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Preface

The *Annual Coal Report* (ACR) provides information about U.S. coal production, number of mines, prices, productivity, employment, productive capacity, and recoverable reserves to a wide audience, including Congress, Federal and State agencies, the coal industry, and the general public. This report is published by the U.S. Energy Information Administration (EIA) to fulfill data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (Public Law 93-275), as amended.

This report presents annual data on coal production, prices, recoverable reserves, employment, productivity, productive capacity, consumption, and stocks. U.S. coal production, employment, and productivity are based on the U.S. Department of Labor's Mine Safety and Health Administration's Form 7000-2, "Quarterly Mine Employment and Coal Production Report." Prices, recoverable reserves, and productive capacity are based on EIA's annual survey form, EIA-7A, "Coal Production Report."

This report is the 33PP[rd] annual report on coal production published by EIA and continues the series formerly included in the *Minerals Yearbook* published by the Bureau of Mines.

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

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Executive Summary

Coal production in the United States in 2008 reached a record level of 1,171.8 million short tons according to data from the U.S. Energy Information Administration (Table ES1), an increase of 2.2 percent, or 25.2 million short tons above the 2007 level and 9.1 million short tons above the prior record level set in 2006. Although coal production was higher in 2008, U.S. total coal consumption decreased in all sectors for the year. Coal consumption in the electric power sector in 2008 was lower by 0.4 percent, while coking coal consumption decreased by 2.8 percent and the other industrial sector declined by 3.7 percent. The commercial and institutional sector (which prior to 2008 had been called 'residential and commercial'), the smallest of all the coal-consuming sectors, declined by 0.6 percent in 2008. (Note: All percentage change calculations are done at the short-tons level.) Total coal stocks increased in 2008, as some consumers added to their stockpiles. The coal synfuel industry, which grew throughout most of this decade, disappeared from the scene due to the expiration of the available federal tax credits at the end of 2007.

The decline in coal consumption during the year was the consequence of slowing domestic economic growth, particularly in the latter half of the year, combined with the weather in 2008, resulting in lower demand for electricity. Total generation in the electric power sector (electric utilities and independent power producers, including useful thermal output) in the U.S. decreased in 2008. Coal-based generation also decreased, resulting in a 4.6 million short ton drop in coal consumed in the electric power sector. Coal use in the non-electricity sector decreased by 3.5 percent to a level of 80.0 million short tons.

Coal prices increased in 2008, driven, in large part, by the international markets where U.S. coal was in demand. Another factor that affected coal prices was the escalating delivery costs for users due to the growing fuel surcharges added by transportation companies in response to the unprecedented rise in oil prices experienced during the first half of the year. In the domestic markets in 2008, the electric utility price-per-short-ton increase was 14.6 percent. Coking coal prices had the greatest increase domestically, climbing by 24.4 percent, while the price for the other industrial sector increased by 16.6 percent in 2008.

Production

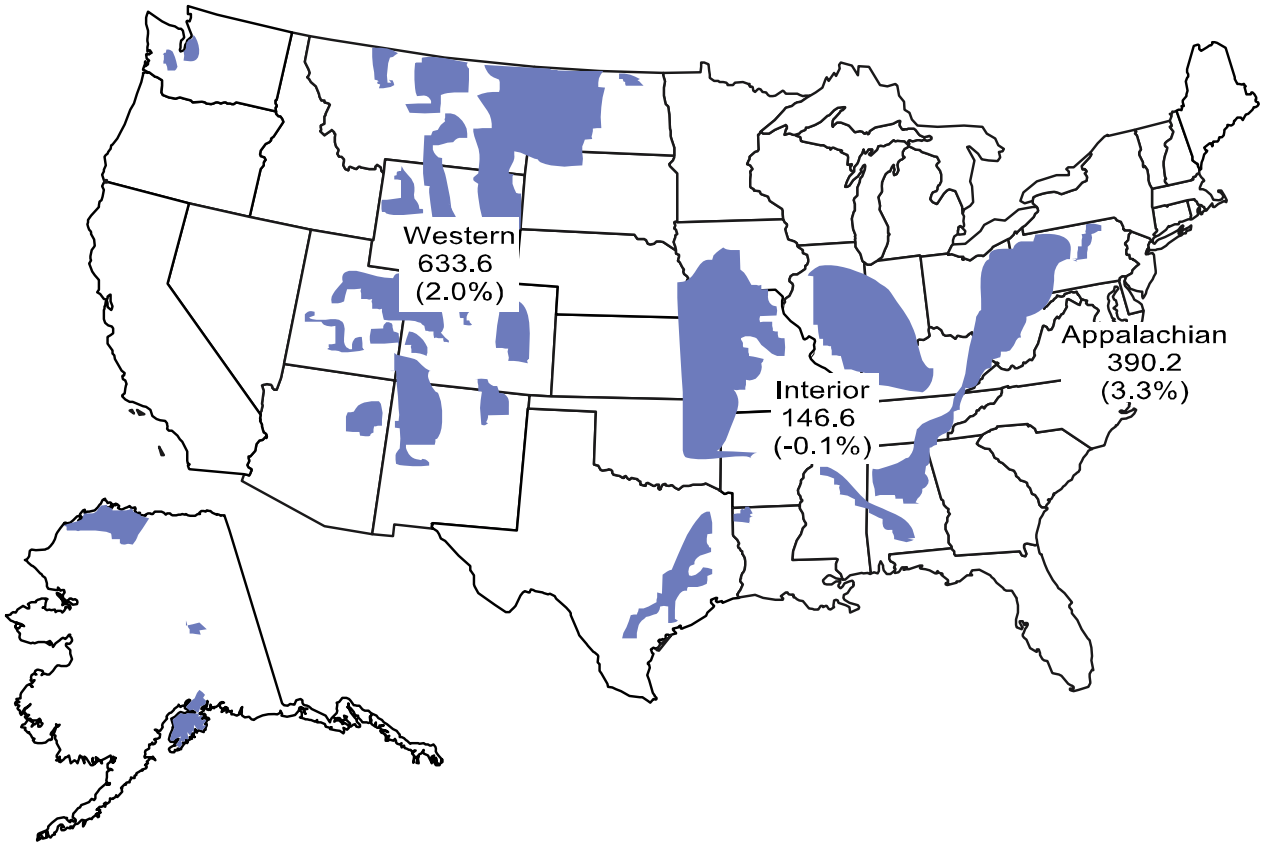
U.S. coal production grew in 2008 by 2.2 percent to reach a record level of 1,171.8 million short tons (Figure ES1 and Table ES1), 25.2 million short tons more than the 2007 production total. Although total U.S. coal production was higher in 2008, only two of the three coal-producing regions had increases in coal production while the other was about level. Exclusive of refuse production, the Appalachian and Western Regions had an increase in their production levels in 2008 of 3.3 percent and 2.0 percent respectively, while the Interior Region remained essentially unchanged (Figure ES1 and Table ES2). In the amount of tons of coal produced, the increase in the Appalachian Region production was 12.4 million short tons, while the increase in Western Region production in 2008 was 12.6 million short tons. Coal production in the Interior Region decreased by only 82 thousand short tons.

Appalachian Region

Coal production in the Appalachian Region reversed a two-year declining trend and ended 2008 at 390.2 million short tons, an increase of 3.3 percent, or 12.4 million short tons. The growth in 2008 in coal production in the Appalachian Region was primarily driven by the large increase in U.S. coal exports, which are predominantly produced in this region. International demand for metallurgical coal, which is primarily produced in the central and southern portions of the Appalachian Region, helped to push several of the States to higher production totals for the year. Four of the States in the Appalachian Region (Alabama, Eastern Kentucky, Ohio, and West Virginia) each had an increase of over a million short tons in 2008, more than offsetting the two States (Tennessee and Virginia) that had a decline in production for the year.

West Virginia, the largest coal-producing State in the Appalachian Region and the second largest in the U.S., had an increase in total coal production of 2.8 percent in 2008 to end the year with 157.8 million short tons of production, 4.3 million short tons above the 2007 level. Even though there were large declines in production at several mines in the state due to either production related issues or the idling or suspension of production totaling a combined drop of 5.1 million short tons, the increases in production at existing mines or the start-up of new mines more than offset those decreases. The idling or suspension of production by Massey Energy's No. 130 and Laurel Creek mines, Patriot Coal's Europa mine, and Appalachian Fuels' Big Creek No. 2 surface mine accounted for 2.7 million short tons of the decrease while production issues (movement of longwalls, geological impairments, or equipment issues) at ANR's Alma mine, Patriot Coal's Samples mine, Massey Energy's Black Castle mine, and Frasure Creek's Mine No. 7 accounted

Figure ES1. Coal Production by Coal-Producing Region, 2008
(Million Short Tons and Percent Change from 2007)
Regional totals do not include refuse recovery
U.S. Total: 1,171.8 Million Short Tons (2.2%)



Source: Energy Information Administration, *Annual Coal Report*, *2008*, DOE/EIA-0584(2008) (Washington, DC, February 2010).

for 2.4 million short tons of the decrease. Major increases in coal production of at least 0.5 million short tons in 2008 experienced by Arch Coal's Mountaineer II mine, Massey Energy's Republic mine, Brody Mining's Mine No. 1, Cleveland-Cliff's Pinnacle mine, Eagle Creek Mining's MT-11 Surface mine, Hanover Resources' Four Mile Mine No. 2, and Patriot Coal's American Eagle mine added over 6.7 million short tons to West Virginia's total.

Coal production in Ohio in 2008 increased by 3.7 million short tons, or 16.3 percent to end the year at 26.3 million short tons, the highest level in a decade. The increase in production was primarily a result of higher production levels at four mines in the State. Ohio American Energy's Salt Run mine had an increase of 1.4 million short tons in 2008, its first full year of production. Ohio Valley Coal's Powhatan No. 6 mine had an increase of 1.2 million short tons in 2008, while Buckingham Coal's Mine No. 6 had an increase of 0.6 million short tons and Oxford Mining's Snyder mine had an increase of 0.5 million short tons.

Eastern Kentucky produced 90.3 million short tons of coal in 2008, an increase of 3.7 percent or 3.2 million short tons above the 2007 level. Although there were 16 mines in Eastern Kentucky that had a 2008 production increase of at least a quarter-of-a-million short tons, there were also 16 mines that had a production decrease of at least a quarter-of-a-million short tons. The primary reason that total coal production in Eastern Kentucky was higher for the year was the fact that there were 141 mines that had production that were either new in 2008 or did not produce coal in 2007 and these mines accounted for 9.1 million short tons, more than enough to offset the 90 mines that had produced coal in 2007 but were either closed or idled for 2008.

Coal production in Alabama in 2008 totaled 20.6 million short tons, 6.6 percent higher than the 2007 level. Although production levels decreased at several mines in the State, with the largest being a drop of 0.5 million short tons of Twin Pines Coal Company's Mine No. 2 which suspended production after the first quarter of the year, increases in coal production by several other mines along with production from six new mines resulted in a coal production level that was just slightly below the 2005 level. The largest portion of the 1.3 million short ton increase for 2008 was due to the increase in coal production by Drummond Company's Shoal Creek mine,

Table ES1. U.S. Coal Supply, Disposition, and Prices, 2007-2008
(Million Short Tons and Dollars per Short Ton)

Item	2007	2008
Production by Region		
Appalachian	377.8	390.2
Interior	146.7	146.6
Western	621.0	633.6
Refuse Recovery	1.2	1.4
Total	**1,146.6**	**1,171.8**
Consumption by Sector		
Electric Power	1,045.1	1,040.6
Coke Plants	22.7	22.1
Other Industrial Plants	56.6	54.4
Residential/Commercial	3.5	3.5
Total	**1,128.0**	**1,120.5**
Year-End Coal Stocks		
Electric Power	151.2	161.6
Coke Plants	1.9	2.3
Other Industrial Plants	5.6	6.0
Commercial/Institutional	-	0.5
Producers/Distributors	34.0	34.7
Total	**192.8**	**205.1**
Average Delivered Price		
Electric Utilities	$36.06	$41.32
Coke Plants	$94.97	$118.09
Other Industrial Plants	$54.42	$63.44
Commercial/Institutional	-	$86.50
Average U.S. Open Market Mine Price	$25.82	$31.25

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

Sources: Energy Information Administration, *Annual Coal Report 2008*, tables 1; 26; 27; 28; and 34; DOE/EIA-0584 (2008) (Washington, DC, February 2010).

which produced 2.1 million short tons, 0.8 million short tons more than it produced in 2007. Pennsylvania produced 65.4 million short tons, an increase of 0.6 percent from 2007 or 0.4 million short tons. Coal production in Maryland in 2008 totaled 2.9 million short tons, an increase of 0.6 million short tons. Tennessee, one of the two States in the Appalachian Region to have a decrease in production in 2008, produced a total of 2.3 million short tons, down by 0.3 million short tons. Coal production in Virginia decreased in 2008 by 0.6 million short tons to a total of 24.7 million short tons, a decline of 2.5 percent. The decrease in coal production in Virginia was primarily a result of the abandonment of Paramount Coal's Lovers Gap No. 2 mine and Exeter Coal's Mine No. 1, combined with the suspension of production at Arch Coal's Pardee mine in the latter half of 2007.

Interior Region

Coal production in the Interior Region in 2008 was 146.6 million short tons, comparable to the 2007 production level. While the total coal production for the region was basically unchanged, that was not the case when it came to the respective States' production levels in 2008. Three of the four largest coal-producing States (Indiana, Western Kentucky, and Texas) in the region had major changes in their production levels in 2008 when compared to 2007. Texas, the largest coal-producing State in the region, had a decrease in coal production of 2.9 million short tons to end the year at 39.0 million short tons, a level not seen since 1983. Texas coal is lignite, the lowest rank of coal with the lowest amount of energy (or Btus) and the vast majority of the coal is used in the electric power sector, primarily at mine-mouth facilities. The amount of Texas-produced lignite consumed by the electric power sector in

Table ES2. U.S. Coal Production by Coal-Producing Region and State, 2007-2008
(Million Short Tons)

Coal-Producing Region and State	2007	2008
Appalachian Total	**377.8**	**390.2**
Alabama	19.3	20.6
Kentucky, Eastern	87.1	90.3
Maryland	2.3	2.9
Ohio	22.6	26.3
Pennsylvania Total	65.0	65.4
Anthracite	1.6	1.7
Bituminous	63.5	63.7
Tennessee	2.7	2.3
Virginia	25.3	24.7
West Virginia	153.5	157.8
Northern	42.2	41.1
Southern	111.3	116.7
Interior Total	**146.7**	**146.6**
Arkansas	0.1	0.1
Illinois	32.4	32.9
Indiana	35.0	35.9
Kansas	0.4	0.2
Kentucky, Western	28.2	30.1
Louisiana	3.1	3.8
Mississippi	3.5	2.8
Missouri	0.2	0.2
Oklahoma	1.6	1.5
Texas	41.9	39.0
Western Total	**621.0**	**633.6**
Alaska	1.3	1.5
Arizona	8.0	8.0
Colorado	36.4	32.0
Montana	43.4	44.8
New Mexico	24.5	25.6
North Dakota	29.6	29.6
Utah	24.3	24.4
Wyoming	453.6	467.6
Refuse Recovery	**1.2**	**1.4**
U.S. Total	**1,146.6**	**1,171.8**

Note: Totals may not equal the sum of the components due to independent rounding.
Sources: U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

the State dropped by 7.9 percent while the total amount of coal consumed in the electric power sector in Texas declined only slightly, by 1.3 percent. The discrepancy is due to the fact that the amount of subbituminous coal consumed for power production increased by 4.3 percent. Declines in coal production by three Texas mines accounted for most of the drop in 2008 production. The three mines are Luminant Mining's Beckville Strip, Winfield South Strip, and Big Brown Strip down by 1.1, 0.7, and 0.6 million short tons, respectively.

Western Kentucky had the largest increase in coal production in the Interior Region in 2008, increasing by 1.9 million short tons to reach a total of 30.1 million short tons. This is the fourth year in a row that Western Kentucky experienced growth in coal production and the 2008 increase of 6.6 percent was primarily a result of the

growth in production by one mine and the opening of a new mine in the second quarter of the year. The increase of 1.4 million short tons experienced by Hopkins County Coal's Elk Creek mine and the opening of Armstrong Coal's Midway mine which produced 0.8 million short tons in 2008 more than offset the production declines experienced by several other mines during the year.

Indiana produced a total of 35.9 million short tons in 2008, an increase of 2.5 percent, or 0.9 million short tons. Although there was a decrease of 0.5 million short tons by United Minerals' Somerville East mine, an increase in production of 0.9 million short tons by Sunrise Coal's Carlisle mine and an increase of 0.6 million short tons by both Gibson County Coal's Gibson mine and Black Beauty Coal's Francisco mine led to Indiana's highest production level since 2001. Illinois is the other major coal-producing State in the Interior Region, and it had an increase of 1.5 percent to end the year at a total of 32.9 million short tons. The other States in the Interior Region (Arkansas, Kansas, Louisiana, Mississippi, Missouri, and Oklahoma), which together produced 8.4 million short tons of coal, accounted for a total of 5.7 percent of the entire region's production in 2008. Of these States, only Louisiana and Missouri had increases in their coal production from their prior year levels.

Western Region

The Western Region is the largest coal-producing region in the U.S., and in 2008 coal production rose by 2.0 percent to reach a total of 633.6 million short tons, 54 percent of total U.S. production for the year. The increase of 12.6 million short tons resulted in another record level for the region, the fifth year in a row. Although there was a record level of coal production in 2008, one State in the Western Region (Colorado) had a lower production level than the previous year.

Wyoming, the largest coal-producing State in the nation, a position it has held for two decades, continues to dominate the U.S. coal production picture. In 2008, Wyoming produced 467.6 million short tons of coal, an increase of 3.1 percent, or 14.1 million short tons for the year, another record year. Wyoming has dominated U.S. coal production since 1995 when it first accounted for more than one-quarter of total U.S. production. Examples of how much Wyoming dominates the U.S. coal supply include that for 2008, it accounted for 73.8 percent of the Western Region production total; was 77.4 million short tons more than the entire Appalachian Region; was more than three times the Interior Region; and was almost 40 percent of the total U.S. coal production for the year. Also, if all of the coal-producing States in 2008 were ranked by descending total production levels, Wyoming produced more than the next six largest coal-producing States (West Virginia, Kentucky, Pennsylvania, Montana, Texas, and Indiana), besting their combined production by 4.4 million short tons. Wyoming also produced 261.0 million short tons more coal than the summation of the States ranked 8th through 25th. Although seven of the twenty mines in Wyoming had decreases in coal production in 2008, the increased production levels at the rest of the mines pushed the state to a new record level for the year. Peabody's North Antelope Rochelle mine was again the largest coal mine in Wyoming and the U.S. in 2008, producing a total of 97.6 million short tons, an increase of 6.1 million short tons or 6.6 percent over 2007. This one mine produced more coal than the combined total of the other coal-producing States ranked 13th through 25th in 2008. Although there were increases of over 2 million short tons experienced by three other mines in Wyoming, one mine, Foundation Coal's Eagle Butte mine, had a decrease in production of 4.5 million short tons, a decline of 18.2 percent, to end the year at 20.4 million short tons.

In 2008, Montana, the second largest coal-producing State in the Western Region, produced a total of 44.8 million short tons, an increase of 3.2 percent. Although there were decreases in production at half of the six mines in the State, the increase in coal production of 2.2 million short tons at Spring Creek Coal's Spring Creek mine more than offset those declines.

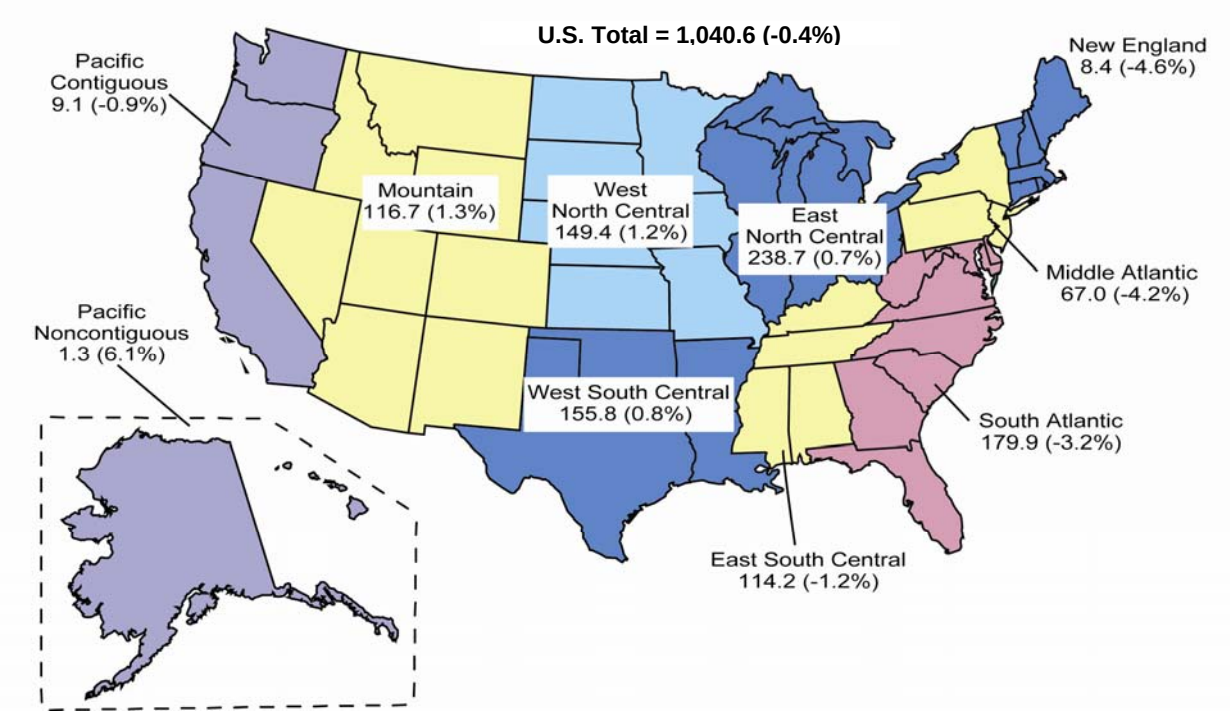
Colorado, the third largest coal-producing State in the Western Region, was the only State in the region to have a decrease in coal production for 2008. Colorado ended the year with a total of 32.0 million short tons, a decline of 12.0 percent, or 4.4 million short tons. Although eight of the twelve mines in the State had lower coal production in 2008, the majority of the decrease in Colorado's total production was accounted for by two mines. Bowie Resources' Bowie No. 2 mine had a decrease of 2.6 million short tons to end the year at 2.9 million short tons, and Arch Coal's West Elk mine had a decrease of 1.0 million short tons to end the year at 5.9 million short tons. Both of these are underground longwall mines and they experienced production problems relating to geologic faults that impacted production due to relocating the longwall mining systems.

Total coal production in the other States in the Western Region (Alaska, Arizona, New Mexico, North Dakota, and Utah) had increases in their respective production levels in 2008. The increases ranged in percentages from a low of 0.1 percent in North Dakota to a high of 11.6 percent in Alaska, while the tonnage increases ranged from a low of 21 thousand short tons in North Dakota to a high of 1.2 million short tons in New Mexico.

Employment

The number of employees in U.S. coal mines increased in 2008 by 6.9 percent to a level of 86,859. Increases in the number of employees were experienced in both

Figure ES2. Electric Power Sector Consumption of Coal by Census Division, 2008
(Million Short Tons and Percent Change from 2007)



Source: Energy Information Administration, Form EIA-906, "Power Plant Report" and Form EIA-923, "Power Plant Operations Report."

underground and surface mining in 2008 at the national level. The largest increase in total employees in a State was in West Virginia, which had 1,985 more employees on the payroll in 2008, followed closely by Kentucky which had an increase in employees of 1,920. Although there was an increase in employment at the national level, there were six States (Arizona, Illinois, Kansas, Mississippi, Missouri, and Oklahoma) that had decreases in the number of employees in 2008.

Productivity

Although there were nine States that had increases in productivity in 2008, it was not enough to increase productivity at the national level. Productivity at coal mines in 2008 declined by 4.9 percent to a level of 5.96 tons per miner per hour, a level just slightly lower than the 1997 productivity level of 6.04 tons per miner per hour. Declines at the national level occurred for both types of mining. Underground productivity dropped in 2008 by 5.9 percent to a level of 3.15 short tons per miner per hour. Surface productivity decreased in 2008 by 4.3 percent to a level of 9.82 short tons per miner per hour. All three coal-producing regions had declines in productivity in 2008, with the largest decline in the Appalachian Region and the smallest in the Interior Region. Total productivity in the Appalachian Region decreased by 6.0 percent in 2008 to a level of 2.91 short tons per miner per hour. This drop was a reflection of the decrease in both underground productivity in the region, which declined by 7.2 percent and a decrease in surface productivity of 4.1 percent in 2008. Total productivity in the Interior Region declined by 0.9 percent to a level of 4.81 short tons per miner per hour in 2008. The primary reason that the decrease in total productivity in the Interior region was so small was due to the fact that there was actually an increase in underground productivity in the region. In 2008, underground productivity in the Interior Region increased by 4.6 percent to a level of 3.68 short tons per miner per hour, while the surface productivity declined by 5.6 percent to a level of 6.38 short tons per miner per hour. Total productivity in the Western Region in 2008 decreased by 2.4 percent to a level of 19.91 short tons per miner per hour. Productivity in underground mines in the Western Region dropped by 7.4 percent to 6.23 short tons per miner per hour, while surface productivity decreased by 2.0 percent to a level of 25.77 short tons per miner per hour.

Consumption

Total coal consumption declined slightly in 2008, dropping by 0.7 percent from the 2007 level. Total U.S. coal consumption was 1,120.5 million short tons, a decrease of 7.5 million short tons, with all of the coal-consuming sectors having lower consumption for the year. Although all sectors had declines, the electric power sector (electric utilities and independent power producers), which consumes almost 93 percent of all coal in the U.S., is the overriding force for determining total domestic coal consumption.

Coal consumption in the electric power sector decreased by 0.4 percent or 4.6 million short tons to end 2008 at 1,040.6 million short tons (Figure ES2), while coal-based electricity generation in kilowatt hours decreased at a slightly higher rate of 1.5 percent, reflecting increasing volumes of lower Btu western coals (subbituminous and lignite) to generate electricity. Nationally, total generation in the electric power sector from all sources declined in 2008 by 0.8 percent with losses in electricity generation by all sources except the hydroelectric and the petroleum and other sources[1] combination in the U.S. The increase of 3.3 percent in electricity generation by hydroelectric facilities in the country was a direct result of the improved water levels experienced across all regions during the year. Nuclear power generation decreased only slightly in 2008 by less than 0.1 percent. The decrease in electric generation in 2008 was 1.5 percent for natural gas.

Coal consumption in the non-electric power sector (comprised of the other industrial, coking coal, and the commercial and institutional sectors) declined in 2008. Coal consumption at coke plants decreased by 0.6 million short tons to end the year at 22.1 million short tons, a decline of 2.8 percent. The decline in U.S. coke production in 2008 was a result of the economic downturn in the last quarter of the year when several steel plants lowered production, some by more than half, in response to the world-wide drop in demand for their products.

Although the real GDP grew slightly in 2008 by 0.4 percent, the economic growth did not extend into the manufacturing sector, and as a result, coal consumption in the other industrial sector declined by 2.2 million short tons to end the year at 54.4 million short tons. Within the manufacturing economic sector of the North American Industry Classification System (NAICS) most of the manufacturing subsectors showed lower coal consumption for 2008. The only major coal-consuming manufacturing subsector to have an increase in consumption was the paper sector and it had only a slight increase in coal consumption. However, the decrease in coal consumption in 2008 in the other industrial sector was primarily a result of the large decrease in the nonmetallic mineral products segment, a decline of 1.1 million short tons. Also contributing to the overall decline in consumption for the other industrial sector was the decrease of 0.4 million short tons by the primary metal manufacturing segment. Coal consumption in the commercial and institutional sector[2] decreased slightly in 2008, ending the year at 3.5 million short tons.

[1] This category combines electric generation from petroleum liquids, petroleum coke, other gases, wood and wood wastes, municipal solid wastes, and agriculture products, other biomass, geothermal, solar thermal, solar photovoltaic, wind and miscellaneous technologies into one source.

[2] The sector that was titled 'residential and commercial' has been renamed as 'commercial and institutional.' The data for this sector is now collected on a different survey form so exact comparison of 2008 to 2007 data is not applicable for this sector.

Generation

Total electricity generation in the U.S. is primarily driven by two factors: economic growth and weather (as measured by heating and cooling degree-days). Economic growth slowed during the first several months of the year and declined during the last few months resulting in the real Gross Domestic Product (GDP) of the U.S. for 2008 increasing by only 0.4 percent for the year, down from the 2.1 percent growth experienced in 2007. The weather was also a factor in the decline of total electricity generation in 2008. Although the winter weather across a large portion of the country was colder than it was in 2007, it was still not as cold as the normal 30-year average. According to data from the National Weather Service Climate Prediction Center of the National Oceanic and Atmospheric Administration (NOAA), heating degree-days in 2008 were 0.6 percent lower for the country as a whole. Also, the summer weather in 2008 was not as hot over most parts of the country as it was in 2007, which led to a decrease in cooling degree-days of 11.1 percent, resulting in less need for electricity to run air-conditioners and lower demand for generation. The result was a slight decrease in total generation in 2008 of 0.8 percent for the nation.

Of the nine Census Divisions, coal is a minor component (less than 20 percent) in the fuel mix for electricity generation in two divisions, New England and Pacific, and a major component (more than 50 percent) in five divisions, East North Central, West North Central, South Atlantic, East South Central, and Mountain. In the other two divisions, coal is one of two main fuel sources for the electric power sector. In the Middle Atlantic, coal competes with nuclear power for dominance, while in the West South Central coal competes with natural gas.

In 2008, four of the nine Census Divisions had an increase in total electricity generation, while five of the nine had increases in coal-based generation. However, only four of the five Census Divisions that had increased coal-based generation, had increases in coal consumption in 2008 while the other remained at the same level. The decreases in coal consumption that occurred in the four Census Divisions more than offset those that had increases. The decline in total U.S. coal consumption for 2008 in the electric power sector was primarily a result of lower consumption in two of the Census Divisions, the South Atlantic and the Middle Atlantic.

The South Atlantic Census Division usually accounts for about 20 percent of total U.S. electricity generation, while the Middle Atlantic Census Division usually accounts for about 10 percent of the total. Coal is the primary fuel for electricity generation in the South Atlantic while in the

Middle Atlantic coal competes with nuclear power for the largest share of total generation. In 2008 total generation in the South Atlantic Census Division decreased by 4.0 percent (Table ES3) while coal-based generation decreased by 4.8 percent. The decline in coal-based electricity generation in 2008 in the South Atlantic resulted in a decrease in coal consumption of 6.0 million short tons, down 3.2 percent to end the year at 179.9 million short tons. Nuclear generation, the only fuel source to increase in the South Atlantic Census Division in 2008, rose by only 0.9 percent. Although generation by natural gas declined in the South Atlantic Census Division in 2008, the natural gas share increased by 2.3 percent. In 2008 total generation in the Middle Atlantic Census Division decreased by 1.9 percent, while both nuclear and hydroelectric generation increased for the year. The increase in the Middle Atlantic Census Division for hydroelectric generation was 8.7 percent while the increase in nuclear generation was 1.5 percent. Coal-based generation declined in 2008 by 5.6 percent and that resulted in a decrease in coal consumption of 2.9 million short tons, down 4.2 percent to end the year at 67.0 million short tons.

In the East South Central Census Division coal is the dominant fuel for generation, typically accounting for just under two-thirds of total generation in a year. In 2008 total generation in the East South Central Division decreased slightly by 0.8 percent, while coal-based generation declined by 2.5 percent. Both nuclear and hydroelectric generation increased in the East South Central in 2008. The decline in coal generation in the division in 2008 resulted in a decrease of 1.4 million short tons in the East South Central Census Division to a level of 114.2 million short tons.

Over half of the electricity generated in the Mountain Census Division is derived from coal. In 2008 total generation in the Mountain Census Division increased by 3.3 percent, with increases experienced by all generation categories. However, coal-based generation increased the least, growing by 1.5 percent with the increases in the other sources ranging from 1.6 percent for natural gas to 48.1 percent for petroleum and other sources, which only accounts for about 2.5 percent of total generation in the Division. Total coal consumption in the electric power sector in the Mountain Census Division increased in 2008, ending the year at 116.7 million short tons, an increase of 1.5 million short tons. In the West South Central Census Division coal competes with natural gas as the primary source for electric power generation, both accounting for about 40 percent of the Division's generation. Total generation in 2008 in the electric power sector in the West South Central Census Division grew by 1.1 percent, while coal-based generation grew at a higher rate of 1.4 percent. Declines in generation were experienced by both natural gas and nuclear in the division. Total coal consumption in 2008 for the electric power sector in the West South Central Census Division increased by 1.3 million short tons, or 0.8 percent, ending the year at a total of 155.8 million short tons.

Table ES3. Electric Power Sector Net Generation, 2007-2008 (Million Kilowatthours)

Census Division	2007	2008	Percent Change
New England			
Coal	19,791	18,574	-6.1
Total	126,059	120,414	-4.5
Middle Atlantic			
Coal	152,607	144,107	-5.6
Total	428,648	420,613	-1.9
East North Central			
Coal	456,905	456,001	-0.2
Total	656,142	648,598	-1.1
West North Central			
Coal	230,004	231,980	0.9
Total	311,406	314,219	0.9
South Atlantic			
Coal	438,823	417,623	-4.8
Total	815,153	782,576	-4.0
East South Central			
Coal	244,504	238,479	-2.5
Total	376,578	373,425	-0.8
West South Central			
Coal	229,930	233,072	1.4
Total	558,246	564,345	1.1
Mountain			
Coal	209,121	212,268	1.5
Total	363,605	375,705	3.3
Pacific			
Coal	16,706	16,733	0.2
Total	389,508	374,453	1.3
U.S. Total			
Coal	1,998,391	1,968,838	-1.5
Total	4,005,345	3,974,349	-0.8

Source: Energy Information Administration, Form EIA-906, "Power Plant Report" and Form EIA-923, "Power Plant Operations Report."

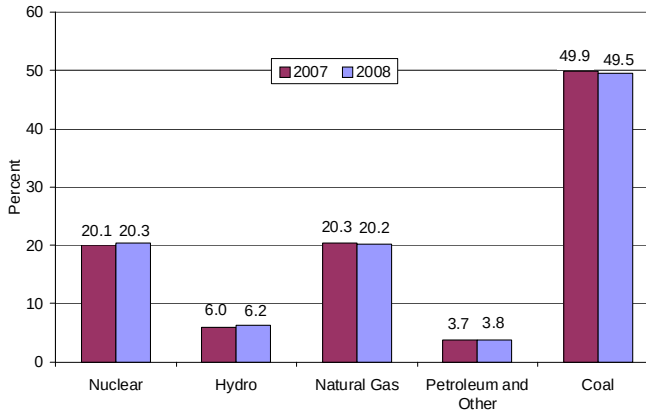
In the East North Central Census Division, coal usually accounts for about 70 percent of total generation. Total generation in the division decreased in 2008 by 1.1 percent, while coal-based generation only decreased by 0.2 percent. The only fuel source to have a major decrease in generation for the division in 2008 was natural gas, declining by 30.0 percent. For 2008, total coal consumption in the East North Central Census Division was 238.7 million short tons, an increase in coal consumption of 1.6 million short tons, or 0.7 percent,

making it the largest electric power coal-consuming division in the U.S. The dichotomy of slightly lower coal-based generation with increased coal consumption in the East North Central Census Division is a result of an increasing share of coal with lower energy content per ton being used by the electric generating plants in the division.

In the West North Central Census Division coal is the dominant source for electric power generation accounting for about three-fourths of the Division's generation. Total generation in 2008 in the electric power sector in the West North Central Census Division grew by 0.9 percent, while coal-based generation also grew by 0.9 percent. Total coal consumption in 2008 for the electric power sector in the West North Central Census Division increased by 1.8 million short tons, or 1.2 percent, ending the year at a total of 149.4 million short tons.

Coal accounts for less than one-sixth of total generation in the New England Census Division and in 2008 total coal consumption for electricity generation decreased by 0.4 million short tons, ending the year at a total of 8.4 million short tons. Coal accounts for less than five percent of total generation in the Pacific Census Division and in 2008 total coal consumption for electricity generation decreased slightly by 0.1 percent to end the year at 10.4 million short tons.

Figure ES3. Share of Electric Power Sector Net Generation by Energy Source, 2007 vs. 2008



Source: Energy Information Administration, Form EIA-906, "Power Plant Report" and Form EIA-923, "Power Plant Operations Report."

Coal Prices

Domestic coal prices continued their increasing trend in 2008 rising for the fifth consecutive year, with double-digit percentage increases in all sectors. The majority of coal sold in the electric power sector is through long-term contracts, in conjunction with spot purchases to supplement the demand. Coal prices in 2008 at electric utilities (a subset of the electric power sector) increased for an eighth consecutive year, to $41.32 per short ton ($2.07 per million Btu), an increase of 14.6 percent over the 2007 price. The average delivered price of coal to the other industrial sector increased by 16.6 percent to an average price of $63.44 per short ton in 2008. In 2008 the delivered price of coal to U.S. coke plants increased by 24.4 percent to reach an average price of $118.09 per short ton.

The average mine price of coal in 2008 increased 21.0 percent to a level of $31.25 per short ton. The average price of coal from underground mines rose by 25.8 percent to $51.35 per short ton while the average price of coal from surface mines increased by 16.5 percent to $22.35 per ton in 2008.

Coal Stocks

Total coal stocks at the end of 2008 were 205.1 million short tons, an increase of 12.4 million short tons from the prior year. Coal stocks held by producers and distributors were higher by 2.1 percent, as coal producers added to their stocks. Industrial users, including coke plants, held a total of 8.3 million short tons at the end of 2008, 0.8 million short tons above the level at the start of the year. Coal stocks in the electric power sector continued to increase in 2008. The electric power sector ended the year with a total of 161.6 million short tons, an increase of 10.4 million short tons, or 6.9 percent over the 2007 level. Coal stocks for the commercial and institutional sector totaled 0.5 million short tons. [Note: No stock data is available for the commercial and institutional sector prior to 2008.]

Coal Production

Table 1. Coal Production and Number of Mines by State and Mine Type, 2008-2007

(Thousand Short Tons)

Coal-Producing State and Region[1]	2008		2007		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	**59**	**20,611**	**49**	**19,327**	**20.4**	**6.6**
Underground	8	12,281	8	11,462	-	7.1
Surface	51	8,330	41	7,865	24.4	5.9
Alaska	**1**	**1,477**	**1**	**1,324**	**-**	**11.6**
Surface	1	1,477	1	1,324	-	11.6
Arizona	**1**	**8,025**	**1**	**7,983**	**-**	**0.5**
Surface	1	8,025	1	7,983	-	0.5
Arkansas	**2**	**69**	**2**	**83**	**-**	**-16.3**
Underground	1	67	1	80	-	-16.1
Surface	1	2	1	2	-	-25.4
Colorado	**12**	**32,028**	**12**	**36,384**	**-**	**-12.0**
Underground	8	24,370	8	27,610	-	-11.7
Surface	4	7,659	4	8,774	-	-12.7
Illinois	**19**	**32,918**	**21**	**32,445**	**-9.5**	**1.5**
Underground	11	27,055	14	26,807	-21.4	0.9
Surface	8	5,863	7	5,638	14.3	4.0
Indiana	**30**	**35,893**	**27**	**35,003**	**11.1**	**2.5**
Underground	6	12,223	7	10,604	-14.3	15.3
Surface	24	23,670	20	24,399	20.0	-3.0
Kansas	**2**	**229**	**2**	**420**	**-**	**-45.5**
Surface	2	229	2	420	-	-45.5
Kentucky Total	**469**	**120,323**	**417**	**115,280**	**12.5**	**4.4**
Underground	216	69,474	201	69,217	7.5	0.4
Surface	253	50,849	216	46,064	17.1	10.4
Eastern	**446**	**90,258**	**394**	**87,068**	**13.2**	**3.7**
Underground	205	44,143	191	44,703	7.3	-1.3
Surface	241	46,116	203	42,365	18.7	8.9
Western	**23**	**30,064**	**23**	**28,212**	**-**	**6.6**
Underground	11	25,331	10	24,513	10.0	3.3
Surface	12	4,733	13	3,699	-7.7	28.0
Louisiana	**2**	**3,843**	**2**	**3,127**	**-**	**22.9**
Surface	2	3,843	2	3,127	-	22.9
Maryland	**21**	**2,860**	**19**	**2,301**	**10.5**	**24.3**
Underground	2	753	2	611	-	23.3
Surface	19	2,107	17	1,690	11.8	24.6
Mississippi	**1**	**2,842**	**1**	**3,545**	**-**	**-19.9**
Surface	1	2,842	1	3,545	-	-19.9
Missouri	**2**	**247**	**2**	**236**	**-**	**4.6**
Surface	2	247	2	236	-	4.6
Montana	**6**	**44,786**	**6**	**43,390**	**-**	**3.2**
Underground	1	168	1	47	-	256.7
Surface	5	44,617	5	43,343	-	2.9
New Mexico	**5**	**25,645**	**4**	**24,451**	**25.0**	**4.9**
Underground	1	7,046	1	6,898	-	2.1
Surface	4	18,599	3	17,553	33.3	6.0
North Dakota	**4**	**29,627**	**4**	**29,606**	**-**	**0.1**
Surface	4	29,627	4	29,606	-	0.1
Ohio	**48**	**26,251**	**57**	**22,575**	**-15.8**	**16.3**
Underground	11	17,053	13	15,793	-15.4	8.0
Surface	37	9,198	44	6,783	-15.9	35.6
Oklahoma	**7**	**1,463**	**9**	**1,648**	**-22.2**	**-11.2**
Underground	1	441	2	514	-50.0	-14.3
Surface	6	1,023	7	1,134	-14.3	-9.8
Pennsylvania Total	**266**	**65,414**	**264**	**65,048**	**0.8**	**0.6**
Underground	51	53,318	50	53,544	2.0	-0.4
Surface	215	12,095	214	11,504	0.5	5.1
Anthracite	**66**	**1,701**	**72**	**1,564**	**-8.3**	**8.7**
Underground	13	241	15	224	-13.3	7.9
Surface	53	1,459	57	1,340	-7.0	8.9
Bituminous	**200**	**63,713**	**192**	**63,484**	**4.2**	**0.4**
Underground	38	53,077	35	53,320	8.6	-0.5
Surface	162	10,636	157	10,164	3.2	4.6
Tennessee	**23**	**2,333**	**17**	**2,654**	**35.3**	**-12.1**
Underground	5	789	5	892	-	-11.5
Surface	18	1,544	12	1,763	50.0	-12.4
Texas	**11**	**39,017**	**11**	**41,948**	**-**	**-7.0**
Surface	11	39,017	11	41,948	-	-7.0
Utah	**9**	**24,365**	**10**	**24,307**	**-10.0**	**0.2**
Underground	9	24,365	10	24,307	-10.0	0.2

See footnotes at end of table.

Table 1. Coal Production and Number of Mines by State and Mine Type, 2008-2007 (Continued)
(Thousand Short Tons)

Coal-Producing State and Region [1]	2008		2007		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Virginia	**114**	**24,712**	**118**	**25,346**	**-3.4**	**-2.5**
Underground	65	15,806	71	15,731	-8.5	0.5
Surface	49	8,907	47	9,615	4.3	-7.4
West Virginia Total	**301**	**157,778**	**282**	**153,480**	**6.7**	**2.8**
Underground	186	88,369	168	84,853	10.7	4.1
Surface	115	69,409	114	68,627	0.9	1.1
Northern	**43**	**41,123**	**43**	**42,219**	**-**	**-2.6**
Underground	22	34,109	23	36,076	-4.3	-5.4
Surface	21	7,013	20	6,144	5.0	14.2
Southern	**258**	**116,655**	**239**	**111,260**	**7.9**	**4.8**
Underground	164	54,260	145	48,777	13.1	11.2
Surface	94	62,395	94	62,483	-	-0.1
Wyoming	**20**	**467,644**	**20**	**453,568**	**-**	**3.1**
Underground	1	3,501	1	2,822	-	24.1
Surface	19	464,143	19	450,746	-	3.0
Appalachian Total	**1,278**	**390,218**	**1,200**	**377,800**	**6.5**	**3.3**
Underground	533	232,512	508	227,588	4.9	2.2
Surface	745	157,705	692	150,213	7.7	5.0
Northern	**378**	**135,647**	**383**	**132,144**	**-1.3**	**2.7**
Underground	86	105,234	88	106,023	-2.3	-0.7
Surface	292	30,413	295	26,121	-1.0	16.4
Central	**841**	**233,959**	**768**	**226,329**	**9.5**	**3.4**
Underground	439	114,997	412	110,103	6.6	4.4
Surface	402	118,962	356	116,227	12.9	2.4
Southern	**59**	**20,611**	**49**	**19,327**	**20.4**	**6.6**
Underground	8	12,281	8	11,462	-	7.1
Surface	51	8,330	41	7,865	24.4	5.9
Interior Total	**99**	**146,586**	**100**	**146,668**	**-1.0**	**-0.1**
Underground	30	65,117	34	62,519	-11.8	4.2
Surface	69	81,469	66	84,149	4.5	-3.2
Illinois Basin Total	**72**	**98,875**	**71**	**95,660**	**1.4**	**3.4**
Underground	28	64,609	31	61,924	-9.7	4.3
Surface	44	34,267	40	33,736	10.0	1.6
Western Total	**58**	**633,597**	**58**	**621,012**	**-**	**2.0**
Underground	20	59,450	21	61,683	-4.8	-3.6
Surface	38	574,147	37	559,329	2.7	2.6
Powder River Basin	**17**	**495,964**	**17**	**479,496**	**-**	**3.4**
Underground	-	-	-	-	-	-
Surface	17	495,964	17	479,496	-	3.4
Uinta Region	**17**	**55,578**	**19**	**59,815**	**-10.5**	**-7.1**
Underground	15	48,343	16	51,446	-6.3	-6.0
Surface	2	7,235	3	8,368	-33.3	-13.5
East of Miss. River	**1,351**	**491,935**	**1,272**	**477,006**	**6.2**	**3.1**
West of Miss. River	**84**	**678,467**	**86**	**668,474**	**-2.3**	**1.5**
U.S. Subtotal	**1,435**	**1,170,401**	**1,358**	**1,145,480**	**5.7**	**2.2**
Refuse Recovery	**23**	**1,408**	**16**	**1,156**	**43.8**	**21.8**
U.S. Total	**1,458**	**1,171,809**	**1,374**	**1,146,635**	**6.1**	**2.2**

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

- = No data are reported.

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, 2008

(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	**8**	**12,281**	**51**	**8,330**	**59**	**20,611**
Bibb	-	-	1	105	1	105
Cullman	-	-	2	154	2	154
Fayette	1	2,923	-	-	1	2,923
Franklin	-	-	2	297	2	297
Jackson	-	-	4	331	4	331
Jefferson	2	3,091	8	1,311	10	4,402
Marion	-	-	1	50	1	50
Shelby	2	87	4	452	6	539
Tuscaloosa	2	6,039	7	1,826	9	7,865
Walker	1	141	19	3,190	20	3,331
Winston	-	-	3	616	3	616
Alaska	**-**	**-**	**1**	**1,477**	**1**	**1,477**
Yukon-Koyukuk Division	-	-	1	1,477	1	1,477
Arizona	**-**	**-**	**1**	**8,025**	**1**	**8,025**
Navajo	-	-	1	8,025	1	8,025
Arkansas	**1**	**67**	**1**	**2**	**2**	**69**
Sebastian	1	67	1	2	2	69
Colorado	**8**	**24,370**	**4**	**7,659**	**12**	**32,028**
Adams	-	-	1	21	1	21
Delta	1	2,862	-	-	1	2,862
Garfield	1	283	-	-	1	283
Gunnison	2	10,761	-	-	2	10,761
La Plata	2	392	-	-	2	392
Moffat	-	-	2	7,235	2	7,235
Montrose	-	-	1	403	1	403
Rio Blanco	1	2,067	-	-	1	2,067
Routt	1	8,004	-	-	1	8,004
Illinois	**11**	**27,055**	**8**	**5,863**	**19**	**32,918**
Gallatin	-	-	2	2,322	2	2,322
Jackson	1	196	2	1,387	3	1,582
Macoupin	1	1,408	-	-	1	1,408
Perry	1	1,112	3	1,118	4	2,230
Randolph	1	3,198	-	-	1	3,198
Saline	3	9,594	-	-	3	9,594
Sangamon	1	2,261	-	-	1	2,261
Vermilion	1	1,130	-	-	1	1,130
Wabash	-	-	1	1,037	1	1,037
White	1	2,653	-	-	1	2,653
Williamson	1	5,504	-	-	1	5,504
Indiana	**6**	**12,223**	**24**	**23,670**	**30**	**35,893**
Daviess	-	-	3	3,566	3	3,566
Dubois	-	-	1	846	1	846
Gibson	2	5,340	4	9,398	6	14,738
Knox	2	2,548	4	3,190	6	5,738
Pike	1	2,365	6	1,894	7	4,259
Sullivan	1	1,970	1	107	2	2,077
Vigo	-	-	2	3,805	2	3,805
Warrick	-	-	3	865	3	865
Kansas	**-**	**-**	**2**	**229**	**2**	**229**
Bourbon	-	-	1	181	1	181
Linn	-	-	1	48	1	48
Kentucky	**216**	**69,474**	**253**	**50,849**	**469**	**120,323**
Bell	5	957	19	2,403	24	3,360
Breathitt	2	1,052	6	969	8	2,021
Christian	-	-	1	4	1	4
Clay	1	4	7	242	8	246
Daviess	-	-	1	342	1	342
Elliott	-	-	1	38	1	38
Floyd	26	2,058	16	3,818	42	5,876
Harlan	34	7,793	25	3,128	59	10,920
Henderson	1	1,462	2	1,358	3	2,820
Hopkins	4	14,175	1	80	5	14,255
Jackson	-	-	2	45	2	45
Johnson	2	281	8	748	10	1,028
Knott	26	4,938	14	2,598	40	7,536
Knox	3	80	6	363	9	443
Laurel	-	-	4	35	4	35
Lawrence	-	-	10	622	10	622

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2008 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Kentucky (continued)						
Leslie	7	2,215	9	2,405	16	4,620
Letcher	24	4,645	15	886	39	5,531
Magoffin	1	16	12	3,412	13	3,427
Martin	8	3,480	7	2,212	15	5,693
Morgan	-	-	2	205	2	205
Muhlenberg	1	2,235	6	2,142	7	4,377
Ohio	1	584	1	807	2	1,391
Owsley	-	-	3	57	3	57
Perry	8	4,132	32	13,040	40	17,172
Pike	56	12,355	41	8,659	97	21,014
Union	2	4,884	-	-	2	4,884
Webster	2	1,990	-	-	2	1,990
Whitley	2	137	2	234	4	371
Louisiana	**-**	**-**	**2**	**3,843**	**2**	**3,843**
De Soto	-	-	1	3,285	1	3,285
Red River	-	-	1	559	1	559
Maryland	**2**	**753**	**19**	**2,107**	**21**	**2,860**
Allegany	1	431	13	1,490	14	1,920
Garrett	1	322	6	617	7	940
Mississippi	**-**	**-**	**1**	**2,842**	**1**	**2,842**
Choctaw	-	-	1	2,842	1	2,842
Missouri	**-**	**-**	**2**	**247**	**2**	**247**
Bates	-	-	2	247	2	247
Montana	**1**	**168**	**5**	**44,617**	**6**	**44,786**
Big Horn	-	-	3	31,210	3	31,210
Musselshell	1	168	-	-	1	168
Richland	-	-	1	355	1	355
Rosebud	-	-	1	13,053	1	13,053
New Mexico	**1**	**7,046**	**4**	**18,599**	**5**	**25,645**
McKinley	-	-	3	9,693	3	9,693
San Juan	1	7,046	1	8,906	2	15,952
North Dakota	**-**	**-**	**4**	**29,627**	**4**	**29,627**
Mclean	-	-	1	7,533	1	7,533
Mercer	-	-	2	17,589	2	17,589
Oliver	-	-	1	4,505	1	4,505
Ohio	**11**	**17,053**	**37**	**9,198**	**48**	**26,251**
Belmont	1	5,798	5	1,076	6	6,873
Carroll	1	110	2	39	3	149
Columbiana	-	-	4	351	4	351
Coshocton	-	-	2	249	2	249
Harrison	1	1,536	7	1,726	8	3,262
Jackson	-	-	1	374	1	374
Jefferson	4	923	2	1,512	6	2,435
Lawrence	-	-	1	3	1	3
Mahoning	-	-	2	8	2	8
Monroe	1	6,844	-	-	1	6,844
Muskingum	-	-	1	165	1	165
Noble	-	-	2	791	2	791
Perry	2	1,418	2	648	4	2,066
Stark	-	-	2	368	2	368
Tuscarawas	1	425	3	1,211	4	1,636
Vinton	-	-	1	677	1	677
Oklahoma	**1**	**441**	**6**	**1,023**	**7**	**1,463**
Craig	-	-	1	261	1	261
Haskell	-	-	1	169	1	169
Le Flore	1	441	2	423	3	864
Okmulgee	-	-	1	1	1	1
Rogers	-	-	1	168	1	168
Pennsylvania	**51**	**53,318**	**215**	**12,095**	**266**	**65,414**
Allegheny	-	-	4	121	4	121
Armstrong	8	2,873	10	831	18	3,704
Beaver	1	380	-	-	1	380
Bedford	-	-	2	4	2	4
Butler	-	-	6	599	6	599
Cambria	2	872	9	408	11	1,281
Cameron	-	-	1	31	1	31
Centre	-	-	1	12	1	12
Clarion	-	-	5	448	5	448
Clearfield	2	1,341	46	2,914	48	4,255
Columbia	-	-	4	149	4	149

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2008 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Pennsylvania (continued)						
Dauphin	2	34	-	-	2	34
Elk	1	220	6	307	7	527
Fayette	-	-	12	489	12	489
Greene	7	41,388	1	5	8	41,393
Huntingdon	-	-	1	6	1	6
Indiana	8	2,165	18	537	26	2,702
Jefferson	1	157	11	452	12	609
Lackawanna	-	-	2	22	2	22
Luzerne	-	-	7	211	7	211
Lycoming	-	-	1	257	1	257
Northumberland	3	148	5	82	8	231
Schuylkill	8	59	35	995	43	1,054
Somerset	7	1,843	18	2,694	25	4,537
Tioga	-	-	1	2	1	2
Venango	-	-	1	13	1	13
Washington	1	1,838	3	471	4	2,309
Westmoreland	-	-	5	34	5	34
Tennessee	**5**	**789**	**18**	**1,544**	**23**	**2,333**
Anderson	1	37	2	148	3	185
Campbell	3	387	7	409	10	796
Claiborne	1	364	8	966	9	1,330
Fentress	-	-	1	22	1	22
Texas	**-**	**-**	**11**	**39,017**	**11**	**39,017**
Atascosa	-	-	1	3,079	1	3,079
Freestone	-	-	1	3,339	1	3,339
Harrison	-	-	1	4,055	1	4,055
Hopkins	-	-	1	1,943	1	1,943
Lee	-	-	1	3,754	1	3,754
Leon	-	-	1	6,454	1	6,454
Panola	-	-	2	6,886	2	6,886
Robertson	-	-	1	2,122	1	2,122
Rusk	-	-	1	4,655	1	4,655
Titus	-	-	1	2,730	1	2,730
Utah	**9**	**24,365**	**-**	**-**	**9**	**24,365**
Carbon	5	11,545	-	-	5	11,545
Emery	3	5,874	-	-	3	5,874
Sevier	1	6,946	-	-	1	6,946
Virginia	**65**	**15,806**	**49**	**8,907**	**114**	**24,712**
Buchanan	23	5,596	18	2,843	41	8,439
Dickenson	10	1,804	5	266	15	2,070
Lee	1	326	3	830	4	1,156
Russell	6	952	3	181	9	1,134
Tazewell	4	650	1	95	5	745
Wise	21	6,477	19	4,691	40	11,169
West Virginia	**186**	**88,369**	**115**	**69,409**	**301**	**157,778**
Barbour	4	1,466	4	634	8	2,100
Boone	27	12,660	14	17,918	41	30,578
Brooke	-	-	2	524	2	524
Clay	1	291	1	3,310	2	3,600
Fayette	9	2,578	13	4,468	22	7,046
Greenbrier	6	626	2	434	8	1,059
Harrison	3	5,932	3	115	6	6,047
Kanawha	15	6,850	11	5,021	26	11,870
Lincoln	3	1,226	-	-	3	1,226
Logan	12	7,205	14	11,336	26	18,541
Marion	1	5,193	1	26	2	5,218
Marshall	2	10,775	-	-	2	10,775
Mason	1	584	-	-	1	584
McDowell	32	3,001	14	2,517	46	5,519
Mineral	-	-	2	86	2	86
Mingo	19	4,593	12	8,589	31	13,182
Monongalia	3	4,192	5	1,141	8	5,333
Nicholas	5	1,310	6	3,087	11	4,397
Preston	2	1,291	-	-	2	1,291
Raleigh	16	5,533	3	3,098	19	8,631
Randolph	1	392	1	4	2	396
Tucker	1	2,561	-	-	1	2,561
Upshur	2	858	1	42	3	899
Wayne	3	4,063	1	1,041	4	5,104
Webster	3	1,452	2	4,441	5	5,893

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2008 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Wyoming	15	3,741	3	1,576	18	5,316
Wyoming	**1**	**3,501**	**19**	**464,143**	**20**	**467,644**
Campbell	-	-	12	415,924	12	415,924
Carbon	-	-	1	261	1	261
Converse	-	-	1	35,777	1	35,777
Hot Springs	-	-	1	s	1	s
Lincoln	-	-	1	4,989	1	4,989
Sweetwater	1	3,501	3	7,191	4	10,692
U.S. Subtotal	**583**	**357,079**	**852**	**813,322**	**1,435**	**1,170,401**
Refuse Recovery	**-**	**-**	**-**	**-**	**23**	**1,408**
U.S. Total	**583**	**357,079**	**852**	**813,322**	**1,458**	**1,171,809**

s Value is less than 0.05 of the table metric, but value is included in any associated total.
- = No data are reported.
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 3. Underground Coal Production by State and Mining Method, 2008

(Thousand Short Tons)

Coal-Producing State and Region[1]	Continuous[2]	Conventional and Other[3]	Longwall[4]	Total
Alabama	228	-	12,053	12,281
Arkansas	67	-	-	67
Colorado	675	-	23,695	24,370
Illinois	16,288	-	10,767	27,055
Indiana	12,223	-	-	12,223
Kentucky Total	66,155	2,291	1,027	69,474
Eastern	40,829	2,286	1,027	44,143
Western	25,326	4	-	25,331
Maryland	753	-	-	753
Montana	168	-	-	168
New Mexico	-	-	7,046	7,046
Ohio	4,406	5	12,641	17,053
Oklahoma	441	-	-	441
Pennsylvania Total	10,998	53	42,267	53,318
Anthracite	188	53	-	241
Bituminous	10,810	-	42,267	53,077
Tennessee	789	-	-	789
Utah	229	-	24,136	24,365
Virginia	12,252	23	3,531	15,806
West Virginia Total	49,013	788	38,568	88,369
Northern	6,853	8	27,249	34,109
Southern	42,160	780	11,320	54,260
Wyoming	-	-	3,501	3,501
Appalachian Total	**119,267**	**3,156**	**110,088**	**232,512**
Northern	23,010	67	82,157	105,234
Central	96,030	3,089	15,878	114,997
Southern	228	-	12,053	12,281
Interior Total	**54,346**	**4**	**10,767**	**65,117**
Illinois Basin	53,838	4	10,767	64,609
Western Total	**1,072**	**-**	**58,378**	**59,450**
Powder River Basin	-	-	-	-
Uinta Region	512	-	47,831	48,343
East of Miss. River	**173,105**	**3,161**	**120,855**	**297,121**
West of Miss. River	**1,580**	**-**	**58,378**	**59,958**
U.S. Total	**174,685**	**3,161**	**179,233**	**357,079**

[1] For a definition of coal producing regions, see the Glossary.
[2] Mines that produce greater than 50 percent of their coal by continuous mining methods.
[3] Mines that produce greater than 50 percent of their coal by conventional mining methods or mines that produce coal using shortwall, scoop loading, hand loading, or other methods or a 50/50 percent continuous conventional split in mining methods, or mines that produce less than 10,000 short tons, which are not required to provide data.
[4] Mines that have any production from the longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.
- = No data are reported.

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

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

Table 4. Coal Production by Coalbed Thickness and Mine Type, 2008
(Thousand Short Tons)

Coalbed Thickness (inches)	Underground	Surface	Total
< 7	-	311	311
7-12	-	3,692	3,692
13-18	337	7,953	8,290
19-24	1,502	17,116	18,618
25-30	3,607	20,759	24,366
31-36	22,367	27,501	49,868
37-42	24,185	28,106	52,291
43-48	34,316	21,139	55,456
49-54	28,396	31,747	60,143
55-60	40,644	19,644	60,288
61-66	34,666	18,905	53,571
67-72	62,068	12,532	74,600
73-78	14,244	3,305	17,549
79-84	15,243	12,439	27,682
85-90	11,938	10,761	22,699
91-96	3,901	8,367	12,268
97-102	12,431	5,938	18,370
103-108	2,689	9,213	11,902
109-114	6,212	1,739	7,951
115-120	3,897	11,432	15,330
> 120	34,237	540,043	574,279
Unknown[1]	**199**	**678**	**2,285**
U.S. Total	**357,079**	**813,322**	**1,171,809**

[1] Includes mines with production of less than 10,000 short tons, which are not required to provide data, and refuse recovery.
- = No data are reported.
Note: • Totals may not equal sum of components because of independent rounding.
Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 5. Coal Production and Coalbed Thickness by Major Coalbeds and Mine Type, 2008

Coalbed ID Number[1] Coalbed Name	Production (thousand short tons)			Thickness (inches)		
	Underground	Surface	Total	Average[2]	Low	High
1699 Wyodak	-	406,489	406,489	754	81	909
0036 Pittsburgh	80,561	5,403	85,965	71	16	108
0489 No. 9	37,162	8,624	45,787	61	20	75
0111 Coalburg	7,868	24,008	31,876	71	8	169
0484 Herrin (Illinois No. 6)	24,544	3,941	28,485	69	36	96
1697 Canyon	-	27,968	27,968	654	332	804
1569 Beulah-Zap	-	27,550	27,550	179	135	210
1696 Anderson-Dietz 1-Dietz 2	-	22,345	22,345	901	660	960
0151 Upper Elkhorn No. 3	13,966	3,702	17,668	46	7	120
1787 Roland	-	17,245	17,245	463	353	600
0084 Lower Kittanning	7,223	9,919	17,142	51	12	94
1808 Rosebud	-	16,376	16,376	255	172	276
0121 Winifrede	4,926	11,066	15,992	67	5	116
0103 Stockton-Lewiston	2,938	9,700	12,638	63	12	132
0168 Lower Elkhorn	9,820	2,781	12,601	52	6	84
0135 Hazard No. 4	5,476	6,860	12,336	58	12	116
0157 Alma	8,281	3,872	12,154	43	10	90
1488 Fruitland No. 8	7,046	4,631	11,677	147	41	193
0176 Eagle	9,809	1,345	11,154	49	12	63
0071 Upper Freeport	6,700	3,186	9,887	51	12	84
0280 Blue Creek	8,793	470	9,263	60	8	120
0100 Hazard No. 8	1,099	7,538	8,637	43	10	84
0142 Williamson (Amburgy)	6,035	2,317	8,352	43	6	130
0483 Indiana No. 6	-	8,147	8,147	53	16	96
1750 Wadge	8,004	-	8,004	100	100	100
Major Coalbeds Total	**250,251**	**635,483**	**885,734**	**435**	**5**	**960**
Other Coalbeds	**106,630**	**177,160**	**283,790**	**79**	**4**	**409**
Unknown[3]	**199**	**678**	**2,285**	**NA**	**NA**	**NA**
U.S. Total	**357,079**	**813,322**	**1,171,809**	**349**	**4**	**960**

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

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

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

- = No data are reported.

NA = Not Available.

Notes: • Major coalbeds for this table are the top 25 producing coalbeds. The category "Other Coalbeds" includes all coalbeds from which less than 8.0 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 8.0 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 Alabama (coalbed 0280), Colorado (1750); Illinois (0484); Indiana (0483); Eastern Kentucky (0100, 0135, 0142, 0151, and 0168); Western Kentucky (0489); Montana (1696 and 1808); New Mexico (1488); North Dakota (1569); Pennsylvania (0036 and 0071); West Virginia (0084, 0103, 0111, 0121, 0157, and 0176); and Wyoming (1697, 1699, and 1787). In some other States where these are major producing beds, the following alternative coalbed names are also used: 0084, No 5 (Ohio); 0111, Peach Orchard (Eastern Kentucky); 0121, Quakertown (Pennsylvania); 0135, Windrock (Tennessee); Phillips (Virginia); Chilton (West Virginia); 0142, Lower Splint (Virginia); 0151, Jellico (Tennessee); Taggert (Virginia); Cedar Grove (West Virginia); 0157, Elkhorn No. 1 (East Kentucky); Rich Mountain (Tennessee); 0168, Imboden (Virginia); No 2 Gas (West Virginia); 0176, Middle Eagle (West Virginia); 0484, No 11 (Western Kentucky); 0489, No 5 (Illinois and Indiana).

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

Table 6. Coal Production and Number of Mines by State and Coal Rank, 2008

(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	59	20,611	-	-	-	-	-	-	59	20,611
Alaska	-	-	1	1,477	-	-	-	-	1	1,477
Arizona	1	8,025	-	-	-	-	-	-	1	8,025
Arkansas	2	69	-	-	-	-	-	-	2	69
Colorado	9	24,773	3	7,256	-	-	-	-	12	32,028
Illinois	19	32,918	-	-	-	-	-	-	19	32,918
Indiana	30	35,893	-	-	-	-	-	-	30	35,893
Kansas	2	229	-	-	-	-	-	-	2	229
Kentucky Total	469	120,323	-	-	-	-	-	-	469	120,323
Eastern	446	90,258	-	-	-	-	-	-	446	90,258
Western	23	30,064	-	-	-	-	-	-	23	30,064
Louisiana	-	-	-	-	2	3,843	-	-	2	3,843
Maryland	21	2,860	-	-	-	-	-	-	21	2,860
Mississippi	-	-	-	-	1	2,842	-	-	1	2,842
Missouri	2	247	-	-	-	-	-	-	2	247
Montana	-	-	5	44,431	1	355	-	-	6	44,786
New Mexico[2]	1	7,046	4	18,599	-	-	-	-	5	25,645
North Dakota	-	-	-	-	4	29,627	-	-	4	29,627
Ohio	48	26,251	-	-	-	-	-	-	48	26,251
Oklahoma	7	1,463	-	-	-	-	-	-	7	1,463
Pennsylvania Total	200	63,713	-	-	-	-	66	1,701	266	65,414
Anthracite	-	-	-	-	-	-	66	1,701	66	1,701
Bituminous	200	63,713	-	-	-	-	-	-	200	63,713
Tennessee	23	2,333	-	-	-	-	-	-	23	2,333
Texas	-	-	-	-	11	39,017	-	-	11	39,017
Utah	9	24,365	-	-	-	-	-	-	9	24,365
Virginia	114	24,712	-	-	-	-	-	-	114	24,712
West Virginia Total	301	157,778	-	-	-	-	-	-	301	157,778
Northern	43	41,123	-	-	-	-	-	-	43	41,123
Southern	258	116,655	-	-	-	-	-	-	258	116,655
Wyoming	1	261	19	467,383	-	-	-	-	20	467,644
Appalachian Total	**1,212**	**388,517**	**-**	**-**	**-**	**-**	**66**	**1,701**	**1,278**	**390,218**
Northern	312	133,947	-	-	-	-	66	1,701	378	135,647
Central	841	233,959	-	-	-	-	-	-	841	233,959
Southern	59	20,611	-	-	-	-	-	-	59	20,611
Interior Total	**85**	**100,884**	**-**	**-**	**14**	**45,702**	**-**	**-**	**99**	**146,586**
Illinois Basin	72	98,875	-	-	-	-	-	-	72	98,875
Western Total	**22**	**64,470**	**31**	**539,145**	**5**	**29,982**	**-**	**-**	**58**	**633,597**
Powder River Basin	-	-	17	495,964	-	-	-	-	17	495,964
Uinta Region	15	48,343	2	7,235	-	-	-	-	17	55,578
East of Miss. River	**1,284**	**487,393**	**-**	**-**	**1**	**2,842**	**66**	**1,701**	**1,351**	**491,935**
West of Miss. River	**35**	**66,479**	**31**	**539,145**	**18**	**72,842**	**-**	**-**	**84**	**678,467**
U.S. Subtotal	**1,319**	**553,872**	**31**	**539,145**	**19**	**75,684**	**66**	**1,701**	**1,435**	**1,170,401**
Refuse Recovery	**22**	**1,396**	**-**	**-**	**-**	**-**	**1**	**12**	**23**	**1,408**
U.S. Total	**1,341**	**555,267**	**31**	**539,145**	**19**	**75,684**	**67**	**1,712**	**1,458**	**1,171,809**

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

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

- = No data are reported.

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

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

Table 7. Coal Production by State, Mine Type, and Union Status, 2008

(Thousand Short Tons)

Coal-Producing State and Region[1]	Union		Nonunion		Total	
	Underground	Surface	Underground	Surface	Underground	Surface
Alabama	12,053	169	228	8,158	12,281	8,327
Alaska	-	1,477	-	-	-	1,477
Arizona	-	8,025	-	-	-	8,025
Arkansas	-	-	67	-	67	-
Colorado	2,067	2,723	22,303	4,935	24,370	7,659
Illinois	5,029	-	22,026	5,863	27,055	5,863
Indiana	-	-	12,223	23,668	12,223	23,668
Kansas	-	-	-	229	-	229
Kentucky Total	4,618	1,311	64,774	49,353	69,392	50,663
Eastern	748	1,311	43,318	44,626	44,065	45,936
Western	3,870	-	21,456	4,727	25,326	4,727
Louisiana	-	-	-	3,843	-	3,843
Maryland	-	-	753	2,083	753	2,083
Mississippi	-	-	-	2,842	-	2,842
Missouri	-	-	-	247	-	247
Montana	-	26,670	168	17,948	168	44,617
New Mexico	7,046	11,970	-	6,629	7,046	18,599
North Dakota	-	7,528	-	22,099	-	29,627
Ohio	5,798	-	11,250	9,163	17,048	9,163
Oklahoma	-	-	441	1,022	441	1,022
Pennsylvania Total	21,086	682	32,207	11,086	53,293	11,768
Anthracite	-	386	216	973	216	1,358
Bituminous	21,086	296	31,991	10,114	53,077	10,410
Tennessee	-	-	789	1,539	789	1,539
Texas	-	23,307	-	15,709	-	39,017
Utah	5,874	-	18,491	-	24,365	-
Virginia	1,189	-	14,594	8,879	15,782	8,879
West Virginia Total	31,512	8,339	56,795	61,005	88,307	69,344
Northern	24,688	-	9,413	6,995	34,101	6,995
Southern	6,824	8,339	47,381	54,011	54,205	62,350
Wyoming	3,501	7,155	-	456,988	3,501	464,143
Appalachian Total	**72,386**	**10,500**	**159,932**	**146,538**	**232,318**	**157,039**
Northern	51,572	682	53,623	29,327	105,195	30,009
Central	8,760	9,650	106,081	109,054	114,842	118,703
Southern	12,053	169	228	8,158	12,281	8,327
Interior Total	**8,899**	**23,307**	**56,213**	**58,150**	**65,112**	**81,458**
Illinois Basin	8,899	-	55,705	34,258	64,604	34,258
Western Total	**18,488**	**65,548**	**40,962**	**508,598**	**59,450**	**574,147**
Powder River Basin	-	26,315	-	469,649	-	495,964
Uinta Region	7,941	2,320	40,402	4,914	48,343	7,235
East of Miss. River	**81,284**	**10,500**	**215,638**	**183,638**	**296,922**	**194,138**
West of Miss. River	**18,488**	**88,856**	**41,470**	**529,649**	**59,958**	**618,505**
Unknown[2]	-	-	-	-	**199**	**678**
U.S. Total	**99,773**	**99,356**	**257,108**	**713,287**	**357,079**	**813,322**

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

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

- = No data are reported.

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

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

Table 8. Coal Disposition by State, 2008

(Thousand Short Tons)

Coal-Producing State	Open Market Sales[1]	Captive Sales/Transactions[2]	Total
Alabama	20,107	-	20,107
Alaska	W	-	W
Arizona	W	-	W
Arkansas	W	-	W
Colorado	30,546	2,917	33,463
Illinois	27,080	5,768	32,848
Indiana	26,151	10,680	36,831
Kansas	W	-	W
Kentucky Total	114,068	5,253	119,321
Eastern	W	W	89,278
Western	W	W	30,043
Louisiana	W	W	W
Maryland	2,929	-	2,929
Mississippi	W	-	W
Missouri	W	-	W
Montana	W	W	44,272
New Mexico	W	W	23,468
North Dakota	W	W	29,781
Ohio	W	W	25,968
Oklahoma	1,462	-	1,462
Pennsylvania Total	62,862	4,079	66,941
Anthracite	W	W	1,658
Bituminous	W	W	65,283
Tennessee	2,905	-	2,905
Texas	W	W	38,998
Utah	W	W	25,833
Virginia	15,821	7,584	23,405
West Virginia Total	137,977	20,746	158,723
Northern	36,130	4,862	40,992
Southern	101,848	15,884	117,731
Wyoming	361,256	104,109	465,365
U.S. Total[3]	**961,843**	**207,734**	**1,169,576**

[1] Open market sales include all coal sold on the open market to other coal companies or consumers.
[2] Captive sales transactions include all coal used by the producing company or sold to affiliated or parent companies.
[3] Excludes mines producing less than 10,000 short tons, which are not required to provide data, and refuse recovery.
- = No data are reported.
W = Data withheld to avoid disclosure.
Note: • Totals may not equal sum of components because of independent rounding.
Source: • Energy Information Administration Form EIA-7A, "Coal Production Report."

Table 9. Major U.S. Coal Mines, 2008

Rank	Mine Names/Company	Mine Type	State	Production (short tons)
1	North Antelope Rochelle Mine/Powder River Coal LLC	Surface	Wyoming	97,578,499
2	Black Thunder/Thunder Basin Coal Company LLC	Surface	Wyoming	88,584,704
3	Jacobs Ranch Mine/Jacobs Ranch Coal Company	Surface	Wyoming	42,145,705
4	Cordero Mine/Cordero Mining Company	Surface	Wyoming	40,033,283
5	Antelope Coal Mine/Antelope Coal Company	Surface	Wyoming	35,777,489
6	Caballo Mine/Caballo Coal Company	Surface	Wyoming	31,205,381
7	Belle Ayr Mine/Foundation Coal West Incorporated	Surface	Wyoming	28,707,982
8	Buckskin Mine/Triton Coal Company	Surface	Wyoming	26,076,355
9	Eagle Butte Mine/Foundation Coal West Incorporated	Surface	Wyoming	20,442,963
10	Rawhide Mine/Caballo Coal Company	Surface	Wyoming	18,418,546
11	Spring Creek Coal Company/Spring Creek Coal Company	Surface	Montana	17,947,506
12	Freedom Mine/The Coteau Properties Company	Surface	North Dakota	14,565,631
13	Rosebud Mine & Crusher/Conveyor/Western Energy Company	Surface	Montana	13,052,713
14	Coal Creek Mine/Thunder Basin Coal Company LLC	Surface	Wyoming	11,453,546
15	Enlow Fork Mine/Consol Pennsylvania Coal Company	Underground	Pennsylvania	11,089,475
16	Bailey Mine/Consol Pennsylvania Coal Company	Underground	Pennsylvania	9,996,038
17	McElroy Mine/McElroy Coal Company	Underground	West Virginia	9,636,827
18	Navajo Mine/BHP Navajo Coal Company	Surface	New Mexico	8,905,813
19	Kayenta Mine/Peabody Western Coal Company	Surface	Arizona	8,024,973
20	Foidel Creek Mine/Twentymile Coal Company	Underground	Colorado	8,004,176
21	Falkirk Mine/Falkirk Mining Company	Surface	North Dakota	7,532,993
22	Cumberland Mine/Cumberland Coal Resources LP	Underground	Pennsylvania	7,321,030
23	San Juan Mine 1/San Juan Coal Company	Underground	New Mexico	7,046,199
24	Sufco/Canyon Fuel Company LLC	Underground	Utah	6,946,075
25	Decker Mine/Decker Coal Company	Surface	Montana	6,871,671
26	Century Mine/American Energy Corporation	Underground	Ohio	6,843,898
27	Jewett Mine/Texas Westmoreland Coal Co.	Surface	Texas	6,453,799
28	Absaloka Mine/Westmoreland Resources Inc.	Surface	Montana	6,390,699
29	Emerald Mine No 1/Emerald Coal Resources LP	Underground	Pennsylvania	6,343,350
30	Wyodak Mine/Wyodak Resources Development Co.	Surface	Wyoming	6,015,890
31	West Elk Mine/Mountain Coal Company, L.L.C.	Underground	Colorado	5,858,789
32	Powhatan No. 6 Mine/The Ohio Valley Coal Company	Underground	Ohio	5,797,596
33	Robinson Run No 95/Consolidation Coal Company	Underground	West Virginia	5,627,306
34	Blacksville No 2/Consolidation Coal Company	Underground	Pennsylvania	5,584,153
35	Mach #1 Mine/Mach Mining LLC	Underground	Illinois	5,503,665
36	Galatia Mine/The American Coal Company	Underground	Illinois	5,263,019
37	Dry Fork Mine/Western Fuels-Wyoming Inc	Surface	Wyoming	5,261,242
38	Loveridge No 22/Consolidation Coal Company	Underground	West Virginia	5,192,742
39	Twilight MTR Surface Mine/Progress Coal	Surface	West Virginia	5,167,254
40	Cardinal/Warrior Coal LLC	Underground	Kentucky	5,108,496
41	Beckville Strip/Luminant Mining Co. LLC	Surface	Texas	5,093,709
42	Kemmerer Mine/Chevron Mining Inc	Surface	Wyoming	4,988,841
43	Colowyo Mine/Colowyo Coal Company L P	Surface	Colorado	4,914,363
44	Elk Creek Mine/Oxbow Mining, LLC	Underground	Colorado	4,902,633
45	Dotiki Mine/Webster County Coal LLC	Underground	Kentucky	4,662,442
46	Oak Hill Strip/Luminant Mining Company LLC	Surface	Texas	4,655,079
47	Center Mine/BNI Coal Ltd	Surface	North Dakota	4,505,263
48	Mountaineer II Mine/Mingo Logan Coal Company	Underground	West Virginia	4,187,338
49	Dugout Canyon Mine/Canyon Fuel Company LLC	Underground	Utah	4,145,406
50	South Hallsville No 1 Mine/Sabine Mining Company	Surface	Texas	4,054,916
51	Elk Creek Mine/Hopkins County Coal LLC	Underground	Kentucky	4,033,847
	Subtotal			**713,921,308**
	All Other Mines			**457,887,361**
	U.S. Total			**1,171,808,669**

- = No data are reported.

Note: • Major mines are mines that produced more than 4 million short tons in 2008. The company is the firm operating the mine.

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

Table 10. Major U.S. Coal Producers, 2008

Rank	Company Name	Production (thousand short tons)	Percent of Total Production
1	Peabody Energy Corporation	200,752	17.1
2	Rio Tinto Energy America	140,818	12.0
3	Arch Coal Inc	134,017	11.4
4	Foundation Coal Corp.	69,366	5.9
5	CONSOL Energy Inc	63,806	5.4
6	Massey Energy Co	40,151	3.4
7	Patriot Coal Corp	33,317	2.8
8	NACCO Industries Inc	29,554	2.5
9	Westmoreland Coal Co	29,275	2.5
10	Peter Kiewit Sons Inc	28,198	2.4
11	Alliance Resource Operating Partners LP	26,395	2.3
12	Murray Energy Corp	26,059	2.2
13	Energy Future Holdings Corp	23,307	2.0
14	Alpha Natural Resources LLC	20,879	1.8
15	Intl Coal Group Inc (ICG)	18,340	1.6
16	BHP Billiton Ltd	15,952	1.4
17	Chevron Corp	10,976	0.9
18	PacifiCorp	10,884	0.9
19	James River Coal Co	10,583	0.9
20	Level 3 Communications	10,559	0.9
21	Trinity Coal Corp	8,859	0.8
22	Walter Industries Inc	7,471	0.6
23	Wexford Capital LLC	6,726	0.6
24	Booth Energy Group	6,621	0.6
25	TECO Energy Inc	6,327	0.5
26	Cline Group	6,088	0.5
27	Black Hills Corp	6,016	0.5
28	Energy Coal Resources Inc	5,999	0.5
29	Western Fuels Association Inc	5,261	0.4
	Subtotal	**1,002,556**	**85.6**
	All Other Coal Producers	**169,253**	**14.4**
	U.S. Total	**1,171,809**	**100.0**

Note: • Major coal producers are companies that produced more than 5 million short tons in 2008. 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: • Velocity Suite, Ventyx 2009 and 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, 2008, 2007

(Thousand Short Tons)

Coal-Producing State	2008			2007			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	14,754	11,146	25,901	14,870	12,511	27,381	-0.8	-10.9	-5.4
Alaska	-	W	W	-	W	W	-	W	W
Arizona	-	W	W	-	W	W	-	W	W
Arkansas	W	-	W	W	-	W	W	-	W
Colorado	W	W	40,545	W	W	41,369	W	W	-2.0
Illinois	35,100	8,028	43,129	36,813	7,826	44,639	-4.7	2.6	-3.4
Indiana	14,123	30,784	44,907	12,219	29,171	41,390	15.6	5.5	8.5
Kansas	-	W	W	-	W	W	-	W	W
Kentucky Total	88,191	63,431	151,622	86,237	59,607	145,844	2.3	6.4	4.0
Eastern	59,853	58,274	118,127	56,022	54,645	110,668	6.8	6.6	6.7
Western	28,338	5,157	33,495	30,215	4,961	35,177	-6.2	3.9	-4.8
Louisiana	-	W	W	-	W	W	-	W	W
Maryland	W	W	2,998	W	W	3,105	W	W	-3.4
Mississippi	-	W	W	-	W	W	-	W	W
Missouri	-	W	W	-	W	W	-	W	W
Montana	W	W	49,332	W	W	47,323	W	W	4.2
New Mexico	W	W	29,750	W	W	28,250	W	W	5.3
North Dakota	-	32,900	32,900	-	32,900	32,900	-	-	-
Ohio	18,029	21,563	39,593	18,491	15,802	34,293	-2.5	36.5	15.5
Oklahoma	W	W	1,899	W	W	2,387	W	W	-20.5
Pennsylvania Total	57,851	17,576	75,427	59,130	15,890	75,020	-2.2	10.6	0.5
Anthracite	227	2,455	2,682	W	W	2,790	W	W	-3.8
Bituminous	57,624	15,121	72,745	W	W	72,231	W	W	0.7
Tennessee	1,076	3,734	4,811	896	3,416	4,313	20.1	9.3	11.6
Texas	-	40,553	40,553	-	43,066	43,066	-	-5.8	-5.8
Utah	27,042	-	27,042	28,668	-	28,668	-5.7	-	-5.7
Virginia	18,629	10,394	29,023	19,827	11,256	31,083	-6.0	-7.7	-6.6
West Virginia Total	123,496	87,769	211,264	115,608	84,374	199,982	6.8	4.0	5.6
Northern	41,200	8,194	49,394	40,853	7,446	48,299	0.8	10.0	2.3
Southern	82,296	79,575	161,871	74,755	76,928	151,683	10.1	3.4	6.7
Wyoming	W	W	501,158	W	W	486,281	W	W	3.1
U.S. Total	**446,445**	**926,411**	**1,372,856**	**438,336**	**900,142**	**1,338,478**	**1.8**	**2.9**	**2.6**

- = No data are reported.

W = Data withheld to avoid disclosure.

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

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

Table 12. Capacity Utilization of Coal Mines by State, 2008, 2007

(Percent)

Coal-Producing State	2008			2007		
	Underground	Surface	Total	Underground	Surface	Total
Alabama	83.24	74.70	79.56	77.08	62.84	70.58
Alaska	-	W	W	-	W	W
Arizona	-	W	W	-	W	W
Arkansas	W	-	W	W	-	W
Colorado	W	W	78.99	W	W	87.93
Illinois	77.08	73.03	76.33	72.82	72.04	72.68
Indiana	86.55	76.88	79.92	86.78	83.64	84.57
Kansas	-	W	W	-	W	W
Kentucky Total	78.68	79.87	79.18	80.14	76.94	78.83
Eastern	73.62	78.83	76.19	79.61	77.16	78.40
Western	89.37	91.66	89.73	81.13	74.49	80.19
Louisiana	-	W	W	-	W	W
Maryland	W	W	94.59	W	W	73.32
Mississippi	-	W	W	-	W	W
Missouri	-	W	W	-	W	W
Montana	W	W	90.79	W	W	91.69
New Mexico	W	W	86.20	W	W	86.55
North Dakota	-	90.05	90.05	-	89.99	89.99
Ohio	94.55	42.49	66.20	85.41	42.75	65.75
Oklahoma	W	W	77.00	W	W	69.00
Pennsylvania Total	92.12	66.96	86.26	90.49	69.94	86.14
Anthracite	95.19	55.32	58.70	W	W	50.02
Bituminous	92.11	68.84	87.27	W	W	87.54
Tennessee	73.27	41.21	48.38	99.51	51.21	61.25
Texas	-	96.21	96.21	-	97.40	97.40
Utah	90.10	-	90.10	84.79	-	84.79
Virginia	84.72	85.42	84.97	79.26	85.26	81.43
West Virginia Total	71.51	79.01	74.62	73.38	81.29	76.71
Northern	82.77	85.37	83.20	88.28	82.37	87.37
Southern	65.87	78.35	72.00	65.23	81.18	73.32
Wyoming	W	W	93.31	W	W	93.27
U.S. Total	**79.94**	**87.72**	**85.19**	**80.21**	**88.09**	**85.51**

- = No data are reported.

W = Data withheld to avoid disclosure.

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

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

Table 13. Productive Capacity and Capacity Utilization of Underground Coal Mines by State and Mining Method, 2008

(Thousand Short Tons)

Coal-Producing State	Continuous[1]		Conventional and Other[2]		Longwall[3]		Total	
	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent
Alabama	W	W	-	-	W	W	14,754	83.24
Arkansas	W	W	-	-	-	-	W	W
Colorado	W	W	-	-	W	W	32,604	74.74
Illinois	W	W	-	-	W	W	35,100	77.08
Indiana	14,123	86.55	-	-	-	-	14,123	86.55
Kentucky Total	79,575	83.14	W	W	W	W	88,191	78.68
Eastern	W	79.69	W	W	W	W	59,853	73.62
Western	W	89.37	-	-	-	-	28,338	89.37
Maryland	W	W	-	-	-	-	W	W
Montana	W	W	-	-	-	-	W	W
New Mexico	-	-	-	-	W	W	W	W
Ohio	W	W	-	-	W	W	18,029	94.55
Oklahoma	W	W	-	-	-	-	W	W
Pennsylvania Total	14,133	77.82	W	W	W	W	57,851	92.12
Anthracite	W	W	W	W	-	-	227	95.19
Bituminous	W	W	-	-	W	W	57,624	92.11
Tennessee	1,076	73.27	-	-	-	-	1,076	73.27
Utah	W	W	-	-	W	W	27,042	90.10
Virginia	W	W	-	-	W	W	18,629	84.72
West Virginia Total	74,789	W	W	W	W	81.87	123,496	71.51
Northern	W	W	-	-	W	W	41,200	82.77
Southern	W	W	W	W	W	W	82,296	65.87
Wyoming	-	-	-	-	W	W	W	W
U.S. Total	**227,045**	**76.94**	**7,595**	**39.00**	**211,804**	**84.62**	**446,445**	**79.94**

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

[2] Mines that produce greater than 50 percent of their coal by conventional mining methods or mines that produce coal using shortwall, scoop loading, hand loading, or other methods or a 50/50 percent continuous conventional split in mining method.

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

- = No data are reported.

W = Data withheld to avoid disclosure.

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

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

Recoverable Reserves

Table 14. Recoverable Coal Reserves and Average Recovery Percentage at Producing Mines by State, 2008, 2007
(Million Short Tons)

Coal-Producing State	2008		2007		Percent Change Recoverable Coal Reserves
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	
Alabama	330	57.98	327	57.15	1.0
Alaska	W	W	W	W	-
Arizona	W	W	W	W	W
Arkansas	W	W	W	W	-
Colorado	325	70.92	328	72.85	-0.9
Illinois	1,189	60.43	1,286	61.99	-7.5
Indiana	421	69.52	401	67.58	5.1
Kansas	W	W	W	W	W
Kentucky Total	1,167	58.37	1,182	59.91	-1.3
Eastern	729	56.12	669	54.98	8.9
Western	438	62.11	513	66.34	-14.6
Louisiana	W	W	W	W	W
Maryland	22	74.01	24	61.75	-9.1
Mississippi	W	W	W	W	W
Missouri	W	W	W	W	W
Montana	925	89.55	1,251	88.01	-26.1
New Mexico	605	88.44	483	90.64	25.4
North Dakota	1,225	90.60	1,252	90.64	-2.2
Ohio	308	69.32	333	73.00	-7.6
Oklahoma	85	54.74	155	52.67	-45.6
Pennsylvania Total	526	71.96	532	71.69	-1.2
Anthracite	24	76.48	28	62.59	-13.4
Bituminous	502	71.74	504	72.19	-0.5
Tennessee	10	75.05	12	79.31	-16.9
Texas	752	90.82	737	90.04	2.0
Utah	212	56.97	211	57.92	0.4
Virginia	217	55.80	256	56.25	-15.4
Washington	-	-	-	-	-
West Virginia Total	1,908	57.24	1,828	57.49	4.4
Northern	338	60.50	303	61.18	11.5
Southern	1,570	56.54	1,525	56.76	2.9
Wyoming	7,010	91.52	7,330	91.36	-4.4
U.S. Total	**17,875**	**79.64**	**18,584**	**79.92**	**-3.8**

- = No data are reported.
W = Data withheld to avoid disclosure.

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

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

Table 15. Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, and Demonstrated Reserve Base by Mining Method, 2008

(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	279	473	938	51	2,256	3,167	330	2,729	4,106
Alaska	-	2,335	5,423	W	495	682	W	2,829	6,105
Arizona	-	-	-	W	-	-	W	-	-
Arkansas	W	127	272	-	101	144	W	228	416
Colorado	W	5,916	11,273	W	3,745	4,760	325	9,661	16,033
Georgia	-	1	2	-	1	2	-	2	4
Idaho	-	2	4	-	-	-	-	2	4
Illinois	1,146	27,876	87,757	43	10,060	16,529	1,189	37,935	104,286
Indiana	298	3,593	8,674	123	381	651	421	3,973	9,325
Iowa	-	807	1,732	-	320	457	-	1,127	2,189
Kansas	-	-	-	W	680	971	W	680	971
Kentucky Total	923	7,194	16,631	244	7,381	12,784	1,167	14,575	29,416
Eastern	511	504	902	218	5,121	9,171	729	5,625	10,073
Western	412	6,691	15,729	26	2,260	3,613	438	8,950	19,342
Louisiana	-	-	-	W	302	408	W	302	408
Maryland	W	312	569	W	39	57	22	351	627
Michigan	-	55	123	-	3	5	-	59	128
Mississippi	-	-	-	W	-	-	W	-	-
Missouri	-	689	1,479	W	3,157	4,509	W	3,846	5,988
Montana	W	35,922	70,957	W	38,889	48,110	925	74,810	119,067
New Mexico	W	2,782	6,114	W	4,140	5,906	605	6,922	12,020
North Carolina	-	5	11	-	-	-	-	5	11
North Dakota	-	-	-	1,225	6,821	8,941	1,225	6,821	8,941
Ohio	221	7,677	17,450	86	3,747	5,725	308	11,424	23,174
Oklahoma	W	572	1,228	W	223	319	85	795	1,547
Oregon	-	6	15	-	2	3	-	9	17
Pennsylvania Total	424	10,538	22,900	102	1,016	4,207	526	11,554	27,107
Anthracite	W	340	3,842	W	419	3,350	24	759	7,192
Bituminous	W	10,198	19,057	W	597	857	502	10,795	19,914
South Dakota	-	-	-	-	277	366	-	277	366
Tennessee	2	277	505	8	175	258	10	451	762
Texas	-	-	-	752	9,412	12,227	752	9,412	12,227
Utah	212	2,441	4,979	-	212	268	212	2,652	5,246
Virginia	172	578	1,030	44	171	525	217	750	1,555
Washington	-	674	1,332	-	6	8	-	681	1,340
West Virginia Total	1,410	15,300	28,669	498	2,220	3,518	1,908	17,520	32,187
Northern	318	NA	NA	20	NA	NA	338	NA	NA
Southern	1,092	NA	NA	478	NA	NA	1,570	NA	NA
Wyoming	W	22,943	42,486	W	16,247	19,618	7,010	39,190	62,104
U.S. Total	**5,819**	**149,095**	**332,553**	**12,057**	**112,477**	**155,124**	**17,875**	**261,573**	**487,678**

- = No data are reported.

W = Data withheld to avoid disclosure.

NA = Not Available.

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 or currently economically unattractive for mining, and after applying assumed mining recovery rates; see Glossary for criteria. • The effective date for the demonstrated reserve base, as customarily worded, is "Remaining as of January 1, 2009." These data are contemporaneous with the Recoverable Reserves at Producing Mines, customarily presented as of the end of the past year's mining, that is in this case, December 31, 2008. • 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 10,000 short tons, which are not required to provide reserves data.

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

Table 16. Recoverable Coal Reserves and Average Recovery Percentage at Producing Underground Coal Mines by State and Mining Method, 2008

(Million Short Tons)

Coal-Producing State	Continuous[1]		Conventional and Other[2]		Longwall[3]		Total	
	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage
Alabama	W	W	-	-	W	W	279	52.88
Arkansas	W	W	-	-	-	-	W	W
Colorado	W	W	-	-	W	W	W	68.16
Illinois	W	W	-	-	W	W	1,146	60.20
Indiana	298	65.90	-	-	-	-	298	65.90
Kentucky Total	889	53.00	W	W	W	W	923	52.58
Eastern	477	46.62	W	W	W	W	511	46.29
Western	412	60.38	-	-	-	-	412	60.38
Maryland	W	W	-	-	-	-	W	W
Montana	W	W	-	-	-	-	W	W
New Mexico	-	-	-	-	W	W	W	W
Ohio	W	W	-	-	W	W	221	62.92
Oklahoma	W	W	-	-	-	-	W	W
Pennsylvania Total	130	60.40	W	W	W	W	424	69.44
Anthracite	W	W	W	W	-	-	W	W
Bituminous	W	W	-	-	W	W	W	W
Tennessee	2	44.51	-	-	-	-	2	44.51
Utah	W	W	-	-	W	W	212	56.97
Virginia	W	W	-	-	W	W	172	47.20
West Virginia Total	908	W	W	W	W	53.22	1,410	48.52
Northern	W	W	-	-	W	W	318	59.87
Southern	W	W	W	W	W	W	1,092	45.21
Wyoming	-	-	-	-	W	W	W	W
U.S. Total	**3,048**	**55.01**	**30**	**47.91**	**2,741**	**61.18**	**5,819**	**57.88**

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

[2] Mines that produce greater than 50 percent of their coal by conventional mining methods or mines that produce coal using shortwall, scoop loading, hand loading, or other methods or a 50/50 percent continuous conventional split in mining method.

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

- = No data are reported.

W = Data withheld to avoid disclosure.

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

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

Table 17. Recoverable Coal Reserves and Average Recovery Percentage at Producing U.S. Mines by Mine Production Range and Mine Type, 2008

(Million Short Tons)

Mine Production Range (thousand short tons)	Underground		Surface		Total	
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage
Over 1,000	3,849	60.43	11,247	90.94	15,096	83.16
500 to 1,000	619	48.33	251	85.57	870	59.06
200 to 500	544	47.88	317	75.09	861	57.89
100 to 200	522	66.94	146	80.30	668	69.85
50 to 100	161	47.10	28	78.63	189	51.76
10 to 50	123	46.30	69	71.08	192	55.18
U.S. Total	**5,819**	**57.88**	**12,057**	**90.14**	**17,875**	**79.64**

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

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

Employment

Table 18. Average Number of Employees by State and Mine Type, 2008, 2007

Coal-Producing State and Region[1]	2008			2007			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	2,748	1,522	4,270	2,458	1,392	3,850	11.8	9.3	10.9
Alaska	-	104	104	-	99	99	-	5.1	5.1
Arizona	-	419	419	-	430	430	-	-2.6	-2.6
Arkansas	91	2	93	85	2	87	7.1	-	6.9
Colorado	1,759	526	2,285	1,729	520	2,249	1.7	1.2	1.6
Illinois	2,907	461	3,368	3,488	458	3,946	-16.7	0.7	-14.6
Indiana	1,387	1,696	3,083	1,291	1,677	2,968	7.4	1.1	3.9
Kansas	-	59	59	-	65	65	-	-9.2	-9.2
Kentucky Total	11,981	6,925	18,906	11,146	5,840	16,986	7.5	18.6	11.3
Eastern	9,239	6,424	15,663	8,661	5,445	14,106	6.7	18.0	11.0
Western	2,742	501	3,243	2,485	395	2,880	10.3	26.8	12.6
Louisiana	-	251	251	-	239	239	-	5.0	5.0
Maryland	136	265	401	131	244	375	3.8	8.6	6.9
Mississippi	-	166	166	-	177	177	-	-6.2	-6.2
Missouri	-	12	12	-	14	14	-	-14.3	-14.3
Montana	45	990	1,035	16	970	986	181.3	2.1	5.0
New Mexico	476	969	1,445	374	982	1,356	27.3	-1.3	6.6
North Dakota	-	985	985	-	975	975	-	1.0	1.0
Ohio	1,507	1,242	2,749	1,481	1,015	2,496	1.8	22.4	10.1
Oklahoma	49	147	196	84	153	237	-41.7	-3.9	-17.3
Pennsylvania Total	5,535	2,685	8,220	5,206	2,443	7,649	6.3	9.9	7.5
Anthracite	204	725	929	192	718	910	6.3	1.0	2.1
Bituminous	5,331	1,960	7,291	5,014	1,725	6,739	6.3	13.6	8.2
Tennessee	230	381	611	220	346	566	4.5	10.1	8.0
Texas	-	2,326	2,326	-	2,216	2,216	-	5.0	5.0
Utah	2,070	7	2,077	2,006	6	2,012	3.2	16.7	3.2
Virginia	3,364	1,433	4,797	3,363	1,400	4,763	*	2.4	0.7
West Virginia Total	15,043	6,991	22,034	13,441	6,608	20,049	11.9	5.8	9.9
Northern	4,213	688	4,901	3,889	651	4,540	8.3	5.7	8.0
Southern	10,830	6,303	17,133	9,552	5,957	15,509	13.4	5.8	10.5
Wyoming	247	6,580	6,827	204	6,179	6,383	21.1	6.5	7.0
Appalachian Total	**37,802**	**20,943**	**58,745**	**34,961**	**18,893**	**53,854**	**8.1**	**10.9**	**9.1**
Northern	11,391	4,880	16,271	10,707	4,353	15,060	6.4	12.1	8.0
Central	23,663	14,541	38,204	21,793	13,145	34,938	8.6	10.6	9.3
Southern	2,748	1,522	4,270	2,461	1,395	3,856	11.7	9.1	10.7
Interior Total	**7,176**	**5,621**	**12,797**	**7,433**	**5,396**	**12,829**	**-3.5**	**4.2**	**-0.2**
Illinois Basin	7,036	2,658	9,694	7,264	2,530	9,794	-3.1	5.1	-1.0
Western Total	**4,597**	**10,580**	**15,177**	**4,329**	**10,161**	**14,490**	**6.2**	**4.1**	**4.7**
Powder River Basin	22	6,815	6,837	-	6,399	6,399	-	6.5	6.8
Uinta Region	3,763	497	4,260	3,668	497	4,165	2.6	-	2.3
East of Miss. River	**44,838**	**23,767**	**68,605**	**42,225**	**21,600**	**63,825**	**6.2**	**10.0**	**7.5**
West of Miss. River	**4,737**	**13,377**	**18,114**	**4,498**	**12,850**	**17,348**	**5.3**	**4.1**	**4.4**
U.S. Subtotal	**49,575**	**37,144**	**86,719**	**46,723**	**34,450**	**81,173**	**6.1**	**7.8**	**6.8**
Refuse Recovery	**-**	**-**	**140**	**-**	**-**	**105**	**-**	**-**	**33.3**
U.S. Total	**49,575**	**37,144**	**86,859**	**46,723**	**34,450**	**81,278**	**6.1**	**7.8**	**6.9**

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

* Absolute percentage less than 0.05.

- = No data are reported.

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

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

Table 19. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2008

Coal-Producing State, Region[1], and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero[2]	
Alabama	**2,155**	**506**	**640**	**526**	**110**	**204**	**18**	**111**	**4,270**
Underground	2,154	411	-	26	71	18	-	68	2,748
Surface	1	95	640	500	39	186	18	43	1,522
Alaska	**104**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**104**
Surface	104	-	-	-	-	-	-	-	104
Arizona	**419**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**419**
Surface	419	-	-	-	-	-	-	-	419
Arkansas	**-**	**-**	**-**	**-**	**91**	**-**	**2**	**-**	**93**
Underground	-	-	-	-	91	-	-	-	91
Surface	-	-	-	-	-	-	2	-	2
Colorado	**2,152**	**-**	**102**	**18**	**-**	**8**	**-**	**5**	**2,285**
Underground	1,662	-	74	18	-	-	-	5	1,759
Surface	490	-	28	-	-	8	-	-	526
Illinois	**3,009**	**112**	**67**	**27**	**24**	**2**	**-**	**127**	**3,368**
Underground	2,712	79	-	27	-	-	-	89	2,907
Surface	297	33	67	-	24	2	-	38	461
Indiana	**2,493**	**268**	**160**	**28**	**27**	**30**	**12**	**65**	**3,083**
Underground	1,280	70	-	6	-	-	-	31	1,387
Surface	1,213	198	160	22	27	30	12	34	1,696
Kansas	**-**	**-**	**-**	**39**	**-**	**10**	**-**	**10**	**59**
Surface	-	-	-	39	-	10	-	10	59
Kentucky Total	**4,339**	**3,703**	**3,229**	**2,425**	**1,318**	**1,466**	**468**	**1,958**	**18,906**
Underground	3,551	2,355	1,561	1,340	855	855	225	1,239	11,981
Surface	788	1,348	1,668	1,085	463	611	243	719	6,925
Eastern	**1,841**	**3,404**	**3,107**	**2,367**	**1,277**	**1,466**	**448**	**1,753**	**15,663**
Underground	1,131	2,260	1,513	1,329	855	855	209	1,087	9,239
Surface	710	1,144	1,594	1,038	422	611	239	666	6,424
Western	**2,498**	**299**	**122**	**58**	**41**	**-**	**20**	**205**	**3,243**
Underground	2,420	95	48	11	-	-	16	152	2,742
Surface	78	204	74	47	41	-	4	53	501
Louisiana	**211**	**40**	**-**	**-**	**-**	**-**	**-**	**-**	**251**
Surface	211	40	-	-	-	-	-	-	251
Maryland	**-**	**45**	**183**	**-**	**59**	**57**	**11**	**46**	**401**
Underground	-	-	96	-	-	-	-	40	136
Surface	-	45	87	-	59	57	11	6	265
Mississippi	**166**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**166**
Surface	166	-	-	-	-	-	-	-	166
Missouri	**-**	**-**	**-**	**9**	**3**	**-**	**-**	**-**	**12**
Surface	-	-	-	9	3	-	-	-	12
Montana	**979**	**-**	**11**	**45**	**-**	**-**	**-**	**-**	**1,035**
Underground	-	-	-	45	-	-	-	-	45
Surface	979	-	11	-	-	-	-	-	990
New Mexico	**1,445**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,445**
Underground	476	-	-	-	-	-	-	-	476
Surface	969	-	-	-	-	-	-	-	969
North Dakota	**985**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**985**
Surface	985	-	-	-	-	-	-	-	985
Ohio	**1,316**	**401**	**486**	**141**	**82**	**125**	**53**	**145**	**2,749**
Underground	1,177	-	221	29	-	9	8	63	1,507
Surface	139	401	265	112	82	116	45	82	1,242
Oklahoma	**-**	**-**	**117**	**77**	**-**	**-**	**2**	**-**	**196**
Underground	-	-	49	-	-	-	-	-	49
Surface	-	-	68	77	-	-	2	-	147
Pennsylvania Total	**3,664**	**793**	**986**	**835**	**459**	**448**	**270**	**765**	**8,220**
Underground	3,664	586	469	255	149	64	34	314	5,535
Surface	-	207	517	580	310	384	236	451	2,685
Anthracite	**-**	**-**	**31**	**99**	**83**	**194**	**121**	**401**	**929**
Underground	-	-	-	47	-	40	34	83	204
Surface	-	-	31	52	83	154	87	318	725
Bituminous	**3,664**	**793**	**955**	**736**	**376**	**254**	**149**	**364**	**7,291**
Underground	3,664	586	469	208	149	24	-	231	5,331
Surface	-	207	486	528	227	230	149	133	1,960
Tennessee	**-**	**-**	**279**	**72**	**109**	**73**	**13**	**65**	**611**
Underground	-	-	114	-	50	35	-	31	230
Surface	-	-	165	72	59	38	13	34	381
Texas	**2,326**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,326**
Surface	2,326	-	-	-	-	-	-	-	2,326
Utah	**1,594**	**133**	**182**	**-**	**-**	**-**	**-**	**168**	**2,077**
Underground	1,594	133	182	-	-	-	-	161	2,070

See footnotes at end of table.

Table 19. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2008 (Continued)

Coal-Producing State, Region [1], and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero [2]	
Utah (continued)									
Surface	-	-	-	-	-	-	-	7	7
Virginia	**779**	**626**	**1,348**	**627**	**357**	**365**	**103**	**592**	**4,797**
Underground	779	368	852	451	238	189	49	438	3,364
Surface	-	258	496	176	119	176	54	154	1,433
West Virginia Total	**9,223**	**3,473**	**3,909**	**1,715**	**617**	**616**	**172**	**2,309**	**22,034**
Underground	5,498	2,308	3,131	1,451	575	428	103	1,549	15,043
Surface	3,725	1,165	778	264	42	188	69	760	6,991
Northern	**3,541**	**410**	**348**	**150**	**30**	**91**	**20**	**311**	**4,901**
Underground	3,214	370	290	81	-	48	10	200	4,213
Surface	327	40	58	69	30	43	10	111	688
Southern	**5,682**	**3,063**	**3,561**	**1,565**	**587**	**525**	**152**	**1,998**	**17,133**
Underground	2,284	1,938	2,841	1,370	575	380	93	1,349	10,830
Surface	3,398	1,125	720	195	12	145	59	649	6,303
Wyoming	**6,768**	**-**	**13**	**-**	**-**	**-**	**2**	**44**	**6,827**
Underground	225	-	-	-	-	-	-	22	247
Surface	6,543	-	13	-	-	-	2	22	6,580
Appalachian Total	**18,978**	**9,248**	**10,938**	**6,283**	**3,070**	**3,354**	**1,088**	**5,786**	**58,745**
Underground	14,403	5,933	6,396	3,541	1,938	1,598	403	3,590	37,802
Surface	4,575	3,315	4,542	2,742	1,132	1,756	685	2,196	20,943
Northern	**8,521**	**1,649**	**2,003**	**1,126**	**630**	**721**	**354**	**1,267**	**16,271**
Underground	8,055	956	1,076	365	149	121	52	617	11,391
Surface	466	693	927	761	481	600	302	650	4,880
Central	**8,302**	**7,093**	**8,295**	**4,631**	**2,330**	**2,429**	**716**	**4,408**	**38,204**
Underground	4,194	4,566	5,320	3,150	1,718	1,459	351	2,905	23,663
Surface	4,108	2,527	2,975	1,481	612	970	365	1,503	14,541
Southern	**2,155**	**506**	**640**	**526**	**110**	**204**	**18**	**111**	**4,270**
Underground	2,154	411	-	26	71	18	-	68	2,748
Surface	1	95	640	500	39	186	18	43	1,522
Interior Total	**10,703**	**719**	**466**	**238**	**186**	**42**	**36**	**407**	**12,797**
Underground	6,412	244	97	44	91	-	16	272	7,176
Surface	4,291	475	369	194	95	42	20	135	5,621
Illinois Basin	**8,000**	**679**	**349**	**113**	**92**	**32**	**32**	**397**	**9,694**
Underground	6,412	244	48	44	-	-	16	272	7,036
Surface	1,588	435	301	69	92	32	16	125	2,658
Western Total	**14,446**	**133**	**308**	**63**	**-**	**8**	**2**	**217**	**15,177**
Underground	3,957	133	256	63	-	-	-	188	4,597
Surface	10,489	-	52	-	-	8	2	29	10,580
Powder River Basin	**6,793**	**-**	**-**	**-**	**-**	**-**	**-**	**44**	**6,837**
Underground	-	-	-	-	-	-	-	22	22
Surface	6,793	-	-	-	-	-	-	22	6,815
Uinta Region	**3,746**	**133**	**208**	**-**	**-**	**-**	**-**	**173**	**4,260**
Underground	3,256	133	208	-	-	-	-	166	3,763
Surface	490	-	-	-	-	-	-	7	497
East of Miss. River	**27,144**	**9,927**	**11,287**	**6,396**	**3,162**	**3,386**	**1,120**	**6,183**	**68,605**
Underground	20,815	6,177	6,444	3,585	1,938	1,598	419	3,862	44,838
Surface	6,329	3,750	4,843	2,811	1,224	1,788	701	2,321	23,767
West of Miss. River	**16,983**	**173**	**425**	**188**	**94**	**18**	**6**	**227**	**18,114**
Underground	3,957	133	305	63	91	-	-	188	4,737
Surface	13,026	40	120	125	3	18	6	39	13,377
Subtotal	**44,127**	**10,100**	**11,712**	**6,584**	**3,256**	**3,404**	**1,126**	**6,410**	**86,719**
Underground	24,772	6,310	6,749	3,648	2,029	1,598	419	4,050	49,575
Surface	19,355	3,790	4,963	2,936	1,227	1,806	707	2,360	37,144
Refuse Recovery	**-**	**-**	**6**	**21**	**23**	**62**	**28**	**-**	**140**
U.S. Total	**44,127**	**10,100**	**11,718**	**6,605**	**3,279**	**3,466**	**1,154**	**6,410**	**86,859**

[1] For a definition of coal producing regions, see Glossary.
[2] Includes all employees at preparation plants and tipples not co-located with a mine.
- = No data are reported.

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

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

Table 20. Average Number of Employees at Underground and Surface Mines by State and Union Status, 2008

Coal-Producing State and Region[1]	Union[2]		Nonunion[2]	
	Underground	Surface	Underground	Surface
Alabama	2,606	32	142	1,494
Alaska	-	104	-	-
Arizona	-	419	-	-
Arkansas	-	-	91	-
Colorado	157	198	1,602	328
Illinois	735	38	2,172	437
Indiana	-	-	1,387	1,690
Kansas	-	-	-	59
Kentucky Total	650	150	11,095	6,545
Eastern	206	150	8,824	6,059
Western	444	-	2,271	486
Louisiana	-	-	-	251
Maryland	-	-	136	254
Mississippi	-	-	-	166
Missouri	-	-	-	12
Montana	-	770	45	220
New Mexico	476	649	-	320
North Dakota	-	279	-	706
Ohio	529	12	970	1,185
Oklahoma	-	-	49	145
Pennsylvania Total	2,335	345	3,166	2,120
Anthracite	2	279	168	361
Bituminous	2,333	66	2,998	1,759
Tennessee	-	-	230	368
Texas	-	1,449	-	877
Utah	712	-	1,358	7
Virginia	390	48	2,925	1,337
West Virginia Total	4,631	991	10,309	5,951
Northern	2,659	-	1,544	678
Southern	1,972	991	8,765	5,273
Wyoming	225	525	22	6,053
Appalachian Total	**10,697**	**1,578**	**26,702**	**18,768**
Northern	5,523	357	5,816	4,237
Central	2,568	1,189	20,744	13,037
Southern	2,606	32	142	1,494
Interior Total	**1,179**	**1,487**	**5,970**	**4,123**
Illinois Basin	1,179	38	5,830	2,613
Western Total	**1,570**	**2,944**	**3,027**	**7,634**
Powder River Basin	-	759	22	6,056
Uinta Region	869	170	2,894	327
East of Miss. River	**11,876**	**1,616**	**32,532**	**21,547**
West of Miss. River	**1,570**	**4,393**	**3,167**	**8,978**
U.S. Total	**13,446**	**6,009**	**35,699**	**30,525**

[1] For a definition of coal producing regions, see Glossary.
[2] Includes all employees at preparation plants and tipples not co-located with a mine.
- = No data are reported.

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

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

Productivity

Table 21. Coal Mining Productivity by State and Mine Type, 2008, 2007

Coal-Producing State, Region[1], and Mine Type	Number of Mining Operations[2]			Number of Employees[3]			Average Production per Employee per Hour (short tons)[4]		
	2008	2007	Percent Change	2008	2007	Percent Change	2008	2007	Percent Change
Alabama	**73**	**61**	**19.7**	**4,270**	**3,850**	**10.9**	**2.03**	**2.23**	**-8.7**
Underground	13	13	-	2,748	2,458	11.8	1.87	2.08	-10.0
Surface	60	48	25.0	1,522	1,392	9.3	2.34	2.49	-6.2
Alaska	**1**	**1**	**-**	**104**	**99**	**5.1**	**6.29**	**5.83**	**7.9**
Surface	1	1	-	104	99	5.1	6.29	5.83	7.9
Arizona	**1**	**1**	**-**	**419**	**430**	**-2.6**	**8.03**	**7.92**	**1.4**
Surface	1	1	-	419	430	-2.6	8.03	7.92	1.4
Arkansas	**2**	**2**	**-**	**93**	**87**	**6.9**	**0.33**	**0.42**	**-22.4**
Underground	1	1	-	91	85	7.1	0.32	0.41	-22.2
Surface	1	1	-	2	2	-	1.37	1.65	-17.3
Colorado	**13**	**13**	**-**	**2,285**	**2,249**	**1.6**	**6.58**	**7.51**	**-12.4**
Underground	9	9	-	1,759	1,729	1.7	6.43	7.36	-12.6
Surface	4	4	-	526	520	1.2	7.10	8.05	-11.7
Illinois	**26**	**29**	**-10.3**	**3,368**	**3,946**	**-14.6**	**4.21**	**3.67**	**14.7**
Underground	15	19	-21.1	2,907	3,488	-16.7	4.03	3.48	15.6
Surface	11	10	10.0	461	458	0.7	5.34	4.95	7.8
Indiana	**42**	**44**	**-4.5**	**3,083**	**2,968**	**3.9**	**4.51**	**4.55**	**-1.0**
Underground	12	15	-20.0	1,387	1,291	7.4	3.40	3.18	6.9
Surface	30	29	3.4	1,696	1,677	1.1	5.42	5.60	-3.2
Kansas	**3**	**3**	**-**	**59**	**65**	**-9.2**	**2.11**	**3.25**	**-35.2**
Surface	3	3	-	59	65	-9.2	2.11	3.25	-35.2
Kentucky Total	**600**	**554**	**8.3**	**18,906**	**16,986**	**11.3**	**2.82**	**2.97**	**-5.0**
Underground	281	266	5.6	11,981	11,146	7.5	2.52	2.69	-6.4
Surface	319	288	10.8	6,925	5,840	18.6	3.39	3.53	-4.0
Eastern	**564**	**521**	**8.3**	**15,663**	**14,106**	**11.0**	**2.61**	**2.75**	**-5.1**
Underground	262	251	4.4	9,239	8,661	6.7	2.15	2.31	-6.9
Surface	302	270	11.9	6,424	5,445	18.0	3.28	3.45	-4.8
Western	**36**	**33**	**9.1**	**3,243**	**2,880**	**12.6**	**3.76**	**3.96**	**-5.2**
Underground	19	15	26.7	2,742	2,485	10.3	3.59	3.86	-6.8
Surface	17	18	-5.6	501	395	26.8	4.95	4.83	2.4
Louisiana	**2**	**2**	**-**	**251**	**239**	**5.0**	**7.37**	**6.08**	**21.3**
Surface	2	2	-	251	239	5.0	7.37	6.08	21.3
Maryland	**24**	**22**	**9.1**	**401**	**375**	**6.9**	**3.17**	**2.80**	**13.2**
Underground	3	4	-25.0	136	131	3.8	2.39	2.09	14.4
Surface	21	18	16.7	265	244	8.6	3.59	3.19	12.5
Mississippi	**1**	**1**	**-**	**166**	**177**	**-6.2**	**8.51**	**9.99**	**-14.8**
Surface	1	1	-	166	177	-6.2	8.51	9.99	-14.8
Missouri	**2**	**2**	**-**	**12**	**14**	**-14.3**	**9.18**	**6.96**	**31.9**
Surface	2	2	-	12	14	-14.3	9.18	6.96	31.9
Montana	**6**	**6**	**-**	**1,035**	**986**	**5.0**	**20.75**	**22.20**	**-6.6**
Underground	1	1	-	45	16	181.3	1.88	1.46	29.0
Surface	5	5	-	990	970	2.1	21.56	22.55	-4.4
New Mexico	**5**	**6**	**-16.7**	**1,445**	**1,356**	**6.6**	**8.72**	**9.03**	**-3.4**
Underground	1	2	-50.0	476	374	27.3	7.14	9.11	-21.6
Surface	4	4	-	969	982	-1.3	9.51	9.00	5.7
North Dakota	**4**	**5**	**-20.0**	**985**	**975**	**1.0**	**15.50**	**15.70**	**-1.3**
Surface	4	5	-20.0	985	975	1.0	15.50	15.70	-1.3
Ohio	**63**	**73**	**-13.7**	**2,749**	**2,496**	**10.1**	**4.32**	**4.05**	**6.6**
Underground	18	21	-14.3	1,507	1,481	1.8	5.00	4.76	4.9
Surface	45	52	-13.5	1,242	1,015	22.4	3.45	3.01	14.6
Oklahoma	**7**	**9**	**-22.2**	**196**	**237**	**-17.3**	**2.88**	**2.78**	**3.5**
Underground	1	2	-50.0	49	84	-41.7	3.47	2.65	30.9
Surface	6	7	-14.3	147	153	-3.9	2.69	2.85	-5.7
Pennsylvania Total	**361**	**349**	**3.4**	**8,220**	**7,649**	**7.5**	**3.53**	**3.73**	**-5.5**
Underground	90	82	9.8	5,535	5,206	6.3	4.09	4.39	-7.0
Surface	271	267	1.5	2,685	2,443	9.9	2.20	2.20	0.2
Anthracite	**120**	**120**	**-**	**929**	**910**	**2.1**	**0.91**	**0.89**	**2.8**
Underground	32	30	6.7	204	192	6.3	0.63	0.68	-6.8
Surface	88	90	-2.2	725	718	1.0	0.99	0.94	5.2
Bituminous	**241**	**229**	**5.2**	**7,291**	**6,739**	**8.2**	**3.82**	**4.05**	**-5.7**
Underground	58	52	11.5	5,331	5,014	6.3	4.19	4.50	-6.8
Surface	183	177	3.4	1,960	1,725	13.6	2.65	2.67	-0.8
Tennessee	**34**	**28**	**21.4**	**611**	**566**	**8.0**	**1.87**	**2.10**	**-10.9**
Underground	9	9	-	230	220	4.5	1.65	1.92	-14.1
Surface	25	19	31.6	381	346	10.1	2.01	2.21	-8.8
Texas	**11**	**11**	**-**	**2,326**	**2,216**	**5.0**	**7.84**	**8.82**	**-11.1**
Surface	11	11	-	2,326	2,216	5.0	7.84	8.82	-11.1
Utah	**16**	**18**	**-11.1**	**2,077**	**2,012**	**3.2**	**5.84**	**5.79**	**0.8**
Underground	15	17	-11.8	2,070	2,006	3.2	5.86	5.81	0.8

See footnotes at end of table.

Table 21. Coal Mining Productivity by State and Mine Type, 2008, 2007 (Continued)

Coal-Producing State, Region [1], and Mine Type	Number of Mining Operations [2]			Number of Employees [3]			Average Production per Employee per Hour (short tons) [4]		
	2008	2007	Percent Change	2008	2007	Percent Change	2008	2007	Percent Change
Utah (continued)									
Surface	1	1	-	7	6	16.7	-	-	-
Virginia	**153**	**160**	**-4.4**	**4,797**	**4,763**	**0.7**	**2.29**	**2.47**	**-7.6**
Underground	87	94	-7.4	3,364	3,363	*	2.10	2.25	-6.5
Surface	66	66	-	1,433	1,400	2.4	2.70	2.96	-8.8
West Virginia Total	**438**	**418**	**4.8**	**22,034**	**20,049**	**9.9**	**3.06**	**3.32**	**-8.0**
Underground	260	239	8.8	15,043	13,441	11.9	2.58	2.82	-8.6
Surface	178	179	-0.6	6,991	6,608	5.8	4.00	4.25	-5.9
Northern	**64**	**65**	**-1.5**	**4,901**	**4,540**	**8.0**	**3.68**	**4.08**	**-9.8**
Underground	33	34	-2.9	4,213	3,889	8.3	3.54	4.05	-12.6
Surface	31	31	-	688	651	5.7	4.57	4.26	7.2
Southern	**374**	**353**	**5.9**	**17,133**	**15,509**	**10.5**	**2.88**	**3.10**	**-7.0**
Underground	227	205	10.7	10,830	9,552	13.4	2.20	2.30	-4.4
Surface	147	148	-0.7	6,303	5,957	5.8	3.94	4.25	-7.2
Wyoming	**22**	**21**	**4.8**	**6,827**	**6,383**	**7.0**	**32.18**	**33.30**	**-3.4**
Underground	2	1	100.0	247	204	21.1	6.87	6.47	6.1
Surface	20	20	-	6,580	6,179	6.5	33.10	34.19	-3.2
Appalachian Total	**1,710**	**1,632**	**4.8**	**58,745**	**53,854**	**9.1**	**2.91**	**3.10**	**-6.0**
Underground	742	713	4.1	37,802	34,961	8.1	2.70	2.91	-7.2
Surface	968	919	5.3	20,943	18,893	10.9	3.30	3.44	-4.1
Northern	**512**	**509**	**0.6**	**16,271**	**15,060**	**8.0**	**3.70**	**3.87**	**-4.4**
Underground	144	141	2.1	11,391	10,707	6.4	3.99	4.29	-7.1
Surface	368	368	-	4,880	4,353	12.1	2.96	2.76	7.1
Central	**1,125**	**1,060**	**6.1**	**38,204**	**34,938**	**9.3**	**2.68**	**2.86**	**-6.2**
Underground	585	558	4.8	23,663	21,793	8.6	2.16	2.29	-5.7
Surface	540	502	7.6	14,541	13,145	10.6	3.50	3.74	-6.4
Southern	**73**	**63**	**15.9**	**4,270**	**3,856**	**10.7**	**2.03**	**2.23**	**-8.6**
Underground	13	14	-7.1	2,748	2,461	11.7	1.87	2.08	-9.9
Surface	60	49	22.4	1,522	1,395	9.1	2.34	2.49	-6.0
Interior Total	**132**	**136**	**-2.9**	**12,797**	**12,829**	**-0.2**	**4.81**	**4.85**	**-0.9**
Underground	48	52	-7.7	7,176	7,433	-3.5	3.68	3.52	4.6
Surface	84	84	-	5,621	5,396	4.2	6.38	6.76	-5.6
Illinois Basin	**104**	**106**	**-1.9**	**9,694**	**9,794**	**-1.0**	**4.16**	**4.04**	**2.8**
Underground	46	49	-6.1	7,036	7,264	-3.1	3.72	3.56	4.5
Surface	58	57	1.8	2,658	2,530	5.1	5.34	5.39	-1.0
Western Total	**68**	**71**	**-4.2**	**15,177**	**14,490**	**4.7**	**19.91**	**20.40**	**-2.4**
Underground	28	30	-6.7	4,597	4,329	6.2	6.23	6.73	-7.4
Surface	40	41	-2.4	10,580	10,161	4.1	25.77	26.28	-2.0
Powder River Basin	**19**	**18**	**5.6**	**6,837**	**6,399**	**6.8**	**33.91**	**35.30**	**-3.9**
Underground	1	-	-	22	-	-	-	-	-
Surface	18	18	-	6,815	6,399	6.5	34.00	35.30	-3.7
Uinta Region	**25**	**28**	**-10.7**	**4,260**	**4,165**	**2.3**	**6.30**	**6.76**	**-6.8**
Underground	22	24	-8.3	3,763	3,668	2.6	6.20	6.60	-6.0
Surface	3	4	-25.0	497	497	-	7.01	7.97	-12.0
East of Miss. River	**1,815**	**1,739**	**4.4**	**68,605**	**63,825**	**7.5**	**3.11**	**3.27**	**-4.8**
Underground	788	762	3.4	44,838	42,225	6.2	2.87	3.03	-5.2
Surface	1,027	977	5.1	23,767	21,600	10.0	3.57	3.73	-4.2
West of Miss. River	**95**	**100**	**-5.0**	**18,114**	**17,348**	**4.4**	**17.77**	**18.23**	**-2.5**
Underground	30	33	-9.1	4,737	4,498	5.3	6.07	6.52	-6.9
Surface	65	67	-3.0	13,377	12,850	4.1	21.85	22.36	-2.2
Subtotal	**1,910**	**1,839**	**3.9**	**86,719**	**81,173**	**6.8**	**5.96**	**6.27**	**-4.9**
Underground	818	795	2.9	49,575	46,723	6.1	3.15	3.34	-5.9
Surface	1,092	1,044	4.6	37,144	34,450	7.8	9.82	10.25	-4.3
Refuse Recovery	**23**	**20**	**15.0**	**140**	**105**	**33.3**	**6.78**	**5.77**	**17.4**
U.S. Total	**1,933**	**1,859**	**4.0**	**86,859**	**81,278**	**6.9**	**5.96**	**6.27**	**-4.9**

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

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

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

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

* Absolute percentage less than 0.05.

- = No data are reported.

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

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

Table 22. Underground Coal Mining Productivity by State and Mining Method, 2008

(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region[1]	Continuous[2]	Conventional and Other[3]	Longwall[4]	Total
Alabama	0.78	-	1.92	1.87
Arkansas	0.32	-	-	0.32
Colorado	3.00	-	6.64	6.43
Illinois	3.70	-	4.64	4.03
Indiana	3.49	-	-	3.49
Kentucky Total	2.52	2.73	2.73	2.53
Eastern	2.12	2.73	2.73	2.16
Western	3.60	-	-	3.60
Maryland	2.39	-	-	2.39
Montana	1.88	-	-	1.88
New Mexico	-	-	7.14	7.14
Ohio	3.65	-	5.77	5.02
Oklahoma	3.47	-	-	3.47
Pennsylvania Total	2.73	0.44	4.74	4.10
Anthracite	0.67	0.44	-	0.63
Bituminous	2.89	-	4.74	4.19
Tennessee	1.65	-	-	1.65
Utah	1.22	-	6.07	5.85
Virginia	1.98	-	2.91	2.13
West Virginia Total	2.19	2.41	3.36	2.58
Northern	2.50	-	3.99	3.56
Southern	2.14	2.41	2.44	2.20
Wyoming	-	-	6.87	6.87
Appalachian Total	**2.20**	**2.52**	**3.62**	**2.71**
Northern	2.78	0.44	4.58	4.00
Central	2.11	2.64	2.55	2.17
Southern	0.78	-	1.92	1.87
Interior Total	**3.56**	**-**	**4.64**	**3.70**
Illinois Basin	3.60	-	4.64	3.74
Western Total	**2.13**	**-**	**6.46**	**6.23**
Powder River Basin	-	-	-	-
Uinta Region	2.00	-	6.34	6.20
East of Miss. River	**2.51**	**2.52**	**3.69**	**2.88**
West of Miss. River	**1.88**	**-**	**6.46**	**6.07**
U.S. Total	**2.50**	**2.52**	**4.29**	**3.16**

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

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

[3] Mines that produce greater than 50 percent of their coal by conventional mining methods or mines that produce coal using shortwall, scoop loading, hand loading, or other methods or a 50/50 percent continuous conventional split in mining method.

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

- = No data are reported.

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

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

Table 23. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2008

(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region[1], and Mine Type	Mine Production Range (Thousand Short Tons)							Total[2]
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Alabama	**2.15**	**1.29**	**2.51**	**2.52**	**0.83**	**1.25**	**2.62**	**2.03**
Underground	2.15	0.99	-	2.20	0.42	0.64	-	1.87
Surface	-	2.41	2.51	2.54	1.76	1.32	2.62	2.34
Alaska	**6.29**	**-**	**-**	**-**	**-**	**-**	**-**	**6.29**
Surface	6.29	-	-	-	-	-	-	6.29
Arizona	**8.03**	**-**	**-**	**-**	**-**	**-**	**-**	**8.03**
Surface	8.03	-	-	-	-	-	-	8.03
Arkansas	**-**	**-**	**-**	**-**	**0.32**	**-**	**1.37**	**0.33**
Underground	-	-	-	-	0.32	-	-	0.32
Surface	-	-	-	-	-	-	1.37	1.37
Colorado	**6.76**	**-**	**3.93**	**3.61**	**-**	**4.13**	**-**	**6.58**
Underground	6.66	-	2.88	3.61	-	-	-	6.43
Surface	7.10	-	7.45	-	-	4.13	-	7.10
Illinois	**4.36**	**4.85**	**4.99**	**2.85**	**1.90**	**11.06**	**-**	**4.21**
Underground	4.18	3.48	-	2.85	-	-	-	4.03
Surface	5.87	8.40	4.99	-	1.90	11.06	-	5.34
Indiana	**4.51**	**4.90**	**6.00**	**1.73**	**4.42**	**1.52**	**0.23**	**4.51**
Underground	3.43	3.97	-	-	-	-	-	3.40
Surface	5.63	5.20	6.00	2.27	4.42	1.52	0.23	5.42
Kansas	**-**	**-**	**-**	**1.98**	**-**	**5.78**	**-**	**2.11**
Surface	-	-	-	1.98	-	5.78	-	2.11
Kentucky Total	**3.96**	**3.13**	**3.08**	**2.57**	**2.27**	**1.87**	**0.81**	**2.82**
Underground	3.64	2.49	2.62	2.19	1.96	1.40	0.50	2.52
Surface	5.31	4.27	3.54	3.04	2.91	2.49	1.13	3.39
Eastern	**3.95**	**3.03**	**3.03**	**2.59**	**2.22**	**1.87**	**0.82**	**2.61**
Underground	3.12	2.49	2.60	2.21	1.96	1.40	0.52	2.15
Surface	5.20	4.09	3.46	3.06	2.79	2.49	1.10	3.28
Western	**3.97**	**4.47**	**4.53**	**1.77**	**4.65**	**-**	**0.68**	**3.76**
Underground	3.89	2.45	3.33	-	-	-	0.30	3.59
Surface	6.31	5.69	5.38	2.54	4.65	-	6.22	4.95
Louisiana	**7.39**	**7.27**	**-**	**-**	**-**	**-**	**-**	**7.37**
Surface	7.39	7.27	-	-	-	-	-	7.37
Maryland	**-**	**6.07**	**3.64**	**-**	**2.94**	**2.21**	**1.57**	**3.17**
Underground	-	-	3.44	-	-	-	-	2.39
Surface	-	6.07	3.82	-	2.94	2.21	1.57	3.59
Mississippi	**8.51**	**-**	**-**	**-**	**-**	**-**	**-**	**8.51**
Surface	8.51	-	-	-	-	-	-	8.51
Missouri	**-**	**-**	**-**	**8.64**	**11.26**	**-**	**-**	**9.18**
Surface	-	-	-	8.64	11.26	-	-	9.18
Montana	**21.65**	**-**	**14.55**	**1.88**	**-**	**-**	**-**	**20.75**
Underground	-	-	-	1.88	-	-	-	1.88
Surface	21.65	-	14.55	-	-	-	-	21.56
New Mexico	**8.72**	**-**	**-**	**-**	**-**	**-**	**-**	**8.72**
Underground	7.14	-	-	-	-	-	-	7.14
Surface	9.51	-	-	-	-	-	-	9.51
North Dakota	**15.50**	**-**	**-**	**-**	**-**	**-**	**-**	**15.50**
Surface	15.50	-	-	-	-	-	-	15.50
Ohio	**5.48**	**4.06**	**3.63**	**2.94**	**1.80**	**1.92**	**1.53**	**4.32**
Underground	5.64	-	3.33	2.62	-	2.40	1.36	5.00
Surface	4.25	4.06	3.89	2.98	1.80	1.83	1.56	3.45
Oklahoma	**-**	**-**	**3.28**	**2.44**	**-**	**-**	**0.20**	**2.88**
Underground	-	-	3.47	-	-	-	-	3.47
Surface	-	-	3.12	2.44	-	-	0.20	2.69
Pennsylvania Total	**4.84**	**3.37**	**3.47**	**2.08**	**2.37**	**2.12**	**1.22**	**3.53**
Underground	4.84	3.35	3.60	1.70	1.84	1.15	0.53	4.09
Surface	-	3.44	3.36	2.25	2.58	2.24	1.36	2.20
Anthracite	**-**	**-**	**4.73**	**1.27**	**2.06**	**1.42**	**0.74**	**0.91**
Underground	-	-	-	1.38	-	1.06	0.53	0.63
Surface	-	-	4.73	1.16	2.06	1.50	0.82	0.99
Bituminous	**4.84**	**3.37**	**3.43**	**2.18**	**2.45**	**2.77**	**1.91**	**3.82**
Underground	4.84	3.35	3.60	1.77	1.84	1.61	-	4.19
Surface	-	3.44	3.27	2.35	2.80	2.81	1.91	2.65
Tennessee	**-**	**-**	**2.22**	**1.91**	**2.18**	**1.83**	**0.46**	**1.87**
Underground	-	-	2.38	-	1.51	0.71	-	1.65
Surface	-	-	2.12	1.91	2.77	3.00	0.46	2.01
Texas	**7.84**	**-**	**-**	**-**	**-**	**-**	**-**	**7.84**
Surface	7.84	-	-	-	-	-	-	7.84
Utah	**6.84**	**4.89**	**1.47**	**-**	**-**	**-**	**-**	**5.84**
Underground	6.84	4.89	1.47	-	-	-	-	5.86

See footnotes at end of table.

Table 23. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2008 (Continued)
(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region [1], and Mine Type	Mine Production Range (Thousand Short Tons)							Total [2]
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Utah (continued)								
Surface	-	-	-	-	-	-	-	-
Virginia	**2.86**	**3.42**	**2.69**	**2.12**	**2.25**	**1.34**	**0.93**	**2.29**
Underground	2.86	2.85	2.41	1.90	2.19	1.23	0.76	2.10
Surface	-	4.14	3.13	2.57	2.34	1.48	1.13	2.70
West Virginia Total	**4.13**	**3.13**	**2.87**	**1.97**	**1.71**	**1.26**	**0.87**	**3.06**
Underground	3.64	2.53	2.55	1.75	1.67	0.92	1.21	2.58
Surface	4.82	4.24	4.00	3.21	2.11	1.91	0.68	4.00
Northern	**4.04**	**3.68**	**3.52**	**3.48**	**2.05**	**1.38**	**1.13**	**3.68**
Underground	3.87	3.05	2.82	3.21	-	0.46	1.23	3.54
Surface	5.75	7.99	6.37	3.86	2.05	1.99	1.09	4.57
Southern	**4.18**	**3.06**	**2.81**	**1.86**	**1.69**	**1.24**	**0.82**	**2.88**
Underground	3.34	2.44	2.52	1.68	1.67	0.97	1.21	2.20
Surface	4.74	4.09	3.81	3.07	2.22	1.89	0.59	3.94
Wyoming	**32.41**	**-**	**8.74**	**-**	**-**	**-**	**0.21**	**32.18**
Underground	7.45	-	-	-	-	-	-	6.87
Surface	33.25	-	8.74	-	-	-	0.21	33.10
Appalachian Total	**4.07**	**3.08**	**2.95**	**2.30**	**2.10**	**1.69**	**1.00**	**2.91**
Underground	3.80	2.50	2.66	1.94	1.82	1.20	0.68	2.70
Surface	4.86	4.08	3.35	2.74	2.58	2.09	1.16	3.30
Northern	**4.61**	**3.70**	**3.53**	**2.34**	**2.40**	**2.01**	**1.25**	**3.70**
Underground	4.57	3.24	3.33	2.03	1.84	1.06	0.66	3.99
Surface	5.28	4.28	3.76	2.48	2.56	2.17	1.37	2.96
Central	**4.02**	**3.08**	**2.85**	**2.26**	**2.09**	**1.60**	**0.82**	**2.68**
Underground	3.20	2.49	2.53	1.93	1.89	1.22	0.69	2.16
Surface	4.82	4.09	3.42	2.94	2.65	2.21	0.93	3.50
Southern	**2.15**	**1.29**	**2.51**	**2.52**	**0.83**	**1.25**	**2.62**	**2.03**
Underground	2.15	0.99	-	2.20	0.42	0.64	-	1.87
Surface	-	2.41	2.51	2.54	1.76	1.32	2.62	2.34
Interior Total	**5.07**	**4.84**	**4.83**	**2.49**	**1.72**	**3.36**	**0.48**	**4.81**
Underground	3.91	3.21	3.40	1.85	0.32	-	0.30	3.68
Surface	6.95	5.76	5.21	2.65	3.89	3.36	0.63	6.38
Illinois Basin	**4.28**	**4.72**	**5.36**	**2.12**	**3.58**	**2.46**	**0.50**	**4.16**
Underground	3.91	3.21	3.33	1.85	-	-	0.30	3.72
Surface	5.70	5.65	5.66	2.41	3.58	2.46	0.77	5.34
Western Total	**20.68**	**4.89**	**3.30**	**2.44**	**-**	**4.13**	**0.21**	**19.91**
Underground	6.84	4.89	1.98	2.44	-	-	-	6.23
Surface	25.91	-	9.40	-	-	4.13	0.21	25.77
Powder River Basin	**34.10**	**-**	**-**	**-**	**-**	**-**	**-**	**33.91**
Underground	-	-	-	-	-	-	-	-
Surface	34.10	-	-	-	-	-	-	34.00
Uinta Region	**6.79**	**4.89**	**1.95**	**-**	**-**	**-**	**-**	**6.30**
Underground	6.75	4.89	1.95	-	-	-	-	6.20
Surface	7.10	-	-	-	-	-	-	7.01
East of Miss. River	**4.15**	**3.19**	**3.03**	**2.30**	**2.14**	**1.69**	**0.99**	**3.11**
Underground	3.83	2.53	2.66	1.94	1.82	1.20	0.66	2.87
Surface	5.15	4.24	3.49	2.73	2.64	2.09	1.15	3.57
West of Miss. River	**18.73**	**5.57**	**3.30**	**2.64**	**0.60**	**5.15**	**0.39**	**17.77**
Underground	6.84	4.89	2.28	2.44	0.32	-	-	6.07
Surface	22.35	7.27	5.68	2.71	11.26	5.15	0.39	21.85
Subtotal	**9.23**	**3.22**	**3.04**	**2.31**	**2.08**	**1.70**	**0.98**	**5.96**
Underground	4.26	2.56	2.65	1.95	1.73	1.20	0.66	3.15
Surface	15.94	4.27	3.54	2.73	2.66	2.11	1.14	9.82
Refuse Recovery	**-**	**-**	**22.76**	**12.49**	**6.27**	**2.59**	**0.91**	**6.78**
U.S. Total	**9.23**	**3.22**	**3.04**	**2.34**	**2.12**	**1.72**	**0.98**	**5.96**

[1] For a definition of coal producing regions, see Glossary.
[2] Includes all employees at preparation plants and tipples not co-located with a mine.
- = No data are reported.

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

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

Table 24. Coal Mining Productivity by State, Mine Type, and Union Status, 2008

(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region[1]	Union		Nonunion	
	Underground	Surface	Underground	Surface
Alabama	1.93	3.29	0.70	2.32
Alaska	-	6.29	-	-
Arizona	-	8.03	-	-
Arkansas	-	-	0.32	-
Colorado	6.09	6.59	6.46	7.43
Illinois	3.07	-	4.33	5.76
Indiana	-	-	3.40	5.43
Kansas	-	-	-	2.11
Kentucky Total	3.01	3.32	2.50	3.41
Eastern	1.52	3.32	2.17	3.31
Western	3.70	-	3.58	4.95
Louisiana	-	-	-	7.37
Maryland	-	-	2.39	3.65
Mississippi	-	-	-	8.51
Missouri	-	-	-	9.18
Montana	-	16.59	1.88	38.91
New Mexico	7.14	8.87	-	10.93
North Dakota	-	14.81	-	15.75
Ohio	4.83	-	5.09	3.51
Oklahoma	-	-	3.47	2.72
Pennsylvania Total	3.80	0.90	4.32	2.46
Anthracite	-	0.62	0.64	1.29
Bituminous	3.80	2.10	4.50	2.69
Tennessee	-	-	1.65	2.03
Texas	-	7.50	-	8.39
Utah	4.44	-	6.53	-
Virginia	1.40	-	2.20	2.79
West Virginia Total	2.83	3.50	2.46	4.10
Northern	3.88	-	2.89	4.61
Southern	1.43	3.50	2.39	4.04
Wyoming	7.45	6.96	-	35.17
Appalachian Total	**2.84**	**2.83**	**2.65**	**3.37**
Northern	3.93	0.86	4.05	3.18
Central	1.43	3.36	2.26	3.54
Southern	1.93	3.29	0.70	2.32
Interior Total	**3.31**	**7.32**	**3.75**	**6.08**
Illinois Basin	3.31	-	3.80	5.41
Western Total	**5.93**	**10.67**	**6.39**	**31.51**
Powder River Basin	-	16.62	-	36.12
Uinta Region	4.77	6.46	6.59	7.31
East of Miss. River	**2.89**	**2.77**	**2.87**	**3.66**
West of Miss. River	**5.93**	**9.61**	**6.14**	**27.81**
U.S. Total	**3.19**	**7.62**	**3.14**	**10.30**

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

- = No data are reported.

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

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

Domestic Markets

Table 25. Coal Consumers in the Manufacturing and Coke Sectors, 2008

Company Name	Plant Location
Top Ten Manufacturers	
Alcoa Inc (Aluminum Company of America)	(IN)
Archer Daniels Midland	(IA)(IL)(MN)(ND)(NE)
Carmeuse Lime Inc	(AL)(IL)(IN)(KY)(MI)(OH)(PA)
Dakota Gasification Company	(ND)
Eastman Chemical Company	(TN)
Georgia-Pacific Consumer Products LP	(AL)(GA)(OK)(VA)(WI)
International Paper Co	(AL)(FL)(GA)(LA)(NC)(SC)(VA)
Lafarge North America	(AL)(IA)(IL)(KS)(MI)(MO)(NY)(OK)(PA)(SC)(WA)
NewPage Corporation	(MD)(MI)(SC)(WI)
U. S. Steel Corp.	(AL)(IN)(MI)
Other Major Manufacturers	
Amalgamated Sugar Co, LLC	(ID)
American Crystal Sugar Co	(MN)(ND)
Ash Grove Cement Co	(AR)(KS)(MT)(NE)(UT)
Blue Ridge Paper Prod Inc	(NC)
Bowater Newsprint	(AL)(TN)
Buzzi Unicem USA	(IL)(IN)(KS)(MO)(OK)(TX)
California Portland Cement Co.	(AZ)(CA)
Cargill Incorporated	(AL)(GA)(IA)(MI)(NC)(NY)(OH)(TN)
Celanese Ltd	(TX)
Cemex Inc	(CO)(KY)(PA)(TN)
Central Power & Lime Inc	(FL)
Corn Products International	(IL)(NC)
Duke Energy Generating Services	(VA)
E I du Pont de Nemours & Co	(MS)(NC)(TN)(WV)
ESSROC Materials Inc	(IN)(MD)(PA)
Eastman Kodak Company	(NY)
FMC Corporation	(WY)
General Chemical Corporation	(WY)
Holcim (US) Inc	(AL)(CO)(IA)(MD)(MI)(MS)(NY)(SC)(UT)
Kennecott Utah Copper	(UT)
Lehigh Cement Co	(AL)(IA)(IN)(MD)(PA)
Meadwestvaco Corporation	(VA)
Mittal Steel USA	(IN)
PPG Industries Inc	(WV)
Searles Valley Minerals	(CA)
Severstal Sparrows Point LLC	(IN)(MD)
Silver Bay Power Company	(MN)
Smurfit Stone Container Corp	(FL)(MI)(SC)(VA)
TXI Operations, LP	(TX)
Tate and Lyle Ingredients Americas Inc	(IL)(IN)(TN)
Top Ten Coke Producers	
AK Steel Corp	(KY)(OH)
DTE Energy Services	(AL)
Drummond Company Inc	(MI)
Koppers Industries	(PA)
Mittal Steel USA	(IN)(OH)
Mountain State Carbon	(WV)
Shenago Inc.	(PA)
Sloss Industries Corp.	(AL)
SunCoke Company	(IN)(OH)(PA)
United States Steel Corporation	(IL)(IN)(PA)

- = No data are reported.

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

Source: • Energy Information Administration, Manufacturers: Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users;" and, Coke Plants: Form EIA-5, "Quarterly Coal Consumption and Quality Report, Coke Plants."

Table 26. U.S. Coal Consumption by End Use Sector, by Census Division and State, 2008, 2007

(Thousand Short Tons)

Census Division and State	2008				2007				Total		
	Electric Power[1]	Other Industrial	Coke	Commercial and Institutional	Electric Power[1]	Other Industrial	Coke	Commercial and Institutional	2008	2007	Percent Change
New England	**8,410**	**W**	**-**	**-**	**8,818**	**197**	**-**	**36**	**W**	**9,051**	**W**
Connecticut	2,221	-	-	-	1,936	-	-	3	2,221	1,939	14.5
Maine	127	W	-	-	136	W	-	3	W	W	-9.4
Massachusetts	4,581	W	-	-	5,120	W	-	24	W	W	-10.8
New Hampshire	1,481	-	-	-	1,625	-	-	3	1,481	1,629	-9.1
Rhode Island	-	-	-	-	-	-	-	2	-	2	-100.0
Vermont	-	-	-	-	-	-	-	1	-	1	-100.0
Middle Atlantic	**67,045**	**3,573**	**W**	**W**	**69,995**	**3,645**	**W**	**852**	**77,648**	**W**	**W**
New Jersey	4,165	-	-	-	4,669	-	-	3	4,165	4,672	-10.8
New York	8,885	933	W	W	9,613	1,020	W	132	10,156	W	W
Pennsylvania	53,995	2,640	W	200	55,712	2,625	W	717	W	W	-3.6
East North Central	**238,693**	**14,006**	**10,228**	**W**	**237,049**	**14,715**	**10,486**	**707**	**W**	**262,957**	**W**
Illinois	57,368	3,614	W	206	56,488	3,673	W	162	W	W	1.4
Indiana	61,171	5,220	W	336	60,756	5,662	6,126	175	W	72,719	W
Michigan	36,476	1,660	W	W	36,574	1,744	W	173	39,866	W	W
Ohio	58,953	1,830	W	238	59,452	1,874	W	142	W	W	-0.4
Wisconsin	24,725	1,682	-	177	23,780	1,762	-	56	26,583	25,598	3.8
West North Central	**149,436**	**12,403**	**-**	**617**	**147,667**	**12,829**	**-**	**W**	**162,457**	**W**	**W**
Iowa	24,734	2,903	-	253	23,019	3,009	-	323	27,890	26,351	5.8
Kansas	21,616	W	-	-	22,780	241	-	-	W	23,020	W
Minnesota	18,763	1,359	-	W	19,178	1,354	-	64	W	20,596	W
Missouri	43,711	993	-	W	44,094	1,086	-	196	W	45,376	W
Nebraska	13,360	415	-	-	12,267	427	-	5	13,775	12,700	8.5
North Dakota	24,893	W	-	102	24,639	W	-	262	W	W	0.1
South Dakota	2,359	W	-	W	1,691	W	-	W	2,562	1,964	30.5
South Atlantic	**179,898**	**W**	**W**	**392**	**185,881**	**W**	**W**	**W**	**191,895**	**198,209**	**-3.2**
Delaware	2,391	W	-	-	2,462	W	-	1	W	W	-3.5
District of Columbia	-	-	-	W	-	-	-	W	W	W	-23.4
Florida	28,077	1,073	-	-	28,826	1,099	-	1	29,150	29,925	-2.6
Georgia	39,296	1,441	-	W	40,803	1,512	-	2	W	42,317	W
Maryland	11,065	1,174	-	W	11,884	1,221	-	36	W	13,142	W
North Carolina	31,116	1,066	-	247	32,412	1,148	-	45	32,428	33,606	-3.5
South Carolina	16,879	1,149	-	W	16,524	1,270	-	s	W	17,794	W
Virginia	13,368	1,991	W	74	14,913	1,941	W	83	W	W	-8.4
West Virginia	37,706	933	W	-	38,056	1,093	W	66	W	W	-1.4
East South Central	**114,165**	**W**	**W**	**145**	**115,540**	**W**	**W**	**207**	**122,734**	**124,550**	**-1.5**
Alabama	35,845	1,723	W	-	37,233	1,705	W	1	W	W	-3.5
Kentucky	42,191	1,249	W	54	41,064	1,347	W	136	W	W	1.8
Mississippi	9,497	W	-	-	9,895	W	-	-	W	W	-4.1
Tennessee	26,632	2,938	-	91	27,348	2,993	-	71	29,661	30,413	-2.5
West South Central	**155,812**	**W**	**-**	**W**	**154,545**	**W**	**-**	**1**	**158,808**	**W**	**W**
Arkansas	15,678	388	-	-	15,629	397	-	1	16,067	16,028	0.2
Louisiana	16,337	W	-	-	15,453	W	-	s	W	W	5.7
Oklahoma	21,957	713	-	-	20,547	747	-	s	22,670	21,295	6.5
Texas	101,840	1,805	-	W	102,916	1,868	-	s	W	104,784	W
Mountain	**116,718**	**4,282**	**-**	**W**	**115,235**	**4,444**	**-**	**145**	**W**	**119,824**	**W**
Arizona	22,658	628	-	-	21,189	712	-	1	23,285	21,903	6.3
Colorado	18,962	W	-	W	19,533	W	-	W	19,479	19,779	-1.5
Idaho	-	423	-	W	-	459	-	45	W	504	W
Montana	12,012	W	-	W	11,929	W	-	W	12,113	12,041	0.6
Nevada	3,878	W	-	-	3,447	W	-	s	W	W	11.7
New Mexico	15,398	W	-	-	15,959	W	-	4	W	W	-3.6
Utah	16,927	872	-	-	16,593	911	-	23	17,799	17,526	1.6
Wyoming	26,885	1,761	-	W	26,585	1,738	-	59	W	28,382	W
Pacific	**10,403**	**2,003**	**-**	**W**	**10,412**	**2,123**	**-**	**W**	**W**	**W**	**-0.4**
Alaska	427	W	-	W	414	2	-	W	W	W	9.9
California	993	1,688	-	-	961	1,818	-	-	2,680	2,779	-3.5
Hawaii	838	W	-	-	778	W	-	-	W	W	10.2
Oregon	2,382	W	-	-	2,577	W	-	-	W	W	-8.3
Washington	5,763	W	-	-	5,681	W	-	s	W	W	1.6
U.S. Total	**1,040,580**	**54,393**	**22,070**	**3,506**	**1,045,141**	**56,615**	**22,715**	**3,526**	**1,120,548**	**1,127,998**	**-0.7**

[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

s Value is less than 0.05 of the table metric, but value is included in any associated total.

- = No data are reported.

W = Data withheld to avoid disclosure.

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

Source: • Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-923 "Power Plant Operations Report," Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users," Form EIA-5, "Quarterly Coal Consumption and Quality Report, Coke Plants," Form EIA-6A, "Coal Distribution Report," Form EIA-7A, "Coal Production Report," and, Form EIA-920, "Combined Heat and Power Plant Report."

Table 27. Year-End Coal Stocks by Sector, by Census Division and State, 2008, 2007

(Thousand Short Tons)

Census Division and State	2008					2007					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	2008	2007	Percent Change
New England	**1,047**	**W**	**-**	**-**	**-**	**W**	**39**	**-**	**-**	**-**	**W**	**W**	**W**
Connecticut	W	-	-	-	-	W	-	-	-	-	W	W	W
Maine	-	W	-	-	-	-	W	-	-	-	W	W	W
Massachusetts	493	W	-	-	-	500	W	-	-	-	W	W	W
New Hampshire	W	-	-	-	-	W	-	-	-	-	W	W	W
Rhode Island	-	-	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle Atlantic	**7,155**	**455**	**W**	**W**	**2,770**	**5,147**	**389**	**W**	**-**	**2,558**	**11,128**	**W**	**W**
New Jersey	1,151	-	-	-	-	560	-	-	-	-	1,151	560	105.6
New York	1,112	276	W	W	-	944	226	W	-	-	1,420	W	W
Pennsylvania	4,892	179	W	42	2,770	3,643	163	W	-	2,558	W	W	24.6
East North Central	**38,885**	**1,743**	**1,294**	**W**	**3,353**	**39,382**	**1,632**	**1,186**	**-**	**1,556**	**W**	**43,755**	**W**
Illinois	9,872	197	W	40	1,105	9,812	208	W	-	523	W	W	6.3
Indiana	9,222	583	W	57	800	8,756	344	478	-	804	W	10,383	W
Michigan	7,674	524	W	W	662	8,853	635	W	-	-	9,276	W	W
Ohio	7,397	122	W	29	387	7,197	110	W	-	229	W	W	5.5
Wisconsin	4,721	317	-	8	399	4,764	334	-	-	-	5,445	5,098	6.8
West North Central	**29,305**	**1,414**	**-**	**88**	**1,968**	**26,827**	**1,267**	**-**	**-**	**1,806**	**32,775**	**29,900**	**9.6**
Iowa	6,131	608	-	49	149	5,234	605	-	-	-	6,937	5,840	18.8
Kansas	4,256	W	-	-	-	4,363	28	-	-	2	W	4,393	W
Minnesota	3,429	201	-	W	114	3,278	202	-	-	-	W	3,481	W
Missouri	9,791	146	-	W	4	9,014	98	-	-	2	W	9,114	W
Nebraska	3,822	266	-	-	-	3,059	263	-	-	-	4,088	3,321	23.1
North Dakota	W	W	-	5	1,701	W	W	-	-	1,803	W	W	W
South Dakota	W	W	-	W	-	W	W	-	-	-	W	W	W
South Atlantic	**26,853**	**W**	**W**	**85**	**7,749**	**28,221**	**W**	**W**	**-**	**5,218**	**35,674**	**34,279**	**4.1**
Delaware	W	W	-	-	-	W	W	-	-	-	W	W	-6.7
District of Columbia	-	-	-	W	-	-	-	-	-	-	W	-	W
Florida	4,768	114	-	-	-	4,045	131	-	-	-	4,882	4,177	16.9
Georgia	6,948	123	-	W	-	7,259	145	-	-	-	W	7,403	W
Maryland	W	82	-	W	428	W	67	-	-	168	W	W	W
North Carolina	4,769	97	-	31	-	5,285	73	-	-	-	4,896	5,358	-8.6
South Carolina	2,652	194	-	W	-	3,965	134	-	-	-	W	4,099	W
Virginia	1,915	129	-	33	1,415	1,524	120	-	-	854	3,492	2,499	39.7
West Virginia	4,262	90	W	-	5,905	4,283	73	W	-	4,196	W	W	20.3
East South Central	**14,948**	**W**	**W**	**24**	**4,384**	**12,585**	**W**	**W**	**-**	**6,371**	**19,907**	**19,473**	**2.2**
Alabama	4,537	144	W	-	1,411	4,355	109	W	-	929	W	W	13.6
Kentucky	5,986	75	W	20	2,345	4,953	82	W	-	4,587	W	W	-12.3
Mississippi	1,136	W	-	-	626	831	W	-	-	804	W	W	8.4
Tennessee	3,288	116	-	4	2	2,447	171	-	-	51	3,411	2,669	27.8
West South Central	**25,843**	**W**	**-**	**W**	**808**	**23,144**	**W**	**-**	**-**	**2,675**	**27,176**	**W**	**W**
Arkansas	2,337	37	-	-	1	2,543	60	-	-	-	2,375	2,603	-8.8
Louisiana	2,266	W	-	-	386	2,927	W	-	-	575	W	W	-24.0
Oklahoma	4,694	267	-	-	-	4,186	121	-	-	-	4,961	4,308	15.2
Texas	16,546	192	-	W	421	13,488	220	-	-	2,100	W	15,808	W
Mountain	**15,837**	**384**	**-**	**W**	**13,514**	**13,631**	**524**	**-**	**-**	**13,588**	**W**	**27,743**	**W**
Arizona	3,159	72	-	-	1,037	2,707	80	-	-	970	4,269	3,757	13.6
Colorado	2,739	W	-	W	874	2,829	W	-	-	1,762	3,663	W	W
Idaho	-	113	-	W	-	-	225	-	-	-	W	225	W
Montana	W	W	-	W	556	W	W	-	-	719	W	W	W
Nevada	872	W	-	-	-	932	W	-	-	-	W	W	-7.8
New Mexico	W	W	-	-	7,658	W	W	-	-	5,284	W	W	40.5
Utah	4,193	34	-	-	1,385	3,222	42	-	-	2,890	5,611	6,155	-8.8
Wyoming	3,149	90	-	W	2,003	2,572	78	-	-	1,962	W	4,612	W
Pacific	**1,716**	**252**	**-**	**W**	**143**	**W**	**232**	**-**	**-**	**205**	**W**	**W**	**W**
Alaska	W	-	-	W	143	W	-	-	-	205	W	W	W
California	W	209	-	-	-	W	185	-	-	-	W	W	W
Hawaii	W	W	-	-	-	W	W	-	-	-	W	W	W
Oregon	W	W	-	-	-	W	W	-	-	-	W	W	W
Washington	W	W	-	-	-	W	W	-	-	-	W	W	W
U.S. Total	**161,589**	**6,007**	**2,331**	**498**	**34,688**	**151,221**	**5,624**	**1,936**	**-**	**33,977**	**205,113**	**192,757**	**6.4**

[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.

* Absolute percentage less than 0.05.

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: • Stocks data for commercial and institutional users (formerly titled residential and commercial sector) was not collected prior to 2008. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-923 “Power Plant Operations Report,” Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users," Form EIA-5, "Quarterly Coal Consumption and Quality Report, Coke Plants," Form EIA-7A, “Coal Production Report,” Form EIA-8A, “Coal Stocks Report,” and Form EIA-6A, "Coal Distribution Report."

Average Mine Sales Price

Table 28. Average Sales Price of Coal by State and Mine Type, 2008, 2007

(Dollars per Short Ton)

Coal-Producing State	2008			2007			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	73.35	68.40	71.31	53.93	57.92	55.56	36.0	18.1	28.3
Alaska	-	W	W	-	W	W	-	W	W
Arizona	-	W	W	-	W	W	-	W	W
Arkansas	W	-	W	W	-	W	W	-	W
Colorado	W	W	32.67	W	W	25.99	W	W	25.7
Illinois	40.28	40.39	40.30	33.36	35.00	33.64	20.7	15.4	19.8
Indiana	40.25	32.34	34.95	35.97	27.32	29.81	11.9	18.4	17.2
Kansas	-	W	W	-	W	W	-	W	W
Kentucky Total	49.84	53.41	51.32	43.83	43.25	43.60	13.7	23.5	17.7
Eastern	57.81	55.49	56.63	49.47	44.53	47.06	16.8	24.6	20.3
Western	36.07	32.44	35.53	33.26	28.56	32.63	8.4	13.6	8.9
Louisiana	-	W	W	-	W	W	-	W	W
Maryland	W	W	42.19	W	W	33.02	W	W	27.8
Mississippi	-	W	W	-	W	W	-	W	W
Missouri	-	W	W	-	W	W	-	W	W
Montana	W	W	12.31	W	W	11.67	W	W	5.5
New Mexico	W	W	33.16	W	W	28.27	W	W	17.3
North Dakota	-	12.92	12.92	-	11.43	11.43	-	13.0	13.0
Ohio	41.91	40.43	41.40	28.32	29.53	28.67	48.0	36.9	44.4
Oklahoma	W	W	47.72	W	W	34.80	W	W	37.2
Pennsylvania Total	49.44	56.71	50.77	39.89	40.39	39.98	23.9	40.4	27.0
Anthracite	62.07	60.55	60.76	W	W	58.92	W	W	3.1
Bituminous	49.39	56.21	50.52	W	W	39.57	W	W	27.7
Tennessee	58.30	44.83	48.94	45.73	40.89	42.53	27.5	9.6	15.1
Texas	-	18.16	18.16	-	16.53	16.53	-	9.9	9.9
Utah	26.39	-	26.39	25.88	-	25.88	2.0	-	2.0
Virginia	90.50	74.31	84.57	57.16	52.39	55.36	58.3	41.8	52.8
West Virginia Total	64.36	54.92	60.16	49.09	46.94	48.12	31.1	17.0	25.0
Northern	42.70	49.97	43.95	38.69	38.87	38.72	10.4	28.6	13.5
Southern	77.96	55.47	65.80	56.92	47.78	51.73	37.0	16.1	27.2
Wyoming	W	W	11.39	W	W	10.33	W	W	10.2
U.S. Total	**51.35**	**22.35**	**31.25**	**40.82**	**19.18**	**25.82**	**25.8**	**16.5**	**21.0**

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: • 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 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

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

Table 29. Average Sales Price of Coal by State and Underground Mining Method, 2008

(Dollars per Short Ton)

Coal-Producing State	Continuous[1]	Conventional and Other[2]	Longwall[3]	Total
Alabama	W	-	W	73.35
Arkansas	W	-	-	W
Colorado	W	-	W	W
Illinois	W	-	W	40.28
Indiana	40.25	-	-	40.25
Kentucky Total	W	50.83	W	49.84
Eastern	58.24	50.83	W	57.81
Western	36.07	-	-	36.07
Maryland	W	-	-	W
Montana	W	-	-	W
New Mexico	-	-	W	W
Ohio	W	-	W	41.91
Oklahoma	W	-	-	W
Pennsylvania Total	61.93	W	W	49.44
Anthracite	W	W	-	62.07
Bituminous	W	-	W	49.39
Tennessee	58.30	-	-	58.30
Utah	W	-	W	26.39
Virginia	W	-	W	90.50
West Virginia Total	72.95	W	W	64.36
Northern	54.28	-	39.78	42.70
Southern	76.01	W	87.94	77.96
Wyoming	-	-	W	W
U.S. Total	**56.90**	**53.74**	**45.92**	**51.35**

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

[2] Mines that produce greater than 50 percent of their coal by conventional mining methods or mines that produce coal using shortwall, scoop loading, hand loading, or other methods or a 50/50 percent continuous conventional split in mining method.

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

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: • 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 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

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

Table 30. Average Sales Price of Coal by State, County, and Number of Mines, 2008
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Sales	Average Sales Price
Alabama	**56**	**20,107**	**71.31**
Bibb	1	W	W
Cullman	2	W	W
Fayette	1	W	W
Franklin	2	W	W
Jackson	4	W	W
Jefferson	10	W	W
Marion	1	W	W
Shelby	6	517	76.20
Tuscaloosa	9	7,708	60.48
Walker	17	3,293	67.08
Winston	3	W	W
Alaska	**1**	**W**	**W**
Yukon-Koyukuk Division	1	W	W
Arizona	**1**	**W**	**W**
Navajo	1	W	W
Arkansas	**1**	**W**	**W**
Sebastian	1	W	W
Colorado	**12**	**33,463**	**32.67**
Adams	1	W	W
Delta	1	W	W
Garfield	1	W	W
Gunnison	2	W	W
La Plata	2	W	W
Moffat	2	W	W
Montrose	1	W	W
Rio Blanco	1	W	W
Routt	1	W	W
Illinois	**19**	**32,848**	**40.30**
Gallatin	2	W	W
Jackson	3	W	W
Macoupin	1	W	W
Perry	4	W	W
Randolph	1	W	W
Saline	3	W	W
Sangamon	1	W	W
Vermilion	1	W	W
Wabash	1	W	W
White	1	W	W
Williamson	1	W	W
Indiana	**29**	**36,831**	**34.95**
Daviess	3	W	W
Dubois	1	W	W
Gibson	6	15,137	34.20
Knox	6	5,743	40.90
Pike	6	W	W
Sullivan	2	W	W
Vigo	2	W	W
Warrick	3	W	W
Kansas	**2**	**W**	**W**
Bourbon	1	W	W
Linn	1	W	W
Kentucky	**409**	**119,321**	**51.32**
Bell	23	3,342	56.47
Breathitt	8	2,042	50.29
Clay	2	W	W
Daviess	1	W	W
Elliott	1	W	W
Floyd	39	5,894	53.26
Harlan	53	10,989	57.70
Henderson	3	W	W
Hopkins	5	14,424	33.85
Jackson	2	W	W
Johnson	10	1,016	57.96
Knott	35	7,082	51.51
Knox	6	W	W
Laurel	1	W	W
Lawrence	7	603	63.94
Leslie	15	4,580	55.76

See footnotes at end of table.

Table 30. Average Sales Price of Coal by State, County, and Number of Mines, 2008 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Sales	Average Sales Price
Kentucky (continued)			
Letcher	34	5,660	58.18
Magoffin	12	3,438	44.59
Martin	13	5,600	56.18
Morgan	1	W	W
Muhlenberg	6	W	W
Ohio	2	W	W
Owsley	2	W	W
Perry	33	16,928	53.61
Pike	88	20,713	61.38
Union	2	W	W
Webster	1	W	W
Whitley	4	W	W
Louisiana	**2**	**W**	**W**
De Soto	1	W	W
Red River	1	W	W
Maryland	**18**	**2,929**	**42.19**
Allegany	12	1,977	37.66
Garrett	6	952	51.58
Mississippi	**1**	**W**	**W**
Choctaw	1	W	W
Missouri	**2**	**W**	**W**
Bates	2	W	W
Montana	**6**	**44,272**	**12.31**
Big Horn	3	W	W
Musselshell	1	W	W
Richland	1	W	W
Rosebud	1	W	W
New Mexico	**5**	**23,468**	**33.16**
McKinley	3	W	W
San Juan	2	W	W
North Dakota	**4**	**29,781**	**12.92**
Mclean	1	W	W
Mercer	2	W	W
Oliver	1	W	W
Ohio	**39**	**25,968**	**41.40**
Belmont	6	W	W
Carroll	3	W	W
Columbiana	3	W	W
Coshocton	1	W	W
Harrison	6	W	W
Jackson	1	W	W
Jefferson	5	W	W
Monroe	1	W	W
Muskingum	1	W	W
Noble	2	W	W
Perry	3	W	W
Stark	2	W	W
Tuscarawas	4	W	W
Vinton	1	W	W
Oklahoma	**6**	**1,462**	**47.72**
Craig	1	W	W
Haskell	1	W	W
Le Flore	3	W	W
Rogers	1	W	W
Pennsylvania	**177**	**66,941**	**50.77**
Allegheny	3	W	W
Armstrong	17	3,808	46.86
Beaver	1	W	W
Butler	4	W	W
Cambria	7	1,184	82.50
Cameron	1	W	W
Centre	1	W	W
Clarion	5	W	W
Clearfield	28	4,401	60.26
Columbia	2	W	W
Dauphin	1	W	W
Elk	5	522	66.20
Fayette	8	W	W
Greene	7	42,214	44.97
Indiana	19	2,781	73.99

See footnotes at end of table.

Table 30. Average Sales Price of Coal by State, County, and Number of Mines, 2008 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Sales	Average Sales Price
Pennsylvania (continued)			
Jefferson	9	574	73.34
Lackawanna	1	W	W
Luzerne	4	W	W
Lycoming	1	W	W
Northumberland	3	W	W
Schuylkill	22	975	45.65
Somerset	22	5,200	65.99
Venango	1	W	W
Washington	4	W	W
Westmoreland	1	W	W
Tennessee	**20**	**2,905**	**48.94**
Anderson	3	W	W
Campbell	7	1,268	53.72
Claiborne	9	1,362	42.62
Fentress	1	W	W
Texas	**11**	**38,998**	**18.16**
Atascosa	1	W	W
Freestone	1	W	W
Harrison	1	W	W
Hopkins	1	W	W
Lee	1	W	W
Leon	1	W	W
Panola	2	W	W
Robertson	1	W	W
Rusk	1	W	W
Titus	1	W	W
Utah	**9**	**25,833**	**26.39**
Carbon	5	12,339	29.59
Emery	3	W	W
Sevier	1	W	W
Virginia	**103**	**23,405**	**84.57**
Buchanan	37	7,957	88.30
Dickenson	12	2,071	93.37
Lee	3	W	W
Russell	9	1,119	79.42
Tazewell	4	W	W
Wise	38	10,673	75.71
West Virginia	**273**	**158,723**	**60.16**
Barbour	7	W	W
Boone	40	30,387	58.24
Brooke	2	W	W
Clay	2	W	W
Fayette	18	6,779	82.31
Greenbrier	8	1,037	127.45
Harrison	3	W	W
Kanawha	24	11,849	67.52
Lincoln	3	W	W
Logan	24	18,264	68.61
Marion	2	W	W
Marshall	2	W	W
Mason	1	W	W
McDowell	39	5,671	73.21
Mineral	2	W	W
Mingo	29	13,163	64.53
Monongalia	7	W	W
Nicholas	11	W	W
Preston	2	W	W
Raleigh	18	8,558	65.36
Randolph	1	W	W
Tucker	1	W	W
Upshur	3	W	W
Wayne	4	W	W
Webster	4	W	W
Wyoming	16	7,026	69.77
Wyoming	**19**	**465,365**	**11.39**
Campbell	12	414,987	10.87
Carbon	1	W	W
Converse	1	W	W
Lincoln	1	W	W
Sweetwater	4	9,411	26.48

See footnotes at end of table.

Table 30. Average Sales Price of Coal by State, County, and Number of Mines, 2008 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Sales	Average Sales Price
U.S. Total	**1,225**	**1,169,576**	**31.25**

- = No data are reported.
W = Data withheld to avoid disclosure.

Note: • 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 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

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

Table 31. Average Sales Price of Coal by State and Coal Rank, 2008

(Dollars per Short Ton)

Coal-Producing State	Bituminous	Subbituminous	Lignite	Anthracite	Total
Alabama	71.31	-	-	-	71.31
Alaska	-	W	-	-	W
Arizona	W	-	-	-	W
Arkansas	W	-	-	-	W
Colorado	W	W	-	-	32.67
Illinois	40.30	-	-	-	40.30
Indiana	34.95	-	-	-	34.95
Kansas	W	-	-	-	W
Kentucky Total	51.32	-	-	-	51.32
Eastern	56.63	-	-	-	56.63
Western	35.53	-	-	-	35.53
Louisiana	-	-	W	-	W
Maryland	42.19	-	-	-	42.19
Mississippi	-	-	W	-	W
Missouri	W	-	-	-	W
Montana	-	W	W	-	12.31
New Mexico	W	W	-	-	33.16
North Dakota	-	-	12.92	-	12.92
Ohio	41.40	-	-	-	41.40
Oklahoma	47.72	-	-	-	47.72
Pennsylvania Total	50.52	-	-	60.76	50.77
Anthracite	-	-	-	60.76	60.76
Bituminous	50.52	-	-	-	50.52
Tennessee	48.94	-	-	-	48.94
Texas	-	-	18.16	-	18.16
Utah	26.39	-	-	-	26.39
Virginia	84.57	-	-	-	84.57
West Virginia Total	60.16	-	-	-	60.16
Northern	43.95	-	-	-	43.95
Southern	65.80	-	-	-	65.80
Wyoming	W	W	-	-	11.39
U.S. Total	**51.39**	**12.31**	**16.50**	**60.76**	**31.25**

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: • 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 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

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

Table 32. Average Sales Price of Coal by Mine Production Range and Mine Type, 2008
(Dollars per Short Ton)

Mine Production Range (thousand short tons)	Underground	Surface	Total
Over 1,000	45.29	17.27	24.73
500 to 1,000	64.34	47.96	55.95
200 to 500	64.88	54.57	59.67
100 to 200	69.85	60.18	64.62
50 to 100	66.65	57.31	61.97
10 to 50	76.23	54.24	61.38
U.S. Total	**51.35**	**22.35**	**31.25**

Note: • 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 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

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

Table 33. Average Sales Price of U.S. Coal by State and Disposition, 2008

(Dollars per Short Ton)

Coal-Producing State	Open Market[1]	Captive[2]
Alabama	71.31	-
Alaska	W	-
Arizona	W	-
Arkansas	W	-
Colorado	32.30	36.59
Illinois	40.41	39.78
Indiana	33.37	38.81
Kansas	W	-
Kentucky Total	51.33	51.20
Eastern	56.94	W
Western	35.59	W
Louisiana	W	W
Maryland	42.19	-
Mississippi	W	-
Missouri	W	-
Montana	12.40	W
New Mexico	36.28	W
North Dakota	13.34	W
Ohio	41.86	W
Oklahoma	47.72	-
Pennsylvania Total	49.65	68.13
Anthracite	52.03	W
Bituminous	49.59	W
Tennessee	48.94	-
Texas	W	17.41
Utah	26.91	W
Virginia	81.12	91.76
West Virginia Total	59.02	67.68
Northern	43.01	50.89
Southern	64.70	72.82
Wyoming	10.62	14.05
U.S. Total	**32.05**	**27.55**

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

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

- = No data are reported.

W = Data withheld to avoid disclosure.

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

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

Average Consumer Prices

Table 34. Average Price of Coal Delivered to End Use Sector by Census Division and State, 2008, 2007

(Dollars per Short Ton)

Census Division and State	2008				2007				Annual Percent Change			
	Electric Power Sector	Other Industrial Plants	Coke Plants	Commercial and Institutional	Electric Power Sector	Other Industrial Plants	Coke Plants	Commercial and Institutional	Electric Power Sector	Other Industrial Plants	Coke Plants	Commercial and Institutional
New England	**71.55**	**W**	**-**	**-**	**65.93**	**92.45**	**-**	**-**	**8.5**	**W**	**-**	**-**
Connecticut	64.39	-	-	-	60.59	-	-	-	6.3	-	-	-
Maine	97.91	W	-	-	85.50	W	-	-	14.5	6.4	-	-
Massachusetts	67.85	W	-	-	64.45	W	-	-	5.3	15.6	-	-
New Hampshire	90.86	-	-	-	75.92	-	-	-	19.7	-	-	-
Rhode Island	-	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-	-
Middle Atlantic	**49.98**	**69.76**	**W**	**W**	**43.71**	**59.86**	**W**	**-**	**14.3**	**16.5**	**24.8**	**-**
New Jersey	80.36	-	-	-	68.69	-	-	-	17.0	-	-	-
New York	57.20	83.13	W	W	54.08	72.36	W	-	5.8	14.9	30.1	-
Pennsylvania	46.38	64.31	W	117.06	39.84	54.81	W	-	16.4	17.3	24.5	-
East North Central	**37.97**	**67.39**	**122.18**	**W**	**32.43**	**59.04**	**99.2**	**-**	**17.1**	**14.1**	**23.2**	**-**
Illinois	27.77	39.30	W	48.72	23.60	37.49	W	-	17.7	4.8	18.7	-
Indiana	40.40	74.02	W	69.59	34.14	61.79	102.1	-	18.3	19.8	W	-
Michigan	38.10	86.61	W	W	33.59	74.57	W	-	13.4	16.1	5.6	-
Ohio	46.90	79.89	W	128.71	39.39	68.75	W	-	19.1	16.2	33.7	-
Wisconsin	34.55	73.64	-	125.27	29.78	68.39	-	-	16.0	7.7	-	-
West North Central	**22.42**	**30.98**	**-**	**64.70**	**20.28**	**27.71**	**-**	**-**	**10.6**	**11.8**	**-**	**-**
Iowa	20.16	48.78	-	80.89	18.18	44.00	-	-	10.9	10.9	-	-
Kansas	24.15	W	-	-	21.12	50.87	-	-	14.4	W	-	-
Minnesota	29.49	50.56	-	W	26.56	41.58	-	-	11.0	21.6	-	-
Missouri	26.40	60.17	-	W	23.38	47.30	-	-	12.9	27.2	-	-
Nebraska	15.35	42.46	-	-	14.96	39.69	-	-	2.6	7.0	-	-
North Dakota	14.36	W	-	43.11	13.02	W	-	-	10.3	1.4	-	-
South Dakota	29.16	W	-	W	26.57	W	-	-	9.8	11.2	-	-
South Atlantic	**68.73**	**W**	**W**	**134.49**	**56.98**	**W**	**W**	**-**	**20.6**	**23.2**	**21.5**	**-**
Delaware	88.69	W	-	-	71.56	W	-	-	23.9	-4.5	-	-
District of Columbia	-	-	-	W	-	-	-	-	-	-	-	-
Florida	70.43	98.57	-	-	61.73	82.60	-	-	14.1	19.3	-	-
Georgia	66.28	108.89	-	W	57.09	81.24	-	-	16.1	34.0	-	-
Maryland	92.08	68.96	-	W	53.11	60.01	-	-	73.4	14.9	-	-
North Carolina	79.81	89.79	-	121.57	67.92	77.34	-	-	17.5	16.1	-	-
South Carolina	71.32	96.31	-	W	58.32	79.45	-	-	22.3	21.2	-	-
Virginia	67.82	89.01	W	146.52	62.11	69.95	W	-	9.2	27.2	16.2	-
West Virginia	52.44	85.55	W	-	41.53	66.80	W	-	26.3	28.1	24.2	-
East South Central	**51.91**	**W**	**W**	**111.15**	**43.02**	**W**	**W**	**-**	**20.7**	**25.9**	**30.6**	**-**
Alabama	57.45	80.14	W	-	43.74	75.76	W	-	31.3	5.8	40.8	-
Kentucky	49.30	81.35	W	106.49	40.80	70.01	W	-	20.8	16.2	10.8	-
Mississippi	55.73	W	-	-	50.43	W	-	-	10.5	8.8	-	-
Tennessee	47.11	97.45	-	114.13	42.61	67.83	-	-	10.6	43.7	-	-
West South Central	**26.24**	**W**	**-**	**W**	**23.88**	**W**	**-**	**-**	**9.9**	**11.7**	**-**	**-**
Arkansas	29.84	83.71	-	-	27.95	72.43	-	-	6.8	15.6	-	-
Louisiana	34.31	W	-	-	30.44	W	-	-	12.7	38.6	-	-
Oklahoma	23.11	43.66	-	-	20.61	40.26	-	-	12.1	8.4	-	-
Texas	25.17	60.18	-	W	22.90	53.57	-	-	9.9	12.4	-	-
Mountain	**28.33**	**42.90**	**-**	**W**	**25.95**	**41.68**	**-**	**-**	**9.2**	**2.9**	**-**	**-**
Arizona	34.06	57.68	-	-	31.19	59.21	-	-	9.2	-2.6	-	-
Colorado	28.78	W	-	W	24.59	W	-	-	17.0	1.1	-	-
Idaho	-	49.47	-	W	-	41.27	-	-	-	19.8	-	-
Montana	16.96	W	-	W	15.61	W	-	-	8.7	22.1	-	-
Nevada	46.87	W	-	-	41.97	W	-	-	11.7	11.7	-	-
New Mexico	36.59	W	-	-	32.87	W	-	-	11.3	16.2	-	-
Utah	30.20	44.47	-	-	30.02	43.35	-	-	0.6	2.6	-	-
Wyoming	19.79	30.88	-	W	18.28	29.68	-	-	8.3	4.0	-	-
Pacific	**38.79**	**71.49**	**-**	**W**	**34.51**	**66.46**	**-**	**-**	**12.4**	**7.6**	**-**	**-**
Alaska	30.43	-	-	W	-	-	-	-	100.0	-	-	-
California	70.02	69.20	-	-	63.23	66.58	-	-	10.7	3.9	-	-
Hawaii	76.42	W	-	-	67.09	W	-	-	13.9	98.0	-	-
Oregon	24.15	W	-	-	23.06	W	-	-	4.7	15.7	-	-
Washington	35.85	W	-	-	31.42	W	-	-	14.1	-12.2	-	-
U.S. Total	**40.69**	**63.44**	**118.09**	**86.50**	**35.29**	**54.42**	**95.0**	**-**	**15.3**	**16.6**	**24.4**	**-**

s Value is less than 0.05 of the table metric, but value is included in any associated total.
- = No data are reported.
W = Data withheld to avoid disclosure.
Note: • Electric Power Sector in this report includes Electric Utilities, Independent Power Producers, and Electric Utility Combined Heat & Power plants. • Price data for commercial and institutional users was not collected prior to 2008.
Source: • U.S. Energy Information Administration Form EIA-923, "Power Plant Operations Report," Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users," Form EIA-5, "Quarterly Coal Consumption and Quality Report, Coke Plants," and Federal Energy Regulatory Commission FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Glossary

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

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

Appalachian Region: See Coal-Producing Regions.

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

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

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

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

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

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

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

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

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

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

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

Central Appalachian Region: See Coal-Producing Regions.

CIF: See Cost, Insurance, Freight.

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

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

Coal (coke): See Coke (coal).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Coke (coal): A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and has a heating value of 24.8 million Btu per short ton.

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

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

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

Conventional Mining: The oldest form of room-and-pillar mining which consists of a series of operations that involve cutting the coalbed so it breaks easily when blasted with explosives or high-pressure air, and then loading the broken coal.

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

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

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

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

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

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

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

Estimated Recoverable Reserves: See recoverable reserves.

F.O.B. Rail/Barge Price: The free on board price of coal at the point of first sale. It excludes freight or shipping and insurance costs.

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

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

Illinois Basin: See Coal-Producing Regions.

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

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

Interior Region: See Coal-Producing Regions.

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

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

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

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

Mine Type: See Surface Mine and Underground Mine.

Northern Appalachian: See Coal-Producing Regions.

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

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

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

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

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

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

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

Powder River Basin: See Coal-Producing Regions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Southern Appalachian: See Coal-Producing Regions.

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

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

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

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

Uinta Region: See Coal-Producing Regions.

Underground Mine: A mine where coal is produced by tunneling into the earth to the coalbed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines. Underground mines are classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).

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

Western Region: See Coal-Producing Regions.