captive coal sales; see 'Captive Coal,' 'Free on Board (F.O.B.),' and 'Open Market Coal' in Glossary.

Web Page: For related information, see <http://www.eia.gov/coal/>.

Sources: 1949-1975 Bureau of Mines (BOM), Minerals Yearbook. 1976 U.S. Energy Information Administration (EIA), Energy Data Report, Coal Bituminous and Lignite in 1976, and BOM, Minerals Yearbook. 1977 and 1978 EIA, Energy Data Reports, Bituminous Coal and Lignite Production and Mine Operations, and Coal Pennsylvania Anthracite. 1979 EIA, Coal Production, and Energy Data Report, Coal Pennsylvania Anthracite. 1980-1992 EIA, Coal Production, annual reports. 1993-2000 EIA, Coal Industry Annual, annual reports and unpublished revisions. 2001-2010 EIA, Annual Coal Report, annual reports. 2011 EIA, 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 ES5. Average Price of U.S. Coal Exports and Imports, 2001-2018

(dollars per short ton)

Year	Exports			Imports		
	Metallurgical Coal	Non-Metallurgical	Coke	Metallurgical Coal	Non-Metallurgical	Coke
2001	41.63	31.88	81.07	45.21	32.53	75.48
2002	45.41	34.51	80.56	44.90	33.93	75.35
2003	44.55	26.94	96.34	47.83	30.24	86.52
2004	63.63	42.03	81.42	54.27	36.06	179.24
2005	81.56	47.64	84.15	101.31	43.35	221.13
2006	90.81	46.25	79.08	109.36	46.15	156.44
2007	88.99	47.90	90.76	96.05	45.31	194.49
2008	134.62	57.35	107.42	117.18	56.75	465.15
2009	117.73	73.63	103.46	115.93	61.40	268.37
2010	145.44	65.54	167.25	180.42	62.47	331.70
2011	185.99	80.42	216.92	263.48	81.11	389.50
2012	152.23	76.16	214.58	186.63	84.27	338.16
2013	115.50	69.23	220.88	148.59	75.41	212.10
2014	99.49	67.05	246.53	105.11	76.83	117.18
2015	89.31	56.44	230.04	96.50	67.16	146.42
2016	84.48	50.76	216.88	73.98	64.86	143.27
2017	134.55	58.29	231.22	212.16	66.08	176.38
2018	138.98	64.60	261.10	200.18	66.94	264.46

Notes: Exports: Average price is based on the free alongside ship (f.a.s.) value. Imports: Average price is based on the customs import value. Customs import value is the price paid for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States. Total may not equal sum of components because of independent rounding.

Sources: Exports: U.S. Department of Commerce, Bureau of the Census, 'Monthly Report EM 545;' and Imports: U.S. Department of Commerce, Bureau of the Census, 'Monthly Report IM 145.'

Coal Production

Table 1. Coal Production and Number of Mines by State and Mine Type, 2018 and 2017

(thousand short tons)

Coal-Producing State and Region ¹	2018		2017		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	30	14,783	30	12,861	-	15.0
Underground	7	12,199	7	10,491	-	16.3
Surface	23	2,584	23	2,370	-	9.0
Alaska	1	902	1	959	-	-6.0
Surface	1	902	1	959	-	-6.0
Arizona	1	6,550	1	6,221	-	5.3
Surface	1	6,550	1	6,221	-	5.3
Arkansas	-	-	3	43	-	-
Underground	-	-	1	24	-	-
Surface	-	-	2	19	-	-
Colorado	6	14,026	7	15,047	-14.3	-6.8
Underground	4	10,414	4	11,118	-	-6.3
Surface	2	3,611	3	3,929	-33.3	-8.1
Illinois	18	49,563	18	48,204	-	2.8
Underground	9	46,072	10	44,906	-10.0	2.6
Surface	9	3,491	8	3,298	12.5	5.9
Indiana	18	34,598	18	31,472	-	9.9
Underground	6	17,356	4	14,396	50.0	20.6
Surface	12	17,242	14	17,076	-14.3	1.0
Kentucky Total	145	39,567	151	41,784	-4.0	-5.3
Underground	60	30,964	58	31,512	3.5	-1.7
Surface	85	8,603	93	10,273	-8.6	-16.3
Kentucky (East)	132	16,908	138	18,179	-4.4	-7.0
Underground	53	8,976	51	9,959	3.9	-9.9
Surface	79	7,932	87	8,220	-9.2	-3.5
Kentucky (West)	13	22,659	13	23,606	-	-4.0
Underground	7	21,988	7	21,553	-	2.0
Surface	6	672	6	2,053	-	-67.3
Louisiana	2	1,483	2	2,079	-	-28.6
Surface	2	1,483	2	2,079	-	-28.6
Maryland	14	1,298	14	1,808	-	-28.2
Underground	2	436	2	744	-	-41.5
Surface	12	862	12	1,064	-	-19.0
Mississippi	1	2,940	2	2,604	-50.0	12.9
Surface	1	2,940	2	2,604	-50.0	12.9
Missouri	1	259	1	244	-	6.0
Surface	1	259	1	244	-	6.0
Montana	6	38,610	6	35,232	-	9.6
Underground	1	7,566	1	5,884	-	28.6
Surface	5	31,044	5	29,348	-	5.8
New Mexico	3	10,792	3	13,844	-	-22.0
Underground	1	1,848	1	5,327	-	-65.3
Surface	2	8,944	2	8,516	-	5.0
North Dakota	5	29,643	5	28,788	-	3.0
Surface	5	29,643	5	28,788	-	3.0
Ohio	16	8,993	18	9,489	-11.1	-5.2
Underground	5	6,518	7	6,801	-28.6	-4.2
Surface	11	2,475	11	2,688	-	-8.0
Oklahoma	5	610	5	561	-	8.7
Underground	1	206	1	319	-	-35.4
Surface	4	404	4	242	-	66.8
Pennsylvania Total	151	49,883	153	49,085	-1.3	1.6
Underground	39	44,634	39	43,589	-	2.4
Surface	112	5,248	114	5,497	-1.8	-4.5
Pennsylvania (Anthracite)	50	1,811	57	1,867	-12.3	-3.0
Underground	9	72	10	79	-10.0	-8.8

Coal-Producing State and Region¹	2018		2017		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Surface	41	1,739	47	1,788	-12.8	-2.7
Pennsylvania (Bituminous)	101	48,072	96	47,219	5.2	1.8
Underground	30	44,563	29	43,510	3.5	2.4
Surface	71	3,509	67	3,709	6.0	-5.4
Tennessee	4	232	6	431	-33.3	-46.2
Underground	1	174	3	329	-66.7	-47.2
Surface	3	58	3	102	-	-42.8
Texas	9	24,823	10	36,382	-10.0	-31.8
Surface	9	24,823	10	36,382	-10.0	-31.8
Utah	8	13,619	8	14,326	-	-4.9
Underground	7	13,125	7	13,602	-	-3.5
Surface	1	494	1	724	-	-31.8
Virginia	51	12,715	52	13,202	-1.9	-3.7
Underground	23	9,432	25	9,820	-8.0	-4.0
Surface	28	3,283	27	3,382	3.7	-2.9
West Virginia Total	155	95,365	140	92,791	10.7	2.8
Underground	69	72,206	66	72,552	4.6	-0.5
Surface	86	23,159	74	20,239	16.2	14.4
West Virginia (Northern)	15	46,115	15	46,754	-	-1.4
Underground	11	45,482	11	46,608	-	-2.4
Surface	4	633	4	147	-	332.1
West Virginia (Southern)	140	49,250	125	46,037	12.0	7.0
Underground	58	26,724	55	25,944	5.5	3.0
Surface	82	22,526	70	20,092	17.1	12.1
Wyoming	16	304,188	17	316,454	-5.9	-3.9
Underground	1	2,210	1	1,716	-	28.8
Surface	15	301,977	16	314,739	-6.3	-4.1
Appalachia Total	553	200,177	551	197,846	0.4	1.2
Underground	199	154,575	200	154,285	-0.5	0.2
Surface	354	45,601	351	43,561	0.9	4.7
Appalachia Central	327	79,105	321	77,848	1.9	1.6
Underground	135	45,306	134	46,053	0.8	-1.6
Surface	192	33,799	187	31,796	2.7	6.3
Appalachia Northern	196	106,289	200	107,137	-2.0	-0.8
Underground	57	97,070	59	97,741	-3.4	-0.7
Surface	139	9,219	141	9,396	-1.4	-1.9
Appalachia Southern	30	14,783	30	12,861	-	15.0
Underground	7	12,199	7	10,491	-	16.3
Surface	23	2,584	23	2,370	-	9.0
Interior Region Total	67	136,935	72	145,194	-6.9	-5.7
Underground	23	85,622	23	81,198	-	5.5
Surface	44	51,313	49	63,997	-10.2	-19.8
Illinois Basin	49	106,821	49	103,282	-	3.4
Underground	22	85,416	21	80,855	4.8	5.6
Surface	27	21,405	28	22,427	-3.6	-4.6
Other Interior	18	30,114	23	41,913	-21.7	-28.2
Underground	1	206	2	343	-50.0	-39.9
Surface	17	29,908	21	41,570	-19.1	-28.1
Western Region Total	46	418,329	48	430,870	-4.2	-2.9
Underground	14	35,164	14	37,646	-	-6.6
Surface	32	383,165	34	393,224	-5.9	-2.6
Powder River Basin	16	324,211	16	334,366	-	-3.0
Surface	16	324,211	16	334,366	-	-3.0
Uinta Basin	12	26,535	12	28,068	-	-5.5
Underground	10	22,923	10	24,173	-	-5.2
Surface	2	3,611	2	3,896	-	-7.3
Other Western	18	67,583	20	68,436	-10.0	-1.3
Underground	4	12,241	4	13,474	-	-9.2
Surface	14	55,342	16	54,962	-12.5	0.7
East of Mississippi River	603	309,937	602	303,731	0.2	2.0
West of Mississippi River	63	445,504	69	470,179	-8.7	-5.3

Coal-Producing State and Region ¹	2018		2017		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
U.S. Subtotal	666	755,442	671	773,911	-0.8	-2.4
Refuse Recovery	13	726	9	699	44.4	3.8
U.S. Total	679	756,167	680	774,609	-0.2	-2.4

- = No data reported.

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, 2018

(thousand short tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	7	12,199	23	2,584	30	14,783
Bibb	-	-	1	113	1	113
Jefferson	3	7,287	7	1,241	10	8,528
Marion	-	-	1	16	1	16
Shelby	1	11	1	127	2	138
Tuscaloosa	1	2,138	2	188	3	2,326
Walker	2	2,764	11	899	13	3,662
Alaska	-	-	1	902	1	902
Denali	-	-	1	902	1	902
Arizona	-	-	1	6,550	1	6,550
Navajo	-	-	1	6,550	1	6,550
Colorado	4	10,414	2	3,611	6	14,026
Gunnison	1	4,675	-	-	1	4,675
La Plata	1	616	-	-	1	616
Moffat	-	-	2	3,611	2	3,611
Rio Blanco	1	2,074	-	-	1	2,074
Routt	1	3,050	-	-	1	3,050
Illinois	9	46,072	9	3,491	18	49,563
Franklin	1	14,461	-	-	1	14,461
Gallatin	-	-	1	408	1	408
Hamilton	1	6,299	-	-	1	6,299
Macoupin	1	1,947	-	-	1	1,947
Perry	1	3,945	3	481	4	4,426
Randolph	1	3,088	2	488	3	3,576
Saline	1	1,331	2	1,075	3	2,406
Sangamon	1	1,782	-	-	1	1,782
Wabash	-	-	1	1,039	1	1,039
Washington	1	6,332	-	-	1	6,332
Williamson	1	6,888	-	-	1	6,888
Indiana	6	17,356	12	17,242	18	34,598
Clay	-	-	1	266	1	266
Daviess	-	-	2	2,189	2	2,189
Dubois	-	-	2	1,543	2	1,543
Gibson	3	10,013	1	1,973	4	11,986
Knox	2	6,939	-	-	2	6,939
Sullivan	1	405	1	6,886	2	7,290
Warrick	-	-	5	4,386	5	4,386
Kentucky	60	30,964	85	8,603	145	39,567
Bell	3	541	6	254	9	795
Breathitt	-	-	1	39	1	39
Daviess	-	-	4	264	4	264
Floyd	7	838	-	-	7	838
Harlan	10	1,907	6	1,191	16	3,098
Hopkins	1	3,528	-	-	1	3,528
Johnson	-	-	4	359	4	359
Knott	2	163	3	331	5	493
Knox	2	94	3	77	5	171
Laurel	-	-	1	1	1	1
Lawrence	-	-	4	90	4	90
Leslie	2	625	4	639	6	1,264
Letcher	1	266	2	321	3	588
Magoffin	-	-	3	503	3	503
Martin	-	-	3	152	3	152
McLean	1	1,271	-	-	1	1,271
Morgan	-	-	1	104	1	104
Muhlenberg	2	2,580	1	49	3	2,629

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Ohio	1	2,379	1	359	2	2,738
Perry	4	1,602	8	2,037	12	3,638
Pike	21	2,893	18	1,129	39	4,022
Union	1	9,753	-	-	1	9,753
Webster	1	2,476	-	-	1	2,476
Whitley	1	48	12	706	13	753
Louisiana	-	-	2	1,483	2	1,483
De Soto	-	-	1	1,276	1	1,276
Natchitoches	-	-	1	208	1	208
Maryland	2	436	12	862	14	1,298
Allegany	1	49	7	786	8	835
Garrett	1	387	5	76	6	463
Mississippi	-	-	1	2,940	1	2,940
Choctaw	-	-	1	2,940	1	2,940
Missouri	-	-	1	259	1	259
Bates	-	-	1	259	1	259
Montana	1	7,566	5	31,044	6	38,610
Big Horn	-	-	3	22,356	3	22,356
Musselshell	1	7,566	-	-	1	7,566
Richland	-	-	1	295	1	295
Rosebud	-	-	1	8,393	1	8,393
New Mexico	1	1,848	2	8,944	3	10,792
Mckinley	-	-	1	5,546	1	5,546
San Juan	1	1,848	1	3,398	2	5,246
North Dakota	-	-	5	29,643	5	29,643
McLean	-	-	1	8,231	1	8,231
Mercer	-	-	3	17,155	3	17,155
Oliver	-	-	1	4,257	1	4,257
Ohio	5	6,518	11	2,475	16	8,993
Belmont	-	-	1	447	1	447
Harrison	2	672	2	1,173	4	1,845
Jackson	-	-	1	4	1	4
Monroe	1	4,786	-	-	1	4,786
Noble	-	-	1	401	1	401
Perry	1	897	1	175	2	1,072
Stark	-	-	1	65	1	65
Tuscarawas	1	163	1	4	2	167
Vinton	-	-	3	206	3	206
Oklahoma	1	206	4	404	5	610
Craig	-	-	1	226	1	226
Latimer	-	-	1	69	1	69
Le Flore	1	206	1	109	2	315
Okmulgee	-	-	1	-	1	-
Pennsylvania	39	44,634	112	5,248	151	49,883
Allegheny	-	-	1	4	1	4
Armstrong	5	646	1	22	6	667
Bedford	-	-	1	118	1	118
Butler	-	-	1	225	1	225
Cambria	2	724	5	330	7	1,054
Carbon	-	-	1	30	1	30
Clarion	-	-	2	45	2	45
Clearfield	2	196	22	935	24	1,130
Columbia	-	-	1	52	1	52
Dauphin	1	13	-	-	1	13
Fayette	-	-	3	1	3	1
Greene	5	28,749	-	-	5	28,749
Indiana	7	2,148	8	43	15	2,191
Jefferson	1	293	7	217	8	510
Lackawanna	-	-	1	3	1	3
Luzerne	-	-	7	267	7	267
Lycoming	-	-	1	172	1	172

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Mercer	-	-	1	64	1	64
Northumberland	2	14	9	240	11	254
Schuylkill	6	44	22	1,147	28	1,192
Somerset	7	1,930	15	1,130	22	3,060
Washington	1	9,876	-	-	1	9,876
Westmoreland	-	-	3	204	3	204
Tennessee	1	174	3	58	4	232
Campbell	-	-	1	5	1	5
Claiborne	1	174	2	53	3	227
Texas	-	-	9	24,823	9	24,823
Atascosa	-	-	1	2,977	1	2,977
Harrison	-	-	2	3,687	2	3,687
Lee	-	-	1	94	1	94
Limestone	-	-	1	8,683	1	8,683
Maverick	-	-	1	2,146	1	2,146
Panola	-	-	1	2,471	1	2,471
Robertson	-	-	1	2,030	1	2,030
Rusk	-	-	1	2,734	1	2,734
Utah	7	13,125	1	494	8	13,619
Carbon	3	6,783	-	-	3	6,783
Emery	3	1,437	-	-	3	1,437
Kane	-	-	1	494	1	494
Sevier	1	4,904	-	-	1	4,904
Virginia	23	9,432	28	3,283	51	12,715
Buchanan	11	6,310	7	1,024	18	7,334
Dickenson	6	2,229	5	1,112	11	3,341
Russell	-	-	3	208	3	208
Tazewell	-	-	4	215	4	215
Wise	6	894	9	724	15	1,618
West Virginia	69	72,206	86	23,159	155	95,365
Barbour	1	1,170	-	-	1	1,170
Boone	4	2,269	9	2,177	13	4,445
Fayette	3	1,082	9	2,281	12	3,363
Greenbrier	1	227	9	878	10	1,105
Kanawha	5	4,493	3	1,512	8	6,005
Logan	11	6,999	11	5,216	22	12,215
Marion	2	13,348	1	156	3	13,505
Marshall	2	17,943	-	-	2	17,943
Mcdowell	16	1,692	15	1,998	31	3,691
Mercer	-	-	1	61	1	61
Mingo	4	2,460	7	3,144	11	5,604
Monongalia	1	127	2	47	3	174
Nicholas	1	550	3	171	4	721
Ohio	1	6,807	-	-	1	6,807
Raleigh	7	4,113	7	2,433	14	6,546
Randolph	2	361	-	-	2	361
Taylor	1	3,445	-	-	1	3,445
Tucker	1	2,280	-	-	1	2,280
Wayne	-	-	1	6	1	6
Webster	-	-	1	430	1	430
Wyoming	6	2,839	7	2,649	13	5,488
Wyoming	1	2,210	15	301,977	16	304,188
Campbell	-	-	11	270,307	11	270,307
Converse	-	-	1	23,156	1	23,156
Lincoln	-	-	1	4,017	1	4,017
Sweetwater	1	2,210	2	4,498	3	6,708
U.S. Subtotal	236	275,361	430	480,080	666	755,442
Refuse Recovery	-	-	-	-	13	726
U.S. Total	236	275,361	430	480,080	679	756,167

- = No data reported.

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

Table 3. Underground Coal Production by State and Mining Method, 2018

(thousand short tons)

Coal-Producing State and Region ¹	Continuous	Conventional and Other ²	Longwall	Total
Alabama	2,378	11	9,811	12,199
Colorado	1,647	-	8,767	10,414
Illinois	20,209	974	24,890	46,072
Indiana	17,356	-	-	17,356
Kentucky Total	30,625	338	-	30,964
Kentucky (East)	8,638	338	-	8,976
Kentucky (West)	21,988	-	-	21,988
Maryland	436	-	-	436
Montana	530	-	7,037	7,566
New Mexico	92	-	1,756	1,848
Ohio	2,211	-	4,307	6,518
Oklahoma	-	-	206	206
Pennsylvania Total	8,980	92	35,563	44,634
Pennsylvania (Anthracite)	22	49	-	72
Pennsylvania (Bituminous)	8,958	42	35,563	44,563
Tennessee	174	-	-	174
Utah	3,744	-	9,381	13,125
Virginia	4,236	7	5,188	9,432
West Virginia Total	29,479	137	42,590	72,206
West Virginia (Northern)	6,269	7	39,206	45,482
West Virginia (Southern)	23,210	130	3,384	26,724
Wyoming	265	-	1,945	2,210
Appalachia Total	56,532	585	97,459	154,575
Appalachia Central	36,258	475	8,573	45,306
Appalachia Northern	17,896	98	79,075	97,070
Appalachia Southern	2,378	11	9,811	12,199
Interior Region Total	59,552	974	25,096	85,622
Illinois Basin	59,552	974	24,890	85,416
Other Interior	-	-	206	206
Western Region Total	6,278	-	28,886	35,164
Uinta Basin	4,775	-	18,149	22,923
Other Western	1,503	-	10,738	12,241
East of Mississippi River	116,084	1,558	122,348	239,991
West of Mississippi River	6,278	-	29,092	35,370
U.S. Total	122,362	1,558	151,441	275,361

- = No data reported.

¹ For a definition of coal producing regions, see the Glossary.² Mines that: 1. produce coal using shortwall, scoop loading, hand loading, or other methods, or 2. produce less than 25,000 short tons, which are not required to provide data.

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 3.1 Surface Coal Production by State and Mining Method, 2018

(thousand short tons)

Coal-Producing State and Region ¹	Contour Strip	Area	Open Pit	Mountaintop Mining	Other ²	Total
Alabama	1,862	43	353	-	326	2,584
Alaska	451	-	451	-	-	902
Arizona	6,550	-	-	-	-	6,550
Colorado	2,140	-	1,471	-	-	3,611
Illinois	-	3,258	-	-	233	3,491
Indiana	-	1,118	15,444	-	681	17,242
Kentucky Total	3,816	2,295	239	97	2,156	8,603
Kentucky (East)	3,768	1,936	-	97	2,131	7,932
Kentucky (West)	49	359	239	-	25	672
Louisiana	-	1,483	-	-	-	1,483
Maryland	363	401	60	-	38	862
Mississippi	2,940	-	-	-	-	2,940
Missouri	259	-	-	-	-	259
Montana	17,596	8,688	4,760	-	-	31,044
New Mexico	5,546	-	3,398	-	-	8,944
North Dakota	25,387	-	4,257	-	-	29,643
Ohio	447	1,565	107	-	356	2,475
Oklahoma	295	-	-	-	109	404
Pennsylvania Total	2,129	-	2,644	-	476	5,248
Pennsylvania (Anthracite)	973	-	675	-	91	1,739
Pennsylvania (Bituminous)	1,156	-	1,969	-	384	3,509
Tennessee	-	-	-	-	58	58
Texas	5,648	13,982	5,192	-	-	24,823
Utah	-	-	494	-	-	494
Virginia	1,416	586	-	-	1,282	3,283
West Virginia Total	8,279	8,214	-	2,180	4,486	23,159
West Virginia (Northern)	94	430	-	-	109	633
West Virginia (Southern)	8,185	7,784	-	2,180	4,377	22,526
Wyoming	136,698	2,500	162,779	-	-	301,977
Appalachia Total	18,263	12,745	3,164	2,277	9,152	45,601
Appalachia Central	13,369	10,305	-	2,277	7,848	33,799
Appalachia Northern	3,032	2,396	2,811	-	979	9,219
Appalachia Southern	1,862	43	353	-	326	2,584
Interior Region Total	9,190	20,200	20,875	-	1,048	51,313
Illinois Basin	49	4,735	15,682	-	939	21,405
Other Interior	9,141	15,465	5,192	-	109	29,908
Western Region Total	194,369	11,187	177,609	-	-	383,165
Powder River Basin	152,296	8,393	163,523	-	-	324,211
Uinta Basin	2,140	-	1,471	-	-	3,611
Other Western	39,932	2,795	12,616	-	-	55,342
East of Mississippi River	21,251	17,480	18,846	2,277	10,091	69,946
West of Mississippi River	200,570	26,653	182,802	-	109	410,134
U.S. Total	221,822	44,133	201,648	2,277	10,201	480,080

- = No data reported.

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

² Mines that: 1. produce coal using auger, highwall mine, or punch, or 2. produce less than 25,000 short tons, which are not required to provide data.

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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, 2018

(thousand short tons)

Coal Thickness (inches)	Underground	Surface	Total
Under 7	-	15	15
7 - Under 13	-	1,392	1,392
13 - Under 19	582	6,715	7,297
19 - Under 25	856	6,435	7,291
25 - Under 31	1,634	9,202	10,837
31 - Under 37	9,742	9,232	18,974
37 - Under 43	12,537	8,922	21,459
43 - Under 49	9,246	15,571	24,817
49 - Under 55	17,445	6,451	23,896
55 - Under 61	26,868	3,856	30,724
61 - Under 67	12,827	7,347	20,174
67 - Under 73	45,134	6,292	51,426
73 - Under 79	48,568	2,737	51,305
79 - Under 85	26,160	1,257	27,418
85 - Under 91	27,492	5,431	32,923
91 - Under 97	112	1,351	1,463
103 - Under 109	12,896	2,158	15,054
109 - Under 115	5,223	9,111	14,334
115 - 120	13,665	8,725	22,390
Over 120	4,058	366,723	370,782
Unknown *	315	1,157	2,198
U.S. Total	275,361	480,080	756,167

- = No data reported.

* Includes mines with production of less than 25,000 short tons, which are not required to provide data, and refuse recovery.

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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, 2018

Coalbed ID Number ¹ Coalbed Name	Production (thousand short tons)			Thickness (inches)		
	Underground	Surface	Total	Average ²	Low	High
1699 Wyodak	-	283,958	283,958	747	160	862
0212 Pittsburgh	54,854	276	55,130	80	36	108
0484 Herrin (Illinois No. 6)	51,720	1,240	52,959	73	45	79
0489 No. 9	32,244	8,051	40,295	66	24	83
0036 Pittsburgh	26,450	1,353	27,802	75	18	84
1569 Beulah-Zap	-	17,155	17,155	194	114	210
1696 Anderson-Dietz 1-Dietz 2	-	16,862	16,862	876	500	960
1570 Hagel	-	12,148	12,148	122	112	144
0280 Blue Creek	11,413	321	11,734	55	12	79
1808 Rosebud	-	10,460	10,460	258	186	276
0344 Pocahontas No. 3	9,084	-	9,084	58	34	66
1701 Smith	-	7,984	7,984	879	879	879
0204 Mammoth	7,566	-	7,566	108	108	108
0084 Lower Kittanning	6,080	1,478	7,558	76	12	120
0111 Coalburg	360	6,733	7,093	78	14	126
0151 Upper Elkhorn No. 3	4,650	1,844	6,494	46	14	115
0176 Eagle	5,257	1,004	6,260	48	23	114
0071 Upper Freeport	5,378	364	5,741	67	11	103
0168 Lower Elkhorn	4,103	1,499	5,603	46	18	96
1003 Menefee Formation	616	4,548	5,164	112	72	117
1847 Upper Hiawatha	4,904	-	4,904	120	120	120
1756 E	4,675	-	4,675	120	120	120
0157 Alma	3,415	1,066	4,481	45	7	60
0103 Stockton-Lewiston	2,478	1,919	4,398	69	11	105
1495 Deadman	2,210	1,998	4,208	127	108	144
Major Coalbeds Total	237,457	382,261	619,717	422	7	960
Other Coalbeds	37,590	96,662	134,252	87	4	540
Unknown *	315	1,157	2,198	NA	NA	NA
U.S. Total	275,361	480,080	756,167	361	-	960

- = No data reported.

NA = Not Available.

* Includes mines with production of less than 25,000 short tons, which are not required to provide data, and refuse recovery.

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.

Notes: This table lists the top 25 producing coalbeds. The category 'Other Coalbeds' includes all coalbeds from which less than 4.0 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 4.0 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 Wyoming (coalbed codes 1495, 1699, and 1701); West Virginia (coalbed codes 212, 84, 111, 168, 103, 71); Illinois (coalbed code 484); Indiana (coalbed code 489); Pennsylvania (coalbed code 36); North Dakota (coalbed codes 1569, 1570); Montana (coalbed codes 1696, 1808, 204); Virginia (coalbed code 344); Alabama (coalbed code 280); Utah (coalbed code 1847); New Mexico (coalbed code 1003); Colorado (coalbed code 1756); West Virginia (coalbed codes 157, 176); Kentucky (coalbed code 151). In some other States where these are major producing beds, the following alternative coalbed names are also used: coalbed code 484 (Kentucky, Kentucky No 11), coalbed code 489 (Indiana, Indiana No 5), coalbed code 36 (Pennsylvania/Ohio, Pittsburgh No. 8), coalbed code 111 (Kentucky, Hazard No 6).

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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, 2018

(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	30	14,783	-	-	-	-	-	-	30	14,783
Alaska	-	-	1	902	-	-	-	-	1	902
Arizona	1	6,550	-	-	-	-	-	-	1	6,550
Colorado	4	10,414	2	3,611	-	-	-	-	6	14,026
Illinois	18	49,563	-	-	-	-	-	-	18	49,563
Indiana	18	34,598	-	-	-	-	-	-	18	34,598
Kentucky Total	145	39,567	-	-	-	-	-	-	145	39,567
Kentucky (East)	132	16,908	-	-	-	-	-	-	132	16,908
Kentucky (West)	13	22,659	-	-	-	-	-	-	13	22,659
Louisiana	-	-	-	-	2	1,483	-	-	2	1,483
Maryland	14	1,298	-	-	-	-	-	-	14	1,298
Mississippi	-	-	-	-	1	2,940	-	-	1	2,940
Missouri	1	259	-	-	-	-	-	-	1	259
Montana	1	7,566	4	30,749	1	295	-	-	6	38,610
New Mexico *	3	7,734	1	3,058	-	-	-	-	3	10,792
North Dakota	-	-	-	-	5	29,643	-	-	5	29,643
Ohio	16	8,993	-	-	-	-	-	-	16	8,993
Oklahoma	5	610	-	-	-	-	-	-	5	610
Pennsylvania Total	101	48,072	-	-	-	-	50	1,811	151	49,883
Pennsylvania (Anthracite)	-	-	-	-	-	-	50	1,811	50	1,811
Pennsylvania (Bituminous)	101	48,072	-	-	-	-	-	-	101	48,072
Tennessee	4	232	-	-	-	-	-	-	4	232
Texas	1	2,146	-	-	8	22,676	-	-	9	24,823
Utah	8	13,619	-	-	-	-	-	-	8	13,619
Virginia	51	12,715	-	-	-	-	-	-	51	12,715
West Virginia Total	155	95,365	-	-	-	-	-	-	155	95,365
West Virginia (Northern)	15	46,115	-	-	-	-	-	-	15	46,115
West Virginia (Southern)	140	49,250	-	-	-	-	-	-	140	49,250
Wyoming	1	2,500	15	301,688	-	-	-	-	16	304,188
Appalachia Total	503	198,366	-	-	-	-	50	1,811	553	200,177
Appalachia Central	327	79,105	-	-	-	-	-	-	327	79,105
Appalachia Northern	146	104,478	-	-	-	-	50	1,811	196	106,289
Appalachia Southern	30	14,783	-	-	-	-	-	-	30	14,783
Interior Region Total	56	109,836	-	-	11	27,099	-	-	67	136,935
Illinois Basin	49	106,821	-	-	-	-	-	-	49	106,821
Other Interior	7	3,015	-	-	11	27,099	-	-	18	30,114
Western Region Total	18	48,384	23	340,007	6	29,938	-	-	46	418,329
Powder River Basin	-	-	16	324,211	-	-	-	-	16	324,211
Uinta Basin	10	22,923	2	3,611	-	-	-	-	12	26,535
Other Western	8	25,460	5	12,185	6	29,938	-	-	18	67,583
East of Mississippi River	552	305,187	-	-	1	2,940	50	1,811	603	309,937
West of Mississippi River	25	51,399	23	340,007	16	54,098	-	-	63	445,504
U.S. Subtotal	577	356,586	23	340,007	17	57,038	50	1,811	666	755,442
Refuse Recovery	8	640	-	-	-	-	5	85	13	726
U.S. Total	585	357,226	23	340,007	17	57,038	55	1,896	679	756,167

- = No data reported.

* One mine 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.

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

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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, 2018

(thousand short tons)

Coal-Producing State and Region ¹	Union		Nonunion		Total	
	Underground	Surface	Underground	Surface	Underground	Surface
Alabama	11,891	-	297	2,531	12,188	2,531
Alaska	-	902	-	-	-	902
Arizona	-	6,550	-	-	-	6,550
Colorado	2,074	2,140	8,340	1,471	10,414	3,611
Illinois	-	-	46,072	3,491	46,072	3,491
Indiana	-	-	17,356	17,242	17,356	17,242
Kentucky Total	-	-	30,857	8,324	30,857	8,324
Kentucky (East)	-	-	8,869	7,666	8,869	7,666
Kentucky (West)	-	-	21,988	658	21,988	658
Louisiana	-	-	-	1,483	-	1,483
Maryland	-	-	436	824	436	824
Mississippi	-	-	-	2,940	-	2,940
Missouri	-	-	-	259	-	259
Montana	-	17,276	7,566	13,768	7,566	31,044
New Mexico	1,848	3,398	-	5,546	1,848	8,944
North Dakota	-	4,740	-	24,904	-	29,643
Ohio	-	-	6,518	2,457	6,518	2,457
Oklahoma	-	-	206	404	206	404
Pennsylvania Total	10,827	864	33,660	3,864	44,486	4,728
Pennsylvania (Anthracite)	-	864	-	636	-	1,500
Pennsylvania (Bituminous)	10,827	-	33,660	3,228	44,486	3,228
Tennessee	-	-	174	42	174	42
Texas	-	13,982	-	10,841	-	24,823
Utah	-	-	13,125	494	13,125	494
Virginia	-	-	9,402	3,243	9,402	3,243
West Virginia Total	33,010	1,386	39,177	21,581	72,187	22,967
West Virginia (Northern)	31,292	-	14,183	619	45,475	619
West Virginia (Southern)	1,718	1,386	24,994	20,963	26,712	22,349
Wyoming	2,210	6,015	-	295,962	2,210	301,977
Appalachia Total	55,728	2,250	98,532	42,208	154,261	44,458
Appalachia Central	1,718	1,386	43,439	31,913	45,157	33,299
Appalachia Northern	42,118	864	54,797	7,764	96,915	8,627
Appalachia Southern	11,891	-	297	2,531	12,188	2,531
Interior Region Total	-	13,982	85,622	37,318	85,622	51,300
Illinois Basin	-	-	85,416	21,392	85,416	21,392
Other Interior	-	13,982	206	15,926	206	29,908
Western Region Total	6,132	41,020	29,032	342,145	35,164	383,165
Powder River Basin	-	16,981	-	307,231	-	324,211
Uinta Basin	2,074	2,140	20,850	1,471	22,923	3,611
Other Western	4,058	21,899	8,182	33,444	12,241	55,342
East of Mississippi River	55,728	2,250	183,948	66,539	239,676	68,789
West of Mississippi River	6,132	55,002	29,238	355,132	35,370	410,134
U.S. Subtotal	61,860	57,252	213,186	421,671	275,047	478,923
Unknown *	-	-	-	-	315	1,157
U.S. Total	61,860	57,252	213,186	421,671	275,361	480,080

- = No data reported.

* Includes mines with production of less than 25,000 short tons, which are not required to provide data.

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

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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, 2018

(thousand short tons)

Coal-Producing State	Open Market Sales ¹		Captive Sales / Transactions ²		Exports ³		Total	
	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical
Alabama	1,940	2,187	73	-	7,641	-	9,655	2,187
Alaska	-	912	-	-	-	-	-	912
Arizona	-	6,633	-	-	-	-	-	6,633
Colorado	-	4,027	-	5,394	-	154	-	9,576
Illinois	-	30,932	-	4,969	-	9,703	-	45,604
Indiana	-	16,888	-	13,713	-	-	-	30,601
Kentucky Total	5,668	28,335	24	359	73	184	5,765	28,878
Kentucky (East)	5,668	8,095	24	359	73	95	5,765	8,550
Kentucky (West)	-	20,239	-	-	-	89	-	20,328
Louisiana	-	1,323	-	-	-	-	-	1,323
Maryland	576	624	-	-	62	-	638	624
Mississippi	-	2,997	-	-	-	-	-	2,997
Missouri	-	259	-	-	-	-	-	259
Montana	-	24,685	-	7,697	-	-	-	32,382
New Mexico	-	6,918	-	5,281	-	-	-	12,199
North Dakota	-	25,436	-	4,257	-	-	-	29,693
Ohio	-	7,329	-	710	-	-	-	8,039
Oklahoma	-	639	-	-	-	-	-	639
Pennsylvania Total	6,165	30,080	402	828	1,078	342	7,645	31,251
Pennsylvania (Anthracite)	191	1,329	-	267	-	63	191	1,660
Pennsylvania (Bituminous)	5,974	28,751	402	561	1,078	279	7,454	29,591
Tennessee	52	-	-	-	146	-	198	-
Texas	-	4,017	-	19,026	-	2,101	-	25,145
Utah	-	10,803	-	-	-	1,211	-	12,014
Virginia	4,082	1,473	42	12	2,727	23	6,851	1,508
West Virginia Total	12,877	37,154	834	12,163	13,891	3,457	27,602	52,774
West Virginia (Northern)	149	24,428	-	12,163	3,775	548	3,924	37,138
West Virginia (Southern)	12,728	12,727	834	-	10,115	2,909	23,677	15,636
Wyoming	-	179,906	-	124,455	-	-	-	304,361
U.S. Subtotal	31,361	423,556	1,374	198,866	25,618	17,176	58,353	639,597
Adjustments ⁴	-14,940	-	-	-	-	-	-14,940	-
Other Exports *	-	-	-	-	35,895	36,943	35,895	36,943
U.S. Total **	16,421	423,556	1,374	198,866	61,513	54,119	79,308	676,540

- = No data reported.

* Estimated quantity of coal exported by coal brokers, coal traders and coal terminals reported on the EIA-8A, 'Annual Survey of Coal Stocks and Coal Exports'.

** Excludes mines producing less than 25,000 short tons, which are not required to provide data, and refuse recovery.

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

2 Captive sales transactions include all coal used by the producing company or sold to affiliate or parent companies; excludes exports.

3 State level total and U.S. subtotal include the quantity of coal exported by coal mines only.

4 Adjustments reflect differences in source data. State-level data are sourced from the EIA-7A, 'Annual Survey of Coal Production and Preparation'. Adjustments are estimated using coal consumed for coke production from the EIA-3, 'Quarterly Survey of Industrial, Commercial, & Institutional Users' and metallurgical coal imports from the U.S. Department of Commerce, Bureau of the Census, 'Monthly Report IM 145.' US Total Exports are sourced from U.S. Department of Commerce, Bureau of the Census, 'Monthly Report EM 545.'

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

Table 9. Major U.S. Coal Mines, 2018

Rank	Mine Name / Operating Company	Mine Type	State	Production (short tons)
1	North Antelope Rochelle Mine / Peabody Powder River Mining LLC	Surface	Wyoming	98,315,794
2	Black Thunder / Thunder Basin Coal Company LLC	Surface	Wyoming	71,134,606
3	Antelope Coal Mine / Antelope Coal LLC	Surface	Wyoming	23,155,741
4	Belle Ayr Mine / Blackjewel LLC	Surface	Wyoming	18,467,405
5	Eagle Butte Mine / Blackjewel LLC	Surface	Wyoming	17,055,796
6	Mc#1 Mine / M-Class Mining LLC	Underground	Illinois	14,460,951
7	Freedom Mine / The Coteau Properties Company	Surface	North Dakota	14,183,313
8	Spring Creek Coal Company / Spring Creek Coal LLC	Surface	Montana	13,768,055
9	Buckskin Mine / Buckskin Mining Company	Surface	Wyoming	13,508,689
10	Bailey Mine / Consol Pennsylvania Coal Company	Underground	Pennsylvania	12,735,390
11	Cordero Rojo Mine / Cordero Mining LLC	Surface	Wyoming	12,609,413
12	Marshall County Mine / The Marshall County Coal Company	Underground	West Virginia	11,433,840
13	Caballo Mine / Peabody Caballo Mining, LLC	Surface	Wyoming	11,333,467
14	Enlow Fork Mine / Consol Pennsylvania Coal Company	Underground	Pennsylvania	9,876,324
15	River View Mine / River View Coal LLC	Underground	Kentucky	9,753,472
16	Rawhide Mine / Peabody Caballo Mining, LLC	Surface	Wyoming	9,504,750
17	Kosse Strip / Luminant Mining Company LLC	Surface	Texas	8,683,043
18	Rosebud Mine & Crusher/Conveyo / Westmoreland Rosebud Mining LI	Surface	Montana	8,392,830
19	Falkirk Mine / Falkirk Mining Company	Surface	North Dakota	8,231,213
20	Coal Creek Mine / Thunder Basin Coal Company LLC	Surface	Wyoming	7,987,838
21	Bull Mountains Mine No 1 / Signal Peak Energy LLC	Underground	Montana	7,566,480
22	Harrison County Mine / The Harrison County Coal Company	Underground	West Virginia	7,215,143
23	Gibson South / Gibson County Coal, LLC	Underground	Indiana	6,996,941
24	Mach #1 Mine / Mach Mining LLC	Underground	Illinois	6,887,728
25	Bear Run Mine / Peabody Bear Run Mining LLC	Surface	Indiana	6,885,899
26	Tunnel Ridge Mine / Tunnel Ridge, LLC	Underground	West Virginia	6,807,214
27	Kayenta Mine / Peabody Western Coal Company	Surface	Arizona	6,550,417
28	Ohio County Mine / The Ohio County Coal Company	Underground	West Virginia	6,509,414
29	Cumberland Mine / Cumberland Contura, LLC	Underground	Pennsylvania	6,422,579
30	Lively Grove Mine / Prairie State Generating Company	Underground	Illinois	6,331,873
31	Dry Fork Mine / Western Fuels-Wyoming Inc	Surface	Wyoming	6,304,022
32	Mine No. 1 / Hamilton County Coal, LLC	Underground	Illinois	6,298,997
33	Marion County Mine / The Marion County Coal Company	Underground	West Virginia	6,133,349
34	No 7 Mine / Warrior Met Coal Mining, LLC	Underground	Alabama	5,597,175
35	El Segundo / El Segundo Coal Company, LLC	Surface	New Mexico	5,546,491
36	Buchanan Mine #1 / Buchanan Minerals, LLC	Underground	Virginia	5,188,441
37	Harvey Mine / Consol Pennsylvania Coal Company	Underground	Pennsylvania	4,980,569
38	Sufco / Canyon Fuel Company LLC	Underground	Utah	4,904,476
39	Century Mine / American Energy Corporation	Underground	Ohio	4,785,568
40	Decker Mine / Decker Coal Company	Surface	Montana	4,760,301
41	West Elk Mine / Mountain Coal Company, L.L.C.	Underground	Colorado	4,674,833
42	Monongalia County Mine / The Monongalia County Coal Com	Underground	Pennsylvania	4,404,054
43	Center Mine / Bni Coal, Ltd	Surface	North Dakota	4,256,867
44	Wyodak Mine / Black Hills Energy	Surface	Wyoming	4,085,044
45	Oaktown Fuels Mine No. 1 / Sunrise Coal, LLC	Underground	Indiana	4,071,835
46	Kemmerer Mine / Westmoreland Kemmerer, LLC	Surface	Wyoming	4,016,923
Subtotal				542,774,563
All Other Mines				213,392,532
U.S. Total				756,167,095

Notes: Major mines are mines that produced more than 4 million short tons in 2018. Company listed indicates the firm operating the mine.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 10. Major U.S. Coal Producers, 2018

Rank	Controlling Company Name	Production (thousand short tons)	Percent of Total Production
1	Peabody Energy Corp	155,523	20.6
2	Arch Coal Inc	100,254	13.3
3	Cloud Peak Energy	49,533	6.6
4	Murray Energy Corp	46,402	6.1
5	Alliance Resource Partners LP	40,343	5.3
6	Revelation Energy LLC/Blackjewel LLC	38,521	5.1
7	NACCO Industries Inc	37,282	4.9
8	CONSOL Energy Inc	27,592	3.6
9	Foresight Energy Labor LLC	23,296	3.1
10	Contura Energy Inc	22,811	3.0
11	Kiewit Peter Sons' Inc	18,516	2.4
12	Westmoreland Mining Holdings LLC	14,846	2.0
13	Vistra Energy	13,982	1.8
14	Blackhawk Mining LLC	13,317	1.8
15	Wolverine Fuels LLC	9,057	1.2
16	Coronado Coal LLC	8,538	1.1
17	Warrior Met Coal Intermediate Holdco LLC	7,735	1.0
18	Hallador Energy Company	7,609	1.0
19	Global Mining Group LLC	7,566	1.0
20	Prairie State Energy Campus	6,332	0.8
21	Western Fuels Assoc Inc	6,304	0.8
22	White Stallion Energy	5,576	0.7
23	J Clifford Forrest	5,195	0.7
Subtotal		666,130	88.1
All Other Coal Producers		90,037	11.9
U.S. Total		756,167	100.0

Notes: The listed companies each produced more than 5 million short tons of coal in 2018. 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: U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Productive Capacity

Table 11. Productive Capacity of Coal Mines by State, 2018 and 2017

(thousand short tons)

Coal-Producing State	2018			2017			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	13,531	2,864	16,395	13,466	3,454	16,920	0.5	-17.1	-3.1
Alaska	-	3,000	3,000	-	3,000	3,000	-	-	-
Arizona	-	8,500	8,500	-	8,500	8,500	-	-	-
Colorado	14,000	4,700	18,700	14,000	5,160	19,160	-	-8.9	-2.4
Illinois	48,793	6,856	55,649	50,115	6,990	57,105	-2.6	-1.9	-2.6
Indiana	24,600	23,023	47,623	14,893	21,208	36,101	65.2	8.6	31.9
Kentucky Total	41,446	10,551	51,996	41,784	15,020	56,803	-0.8	-29.8	-8.5
Kentucky (East)	15,546	9,729	25,274	16,542	11,454	27,996	-6.0	-15.1	-9.7
Kentucky (West)	25,900	822	26,722	25,242	3,566	28,807	2.6	-76.9	-7.2
Louisiana	-	2,918	2,918	-	3,885	3,885	-	-24.9	-24.9
Maryland	820	1,429	2,249	840	1,634	2,474	-2.4	-12.5	-9.1
Mississippi	-	3,600	3,600	-	8,300	8,300	-	-56.6	-56.6
Missouri	-	260	260	-	248	248	-	4.8	4.8
Montana	11,000	41,800	52,800	10,000	41,800	51,800	10.0	-	1.9
New Mexico	9,000	15,400	24,400	9,000	18,900	27,900	-	-18.5	-12.5
North Dakota	-	35,231	35,231	-	35,000	35,000	-	0.7	0.7
Ohio	8,310	5,071	13,380	8,210	7,721	15,931	1.2	-34.3	-16.0
Oklahoma	400	609	1,009	500	580	1,080	-20.0	5.0	-6.6
Pennsylvania Total	52,579	8,855	61,433	51,274	8,212	59,487	2.5	7.8	3.3
Pennsylvania (Anthracite)	43	4,149	4,193	76	3,560	3,636	-43.4	16.5	15.3
Pennsylvania (Bituminous)	52,535	4,706	57,241	51,199	4,652	55,851	2.6	1.2	2.5
Tennessee	184	87	271	394	92	486	-53.3	-5.4	-44.2
Texas	-	25,849	25,849	-	36,783	36,783	-	-29.7	-29.7
Utah	19,676	2,000	21,676	19,158	2,000	21,158	2.7	-	2.4
Virginia	11,466	5,073	16,539	12,570	4,964	17,534	-8.8	2.2	-5.7
West Virginia Total	89,608	31,399	121,008	95,276	34,738	130,014	-5.9	-9.6	-6.9
West Virginia (Northern)	54,506	776	55,282	58,718	230	58,948	-7.2	237.4	-6.2
West Virginia (Southern)	35,102	30,624	65,726	36,558	34,508	71,066	-4.0	-11.3	-7.5
Wyoming	2,300	433,752	436,052	2,300	446,614	448,914	-	-2.9	-2.9
U.S. Total	347,712	672,827	1,020,539	343,780	714,802	1,058,583	1.1	-5.9	-3.6

- = No data reported.

Notes: Productive capacity is the maximum amount of coal that can be produced annually as reported by mining companies on Form EIA-7A, 'Annual Survey of Coal Production and Preparation.' Excluding refuse recovery and mines producing less than 25,000 short tons, which are not required to provide data. Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 12. Capacity Utilization of Coal Mines by State, 2018 and 2017

(percent)

Coal-Producing State	2018			2017		
	Underground	Surface	Total	Underground	Surface	Total
Alabama	90.08	88.39	89.78	77.88	67.72	75.80
Alaska	-	30.05	30.05	-	31.97	31.97
Arizona	-	77.06	77.06	-	73.19	73.19
Colorado	74.39	76.84	75.00	79.41	76.14	78.53
Illinois	94.42	50.92	89.06	89.61	47.19	84.41
Indiana	70.55	74.89	72.65	96.66	80.51	87.17
Kentucky Total	74.45	78.89	75.35	75.26	66.29	72.89
Kentucky (East)	57.05	78.79	65.42	59.80	69.06	63.59
Kentucky (West)	84.89	80.05	84.75	85.39	57.41	81.92
Louisiana	-	50.83	50.83	-	53.50	53.50
Maryland	53.15	57.68	56.03	88.63	64.14	72.45
Mississippi	-	81.66	81.66	-	31.37	31.37
Missouri	-	99.58	99.58	-	98.53	98.53
Montana	68.79	74.27	73.13	58.84	70.21	68.02
New Mexico	20.53	58.08	44.23	59.19	45.06	49.62
North Dakota	-	84.14	84.14	-	82.25	82.25
Ohio	78.44	48.52	67.10	82.69	32.69	58.46
Oklahoma	51.55	66.29	60.44	63.85	41.52	51.86
Pennsylvania Total	84.67	55.23	80.43	84.89	61.82	81.71
Pennsylvania (Anthracite)	75.36	40.06	40.42	70.66	48.08	48.55
Pennsylvania (Bituminous)	84.68	68.60	83.36	84.91	72.34	83.86
Tennessee	94.46	48.20	79.65	78.87	100.00	82.86
Texas	-	96.03	96.03	-	98.91	98.91
Utah	66.71	24.68	62.83	71.00	36.20	67.71
Virginia	82.00	63.93	76.46	77.52	66.89	74.51
West Virginia Total	80.56	73.19	78.65	76.09	57.47	71.11
West Virginia (Northern)	83.43	79.74	83.38	79.38	47.76	79.25
West Virginia (Southern)	76.10	73.03	74.67	70.80	57.54	64.36
Wyoming	96.11	69.62	69.76	74.60	70.47	70.49
U.S. Total	79.11	71.21	73.90	79.36	69.88	72.95

- = No data reported.

Notes: Capacity utilization is the ratio of annual production to annual productive capacity. Excludes refuse recovery and mines producing less than 25,000 short tons, which are not required to provide data. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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 13. Productive Capacity and Capacity Utilization of Underground Coal Mines by State and Mining Method, 2018

(thousand short tons)

Coal-Producing State	Continuous		Conventional and Other ¹		Longwall		Total	
	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent
Alabama	2,719	87.46	s	-	10,812	90.73	13,531	90.08
Colorado	2,380	69.20	s	-	11,620	75.45	14,000	74.39
Illinois	22,753	88.82	1,050	92.72	24,989	99.60	48,793	94.42
Indiana	24,600	70.55	s	-	s	-	24,600	70.55
Kentucky Total	40,912	74.80	534	48.02	s	-	41,446	74.45
Kentucky (East)	15,012	57.37	534	48.02	s	-	15,546	57.05
Kentucky (West)	25,900	84.89	s	-	s	-	25,900	84.89
Maryland	820	53.15	s	-	s	-	820	53.15
Montana	770	68.79	s	-	10,230	68.79	11,000	68.79
New Mexico	450	20.53	s	-	8,550	20.53	9,000	20.53
Ohio	2,460	89.90	s	-	5,850	73.62	8,310	78.44
Oklahoma	s	-	s	-	400	51.55	400	51.55
Pennsylvania Total	13,829	64.62	30	64.50	38,720	91.85	52,579	84.67
Pennsylvania (Anthracite)	13	100.00	30	64.50	s	-	43	75.36
Pennsylvania (Bituminous)	13,815	64.59	s	-	38,720	91.85	52,535	84.68
Tennessee	184	94.46	s	-	s	-	184	94.46
Utah	6,281	59.61	s	-	13,395	70.04	19,676	66.71
Virginia	6,277	67.12	s	-	5,188	100.00	11,466	82.00
West Virginia Total	37,466	78.68	418	28.28	51,725	82.34	89,608	80.56
West Virginia (Northern)	7,803	80.35	s	-	46,703	83.95	54,506	83.43
West Virginia (Southern)	29,663	78.25	418	28.28	5,022	67.39	35,102	76.10
Wyoming	276	96.11	s	-	2,024	96.11	2,300	96.11
U.S. Total	162,176	75.39	2,032	67.30	183,504	82.53	347,712	79.11

- = No data reported.

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

¹ Mines that produce coal using shortwall, scoop loading, hand loading, or other methods.

Notes: 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 refuse recovery and mines producing less than 25,000 short tons, which are not required to provide data. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mines Employment and Coal Production Report,' for annual production.

Table 13.1 Productive Capacity and Capacity Utilization of Surface Coal Mines by State and Mining Method, 2018

(thousand short tons)

Coal-Producing State	Contour Strip		Area		Open Pit		Mountaintop Mining		Other ¹		Total	
	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent
Alabama	2,151	86.58	43	100.00	360	98.00	-	-	310	88.16	2,864	88.39
Alaska	1,500	30.05	-	-	1,500	30.05	-	-	-	-	3,000	30.05
Arizona	8,500	77.06	-	-	-	-	-	-	-	-	8,500	77.06
Colorado	2,300	93.06	-	-	2,400	61.29	-	-	-	-	4,700	76.84
Illinois	-	-	6,510	50.05	-	-	-	-	346	67.35	6,856	50.92
Indiana	-	-	2,100	53.23	19,273	80.13	-	-	1,650	41.27	23,023	74.89
Kentucky Total	4,805	79.42	2,877	79.79	256	93.03	97	100.00	2,516	74.60	10,551	78.89
Kentucky (East)	4,752	79.29	2,377	81.45	-	-	97	100.00	2,503	74.52	9,729	78.79
Kentucky (West)	53	91.59	500	71.89	256	93.03	-	-	13	91.23	822	80.05
Louisiana	-	-	2,918	50.83	-	-	-	-	-	-	2,918	50.83
Maryland	849	42.76	500	80.20	80	75.30	-	-	-	-	1,429	57.68
Mississippi	3,600	81.66	-	-	-	-	-	-	-	-	3,600	81.66
Missouri	260	99.58	-	-	-	-	-	-	-	-	260	99.58
Montana	26,500	66.40	10,400	83.54	4,900	97.15	-	-	-	-	41,800	74.27
New Mexico	6,500	85.33	-	-	8,900	38.17	-	-	-	-	15,400	58.08
North Dakota	30,231	83.97	-	-	5,000	85.14	-	-	-	-	35,231	84.14
Ohio	600	74.43	3,356	46.64	107	100.00	-	-	1,008	33.91	5,071	48.52
Oklahoma	500	58.93	-	-	-	-	-	-	109	100.00	609	66.29
Pennsylvania Total	3,490	60.99	-	-	5,184	51.01	-	-	181	65.00	8,855	55.23
Pennsylvania (Anthracite)	1,866	52.14	-	-	2,263	29.81	-	-	20	73.42	4,149	40.06
Pennsylvania (Bituminous)	1,624	71.15	-	-	2,920	67.44	-	-	161	63.98	4,706	68.60
Tennessee	-	-	-	-	-	-	-	-	87	48.20	87	48.20
Texas	6,232	90.63	13,982	100.00	5,635	92.15	-	-	-	-	25,849	96.03
Utah	-	-	-	-	2,000	24.68	-	-	-	-	2,000	24.68
Virginia	2,186	64.76	840	69.75	-	-	-	-	2,047	60.65	5,073	63.93
West Virginia Total	12,179	67.98	9,074	90.52	-	-	3,770	57.82	6,376	67.59	31,399	73.19
West Virginia (Northern)	150	62.59	430	100.00	-	-	-	-	196	48.30	776	79.74
West Virginia (Southern)	12,029	68.05	8,644	90.05	-	-	3,770	57.82	6,180	68.20	30,624	73.03
Wyoming	252,200	54.20	5,000	50.00	176,552	92.20	-	-	-	-	433,752	69.62
U.S. Total	364,583	60.84	57,600	76.62	232,148	86.86	3,868	58.88	14,628	63.06	672,827	71.21

- = No data reported.

1 Mines that: 1. produce coal using auger, highwall mine, or punch.

Notes: 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 refuse recovery and mines producing less than 25,000 short tons, which are not required to provide data. Totals may not equal sum of components because of independent rounding. Mines reporting multiple mining methods are assigned to the mining method with the greatest percentage of production reported.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mines Employment and Coal Production Report,' for annual production.

Recoverable Reserves

Table 14. Recoverable Coal Reserves at Producing Mines by State, 2018 and 2017

(million short tons)

Coal-Producing State	2018	2017	Percent Change Recoverable Coal Reserves
	Recoverable Coal Reserves	Recoverable Coal Reserves	
Alabama	215	243	-11.7
Alaska	49	50	-1.8
Arizona	197	197	0.3
Colorado	217	253	-14.2
Illinois	2,094	1,236	69.4
Indiana	481	457	5.2
Kentucky Total	711	1,048	-32.1
Kentucky (East)	337	669	-49.6
Kentucky (West)	374	379	-1.3
Louisiana	41	86	-51.7
Maryland	13	13	-0.7
Mississippi	111	689	-83.9
Missouri	s	s	-74.2
Montana	818	778	5.0
New Mexico	147	201	-27.0
North Dakota	960	980	-2.1
Ohio	86	91	-5.1
Oklahoma	7	8	-9.7
Pennsylvania Total	1,064	1,121	-5.1
Pennsylvania (Anthracite)	161	141	13.8
Pennsylvania (Bituminous)	903	980	-7.8
Tennessee	9	10	-7.7
Texas	375	536	-30.1
Utah	182	176	3.5
Virginia	184	223	-17.8
West Virginia Total	1,730	1,833	-5.6
West Virginia (Northern)	806	866	-7.0
West Virginia (Southern)	924	967	-4.4
Wyoming	5,525	5,873	-5.9
U.S. Total	15,216	16,102	-5.5

- = No data reported.

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

Notes: Recoverable reserves represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. Excludes refuse recovery and mines producing less than 25,000 short tons, which are not required to provide data. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 15. Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, and Demonstrated Reserve Base by Mining Method, 2018

(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	206	359	711	9	2,212	3,106	215	2,571	3,817
Alaska	-	2,335	5,423	49	480	663	49	2,814	6,086
Arizona	-	-	-	197	-	-	197	-	-
Arkansas	-	126	271	-	101	144	-	227	415
Colorado	114	5,710	10,881	103	3,740	4,754	217	9,451	15,635
Georgia	-	1	2	-	1	2	-	2	4
Idaho	-	2	4	-	-	-	-	2	4
Illinois	2,072	27,612	86,926	22	10,025	16,472	2,094	37,637	103,398
Indiana	175	3,465	8,367	305	236	403	481	3,701	8,770
Iowa	-	807	1,732	-	320	457	-	1,127	2,189
Kansas	-	-	-	-	679	970	-	679	970
Kentucky Total	568	6,716	15,638	143	7,196	12,461	711	13,912	28,099
Kentucky (East)	203	269	482	134	4,978	8,914	337	5,246	9,395
Kentucky (West)	365	6,447	15,156	9	2,219	3,547	374	8,666	18,704
Louisiana	-	-	-	41	274	369	41	274	369
Maryland	7	305	556	6	27	40	13	332	596
Michigan	-	55	123	-	3	5	-	58	128
Mississippi	-	-	-	111	-	-	111	-	-
Missouri	-	689	1,479	s	3,154	4,505	-	3,843	5,984
Montana	215	35,863	70,840	603	38,540	47,686	818	74,403	118,526
New Mexico	10	2,733	6,007	137	4,010	5,733	147	6,743	11,740
North Carolina	-	5	11	-	-	-	-	5	11
North Dakota	-	-	-	960	6,547	8,582	960	6,547	8,582
Ohio	78	7,554	17,170	9	3,695	5,644	86	11,249	22,814
Oklahoma	7	569	1,221	s	219	312	7	787	1,533
Oregon	-	6	15	-	2	3	-	9	17
Pennsylvania Total	883	10,047	21,979	182	959	4,107	1,064	11,006	26,087
Pennsylvania (Anthracite)	s	340	3,840	161	416	3,328	161	756	7,168
Pennsylvania (Bituminous)	882	9,707	18,139	21	543	779	903	10,250	18,918
South Dakota	-	-	-	-	277	366	-	277	366
Tennessee	9	271	494	s	170	251	9	441	745
Texas	-	-	-	375	9,042	11,747	375	9,042	11,747
Utah	181	2,279	4,649	1	208	262	182	2,487	4,912
Virginia	168	448	798	15	294	459	184	742	1,256
Washington	-	674	1,332	-	6	8	-	681	1,340
West Virginia Total	1,157	14,474	27,121	573	1,950	3,091	1,730	16,424	30,212
West Virginia (Northern)	802	NA	NA	4	NA	NA	806	NA	NA
West Virginia (Southern)	356	NA	NA	568	NA	NA	924	NA	NA
Wyoming	5	22,909	42,424	5,521	12,352	14,918	5,525	35,261	57,342
U.S. Total	5,855	146,015	326,176	9,361	106,719	147,519	15,216	252,733	473,695

- = No data reported.

NA = Not Available.

s = Value is less than 0.5 of the table metric.

Notes: 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, and after applying assumed mining recovery rates. This estimate does not include any specific economic feasibility criteria. The effective date for the demonstrated reserve base, as customarily worded, is 'Remaining as of January 1, 2019.' These data are contemporaneous with the Recoverable Reserves at Producing Mines, customarily presented as of the end of the reporting year's mining, that is in this case, December 31, 2018. 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. All reserve expressions exclude silt, culm, refuse bank, slurry dam, and dredge operations. Reserves at Producing Mines exclude mines producing less than 25,000 short tons, which are not required to provide reserves data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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 Underground Coal Mines by State and Mining Method, 2018

(million short tons)

Coal-Producing State	Continuous	Conventional and Other ¹	Longwall	Total
	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines
Alabama	62	s	144	206
Colorado	16	s	98	114
Illinois	577	37	1,458	2,072
Indiana	175	s	s	175
Kentucky Total	549	20	s	568
Kentucky (East)	184	20	s	203
Kentucky (West)	365	s	s	365
Maryland	7	s	s	7
Montana	15	s	200	215
New Mexico	1	s	10	10
Ohio	47	s	31	78
Oklahoma	s	s	7	7
Pennsylvania Total	145	s	737	883
Pennsylvania (Anthracite)	s	s	s	s
Pennsylvania (Bituminous)	145	s	737	882
Tennessee	9	s	s	9
Utah	57	s	124	181
Virginia	58	s	110	168
West Virginia Total	425	s	732	1,157
West Virginia (Northern)	123	s	678	802
West Virginia (Southern)	301	s	54	356
Wyoming	1	s	4	5
U.S. Total	2,143	57	3,655	5,855

- = No data reported.

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

¹ Mines that produce coal using shortwall, scoop loading, hand loading, or other methods.

Notes: 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. Excludes mines producing less than 25,000 short tons, which are not required to provide data and refuse recovery.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mines Employment and Coal Production Report.'

Table 16.1 Recoverable Coal Reserves at Producing Surface Coal Mines by State and Mining Method, 2018

(million short tons)

Coal-Producing State	Contour Strip	Area	Open Pit	Mountaintop Mining	Other ¹	Total
	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines	Recoverable Coal Reserves at Producing Mines
Alabama	6	s	s	-	2	9
Alaska	24	-	24	-	-	49
Arizona	197	-	-	-	-	197
Colorado	18	-	85	-	-	103
Illinois	-	22	-	-	s	22
Indiana	-	3	302	-	s	305
Kentucky Total	39	27	s	s	77	143
Kentucky (East)	39	18	-	s	77	134
Kentucky (West)	s	9	s	-	s	9
Louisiana	-	41	-	-	-	41
Maryland	2	4	1	-	-	6
Mississippi	111	-	-	-	-	111
Missouri	s	-	-	-	-	s
Montana	243	236	124	-	-	603
New Mexico	74	-	63	-	-	137
North Dakota	881	-	78	-	-	960
Ohio	2	4	s	-	2	9
Oklahoma	s	-	-	-	s	s
Pennsylvania Total	85	-	96	-	s	182
Pennsylvania (Anthracite)	73	-	87	-	s	161
Pennsylvania (Bituminous)	12	-	9	-	s	21
Tennessee	-	-	-	-	s	s
Texas	129	158	88	-	-	375
Utah	-	-	1	-	-	1
Virginia	7	2	-	-	6	15
West Virginia Total	376	99	-	30	67	573
West Virginia (Northern)	2	s	-	-	2	4
West Virginia (Southern)	373	99	-	30	66	568
Wyoming	2,260	61	3,200	-	-	5,521
U.S. Total	4,455	658	4,063	30	155	9,361

- = No data reported.

s = Value is less than 0.5 of the table metric.

¹ Mines that: 1. produce coal using auger, highwall mine, or punch.

Notes: 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. Excludes mines producing less than 25,000 short tons, which are not required to provide data and refuse recovery. Mines reporting multiple mining methods are assigned to the mining method with the greatest percentage of production reported.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mines Employment and Coal Production Report.'

Table 17. Recoverable Coal Reserves at Producing U.S. Mines by Mine Production Range and Mine Type, 2018

(million short tons)

Mine Production Range (thousand short tons)	Underground	Surface	Total
	Recoverable Coal Reserves	Recoverable Coal Reserves	Recoverable Coal Reserves
Over 1,000	5,206	8,485	13,691
Over 500 to 1,000	172	164	335
Over 200 to 500	353	168	521
Over 100 to 200	75	404	479
Over 50 to 100	43	98	141
Over 10 to 50	6	42	48
10 or Under	-	s	s
U.S. Total	5,855	9,361	15,216

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

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.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mines Employment and Coal Production Report.'

Employment

Table 18. Average Number of Employees by State and Mine Type, 2018 and 2017

Coal-Producing State and Region ¹	2018			2017			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	2,340	564	2,904	2,055	545	2,600	13.9	3.5	11.7
Alaska	-	99	99	-	102	102	-	-2.9	-2.9
Arizona	-	416	416	-	402	402	-	3.5	3.5
Arkansas	-	-	-	61	10	71	-	-	-
Colorado	830	428	1,258	808	445	1,253	2.7	-3.8	0.4
Illinois	2,729	350	3,079	2,858	277	3,135	-4.5	26.4	-1.8
Indiana	1,464	1,459	2,923	1,312	1,478	2,790	11.6	-1.3	4.8
Kentucky Total	4,929	1,573	6,502	4,913	1,684	6,597	0.3	-6.6	-1.4
Kentucky (East)	2,623	1,498	4,121	2,638	1,472	4,110	-0.6	1.8	0.3
Kentucky (West)	2,306	75	2,381	2,275	212	2,487	1.4	-64.6	-4.3
Louisiana	-	322	322	-	325	325	-	-0.9	-0.9
Maryland	171	135	306	172	131	303	-0.6	3.1	1.0
Mississippi	-	199	199	-	380	380	-	-47.6	-47.6
Missouri	-	16	16	-	15	15	-	6.7	6.7
Montana	264	1,047	1,311	252	894	1,146	4.8	17.1	14.4
New Mexico	313	592	905	349	580	929	-10.3	2.1	-2.6
North Dakota	-	1,249	1,249	-	1,255	1,255	-	-0.5	-0.5
Ohio	691	431	1,122	693	393	1,086	-0.3	9.7	3.3
Oklahoma	75	69	144	84	102	186	-10.7	-32.4	-22.6
Pennsylvania Total	3,854	1,531	5,385	3,919	1,539	5,458	-1.7	-0.5	-1.3
Pennsylvania (Anthracite)	78	822	900	82	832	914	-4.9	-1.2	-1.5
Pennsylvania (Bituminous)	3,776	709	4,485	3,837	707	4,544	-1.6	0.3	-1.3
Tennessee	55	35	90	99	49	148	-44.4	-28.6	-39.2
Texas	-	1,646	1,646	-	1,993	1,993	-	-17.4	-17.4
Utah	1,314	49	1,363	1,191	49	1,240	10.3	-	9.9
Virginia	2,047	683	2,730	1,984	676	2,660	3.2	1.0	2.6
West Virginia Total	10,767	3,195	13,962	10,507	2,715	13,222	2.5	17.7	5.6
West Virginia (Northern)	4,042	89	4,131	4,212	34	4,246	-4.0	161.8	-2.7
West Virginia (Southern)	6,725	3,106	9,831	6,295	2,681	8,976	6.8	15.9	9.5
Wyoming	169	5,389	5,558	230	5,470	5,700	-26.5	-1.5	-2.5
Appalachia Total	22,548	8,072	30,620	22,067	7,520	29,587	2.2	7.3	3.5
Appalachia Central	11,450	5,322	16,772	11,016	4,878	15,894	3.9	9.1	5.5
Appalachia Northern	8,758	2,186	10,944	8,996	2,097	11,093	-2.6	4.2	-1.3
Appalachia Southern	2,340	564	2,904	2,055	545	2,600	13.9	3.5	11.7
Interior Region Total	6,574	4,136	10,710	6,590	4,792	11,382	-0.2	-13.7	-5.9
Illinois Basin	6,499	1,884	8,383	6,445	1,967	8,412	0.8	-4.2	-0.3
Other Interior	75	2,252	2,327	145	2,825	2,970	-48.3	-20.3	-21.6
Western Region Total	2,890	9,269	12,159	2,830	9,197	12,027	2.1	0.8	1.1
Powder River Basin	-	5,740	5,740	-	5,657	5,657	-	1.5	1.5
Uinta Basin	2,061	449	2,510	1,917	442	2,359	7.5	1.6	6.4
Other Western	829	3,080	3,909	913	3,098	4,011	-9.2	-0.6	-2.5
East of Mississippi River	29,047	10,155	39,202	28,512	9,867	38,379	1.9	2.9	2.1
West of Mississippi River	2,965	11,322	14,287	2,975	11,642	14,617	-0.3	-2.7	-2.3
U.S. Subtotal	32,012	21,477	53,489	31,487	21,509	52,996	1.7	-0.1	0.9
Refuse Recovery	-	-	94	-	-	55	-	-	70.9
U.S. Total	32,012	21,477	53,583	31,487	21,509	53,051	1.7	-0.1	1.0

- = No data reported.

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

Notes: 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 18.1. Average Number of Employees and Number of Mines by State and Coal Type, 2018

Coal-Producing State ¹	Number of Mines			Average Number of Employees		
	Metallurgical ²	Non-Metallurgical ²	Total ³	Metallurgical ²	Non-Metallurgical ²	Total ³
Alabama	10	23	30	2,281	507	2,788
Alaska	-	1	1	-	99	99
Arizona	-	1	1	-	416	416
Colorado	-	6	6	-	1,258	1,258
Illinois	-	20	20	-	2,925	2,925
Indiana	-	18	18	-	2,835	2,835
Kentucky Total	48	117	147	1,439	4,256	5,695
Kentucky (East)	48	104	134	1,439	2,082	3,521
Kentucky (West)	-	13	13	-	2,174	2,174
Louisiana	-	2	2	-	322	322
Maryland	3	12	14	170	100	270
Mississippi	-	1	1	-	199	199
Missouri	-	1	1	-	16	16
Montana	-	6	6	-	1,300	1,300
New Mexico	-	3	3	-	905	905
North Dakota	-	5	5	-	1,245	1,245
Ohio	-	16	16	-	1,045	1,045
Oklahoma	-	5	5	-	144	144
Pennsylvania Total	45	139	156	1,319	3,522	4,841
Pennsylvania (Anthracite)	6	50	55	63	459	522
Pennsylvania (Bituminous)	39	89	101	1,256	3,063	4,319
Tennessee	2	2	4	48	21	69
Texas	-	9	9	-	1,646	1,646
Utah	-	8	8	-	1,278	1,278
Virginia	34	40	54	2,100	384	2,484
West Virginia Total	97	109	156	6,808	5,692	12,500
West Virginia (Northern)	5	14	15	841	3,129	3,970
West Virginia (Southern)	92	95	141	5,967	2,563	8,530
Wyoming	-	16	16	-	5,558	5,558
Appalachia Total	239	445	564	14,165	13,353	27,518
Appalachia Central	176	241	333	9,554	5,050	14,604
Appalachia Northern	53	181	201	2,330	7,796	10,126
Appalachia Southern	10	23	30	2,281	507	2,788
Interior Region Total	-	69	69	-	10,261	10,261
Illinois Basin	-	51	51	-	7,934	7,934
Other Interior	-	18	18	-	2,327	2,327
Western Region Total	-	46	46	-	12,059	12,059
Powder River Basin	-	16	16	-	5,729	5,729
Uinta Basin	-	12	12	-	2,425	2,425
Other Western	-	18	18	-	3,905	3,905
East of Mississippi River	239	497	616	14,165	21,486	35,651
West of Mississippi River	-	63	63	-	14,187	14,187
U.S. Total	239	560	679	14,165	35,673	49,838

- = No data reported.

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

² Some mines produce both metallurgical and non-metallurgical.

³ Total may not equal the sum, as some mines produced both metallurgical and non-metallurgical.

Note: Excludes mines producing less than 25,000 tons per year, which are not required to provide data.

Sources: U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report', U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 19. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2018

Coal-Producing State, Region ¹ and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	Above 0 to 10	Zero ²	
Alabama	2,117	-	182	323	30	116	20	116	2,904
Underground	2,116	-	-	61	-	84	-	79	2,340
Surface	1	-	182	262	30	32	20	37	564
Alaska	-	99	-	-	-	-	-	-	99
Surface	-	99	-	-	-	-	-	-	99
Arizona	416	-	-	-	-	-	-	-	416
Surface	416	-	-	-	-	-	-	-	416
Colorado	1,175	83	-	-	-	-	-	-	1,258
Underground	747	83	-	-	-	-	-	-	830
Surface	428	-	-	-	-	-	-	-	428
Illinois	2,664	116	89	32	11	-	-	167	3,079
Underground	2,584	-	-	-	-	-	-	145	2,729
Surface	80	116	89	32	11	-	-	22	350
Indiana	2,416	262	114	43	-	-	-	83	2,923
Underground	1,223	96	57	-	-	-	-	83	1,464
Surface	1,193	166	57	43	-	-	-	-	1,459
Kentucky Total	2,406	176	1,441	608	473	388	175	769	6,502
Underground	2,293	81	1,140	311	328	152	60	536	4,929
Surface	113	95	301	297	145	236	115	233	1,573
Kentucky (East)	294	176	1,411	590	469	380	173	562	4,121
Underground	181	81	1,140	311	328	152	60	342	2,623
Surface	113	95	271	279	141	228	113	220	1,498
Kentucky (West)	2,112	-	30	18	4	8	2	207	2,381
Underground	2,112	-	-	-	-	-	-	194	2,306
Surface	-	-	30	18	4	8	2	13	75
Louisiana	290	-	32	-	-	-	-	-	322
Surface	290	-	32	-	-	-	-	-	322
Maryland	-	-	146	13	26	67	18	36	306
Underground	-	-	100	-	-	35	-	36	171
Surface	-	-	46	13	26	32	18	-	135
Mississippi	199	-	-	-	-	-	-	-	199
Surface	199	-	-	-	-	-	-	-	199
Missouri	-	-	16	-	-	-	-	-	16
Surface	-	-	16	-	-	-	-	-	16
Montana	1,287	-	13	-	-	-	-	11	1,311
Underground	264	-	-	-	-	-	-	-	264
Surface	1,023	-	13	-	-	-	-	11	1,047
New Mexico	905	-	-	-	-	-	-	-	905
Underground	313	-	-	-	-	-	-	-	313
Surface	592	-	-	-	-	-	-	-	592
North Dakota	1,215	-	30	-	-	-	-	4	1,249
Surface	1,215	-	30	-	-	-	-	4	1,249
Ohio	352	289	252	102	25	-	25	77	1,122
Underground	352	155	117	23	-	-	-	44	691
Surface	-	134	135	79	25	-	25	33	431
Oklahoma	-	-	118	8	16	-	2	-	144
Underground	-	-	75	-	-	-	-	-	75
Surface	-	-	43	8	16	-	2	-	69
Pennsylvania Total	2,660	248	749	354	214	400	189	510	5,385
Underground	2,660	248	509	100	56	77	49	133	3,854
Surface	-	-	240	254	158	323	140	377	1,531
Pennsylvania (Anthracite)	-	-	79	103	56	174	83	366	900
Underground	-	-	-	-	-	16	38	24	78
Surface	-	-	79	103	56	158	45	342	822
Pennsylvania (Bituminous)	2,660	248	670	251	158	226	106	144	4,485
Underground	2,660	248	509	100	56	61	11	109	3,776
Surface	-	-	161	151	102	165	95	35	709

Coal-Producing State, Region ¹ and Mine Type	Mine Production Range (thousand short tons)							Zero ²	Total Number of Employees
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	Above 0 to 10		
Tennessee	-	-	-	44	-	13	12	21	90
Underground	-	-	-	44	-	-	-	11	55
Surface	-	-	-	-	-	13	12	10	35
Texas	1,530	-	-	30	86	-	-	-	1,646
Surface	1,530	-	-	30	86	-	-	-	1,646
Utah	972	163	117	26	-	-	-	74	1,363
Underground	972	163	89	26	-	-	-	64	1,314
Surface	-	-	28	-	-	-	-	10	49
Virginia	913	259	413	563	138	105	72	267	2,730
Underground	913	133	307	365	44	52	32	201	2,047
Surface	-	126	106	198	94	53	40	66	683
West Virginia Total	6,473	2,117	2,424	678	438	296	69	1,467	13,962
Underground	5,547	1,529	2,041	179	255	84	25	1,107	10,767
Surface	926	588	383	499	183	212	44	360	3,195
West Virginia (Northern)	3,753	-	157	42	-	6	12	161	4,131
Underground	3,753	-	113	36	-	-	12	128	4,042
Surface	-	-	44	6	-	6	-	33	89
West Virginia (Southern)	2,720	2,117	2,267	636	438	290	57	1,306	9,831
Underground	1,794	1,529	1,928	143	255	84	13	979	6,725
Surface	926	588	339	493	183	206	44	327	3,106
Wyoming	5,558	-	-	-	-	-	-	-	5,558
Underground	169	-	-	-	-	-	-	-	169
Surface	5,389	-	-	-	-	-	-	-	5,389
Appalachia Total	12,809	3,089	5,577	2,667	1,340	1,377	578	3,056	30,620
Underground	11,769	2,146	4,214	1,083	683	484	166	1,953	22,548
Surface	1,040	943	1,363	1,584	657	893	412	1,103	8,072
Appalachia Central	3,927	2,552	4,091	1,833	1,045	788	314	2,156	16,772
Underground	2,888	1,743	3,375	863	627	288	105	1,533	11,450
Surface	1,039	809	716	970	418	500	209	623	5,322
Appalachia Northern	6,765	537	1,304	511	265	473	244	784	10,944
Underground	6,765	403	839	159	56	112	61	341	8,758
Surface	-	134	465	352	209	361	183	443	2,186
Appalachia Southern	2,117	-	182	323	30	116	20	116	2,904
Underground	2,116	-	-	61	-	84	-	79	2,340
Surface	1	-	182	262	30	32	20	37	564
Interior Region Total	9,211	378	399	131	117	8	4	457	10,710
Underground	5,919	96	132	-	-	-	-	422	6,574
Surface	3,292	282	267	131	117	8	4	35	4,136
Illinois Basin	7,192	378	233	93	15	8	2	457	8,383
Underground	5,919	96	57	-	-	-	-	422	6,499
Surface	1,273	282	176	93	15	8	2	35	1,884
Other Interior	2,019	-	166	38	102	-	2	-	2,327
Underground	-	-	75	-	-	-	-	-	75
Surface	2,019	-	91	38	102	-	2	-	2,252
Western Region Total	11,528	345	160	26	-	-	-	89	12,159
Underground	2,465	246	89	26	-	-	-	64	2,890
Surface	9,063	99	71	-	-	-	-	25	9,269
Powder River Basin	5,729	-	-	-	-	-	-	11	5,740
Surface	5,729	-	-	-	-	-	-	11	5,740
Uinta Basin	2,147	163	89	26	-	-	-	74	2,510
Underground	1,719	163	89	26	-	-	-	64	2,061
Surface	428	-	-	-	-	-	-	10	449
Other Western	3,652	182	71	-	-	-	-	4	3,909
Underground	746	83	-	-	-	-	-	-	829
Surface	2,906	99	71	-	-	-	-	4	3,080
East of Mississippi River	20,200	3,467	5,810	2,760	1,355	1,385	580	3,513	39,202
Underground	17,688	2,242	4,271	1,083	683	484	166	2,375	29,047
Surface	2,512	1,225	1,539	1,677	672	901	414	1,138	10,155
West of Mississippi River	13,348	345	326	64	102	-	2	89	14,287
Underground	2,465	246	164	26	-	-	-	64	2,965
Surface	10,883	99	162	38	102	-	2	25	11,322

Coal-Producing State, Region ¹ and Mine Type	Mine Production Range (thousand short tons)							Zero ²	Total Number of Employees
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	Above 0 to 10		
U.S. Subtotal	33,548	3,812	6,136	2,824	1,457	1,385	582	3,602	53,489
Underground	20,153	2,488	4,435	1,109	683	484	166	2,439	32,012
Surface	13,395	1,324	1,701	1,715	774	901	416	1,163	21,477
Refuse Recovery	-	-	-	11	38	33	12	-	94
U.S. Total	33,548	3,812	6,136	2,835	1,495	1,418	594	3,602	53,583

- = No data reported.

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

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

Notes: 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 Union Status, 2018

Coal-Producing State and Region ¹	Union		Nonunion	
	Underground	Surface	Underground	Surface
Alabama	2,175	1	81	534
Alaska	-	99	-	-
Arizona	-	416	-	-
Colorado	162	199	668	229
Illinois	-	-	2,729	350
Indiana	-	-	1,459	1,459
Kentucky Total	7	7	4,792	1,381
Kentucky (East)	7	7	2,486	1,311
Kentucky (West)	-	-	2,306	70
Louisiana	-	-	-	322
Maryland	-	-	171	103
Mississippi	-	-	-	199
Missouri	-	-	-	16
Montana	-	753	264	294
New Mexico	313	341	-	251
North Dakota	-	206	-	1,043
Ohio	13	-	678	427
Oklahoma	-	-	75	67
Pennsylvania Total	1,151	270	2,600	1,081
Pennsylvania (Anthracite)	-	270	40	515
Pennsylvania (Bituminous)	1,151	-	2,560	566
Tennessee	-	-	55	14
Texas	-	693	-	953
Utah	-	-	1,314	38
Virginia	52	6	1,949	636
West Virginia Total	3,113	76	7,629	2,998
West Virginia (Northern)	2,359	-	1,671	86
West Virginia (Southern)	754	76	5,958	2,912
Wyoming	169	518	-	4,871
Appalachia Total	6,511	360	15,649	7,104
Appalachia Central	813	89	10,448	4,873
Appalachia Northern	3,523	270	5,120	1,697
Appalachia Southern	2,175	1	81	534
Interior Region Total	-	693	6,569	3,436
Illinois Basin	-	-	6,494	1,879
Other Interior	-	693	75	1,557
Western Region Total	644	2,532	2,246	6,726
Powder River Basin	-	740	-	5,000
Uinta Basin	162	199	1,899	239
Other Western	482	1,593	347	1,487
East of Mississippi River	6,511	360	22,143	9,182
West of Mississippi River	644	3,225	2,321	8,084
U.S. Total	7,155	3,585	24,464	17,266

- = No data reported.

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

Notes: Includes all employees at preparation plants and tipplers not co-located with a mine. 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 25,000 short tons and preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Productivity

Table 21. Coal Productivity by State and Mine Type, 2018 and 2017

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2018	2017	Percent Change	2018	2017	Percent Change	2018	2017	Percent Change
Alabama	39	37	5.4	2,904	2,600	11.7	2.15	2.15	-0.2
Underground	11	10	10.0	2,340	2,055	13.9	2.20	2.21	-0.6
Surface	28	27	3.7	564	545	3.5	1.95	1.94	0.7
Alaska	1	1	-	99	102	-2.9	4.89	5.24	-6.6
Surface	1	1	-	99	102	-2.9	4.89	5.24	-6.6
Arizona	1	1	-	416	402	3.5	6.53	6.64	-1.7
Surface	1	1	-	416	402	3.5	6.53	6.64	-1.7
Arkansas	-	3	-	-	71	-	-	0.50	-
Underground	-	1	-	-	61	-	-	0.36	-
Surface	-	2	-	-	10	-	-	1.04	-
Colorado	6	7	-14.3	1,258	1,253	0.4	5.25	5.69	-7.7
Underground	4	4	-	830	808	2.7	5.77	6.45	-10.5
Surface	2	3	-33.3	428	445	-3.8	4.18	4.28	-2.4
Illinois	26	27	-3.7	3,079	3,135	-1.8	6.82	6.54	4.3
Underground	14	16	-12.5	2,729	2,858	-4.5	7.16	6.72	6.5
Surface	12	11	9.1	350	277	26.4	4.21	4.74	-11.3
Indiana	21	23	-8.7	2,923	2,790	4.8	4.80	4.75	1.1
Underground	9	8	12.5	1,464	1,312	11.6	4.56	4.50	1.4
Surface	12	15	-20.0	1,459	1,478	-1.3	5.06	4.98	1.6
Kentucky Total	210	214	-1.9	6,502	6,597	-1.4	2.55	2.73	-6.8
Underground	92	91	1.1	4,929	4,913	0.3	2.58	2.69	-4.1
Surface	118	123	-4.1	1,573	1,684	-6.6	2.44	2.88	-15.3
Kentucky (East)	190	193	-1.6	4,121	4,110	0.3	1.79	1.94	-7.4
Underground	80	79	1.3	2,623	2,638	-0.6	1.48	1.59	-7.4
Surface	110	114	-3.5	1,498	1,472	1.8	2.36	2.62	-9.6
Kentucky (West)	20	21	-4.8	2,381	2,487	-4.3	3.71	4.00	-7.1
Underground	12	12	-	2,306	2,275	1.4	3.71	3.94	-5.8
Surface	8	9	-11.1	75	212	-64.6	3.85	4.79	-19.7
Louisiana	2	2	-	322	325	-0.9	2.04	2.67	-23.3
Surface	2	2	-	322	325	-0.9	2.04	2.67	-23.3
Maryland	15	15	-	306	303	1.0	2.23	2.58	-13.6
Underground	3	3	-	171	172	-0.6	1.27	1.86	-31.7
Surface	12	12	-	135	131	3.1	3.60	3.54	1.8
Mississippi	1	2	-50.0	199	380	-47.6	6.99	4.04	73.0
Surface	1	2	-50.0	199	380	-47.6	6.99	4.04	73.0
Missouri	1	1	-	16	15	6.7	7.08	7.45	-5.0
Surface	1	1	-	16	15	6.7	7.08	7.45	-5.0
Montana	7	7	-	1,311	1,146	14.4	14.46	14.70	-1.7
Underground	1	1	-	264	252	4.8	12.51	10.41	20.1
Surface	6	6	-	1,047	894	17.1	15.03	16.03	-6.2
New Mexico	3	3	-	905	929	-2.6	6.16	7.46	-17.5
Underground	1	1	-	313	349	-10.3	3.69	8.59	-57.1
Surface	2	2	-	592	580	2.1	7.14	6.89	3.7
North Dakota	6	5	20.0	1,249	1,255	-0.5	12.31	12.07	1.9
Surface	6	5	20.0	1,249	1,255	-0.5	12.31	12.07	1.9
Ohio	24	26	-7.7	1,122	1,086	3.3	3.66	4.07	-10.1
Underground	9	11	-18.2	691	693	-0.3	4.14	4.43	-6.5
Surface	15	15	-	431	393	9.7	2.80	3.37	-17.0
Oklahoma	5	5	-	144	186	-22.6	1.84	1.68	9.5
Underground	1	1	-	75	84	-10.7	1.17	1.59	-26.6
Surface	4	4	-	69	102	-32.4	2.60	1.81	43.7
Pennsylvania Total	201	211	-4.7	5,385	5,458	-1.3	4.20	4.07	3.2
Underground	56	58	-3.4	3,854	3,919	-1.7	5.06	4.84	4.4
Surface	145	153	-5.2	1,531	1,539	-0.5	1.72	1.79	-4.1
Pennsylvania (Anthracite)	85	94	-9.6	900	914	-1.5	1.03	1.07	-3.5
Underground	17	18	-5.6	78	82	-4.9	0.59	0.60	-2.9

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2018	2017	Percent Change	2018	2017	Percent Change	2018	2017	Percent Change
Surface	68	76	-10.5	822	832	-1.2	1.07	1.11	-3.7
Pennsylvania (Bituminous)	116	117	-0.9	4,485	4,544	-1.3	4.74	4.57	3.7
Underground	39	40	-2.5	3,776	3,837	-1.6	5.12	4.90	4.4
Surface	77	77	-	709	707	0.3	2.46	2.55	-3.5
Tennessee	6	8	-25.0	90	148	-39.2	1.23	1.51	-18.7
Underground	2	4	-50.0	55	99	-44.4	1.25	1.50	-16.4
Surface	4	4	-	35	49	-28.6	1.17	1.56	-25.3
Texas	9	10	-10.0	1,646	1,993	-17.4	6.73	8.58	-21.5
Surface	9	10	-10.0	1,646	1,993	-17.4	6.73	8.58	-21.5
Utah	14	15	-6.7	1,363	1,240	9.9	4.57	5.34	-14.3
Underground	11	12	-8.3	1,314	1,191	10.3	4.62	5.33	-13.3
Surface	3	3	-	49	49	-	3.55	5.49	-35.4
Virginia	68	74	-8.1	2,730	2,660	2.6	2.07	2.17	-5.0
Underground	33	37	-10.8	2,047	1,984	3.2	2.02	2.19	-7.8
Surface	35	37	-5.4	683	676	1.0	2.22	2.13	4.2
West Virginia Total	229	213	7.5	13,962	13,222	5.6	2.92	3.04	-4.1
Underground	109	107	1.9	10,767	10,507	2.5	2.87	3.00	-4.4
Surface	120	106	13.2	3,195	2,715	17.7	3.08	3.20	-3.8
West Virginia (Northern)	23	26	-11.5	4,131	4,246	-2.7	4.76	4.73	0.6
Underground	17	19	-10.5	4,042	4,212	-4.0	4.79	4.74	1.2
Surface	6	7	-14.3	89	34	161.8	3.12	3.03	2.9
West Virginia (Southern)	206	187	10.2	9,831	8,976	9.5	2.14	2.23	-4.1
Underground	92	88	4.5	6,725	6,295	6.8	1.71	1.81	-5.7
Surface	114	99	15.2	3,106	2,681	15.9	3.07	3.20	-3.8
Wyoming	16	17	-5.9	5,558	5,700	-2.5	26.63	26.82	-0.7
Underground	1	1	-	169	230	-26.5	6.40	3.44	86.3
Surface	15	16	-6.3	5,389	5,470	-1.5	27.27	27.85	-2.1
Appalachia Total	772	777	-0.6	30,620	29,587	3.5	2.85	2.94	-3.1
Underground	303	309	-1.9	22,548	22,067	2.2	2.95	3.04	-2.8
Surface	469	468	0.2	8,072	7,520	7.3	2.55	2.64	-3.5
Appalachia Central	470	462	1.7	16,772	15,894	5.5	2.04	2.14	-4.7
Underground	207	208	-0.5	11,450	11,016	3.9	1.71	1.82	-6.3
Surface	263	254	3.5	5,322	4,878	9.1	2.77	2.87	-3.6
Appalachia Northern	263	278	-5.4	10,944	11,093	-1.3	4.32	4.29	0.7
Underground	85	91	-6.6	8,758	8,996	-2.6	4.80	4.71	2.0
Surface	178	187	-4.8	2,186	2,097	4.2	2.10	2.23	-5.7
Appalachia Southern	39	37	5.4	2,904	2,600	11.7	2.15	2.15	-0.2
Underground	11	10	10.0	2,340	2,055	13.9	2.20	2.21	-0.6
Surface	28	27	3.7	564	545	3.5	1.95	1.94	0.7
Interior Region Total	85	94	-9.6	10,710	11,382	-5.9	5.31	5.58	-4.8
Underground	36	38	-5.3	6,574	6,590	-0.2	5.24	5.20	0.8
Surface	49	56	-12.5	4,136	4,792	-13.7	5.44	6.15	-11.6
Illinois Basin	67	71	-5.6	8,383	8,412	-0.3	5.19	5.19	-
Underground	35	36	-2.8	6,499	6,445	0.8	5.28	5.27	0.3
Surface	32	35	-8.6	1,884	1,967	-4.2	4.85	4.92	-1.5
Other Interior	18	23	-21.7	2,327	2,970	-21.6	5.79	6.85	-15.5
Underground	1	2	-50.0	75	145	-48.3	1.17	1.28	-9.0
Surface	17	21	-19.0	2,252	2,825	-20.3	5.95	7.11	-16.2
Western Region Total	54	56	-3.6	12,159	12,027	1.1	16.67	17.32	-3.7
Underground	18	19	-5.3	2,890	2,830	2.1	5.77	6.32	-8.7
Surface	36	37	-2.7	9,269	9,197	0.8	20.17	20.78	-2.9
Powder River Basin	17	17	-	5,740	5,657	1.5	27.57	28.48	-3.2
Surface	17	17	-	5,740	5,657	1.5	27.57	28.48	-3.2
Uinta Basin	18	19	-5.3	2,510	2,359	6.4	4.93	5.59	-11.7
Underground	14	15	-6.7	2,061	1,917	7.5	5.14	5.90	-12.9
Surface	4	4	-	449	442	1.6	3.95	4.22	-6.3
Other Western	19	20	-5.0	3,909	4,011	-2.5	8.50	8.43	0.8
Underground	4	4	-	829	913	-9.2	7.50	7.23	3.7
Surface	15	16	-6.3	3,080	3,098	-0.6	8.76	8.79	-0.3
East of Mississippi River	840	850	-1.2	39,202	38,379	2.1	3.40	3.46	-1.7

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2018	2017	Percent Change	2018	2017	Percent Change	2018	2017	Percent Change
Underground	338	345	-2.0	29,047	28,512	1.9	3.50	3.55	-1.4
Surface	502	505	-0.6	10,155	9,867	2.9	3.07	3.16	-2.7
West of Mississippi River	71	77	-7.8	14,287	14,617	-2.3	14.92	15.49	-3.7
Underground	19	21	-9.5	2,965	2,975	-0.3	5.64	6.10	-7.5
Surface	52	56	-7.1	11,322	11,642	-2.7	17.38	17.91	-3.0
U.S. Subtotal	911	927	-1.7	53,489	52,996	0.9	6.24	6.55	-4.7
Underground	357	366	-2.5	32,012	31,487	1.7	3.68	3.77	-2.4
Surface	554	561	-1.2	21,477	21,509	-0.1	10.36	10.92	-5.2
Refuse Recovery	21	16	31.3	94	55	70.9	4.56	9.82	-53.6
U.S. Total	932	943	-1.2	53,583	53,051	1.0	6.23	6.55	-4.8

- = No data reported.

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

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

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

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

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 22. Underground Coal Mining Productivity by State and Mining Method, 2018

(short tons produced per employee hour)

Coal-Producing State, Region ¹ and Mine Type	Continuous	Conventional and Other ²	Longwall	Total
Alabama	2.21	-	2.38	2.27
Colorado	4.68	-	6.03	5.77
Illinois	5.44	2.03	11.09	7.16
Indiana	4.81	-	-	4.56
Kentucky Total	2.94	0.17	-	2.59
Kentucky (East)	1.74	0.25	-	1.48
Kentucky (West)	4.03	-	-	3.71
Maryland	1.67	-	-	1.27
Montana	12.51	-	12.51	12.51
New Mexico	3.69	-	3.69	3.69
Ohio	2.77	-	5.77	4.14
Oklahoma	-	-	1.17	1.17
Pennsylvania Total	3.40	0.5	6.24	5.12
Pennsylvania (Anthracite)	0.85	0.38	-	0.49
Pennsylvania (Bituminous)	3.41	-	6.24	5.15
Tennessee	1.58	-	-	1.25
Utah	4.23	-	5.18	4.62
Virginia	1.54	-	3.58	2.02
West Virginia Total	2.17	0.5	4.76	2.87
West Virginia (Northern)	3.11	-	5.48	4.80
West Virginia (Southern)	2.01	0.5	1.89	1.71
Wyoming	6.40	-	6.40	6.40
Appalachia Total	2.16	0.8	4.65	2.97
Appalachia Central	1.87	0.10	2.65	1.71
Appalachia Northern	3.13	0.2	5.81	4.83
Appalachia Southern	2.21	-	2.38	2.27
Interior Region Total	4.66	0.85	10.37	5.24
Illinois Basin	4.66	0.85	11.09	5.28
Other Interior	-	-	1.17	1.17
Western Region Total	4.66	-	6.27	5.77
Uinta Basin	4.52	-	5.56	5.14
Other Western	5.21	-	8.00	7.50
East of Mississippi River	2.98	0.23	5.27	3.52
West of Mississippi River	4.66	-	6.08	5.64
U.S. Total	3.04	0.23	5.41	3.70

- = No data reported.

¹ For a definition of coal producing regions, see the Glossary.² Mines that produce coal using shortwall, scoop loading, hand loading, or other methods.

Notes: For each State, stand alone preparation plant hours are distributed across mining methods by the proportion of underground hours 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 25,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 22.1. Surface Coal Mining Productivity By State and Mining Method, 2018

(short tons produced per employee hour)

Coal-Producing State and Region ¹	Contour Strip	Area	Open Pit	Mountaintop Mining	Other ²	Total
Alabama	1.92	7.83	2.25	-	1.72	1.95
Alaska	4.89	-	4.89	-	-	4.89
Arizona	6.53	-	-	-	-	6.53
Colorado	5.21	-	3.24	-	-	4.18
Illinois	-	4.38	-	-	2.68	4.21
Indiana	-	3.82	5.03	-	15.43	5.06
Kentucky Total	2.54	4.39	4.24	3.35	1.52	2.44
Kentucky (East)	2.52	4.22	-	3.35	1.55	2.36
Kentucky (West)	4.68	5.54	4.24	-	0.58	3.85
Louisiana	-	2.04	-	-	-	2.04
Maryland	2.92	6.47	2.07	-	1.60	3.60
Mississippi	6.99	-	-	-	-	6.99
Missouri	7.08	-	-	-	-	7.08
Montana	20.25	12.19	10.21	-	s	15.03
New Mexico	10.96	-	4.55	-	-	7.14
North Dakota	12.29	-	12.68	-	s	12.31
Ohio	3.31	3.62	1.40	-	1.47	2.80
Oklahoma	2.12	-	-	-	6.80	2.60
Pennsylvania Total	2.46	-	2.52	-	0.42	1.72
Pennsylvania (Anthracite)	2.28	-	2.03	-	0.11	1.07
Pennsylvania (Bituminous)	2.63	-	2.75	-	1.42	2.46
Tennessee	-	-	-	-	1.17	1.17
Texas	4.86	9.14	5.22	-	-	6.73
Utah	-	-	5.52	-	s	3.55
Virginia	2.25	2.52	-	-	2.08	2.22
West Virginia Total	3.20	3.56	-	4.15	2.12	3.08
West Virginia (Northern)	11.95	3.60	-	-	1.44	3.12
West Virginia (Southern)	3.18	3.56	-	4.15	2.15	3.07
Wyoming	24.88	8.02	30.89	-	-	27.27
Appalachia Total	2.68	3.64	2.41	4.11	1.59	2.55
Appalachia Central	2.84	3.58	-	4.11	1.93	2.77
Appalachia Northern	2.67	3.90	2.43	-	0.66	2.10
Appalachia Southern	1.92	7.83	2.25	-	1.72	1.95
Interior Basin Total	5.20	6.02	5.06	-	5.51	5.44
Illinois Basin	4.68	4.30	5.01	-	5.40	4.85
Interior	5.20	6.86	5.22	-	6.80	5.95
Western Total	18.61	10.92	23.83	-	s	20.17
Powder River Basin	25.77	12.22	31.77	-	s	27.57
Uinta Region	5.21	-	3.24	-	s	3.95
Western	9.69	8.28	6.82	-	s	8.76
East of Mississippi River	2.94	3.80	4.24	4.11	1.71	3.07
West of Mississippi River	17.03	8.13	21.64	-	1.22	17.38
U.S. Total	11.66	5.60	15.65	4.11	1.70	10.36

- = No data reported.

s = Value is less than 0.5 of the table metric.

¹ For a definition of coal producing regions, see the Glossary.² Mines that: 1. produce coal using auger, highwall mine, or punch.

Notes: For each State, stand alone preparation plant hours are distributed across mining methods by the proportion of surface hours 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 25,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 23. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2018

(short tons produced per employee hour)

Coal-Producing State, Region ¹ and Mine Type	Mine Production Range (thousand short tons)							Total ²
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	10 or Under	
Alabama	2.36	-	2.18	1.95	3.18	0.68	0.90	2.15
Underground	2.36	-	-	1.94	-	0.6	-	2.20
Surface	-	-	2.18	1.95	3.18	2.19	0.90	1.95
Alaska	-	4.89	-	-	-	-	-	4.89
Surface	-	4.89	-	-	-	-	-	4.89
Arizona	6.53	-	-	-	-	-	-	6.53
Surface	6.53	-	-	-	-	-	-	6.53
Colorado	5.39	3.43	-	-	-	-	-	5.25
Underground	6.03	3.43	-	-	-	-	-	5.77
Surface	4.18	-	-	-	-	-	-	4.18
Illinois	7.43	3.43	5.14	5.41	3.32	-	-	6.82
Underground	7.52	-	-	-	-	-	-	7.16
Surface	4.86	3.43	5.14	5.41	3.32	-	-	4.21
Indiana	5.09	3.57	5.72	3.68	-	-	-	4.80
Underground	5.03	3.10	3.20	-	-	-	-	4.56
Surface	5.16	3.85	8.65	3.68	-	-	-	5.06
Kentucky Total	3.94	2.61	2.10	2.07	1.97	1.64	0.77	2.55
Underground	3.93	2.60	1.67	1.26	1.59	1.43	0.83	2.58
Surface	4.16	2.62	3.75	2.76	2.78	1.75	0.75	2.44
Kentucky (East)	3.29	2.61	2.04	2.01	1.92	1.59	0.76	1.79
Underground	2.74	2.60	1.67	1.26	1.59	1.43	0.83	1.48
Surface	4.16	2.62	3.58	2.68	2.67	1.67	0.74	2.36
Kentucky (West)	4.03	-	5.54	3.80	6.62	3.55	5.96	3.71
Underground	4.03	-	-	-	-	-	-	3.71
Surface	-	-	5.54	3.80	6.62	3.55	5.96	3.85
Louisiana	1.93	-	3.22	-	-	-	-	2.04
Surface	1.93	-	3.22	-	-	-	-	2.04
Maryland	-	-	2.44	6.01	2.51	2.14	1.08	2.23
Underground	-	-	1.64	-	-	2.05	-	1.27
Surface	-	-	4.59	6.01	2.51	2.19	1.08	3.60
Mississippi	6.99	-	-	-	-	-	-	6.99
Surface	6.99	-	-	-	-	-	-	6.99
Missouri	-	-	7.08	-	-	-	-	7.08
Surface	-	-	7.08	-	-	-	-	7.08
Montana	14.59	-	11.26	-	-	-	-	14.46
Underground	12.51	-	-	-	-	-	-	12.51
Surface	15.21	-	11.26	-	-	-	-	15.03
New Mexico	6.16	-	-	-	-	-	-	6.16
Underground	3.69	-	-	-	-	-	-	3.69
Surface	7.14	-	-	-	-	-	-	7.14
North Dakota	12.40	-	9.55	-	-	-	-	12.31
Surface	12.40	-	9.55	-	-	-	-	12.31
Ohio	5.77	3.35	2.71	2.28	2.38	-	0.43	3.66
Underground	5.77	2.66	2.48	3.50	-	-	-	4.14
Surface	-	4.19	2.92	1.94	2.38	-	0.43	2.80
Oklahoma	-	-	1.57	6.91	1.67	-	0.30	1.84
Underground	-	-	1.17	-	-	-	-	1.17
Surface	-	-	2.31	6.91	1.67	-	0.30	2.60
Pennsylvania Total	6.22	4.58	2.68	2.75	1.83	1.34	1.36	4.20
Underground	6.22	4.58	2.30	2.72	0.63	0.85	0.76	5.06
Surface	-	-	3.44	2.76	2.25	1.47	1.73	1.72
Pennsylvania (Anthracite)	-	-	2.74	3.54	1.41	1.12	1.19	1.03
Underground	-	-	-	-	-	1.44	0.70	0.59
Surface	-	-	2.74	3.54	1.41	1.09	1.84	1.07
Pennsylvania (Bituminous)	6.22	4.58	2.67	2.47	1.98	1.49	1.55	4.74
Underground	6.22	4.58	2.30	2.72	0.63	0.75	1.00	5.12

Coal-Producing State, Region¹ and Mine Type	Mine Production Range (thousand short tons)							Total²
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	10 or Under	
Surface	-	-	3.76	2.30	2.72	1.79	1.67	2.46
Tennessee	-	-	-	1.58	-	3.57	0.57	1.23
Underground	-	-	-	1.58	-	-	-	1.25
Surface	-	-	-	-	-	3.57	0.57	1.17
Texas	7.15	-	-	3.31	0.48	-	-	6.73
Surface	7.15	-	-	3.31	0.48	-	-	6.73
Utah	5.20	3.95	3.65	5.22	-	-	-	4.57
Underground	5.20	3.95	2.64	5.22	-	-	-	4.62
Surface	-	-	5.52	-	-	-	-	3.55
Virginia	3.03	1.95	1.89	1.79	1.90	1.64	0.27	2.07
Underground	3.03	1.61	1.67	0.99	1.00	2.03	0.57	2.02
Surface	-	2.31	2.44	3.41	2.42	1.37	0.21	2.22
West Virginia Total	4.17	2.62	1.91	2.70	1.50	1.21	0.79	2.92
Underground	4.12	2.40	1.58	1.31	1.35	1.04	0.84	2.87
Surface	4.43	3.17	3.48	3.21	1.71	1.27	0.76	3.08
West Virginia (Northern)	5.08	-	2.07	4.09	-	5.88	0.60	4.76
Underground	5.08	-	1.37	2.26	-	-	0.60	4.79
Surface	-	-	3.60	11.95	-	5.88	-	3.12
West Virginia (Southern)	2.97	2.62	1.90	2.63	1.50	1.14	0.84	2.14
Underground	2.19	2.40	1.59	1.14	1.35	1.04	1.10	1.71
Surface	4.43	3.17	3.46	3.10	1.71	1.18	0.76	3.07
Wyoming	26.63	-	-	-	-	-	-	26.63
Underground	6.40	-	-	-	-	-	-	6.40
Surface	27.27	-	-	-	-	-	-	27.27
Appalachia Total	4.22	2.78	2.10	2.25	1.80	1.36	0.87	2.85
Underground	4.21	2.63	1.72	1.43	1.37	1.01	0.78	2.95
Surface	4.40	3.12	3.20	2.80	2.24	1.54	0.90	2.55
Appalachia Central	3.01	2.55	1.95	2.15	1.74	1.44	0.64	2.04
Underground	2.49	2.35	1.63	1.15	1.44	1.39	0.82	1.71
Surface	4.40	2.98	3.35	3.01	2.17	1.46	0.59	2.77
Appalachia Northern	5.56	3.96	2.58	2.84	1.94	1.45	1.16	4.32
Underground	5.56	3.89	2.11	2.75	0.63	1.02	0.74	4.80
Surface	-	4.19	3.41	2.88	2.30	1.57	1.36	2.10
Appalachia Southern	2.36	-	2.18	1.95	3.18	0.68	0.90	2.15
Underground	2.36	-	-	1.94	-	0.6	-	2.20
Surface	-	-	2.18	1.95	3.18	2.19	0.90	1.95
Interior Region Total	5.76	3.53	4.15	4.24	1.10	3.55	2.82	5.31
Underground	5.69	3.10	2.01	-	-	-	-	5.24
Surface	5.88	3.69	5.28	4.24	1.10	3.55	2.82	5.44
Illinois Basin	5.60	3.53	5.47	4.28	4.23	3.55	5.96	5.19
Underground	5.69	3.10	3.20	-	-	-	-	5.28
Surface	5.14	3.69	6.24	4.28	4.23	3.55	5.96	4.85
Other Interior	6.37	-	2.39	4.10	0.68	-	0.30	5.79
Underground	-	-	1.17	-	-	-	-	1.17
Surface	6.37	-	3.48	4.10	0.68	-	0.30	5.95
Western Region Total	17.38	4.06	5.14	5.22	-	-	-	16.67
Underground	6.24	3.77	2.64	5.22	-	-	-	5.77
Surface	20.52	4.89	7.65	-	-	-	-	20.17
Powder River Basin	27.61	-	-	-	-	-	-	27.57
Surface	27.61	-	-	-	-	-	-	27.57
Uinta Basin	5.30	3.95	2.64	5.22	-	-	-	4.93
Underground	5.56	3.95	2.64	5.22	-	-	-	5.14
Surface	4.18	-	-	-	-	-	-	3.95
Other Western	8.74	4.17	7.65	-	-	-	-	8.50
Underground	8.01	3.43	-	-	-	-	-	7.50
Surface	8.92	4.89	7.65	-	-	-	-	8.76
East of Mississippi River	4.75	2.87	2.22	2.32	1.83	1.38	0.87	3.40
Underground	4.72	2.65	1.74	1.43	1.37	1.01	0.78	3.50
Surface	4.95	3.26	3.50	2.88	2.29	1.56	0.90	3.07
West of Mississippi River	15.76	4.06	3.68	4.34	0.68	-	0.30	14.92
Underground	6.24	3.77	1.88	5.22	-	-	-	5.64

Coal-Producing State, Region ¹ and Mine Type	Mine Production Range (thousand short tons)							Total ²
	Above 1,000	Above 500 to 1,000	Above 200 to 500	Above 100 to 200	Above 50 to 100	Above 10 to 50	10 or Under	
Surface	17.95	4.89	5.38	4.10	0.68	-	0.30	17.38
U.S. Subtotal	8.75	2.96	2.29	2.35	1.74	1.38	0.87	6.24
Underground	4.88	2.75	1.74	1.46	1.37	1.01	0.78	3.68
Surface	15.22	3.35	3.67	2.91	2.06	1.56	0.90	10.36
Refuse Recovery	-	-	-	12.96	3.95	3.04	0.28	4.56
U.S. Total	8.75	2.96	2.29	2.39	1.79	1.41	0.85	6.23

- = No data reported.

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

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

Notes: 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.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' 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 Union Status, 2018

(short tons produced per employee hour)

Coal-Producing State and Region ¹	Union		Nonunion	
	Underground	Surface	Underground	Surface
Alabama	2.30	-	1.47	1.96
Alaska	-	4.89	-	-
Arizona	-	6.53	-	-
Colorado	6.06	5.21	5.70	3.24
Illinois	-	-	7.16	4.21
Indiana	-	-	4.58	5.06
Kentucky Total	-	-	2.61	2.62
Kentucky (East)	-	-	1.50	2.55
Kentucky (West)	-	-	3.71	3.93
Louisiana	-	-	-	2.04
Maryland	-	-	1.27	3.83
Mississippi	-	-	-	6.99
Missouri	-	-	-	7.08
Montana	-	11.69	12.51	23.42
New Mexico	3.69	4.55	-	10.96
North Dakota	-	12.27	-	12.31
Ohio	-	-	4.19	2.81
Oklahoma	-	-	1.17	2.61
Pennsylvania Total	4.23	1.56	5.54	1.76
Pennsylvania (Anthracite)	-	1.56	0.49	0.78
Pennsylvania (Bituminous)	4.23	-	5.59	2.53
Tennessee	-	-	1.25	1.15
Texas	-	9.14	-	5.03
Utah	-	-	4.62	4.27
Virginia	-	-	2.08	2.36
West Virginia Total	4.52	6.52	2.20	3.03
West Virginia (Northern)	5.63	-	3.62	3.09
West Virginia (Southern)	0.98	6.52	1.80	3.03
Wyoming	6.40	5.77	-	29.50
Appalachian Total	3.67	2.81	2.70	2.61
Appalachia Central	0.91	5.78	1.78	2.81
Appalachia Northern	5.18	1.56	4.61	2.22
Appalachia Southern	2.30	-	1.47	1.96
Interior Region Total	-	9.14	5.24	4.72
Illinois Basin	-	-	5.29	4.85
Other Interior	-	9.14	1.17	4.56
Western Region Total	5.16	7.81	5.92	24.94
Powder River Basin	-	11.70	-	29.80
Uinta Basin	6.06	5.21	5.06	3.06
Other Western	4.79	6.46	10.43	11.42
East of Mississippi River	3.67	2.81	3.49	3.17
West of Mississippi River	5.16	8.11	5.75	21.15
U.S. Total	3.78	7.55	3.69	11.15

- = No data reported.

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

Notes: 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 25,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Domestic Markets

Table 25. Intentionally left blank

Table 26. U.S. Coal Consumption by End Use Sector, Census Division, and State, 2018 and 2017

(thousand short tons)

Census Division and State	2018				2017				Total		
	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	2018	2017	Percent Change
New England	577	25	-	-	897	22	-	-	602	919	-34.5
Connecticut	221	-	-	-	137	-	-	-	221	137	60.5
Maine	62	21	-	-	66	18	-	-	83	85	-1.4
Massachusetts	s	4	-	-	559	4	-	-	4	563	-99.3
New Hampshire	294	-	-	-	134	-	-	-	294	134	119.1
Rhode Island	s	-	-	-	s	-	-	-	s	s	-
Middle Atlantic	24,423	856	5,731	14	25,257	1,160	5,347	25	31,024	31,789	-2.4
New Jersey	648	-	-	-	631	-	-	-	648	631	2.8
New York	272	281	83	-	242	386	110	-	635	738	-13.9
Pennsylvania	23,503	576	5,648	14	24,384	774	5,238	25	29,740	30,420	-2.2
East North Central	143,476	6,361	9,694	195	143,276	6,776	9,295	180	159,726	159,527	0.1
Illinois	35,493	2,560	942	112	34,224	2,590	972	103	39,107	37,889	3.2
Indiana	39,144	1,773	3,813	63	35,552	2,004	3,702	57	44,792	41,315	8.4
Michigan	24,238	621	1,419	-	24,058	706	1,268	-	26,277	26,032	0.9
Ohio	25,121	508	3,520	-	28,523	561	3,353	1	29,149	32,438	-10.1
Wisconsin	19,480	900	-	20	20,918	915	-	20	20,400	21,853	-6.7
West North Central	119,317	12,349	-	181	116,028	12,558	-	208	131,847	128,795	2.4
Iowa	16,230	2,399	-	104	14,478	2,412	-	122	18,734	17,011	10.1
Kansas	13,176	117	-	-	12,542	112	-	-	13,293	12,654	5.1
Minnesota	13,813	1,076	-	6	13,359	1,201	-	8	14,895	14,568	2.2
Missouri	37,060	838	-	12	39,513	898	-	25	37,911	40,437	-6.3
Nebraska	14,443	1,138	-	-	12,570	1,173	-	-	15,581	13,743	13.4
North Dakota	23,102	6,599	-	58	22,210	6,540	-	54	29,760	28,804	3.3
South Dakota	1,493	181	-	-	1,355	224	-	-	1,674	1,579	6.1
South Atlantic	86,597	2,853	1,671	107	91,959	3,029	1,587	143	91,228	96,718	-5.7
Delaware	167	-	-	-	186	-	-	-	167	186	-10.6
District of Columbia	-	-	-	1	-	-	-	1	1	1	23.0
Florida	13,365	514	-	-	16,852	562	-	-	13,880	17,414	-20.3
Georgia	16,953	336	-	-	16,770	335	-	-	17,289	17,105	1.1
Maryland	4,481	540	-	-	3,780	562	-	-	5,021	4,342	15.6
North Carolina	12,599	398	-	78	13,461	454	-	105	13,075	14,020	-6.7
South Carolina	8,282	200	-	-	7,648	251	-	-	8,482	7,898	7.4
Virginia	4,939	494	1,032	27	5,275	503	1,018	37	6,491	6,833	-5.0
West Virginia	25,811	371	639	-	27,988	363	569	-	26,821	28,919	-7.3
East South Central	59,666	3,111	1,242	5	62,313	3,279	1,308	14	64,024	66,914	-4.3
Alabama	16,235	932	1,242	-	16,231	955	1,308	-	18,408	18,494	-0.5
Kentucky	28,567	767	-	5	27,671	834	-	14	29,339	28,519	2.9
Mississippi	4,506	-	-	-	3,865	-	-	-	4,506	3,865	16.6
Tennessee	10,359	1,412	-	-	14,546	1,490	-	-	11,771	16,035	-26.6
West South Central	111,004	1,305	-	-	128,018	1,542	-	-	112,308	129,560	-13.3
Arkansas	17,452	175	-	-	15,193	198	-	-	17,627	15,391	14.5
Louisiana	8,111	245	-	-	8,398	241	-	-	8,356	8,638	-3.3
Oklahoma	9,541	356	-	-	10,940	474	-	-	9,897	11,413	-13.3
Texas	75,899	530	-	-	93,488	630	-	-	76,429	94,117	-18.8
Mountain	86,195	3,146	-	11	91,209	3,316	-	15	89,352	94,539	-5.5
Arizona	16,814	280	-	-	16,929	227	-	-	17,094	17,156	-0.4
Colorado	15,266	179	-	s	16,628	295	-	s	15,445	16,924	-8.7
Idaho	-	122	-	-	-	114	-	-	122	114	6.6
Montana	8,733	235	-	3	8,944	252	-	2	8,972	9,198	-2.5
Nevada	1,412	295	-	-	1,097	258	-	-	1,707	1,356	25.9
New Mexico	7,262	73	-	-	10,494	72	-	-	7,335	10,566	-30.6
Utah	12,332	378	-	-	12,438	485	-	-	12,710	12,923	-1.7
Wyoming	24,378	1,583	-	8	24,679	1,611	-	12	25,969	26,303	-1.3
Pacific	5,962	1,574	-	458	6,036	1,582	-	476	7,994	8,094	-1.2
Alaska	702	1	-	458	623	1	-	476	1,161	1,101	5.5

Census Division and State	2018				2017				Total		
	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	2018	2017	Percent Change
California	s	1,438	-	-	s	1,464	-	-	1,438	1,464	-1.8
Hawaii	734	-	-	-	759	-	-	-	734	759	-3.3
Oregon	898	61	-	-	1,031	41	-	-	958	1,072	-10.6
Washington	3,628	74	-	-	3,623	76	-	-	3,702	3,699	0.1
U.S. Total	637,217	31,580	18,337	972	664,993	33,264	17,538	1,061	688,105	716,856	-4.0

- = No data reported.

NM = Not Meaningful.

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

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).

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

Sources: U.S. Energy Information Administration Form EIA-923, 'Power Plant Operations Report,' Form EIA-3, 'Quarterly Survey of Non-Electric Sector Coal Data,' and Form EIA-7A, 'Annual Survey of Coal Production and Preparation.' Prior to third quarter 2014, coke plant data was collected under Form EIA-5, 'Quarterly Coal Consumption and Quality Report - Coke Plants.'

Table 27. Year-End Coal Stocks by Sector, Census Division, and State, 2018 and 2017

(thousand short tons)

Census Division and State	2018					2017					Total		
	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Producer and Distributor	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Producer and Distributor	2018	2017	Percent Change
New England	605	5	-	-	-	933	5	-	-	-	610	937	-34.9
Connecticut	w	-	-	-	-	w	-	-	-	-	w	w	5.0
Maine	s	1	-	-	-	s	s	-	-	-	1	s	122.2
Massachusetts	w	4	-	-	-	w	4	-	-	-	w	w	-15.2
New Hampshire	w	-	-	-	-	w	-	-	-	-	w	w	-38.9
Rhode Island	w	-	-	-	-	w	-	-	-	-	w	w	-45.1
Middle Atlantic	3,871	248	444	42	585	3,909	231	355	42	721	5,191	5,257	-1.3
New Jersey	w	-	-	-	-	311	-	-	-	-	w	311	w
New York	w	91	-	-	-	w	78	1	-	-	w	w	59.9
Pennsylvania	3,622	157	444	42	585	w	152	353	42	721	4,849	w	w
East North Central	21,288	790	1,015	31	2,811	28,906	653	1,042	51	3,181	25,934	33,833	-23.4
Illinois	5,206	139	102	19	1,120	5,716	114	146	23	1,327	6,586	7,325	-10.1
Indiana	6,033	269	170	9	918	8,427	212	176	21	918	7,398	9,753	-24.2
Michigan	4,438	237	382	-	113	6,080	195	374	-	82	5,170	6,732	-23.2
Ohio	2,799	19	361	-	173	5,177	23	346	5	570	3,352	6,121	-45.2
Wisconsin	2,812	126	-	3	487	3,506	110	-	3	284	3,428	3,903	-12.2
West North Central	21,123	567	-	35	2,382	28,193	692	-	48	2,525	24,107	31,459	-23.4
Iowa	3,798	117	-	15	48	6,840	144	-	28	106	3,977	7,118	-44.1
Kansas	3,465	10	-	-	-	4,116	29	-	-	-	3,475	4,145	-16.2
Minnesota	2,746	95	-	5	18	3,479	186	-	7	51	2,865	3,723	-23.0
Missouri	7,177	87	-	1	-	8,507	65	-	1	-	7,265	8,573	-15.3
Nebraska	2,218	78	-	-	-	3,352	53	-	-	-	2,296	3,404	-32.6
North Dakota	w	148	-	14	2,315	w	192	-	12	2,368	w	w	-7.8
South Dakota	w	31	-	-	-	w	23	-	-	-	w	w	21.8
South Atlantic	16,778	396	151	41	5,610	24,031	372	177	48	4,881	22,976	29,508	-22.1
Delaware	w	-	-	-	-	w	-	-	-	-	w	w	-42.7
District of Columbia	-	-	-	3	-	-	-	-	4	-	3	4	-32.4
Florida	3,026	92	-	-	-	4,239	72	-	-	-	3,118	4,311	-27.7
Georgia	3,194	59	-	-	-	5,116	55	-	-	-	3,252	5,171	-37.1
Maryland	1,536	14	-	-	851	1,512	13	-	-	314	2,400	1,838	30.6
North Carolina	2,961	39	-	23	-	4,104	35	-	26	-	3,022	4,164	-27.4
South Carolina	1,850	72	-	-	-	4,023	68	-	-	-	1,922	4,092	-53.0
Virginia	583	57	42	15	1,091	w	69	36	18	836	1,788	w	w
West Virginia	w	65	110	-	3,668	3,829	60	141	-	3,731	w	7,761	w
East South Central	9,978	206	197	8	2,028	12,266	169	145	8	2,193	12,416	14,780	-16.0
Alabama	w	84	197	-	839	3,049	73	145	-	189	w	3,455	w
Kentucky	4,881	36	-	8	681	6,063	23	-	8	687	5,606	6,780	-17.3
Mississippi	w	-	-	-	499	911	-	-	-	1,315	w	2,226	w
Tennessee	2,417	86	-	-	9	2,244	74	-	-	2	2,512	2,320	8.3
West South Central	13,146	392	-	-	1,672	19,583	413	-	-	1,787	15,210	21,783	-30.2
Arkansas	2,297	46	-	-	-	2,972	31	-	-	-	2,343	3,003	-22.0
Louisiana	1,867	9	-	-	727	2,297	5	-	-	447	2,603	2,750	-5.3
Oklahoma	2,988	84	-	-	15	4,332	113	-	-	167	3,086	4,612	-33.1
Texas	5,994	253	-	-	930	9,981	264	-	-	1,172	7,177	11,418	-37.1
Mountain	15,671	539	-	3	6,361	18,782	554	-	3	8,459	22,574	27,797	-18.8
Arizona	2,525	35	-	-	183	3,015	27	-	-	359	2,742	3,400	-19.4
Colorado	3,964	29	-	1	1,275	4,388	19	-	1	889	5,269	5,297	-0.5
Idaho	-	244	-	-	-	-	266	-	-	-	244	266	-8.1
Montana	w	45	-	2	714	w	56	-	2	698	w	w	1.2
Nevada	w	36	-	-	-	w	30	-	-	-	w	w	-37.5
New Mexico	w	2	-	-	2,755	w	3	-	-	4,305	w	w	-31.5
Utah	3,252	42	-	-	239	4,589	59	-	-	537	3,533	5,185	-31.9
Wyoming	3,783	107	-	s	1,195	4,316	94	-	s	1,671	5,085	6,082	-16.4
Pacific	995	116	-	87	243	1,119	154	-	110	254	1,441	1,636	-11.9
Alaska	w	-	-	87	243	w	-	-	110	254	w	w	-15.4

Census Division and State	2018					2017					Total		
	Electric Power ¹	Other Industrial	Commercial and Coke	Institutional	Producer and Distributor	Electric Power ¹	Other Industrial	Commercial and Coke	Institutional	Producer and Distributor	2018	2017	Percent Change
California	s	103	-	-	-	s	125	-	-	-	103	125	-17.6
Hawaii	w	-	-	-	-	w	-	-	-	-	w	w	-0.4
Oregon	w	7	-	-	-	w	23	-	-	-	w	w	-20.6
Washington	w	5	-	-	-	w	6	-	-	-	w	w	-3.4
U.S. Total	103,455	3,258	1,807	247	21,692	137,721	3,242	1,718	310	23,999	130,459	166,990	-21.9

- = No data reported.

w = Data withheld to avoid disclosure.

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

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). Coal stocks include waste coal.

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

Sources: U.S. Energy Information Administration Form EIA-923, 'Power Plant Operations Report,' Form EIA-3, 'Quarterly Survey of Non-Electric Sector Coal Data,' Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and Form EIA-8A, 'Annual Survey of Coal Stocks and Coal Exports.' Prior to third quarter 2014, coke plant data was collected under Form EIA-5, 'Quarterly Coal Consumption and Quality Report - Coke Plants.'

Average Mine Sales Price

Table 28. Average Sales Price of Coal by State and Mine Type, 2018 and 2017

(dollars per short ton)

Coal-Producing State	2018			2017			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	170.55	79.21	154.35	161.78	77.47	146.20	5.4	2.3	5.6
Alaska	-	w	w	-	w	w	-	w	w
Arizona	-	w	w	-	w	w	-	w	w
Colorado	w	w	43.30	w	w	42.52	w	w	1.8
Illinois	39.21	40.30	39.29	37.86	38.88	37.93	3.6	3.7	3.6
Indiana	38.76	42.86	40.85	42.62	41.90	42.23	-9.1	2.3	-3.3
Kentucky Total	51.68	71.40	55.95	51.94	51.23	51.77	-0.5	39.4	8.1
Kentucky (East)	70.71	73.85	72.19	66.00	54.07	60.82	7.1	36.6	18.7
Kentucky (West)	43.92	36.92	43.75	45.33	40.29	44.90	-3.1	-8.4	-2.6
Louisiana	-	w	w	-	w	w	-	w	w
Maryland	w	w	68.17	w	w	72.68	w	w	-6.2
Mississippi	-	w	w	-	w	w	-	w	w
Missouri	-	w	w	-	w	w	-	w	w
Montana	w	w	20.15	w	w	19.31	w	w	4.4
New Mexico	w	w	39.78	w	w	34.72	w	w	14.6
North Dakota	-	17.47	17.47	-	17.82	17.82	-	-2.0	-2.0
Ohio	44.16	36.53	42.21	w	w	42.28	w	w	-0.2
Oklahoma	w	w	49.88	w	w	52.78	w	w	-5.5
Pennsylvania Total	55.67	77.32	57.91	51.96	72.63	54.08	7.1	6.5	7.1
Pennsylvania (Anthracite)	w	w	99.97	60.32	94.17	93.17	w	w	7.3
Pennsylvania (Bituminous)	w	w	56.28	51.95	60.89	52.57	w	w	7.1
Tennessee	w	w	90.97	w	w	65.96	w	w	37.9
Texas	-	19.03	19.03	-	18.20	18.20	-	4.6	4.6
Utah	w	w	36.31	w	w	35.28	w	w	2.9
Virginia	104.87	100.60	103.77	94.29	88.71	92.84	11.2	13.4	11.8
West Virginia Total	72.98	70.99	72.51	68.54	64.79	67.75	6.5	9.6	7.0
West Virginia (Northern)	w	w	58.21	w	w	54.35	w	w	7.1
West Virginia (Southern)	w	w	85.91	w	w	81.78	w	w	5.1
Wyoming	w	w	12.68	w	w	13.30	w	w	-4.7
U.S. Total	60.38	21.90	35.99	56.99	20.95	33.72	6.0	4.5	6.7

- = No data reported.

w = Data withheld to avoid disclosure.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 29. Average Sales Price of Coal by State and Underground Mining Method, 2018

(dollars per short ton)

Coal-Producing State	Continuous	Conventional and Other ¹	Longwall	Total
Alabama	159.73	-	173.20	170.55
Colorado	w	-	w	w
Illinois	32.79	w	w	39.21
Indiana	38.76	-	-	38.76
Kentucky Total	w	w	-	51.68
Kentucky (East)	w	w	-	70.71
Kentucky (West)	w	-	-	43.92
Maryland	w	-	-	w
Montana	w	-	w	w
New Mexico	w	-	w	w
Ohio	w	-	w	44.16
Oklahoma	-	-	w	w
Pennsylvania Total	w	w	48.32	55.67
Pennsylvania (Anthracite)	w	w	-	w
Pennsylvania (Bituminous)	w	-	48.32	w
Tennessee	w	-	-	w
Utah	w	-	w	w
Virginia	w	-	w	104.87
West Virginia Total	w	w	58.59	72.98
West Virginia (Northern)	83.02	-	w	w
West Virginia (Southern)	96.28	w	w	w
Wyoming	w	-	w	w
U.S. Total	63.15	46.56	58.30	60.38

- = No data reported.

w = Data withheld to avoid disclosure.

¹ Mines that produce coal using shortwall, scoop loading, hand loading, or other methods.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 29.1. Average Sales Price of Coal by State and Surface Mining Method, 2018

(dollars per short ton)

Coal-Producing State	Contour Strip	Area	Open Pit	Mountaintop Mining	Other ¹	Total
Alabama	85.03	w	w	-	64.69	79.21
Alaska	w	-	w	-	-	w
Arizona	w	-	-	-	-	w
Colorado	w	-	w	-	-	w
Illinois	-	w	-	-	w	40.30
Indiana	-	w	42.01	-	w	42.86
Kentucky Total	63.27	51.39	w	w	116.52	71.40
Kentucky (East)	w	w	-	w	w	73.85
Kentucky (West)	w	w	w	-	w	36.92
Louisiana	-	w	-	-	-	w
Maryland	44.52	w	w	-	-	w
Mississippi	w	-	-	-	-	w
Missouri	w	-	-	-	-	w
Montana	w	w	w	-	-	w
New Mexico	w	-	w	-	-	w
North Dakota	w	-	w	-	-	17.47
Ohio	w	37.81	w	-	32.53	36.53
Oklahoma	w	-	-	-	w	w
Pennsylvania Total	79.69	-	75.84	-	68.90	77.32
Pennsylvania (Anthracite)	w	-	101.69	-	w	w
Pennsylvania (Bituminous)	w	-	65.85	-	w	w
Tennessee	-	-	-	-	w	w
Texas	w	11.64	w	-	-	19.03
Utah	-	-	w	-	-	w
Virginia	103.19	104.91	-	-	95.78	100.60
West Virginia Total	78.48	69.99	-	56.76	65.66	70.99
West Virginia (Northern)	w	w	-	-	w	w
West Virginia (Southern)	w	w	-	56.76	w	w
Wyoming	w	w	11.95	-	-	w
U.S. Total	20.87	36.42	16.94	56.27	76.56	21.90

- = No data reported.

w = Data withheld to avoid disclosure.

¹ Mines that: 1. produce coal using auger, highwall mine, or punch.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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. Mines reporting multiple mining methods are assigned to the mining method with the greatest percentage of production reported.

Source: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 30. Average Sales Price of Coal by State, County, and Number of Mines, 2018

Coal-Producing State and County	Number of Mines	Sales (thousand short tons)	Average Sales Price (dollars per short ton)
Alabama	23	14,505	154.35
Bibb	1	w	w
Jefferson	10	8,487	156.70
Shelby	1	w	w
Tuscaloosa	2	w	w
Walker	9	3,479	145.72
Alaska	1	w	w
Denali	1	w	w
Arizona	1	w	w
Navajo	1	w	w
Colorado	6	13,684	43.30
Gunnison	1	w	w
La Plata	1	w	w
Moffat	2	w	w
Rio Blanco	1	w	w
Routt	1	w	w
Illinois	18	49,564	39.29
Franklin	1	w	w
Gallatin	1	w	w
Hamilton	1	w	w
Macoupin	1	w	w
Perry	4	w	w
Randolph	3	w	w
Saline	3	w	w
Sangamon	1	w	w
Wabash	1	w	w
Washington	1	w	w
Williamson	1	w	w
Indiana	18	34,872	40.85
Clay	1	w	w
Daviess	2	w	w
Dubois	2	w	w
Gibson	4	12,103	39.35
Knox	2	w	w
Sullivan	2	w	w
Warrick	5	5,043	43.49
Kentucky	102	38,797	55.95
Bell	6	757	73.24
Breathitt	1	w	w
Daviess	2	w	w
Floyd	5	817	69.87
Harlan	13	3,134	64.33
Hopkins	1	w	w
Johnson	2	w	w
Knott	4	449	50.77
Knox	4	163	247.58
Lawrence	2	w	w
Leslie	6	1,241	57.57
Letcher	2	w	w
Magoffin	2	w	w
Martin	2	w	w
McLean	1	w	w
Morgan	1	w	w
Muhlenberg	3	w	w
Ohio	2	w	w
Perry	10	3,561	57.19
Pike	22	4,054	70.97
Union	1	w	w

Coal-Producing State and County	Number of Mines	Sales (thousand short tons)	Average Sales Price (dollars per short ton)
Webster	1	w	w
Whitley	9	836	221.33
Louisiana	2	w	w
De Soto	1	w	w
Natchitoches	1	w	w
Maryland	9	1,317	68.17
Allegany	7	889	44.99
Garrett	2	w	w
Mississippi	1	w	w
Choctaw	1	w	w
Missouri	1	w	w
Bates	1	w	w
Montana	6	38,568	20.15
Big Horn	3	w	w
Musselshell	1	w	w
Richland	1	w	w
Rosebud	1	w	w
New Mexico	3	w	w
Mckinley	1	w	w
San Juan	2	w	w
North Dakota	5	29,693	17.47
Mclean	1	w	w
Mercer	3	w	w
Oliver	1	w	w
Ohio	14	9,759	42.21
Belmont	1	w	w
Harrison	4	1,866	39.68
Monroe	1	w	w
Noble	1	w	w
Perry	2	w	w
Stark	1	w	w
Tuscarawas	2	w	w
Vinton	2	w	w
Oklahoma	4	639	49.88
Craig	1	w	w
Latimer	1	w	w
Le Flore	2	w	w
Pennsylvania	81	49,645	57.91
Armstrong	3	w	w
Bedford	1	w	w
Butler	1	w	w
Cambria	3	w	w
Carbon	1	w	w
Clarion	1	w	w
Clearfield	11	1,074	102.75
Columbia	1	w	w
Dauphin	1	w	w
Greene	5	28,712	47.95
Indiana	5	2,133	101.05
Jefferson	4	494	74.31
Luzerne	5	373	84.89
Lycoming	1	w	w
Mercer	1	w	w
Northumberland	5	223	49.21
Schuylkill	13	1,167	113.47
Somerset	16	2,996	90.97
Washington	1	w	w
Westmoreland	2	w	w
Tennessee	2	w	w
Claiborne	2	w	w
Texas	9	25,145	19.03
Atascosa	1	w	w

Coal-Producing State and County	Number of Mines	Sales (thousand short tons)	Average Sales Price (dollars per short ton)
Harrison	2	w	w
Lee	1	w	w
Limestone	1	w	w
Maverick	1	w	w
Panola	1	w	w
Robertson	1	w	w
Rusk	1	w	w
Utah	8	14,444	36.31
Carbon	3	w	w
Emery	3	w	w
Kane	1	w	w
Sevier	1	w	w
Virginia	40	12,675	103.77
Buchanan	15	7,257	99.83
Dickenson	9	3,414	130.81
Russell	1	w	w
Tazewell	3	w	w
Wise	12	1,608	75.22
West Virginia	134	96,000	72.51
Barbour	1	w	w
Boone	11	4,418	71.79
Fayette	10	3,293	72.20
Greenbrier	8	1,245	103.99
Kanawha	8	5,898	71.58
Logan	20	12,340	79.95
Marion	3	w	w
Marshall	2	w	w
Mcdowell	27	3,662	97.29
Mercer	1	w	w
Mingo	11	5,661	62.64
Monongalia	2	w	w
Nicholas	3	w	w
Ohio	1	w	w
Raleigh	10	6,715	120.61
Randolph	1	w	w
Taylor	1	w	w
Tucker	1	w	w
Webster	1	w	w
Wyoming	12	5,502	102.53
Wyoming	16	304,508	12.68
Campbell	11	270,449	11.23
Converse	1	w	w
Lincoln	1	w	w
Sweetwater	3	w	w
U.S. Total	504	758,343	35.99

- = No data reported.

w = Data withheld to avoid disclosure.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 31. Average Sales Price of Coal by State and Coal Rank, 2018

(dollars per short ton)

Coal-Producing State	Bituminous	Subbituminous	Lignite	Anthracite	Total
Alabama	154.35	-	-	-	154.35
Alaska	-	w	-	-	w
Arizona	w	-	-	-	w
Colorado	w	w	-	-	43.30
Illinois	39.29	-	-	-	39.29
Indiana	40.85	-	-	-	40.85
Kentucky Total	55.95	-	-	-	55.95
Kentucky (East)	72.19	-	-	-	72.19
Kentucky (West)	43.75	-	-	-	43.75
Louisiana	-	-	w	-	w
Maryland	68.17	-	-	-	68.17
Mississippi	-	-	w	-	w
Missouri	w	-	-	-	w
Montana	w	16.56	w	-	20.15
New Mexico	w	w	-	-	39.78
North Dakota	-	-	17.47	-	17.47
Ohio	42.21	-	-	-	42.21
Oklahoma	49.88	-	-	-	49.88
Pennsylvania Total	56.28	-	-	99.97	57.91
Pennsylvania (Anthracite)	-	-	-	99.97	99.97
Pennsylvania (Bituminous)	56.28	-	-	-	56.28
Tennessee	w	-	-	-	w
Texas	w	-	w	-	19.03
Utah	36.31	-	-	-	36.31
Virginia	103.77	-	-	-	103.77
West Virginia Total	72.51	-	-	-	72.51
West Virginia (Northern)	58.21	-	-	-	58.21
West Virginia (Southern)	85.91	-	-	-	85.91
Wyoming	w	w	-	-	12.68
U.S. Total	59.43	13.64	20.21	99.97	35.99

- = No data reported.

w = Data withheld to avoid disclosure.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 32. Average Sales Price of Coal by Mine Production Range and Mine Type, 2018

(dollars per short ton)

Mine Production Range (thousand short tons)	Underground	Surface	Total
Over 1,000	55.72	17.27	30.78
Over 500 to 1,000	87.06	66.53	78.62
Over 200 to 500	87.72	58.96	74.63
Over 100 to 200	82.48	77.34	78.56
Over 50 to 100	84.71	71.84	76.28
50 or Under	111.20	82.33	89.19
U.S. Total	60.38	21.90	35.99

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 33. Average Sales Price of U.S. Coal by State and Disposition, 2018

(dollars per short ton)

Coal-Producing State	Open Market ¹	Captive ²	Total ³
Alabama	w	w	154.35
Alaska	w	-	w
Arizona	w	-	w
Colorado	37.90	43.55	43.30
Illinois	w	w	39.29
Indiana	39.35	43.12	40.85
Kentucky Total	55.63	61.14	55.95
Kentucky (East)	73.02	61.14	72.19
Kentucky (West)	43.81	-	43.75
Louisiana	w	-	w
Maryland	59.80	-	68.17
Mississippi	w	-	w
Missouri	w	-	w
Montana	w	w	20.15
New Mexico	w	w	w
North Dakota	w	w	17.47
Ohio	w	w	42.21
Oklahoma	49.88	-	49.88
Pennsylvania Total	w	w	57.91
Pennsylvania (Anthracite)	w	w	99.97
Pennsylvania (Bituminous)	w	w	56.28
Tennessee	w	-	w
Texas	w	w	19.03
Utah	37.13	-	36.31
Virginia	w	w	103.77
West Virginia Total	63.18	43.00	72.51
West Virginia (Northern)	w	w	58.21
West Virginia (Southern)	w	w	85.91
Wyoming	w	w	12.68
U.S. Total	32.69	20.77	35.99

- = No data reported.

w = Data withheld to avoid disclosure.

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

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

3 Total includes price of coal sold on the open market, captive market and exported by coal mines. Excludes price of coal exported by coal brokers, coal traders and coal terminals.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Table 33.1 Average Sales Price of U.S. Coal by Use and Disposition, 2014-2018

(dollars per short ton)

Year	Open Market Sales ¹		Captive Sales / Transactions ²		Exports ³		Total	
	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical	Metallurgical	Non-Metallurgical
2014	77.45	32.26	79.51	21.83	105.41	50.85	92.69	30.17
2015	69.38	30.40	101.21	22.15	93.45	44.76	83.54	28.50
2016	65.03	29.37	71.52	22.14	92.76	35.99	82.11	27.36
2017	88.92	28.21	86.00	19.91	159.67	40.02	132.82	26.53
2018	97.78	27.87	104.63	20.19	171.42	43.51	144.00	27.02

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

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

3 Excludes price of coal exported by coal brokers, coal traders and coal terminals.

Notes: An average sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the coal sold by the total coal sold. Excludes mines producing less than 25,000 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: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation.'

Average Consumer Prices

Table 34. Average Price of Coal Delivered to End Use Sector by Census Division and State, 2018 and 2017

(dollars per short ton)

Census Division and State	2018				2017				Annual Percent Change			
	Electric Power ¹	Other Industrial	Commercial and Institutional		Electric Power ¹	Other Industrial	Commercial and Institutional		Electric Power ¹	Other Industrial	Commercial and Institutional	
New England	92.97	w	-	-	85.05	w	-	-	9.31	10.75	-	-
Connecticut	w	-	-	-	-	-	-	-	w	-	-	-
Maine	w	w	-	-	w	w	-	-	24.43	10.85	-	-
Massachusetts	-	w	-	-	w	w	-	-	w	-	-	-
New Hampshire	86.29	-	-	-	99.00	-	-	-	-12.84	-	-	-
Rhode Island	w	-	-	-	-	-	-	-	w	-	-	-
Middle Atlantic	w	94.64	w	105.17	w	83.76	w	119.40	8.40	12.99	7.05	-11.92
New Jersey	w	-	-	-	w	-	-	-	-0.54	-	-	-
New York	w	120.38	w	-	w	109.27	w	-	-4.75	10.17	4.54	-
Pennsylvania	w	81.33	w	105.17	w	73.14	w	119.40	8.52	11.20	7.24	-11.92
East North Central	39.85	72.56	138.28	66.83	40.74	71.99	133.27	66.85	-2.18	0.79	3.76	s
Illinois	w	45.53	w	53.77	w	44.11	w	52.80	-0.83	3.22	6.35	1.84
Indiana	w	92.15	w	w	w	91.57	w	w	-2.08	0.63	s	-1.93
Michigan	w	86.96	w	-	w	86.17	w	-	-1.62	0.92	-0.52	-
Ohio	w	99.33	122.61	-	w	101.33	111.54	-	-4.45	-1.97	9.92	-
Wisconsin	40.44	84.49	-	154.28	39.50	80.48	-	153.92	2.38	4.98	-	s
West North Central	28.25	28.32	-	79.36	29.02	30.80	-	77.97	-2.65	-8.05	-	1.78
Iowa	28.45	39.53	-	w	29.15	42.41	-	w	-2.40	-6.79	-	4.13
Kansas	29.31	w	-	-	29.46	w	-	-	-0.51	-1.88	-	-
Minnesota	38.91	48.04	-	w	37.11	60.31	-	w	4.85	-20.34	-	-9.58
Missouri	31.85	49.57	-	w	32.83	49.44	-	w	-2.99	s	-	5.98
Nebraska	21.37	27.57	-	-	23.20	29.67	-	-	-7.89	-7.08	-	-
North Dakota	20.15	w	-	w	21.02	w	-	w	-4.14	s	-	0.75
South Dakota	30.85	w	-	-	36.34	w	-	-	-15.11	3.70	-	-
South Atlantic	61.88	99.11	w	123.18	63.07	94.46	w	108.52	-1.89	4.92	11.14	13.51
Delaware	w	-	-	-	w	-	-	-	-2.09	-	-	-
District of Columbia	-	-	-	-	-	-	-	w	-	-	-	w
Florida	68.23	114.54	-	-	w	100.95	-	-	w	13.46	-	-
Georgia	53.99	102.08	-	-	55.54	93.15	-	-	-2.79	9.59	-	-
Maryland	w	w	-	-	w	w	-	-	-4.26	1.59	-	-
North Carolina	w	96.36	-	w	w	93.57	-	w	5.93	2.98	-	15.80
South Carolina	81.96	99.82	-	-	81.92	97.23	-	-	0.5	2.66	-	-
Virginia	w	92.18	w	118.12	w	91.47	w	107.58	-1.78	0.78	4.98	9.80
West Virginia	w	154.38	w	-	w	154.15	w	-	-4.25	s	23.93	-
East South Central	w	87.67	w	w	w	87.44	w	w	s	s	7.97	-8.10
Alabama	44.08	94.89	w	-	42.37	93.50	w	-	4.04	1.49	7.97	-
Kentucky	43.45	88.59	-	w	43.79	89.26	-	w	-0.78	-0.75	-	-8.10
Mississippi	w	-	-	-	w	-	-	-	-4.70	-	-	-
Tennessee	48.42	82.48	-	-	48.66	82.73	-	-	s	s	-	-
West South Central	30.34	76.36	-	-	w	65.06	-	-	w	17.37	-	-
Arkansas	w	w	-	-	w	w	-	-	-2.39	2.21	-	-
Louisiana	w	w	-	-	w	w	-	-	8.65	27.05	-	-
Oklahoma	w	68.79	-	-	w	w	-	-	-3.24	w	-	-
Texas	27.35	87.32	-	-	w	73.23	-	-	w	19.24	-	-
Mountain	36.13	56.36	-	w	34.75	53.03	-	w	3.97	6.28	-	7.91
Arizona	47.41	w	-	-	43.39	w	-	-	9.26	2.82	-	-
Colorado	30.04	57.77	-	-	32.92	54.49	-	w	-8.75	6.02	-	w
Idaho	-	w	-	-	-	w	-	-	-	-11.65	-	-
Montana	w	41.29	-	w	w	37.48	-	w	-9.80	10.17	-	-
Nevada	w	75.09	-	-	w	71.55	-	-	13.46	4.95	-	-
New Mexico	46.33	w	-	-	36.93	w	-	-	25.45	3.79	-	-
Utah	44.01	53.65	-	-	42.18	52.90	-	-	4.34	1.42	-	-
Wyoming	w	46.57	-	w	w	44.66	-	w	1.39	4.28	-	s
Pacific	45.73	81.44	-	w	43.33	86.26	-	w	5.54	-5.59	-	2.36
Alaska	46.75	-	-	w	43.44	-	-	w	7.62	-	-	2.36

Census Division and State	2018				2017				Annual Percent Change			
	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional	Electric Power ¹	Other Industrial	Coke	Commercial and Institutional
California	-	81.73	-	-	-	87.02	-	-	-	-6.08	-	-
Hawaii	w	-	-	-	w	-	-	-	21.88	-	-	-
Oregon	40.43	w	-	-	40.14	w	-	-	0.72	1.91	-	-
Washington	w	w	-	-	w	w	-	-	-0.5	2.05	-	-
U.S. Total	39.08	59.01	128.75	83.86	39.09	58.67	122.14	82.97	s	0.58	5.41	1.07

- = No data reported.

w = Data withheld to avoid disclosure.

s = Value is less than 0.5 of the table metric, but value is included in any associated total.

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).

Sources: U.S. Energy Information Administration Form EIA-923, 'Power Plant Operations Report,' and Form EIA-3, 'Quarterly Survey of Non-Electric Sector Coal Data.' Prior to third quarter 2014, coke plant data was collected under Form EIA-5, 'Quarterly Coal Consumption and Quality Report - Coke Plants.'

Imports and Exports

Table 35. Coal Imports by Country of Origin, 2000-2018

(Short Tons)

Year	Europe																	
	Australia	New Zealand	Canada	Mexico	Colombia	Venezuela	China	India	Indonesia	Norway	Poland	Russia	Ukraine	United Kingdom	Other	Total	South Africa	Other
2000	167,595	-	1,923,434	6,671	7,636,614	2,038,774	19,646	205	718,149	-	-	1,212	-	238	-	1,450	-	85
2001	315,870	24,178	2,571,415	8,325	11,176,191	3,335,258	109,877	1,169	882,455	15,933	514,166	219,077	-	75,704	12	824,892	440,408	97,273
2002	821,280	-	2,110,688	41,832	9,205,161	3,349,883	62,185	2,055	962,474	-	121,660	87,586	-	277	121	209,644	77,314	33,034
2003	330,337	53,484	2,099,087	-	15,479,019	4,624,916	149,904	2,000	2,104,731	-	-	68,560	-	717	152	69,429	78,264	52,951
2004	295,526	-	2,877,616	309	16,661,238	4,435,630	147,136	443	2,180,899	-	74,609	263,776	104,861	44,285	147,172	634,703	33,795	159,881
2005	230,997	42,136	2,017,435	1,343	21,215,089	3,734,056	20,094	-	2,467,977	-	76,937	393,592	34,728	839	51,994	558,090	77,044	148,082
2006	245,184	-	2,048,224	-	25,340,602	4,197,636	43,491	-	3,146,627	36,806	-	940,685	-	1,069	159,874	1,138,434	61,649	184,003
2007	65,726	51,070	1,967,271	-	26,863,901	3,425,108	50,257	214	3,663,107	35,557	-	134,591	37,527	1,870	32	209,577	-	50,648
2008	149,344	-	2,027,148	-	26,261,802	2,311,865	45,113	-	3,373,574	-	-	71	37,354	-	1,086	38,511	45	1,363
2009	151,738	-	1,287,626	6	17,787,441	1,297,214	9,364	805	2,084,271	-	-	-	19,878	33	11	19,922	-	139
2010	380,404	450	1,766,896	-	14,583,950	581,700	52,869	2,002	1,904,040	-	-	-	41,370	3,647	4	45,021	-	35,359
2011	61,745	-	1,680,490	427	9,500,387	778,887	22,128	3,759	856,038	-	331	177	124,775	-	1,969	127,252	33	58,429
2012	-	220	1,107,727	43	6,951,515	287,147	77,738	14,650	517,532	-	-	14,330	187,837	10	3	202,180	-	508
2013	22	-	1,116,076	-	6,575,927	42,428	51,944	1,356	886,920	-	-	36,395	181,116	115	1,595	219,221	-	14,126
2014	532	-	1,026,523	17	8,295,286	288,738	39,776	1,536	1,526,611	-	-	42,439	103,167	164	-	145,770	23	25,114
2015	60,994	-	1,187,655	83	8,936,034	74,175	16,099	406	890,124	-	-	-	58,802	570	93	59,465	50,773	42,296
2016	121,967	-	1,078,480	978	7,890,800	-	6,955	-	613,944	-	-	64,774	-	341	657	65,772	28,488	39,631
2017	700	-	891,734	92	6,086,612	46	6,474	444	699,453	-	-	34,449	-	59	12,703	47,211	37,829	19,280
2018	-	-	770,359	625	4,060,581	-	28,624	-	915,188	-	-	78,908	27,377	575	2,285	109,145	47,404	24,509

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

Web Page: For related information, see <http://www.eia.gov/coal/>.

Sources: 2000 U.S. Department of Commerce, Bureau of the Census, 'Monthly Report IM 145.' 2001 forward U.S. Energy Information Administration, Quarterly Coal Report October-December, quarterly reports.

Table 36. Coal Exports by Country of Destination, 1960-2018

(Thousand Short Tons)

Year	Europe												Total	Japan	Other ³	Total
	Canada	Brazil	Belgium ¹	Denmark	France	Germany ²	Italy	Netherlands	Spain	Turkey	United Kingdom	Other ³				
1960	12,843	1,067	1,116	130	794	4,566	4,899	2,837	331	-	-	2,440	17,113	5,617	1,341	37,981
1961	12,135	994	971	80	708	4,326	4,797	2,552	228	-	-	2,026	15,688	6,614	974	36,405
1962	12,302	1,327	1,289	38	851	5,056	5,978	3,320	766	-	2	1,848	19,148	6,465	973	40,215
1963	14,557	1,161	2,651	41	2,726	5,560	7,872	5,000	1,500	-	-	2,372	27,722	6,057	938	50,435
1964	14,824	1,103	2,325	18	2,216	5,162	8,068	4,187	1,426	-	-	2,552	25,954	6,526	1,137	49,544
1965	16,304	1,213	2,246	6	2,099	4,730	8,970	3,374	1,406	-	7	2,252	25,090	7,491	934	51,032
1966	16,453	1,745	1,841	2	1,582	4,894	7,837	3,165	1,204	-	1	2,525	23,051	7,793	1,026	50,068
1967	15,757	1,736	1,422	-	2,132	4,694	5,860	2,227	1,012	-	-	2,072	19,419	12,224	987	50,123
1968	17,149	1,789	1,053	-	1,460	3,785	4,312	1,491	1,480	-	-	1,883	15,464	15,824	929	51,155
1969	17,261	1,847	943	-	2,254	3,493	3,720	1,645	1,825	-	-	1,330	15,210	21,367	1,176	56,861
1970	19,111	2,021	1,881	-	3,574	5,030	4,266	2,113	3,153	-	3	1,786	21,806	27,636	1,159	71,733
1971	18,031	1,873	765	-	3,207	2,937	2,680	1,627	2,556	-	1,669	1,127	16,568	19,717	1,115	57,304
1972	18,661	1,920	1,144	-	1,730	2,399	3,705	2,289	2,139	-	2,381	1,099	16,886	18,038	1,235	56,740
1973	16,709	1,647	1,205	-	1,971	1,633	3,322	1,820	2,234	-	941	1,310	14,436	19,190	1,605	53,587
1974	14,187	1,294	1,109	-	2,676	1,484	3,922	2,556	2,017	-	1,405	886	16,055	27,346	1,779	60,661
1975	17,279	2,008	627	-	3,622	1,989	4,504	2,110	2,691	-	1,889	1,609	19,041	25,423	2,558	66,309
1976	16,942	2,242	2,202	34	3,532	1,000	4,211	3,507	2,513	-	843	2,072	19,914	18,803	2,120	60,021
1977	17,692	2,283	1,516	99	2,106	889	4,149	1,962	1,570	-	607	2,077	14,975	15,862	3,500	54,312
1978	15,657	1,492	1,054	-	1,660	617	3,227	1,082	758	-	398	2,188	10,984	10,087	2,494	40,714
1979	19,513	2,829	3,204	163	3,866	2,556	4,985	2,011	1,351	-	1,351	4,442	23,929	15,681	4,090	66,042
1980	17,473	3,265	4,633	1,650	7,789	2,530	7,131	4,657	3,409	-	4,140	6,009	41,948	23,069	5,987	91,742
1981	18,238	2,727	4,254	3,879	9,745	4,308	10,473	6,820	6,381	569	2,341	8,243	57,013	25,856	8,707	112,541
1982	18,564	3,130	4,761	2,809	8,985	2,336	11,279	5,934	5,582	1,564	2,017	6,013	51,280	25,768	7,535	106,277
1983	17,151	3,572	2,544	1,740	4,201	1,488	8,057	4,162	3,257	1,628	1,237	4,748	33,062	17,865	6,122	77,772
1984	20,444	4,706	3,902	614	3,791	913	7,624	5,483	2,306	1,472	2,853	3,853	32,811	16,325	7,197	81,483
1985	16,393	5,862	4,427	2,159	4,481	1,078	10,252	6,327	3,456	2,196	2,676	8,054	45,106	15,372	9,947	92,680
1986	14,478	5,720	4,362	2,123	5,389	810	10,359	5,631	2,620	2,418	2,907	5,933	42,552	11,370	11,398	85,518
1987	16,227	5,830	4,578	934	2,886	477	9,537	4,093	2,454	772	2,589	5,839	34,159	11,082	12,309	79,607
1988	19,232	5,252	6,490	2,804	4,302	702	11,070	5,086	2,542	2,023	3,671	6,448	45,138	14,122	11,279	95,023
1989	16,777	5,681	7,094	3,178	6,517	745	11,240	6,076	3,339	1,686	4,513	7,216	51,604	13,846	12,907	100,815
1990	15,511	5,847	8,500	3,188	6,879	1,057	11,947	8,369	3,791	2,117	5,177	7,357	58,382	13,338	12,726	105,804
1991	11,178	7,052	7,464	4,658	9,509	1,742	11,274	9,625	4,694	2,186	6,171	8,197	65,520	12,269	12,950	108,969
1992	15,140	6,370	7,196	3,832	8,060	1,003	9,344	9,148	4,535	1,990	5,595	6,551	57,254	12,304	11,448	102,516
1993	8,889	5,197	5,229	336	3,972	508	6,918	5,562	4,064	1,605	4,111	5,270	37,575	11,878	10,980	74,519
1994	9,193	5,482	4,911	477	2,875	323	7,543	4,874	4,132	1,335	3,363	5,994	35,827	10,158	10,699	71,359
1995	9,427	6,351	4,501	2,100	3,659	1,953	9,063	7,301	4,653	2,011	4,726	8,653	48,620	11,787	12,362	88,547
1996	12,029	6,540	4,569	1,316	3,852	1,055	9,204	7,058	4,093	2,167	6,196	7,682	47,192	10,529	14,183	90,473
1997	14,975	7,455	4,319	350	3,398	870	7,019	4,825	4,134	2,092	7,185	7,139	41,331	7,974	11,810	83,545
1998	20,654	6,475	3,195	274	3,192	1,247	5,317	4,516	3,156	1,592	5,947	5,337	33,773	7,734	9,412	78,048
1999	19,826	4,442	2,073	-	2,522	573	4,014	3,432	2,472	795	3,162	3,466	22,509	4,953	6,746	58,476
2000	18,769	4,536	2,890	77	3,044	976	3,711	2,623	2,686	1,809	3,294	3,859	24,969	4,446	5,769	58,489

Europe

Year	Canada	Brazil	Belgium ¹	Denmark	France	Germany ²	Italy	Netherlands	Spain	Turkey	United Kingdom	Other ³	Total	Japan	Other ³	Total
2001	17,633	4,574	2,770	-	2,235	913	5,408	2,123	1,645	887	2,471	2,368	20,821	2,070	3,568	48,666
2002	16,686	3,538	2,371	-	1,305	958	3,077	1,650	1,914	580	1,902	1,816	15,574	1,253	2,550	39,601
2003	20,760	3,514	1,816	288	1,278	535	2,826	1,993	1,771	1,097	1,480	2,064	15,148	6	3,586	43,014
2004	17,760	4,361	1,743	74	1,103	642	2,105	2,471	1,529	1,271	1,986	2,286	15,211	4,426	6,240	47,998
2005	19,466	4,199	2,079	73	1,261	669	2,455	2,623	1,863	1,888	1,777	4,136	18,825	2,081	5,371	49,942
2006	19,889	4,534	2,166	383	1,625	1,650	3,283	2,091	1,632	1,226	2,565	4,183	20,805	332	4,087	49,647
2007	18,389	6,512	2,109	80	2,384	2,321	3,544	4,553	1,483	1,447	3,361	5,837	27,119	5	7,138	59,163
2008	22,979	6,380	3,081	385	3,469	2,531	3,197	7,004	2,383	1,915	5,763	10,577	40,306	1,733	10,122	81,519
2009	10,599	7,416	2,690	321	3,364	2,457	2,343	5,878	1,744	1,428	4,589	5,261	30,073	907	10,102	59,097
2010	11,400	7,925	2,283	80	3,165	2,663	3,308	7,306	1,947	2,532	4,391	10,532	38,208	3,164	21,019	81,716
2011	6,845	8,680	3,072	161	4,042	4,761	5,589	10,785	1,795	2,945	6,927	13,864	53,942	6,923	44,733	107,259
2012	7,211	7,954	2,650	-	4,120	5,260	8,540	13,542	2,182	5,333	12,083	12,688	66,399	5,699	51,171	125,746
2013	7,110	8,610	2,007	-	4,109	5,475	6,594	12,709	1,579	4,984	13,511	9,787	60,755	5,360	45,611	117,659
2014	6,724	8,032	1,013		2,373	4,815	5,781	12,479	1,400	4,460	9,808	10,340	52,469	4,898	35,474	97,257
2015	5,958	6,339	1,196	45	1,332	4,018	3,431	12,908	1,272	2,055	4,201	7,436	37,894	4,657	26,547	73,958
2016	5,011	6,939	1,254	61	1,340	3,503	1,910	10,159	1,396	1,487	1,064	5,207	27,381	4,555	21,591	60,271
2017	5,286	7,563	1,252	119	2,176	4,900	3,143	9,373	1,758	2,564	2,730	11,546	39,561	7,668	48,422	96,953
2018	5,726	8,595	1,094	64	1,705	3,568	3,408	12,362	1,833	3,063	4,194	12,516	43,808	10,391	59,628	115,632

NA=Not Available.

- =No data reported.

¹ Through 1999, includes Luxembourg.

² Through 1990, data for Germany are for the former West Germany only. Beginning in 1991, data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

³ See source publications for data for countries included in 'Other'.

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

Sources: 1960-1988 U.S. Department of Commerce, Bureau of the Census, U.S. Exports by Schedule B Commodities, EM 522. 1989-2000 U.S. Energy Information Administration (EIA), Coal Industry Annual, annual reports. 2001 forward EIA, Quarterly Coal Report October-December, quarterly reports; and U.S. Department of Commerce, Bureau of the Census, 'Monthly Report EM 545.'