

U.S. Coal Supply and Demand: 2003 Review

by

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Overview

U.S. coal production fell for the second year in a row in 2003, declining by 24.8 million short tons to end the year at 1,069.5 million short tons according to preliminary data from the Energy Information Administration (Table 1), down 2.3 percent from the 2002 level of 1,094.3 million short tons. (Note: All percentage change calculations are done at the short ton level.) Total U.S. coal consumption rose in 2003, with all coal-consuming sectors increasing or remaining stable for the year. Coal consumption in the electric power sector increased by 2.4 percent. However, there were only slight gains in consumption by the other sectors. U.S. coal exports rose in 2003 for the first time in six years, while coal imports increased to record levels. Total coal stocks declined during the year, as consumers used their stockpiles to help meet increased demands, and coal producers used their stockpiles to replace some of the production shortfalls that were experienced in 2003.

The rebounding economy coupled with the slightly warmer than normal summer experienced in the western part of the country in 2003, helped to drive up the demand for coal during the year. Although preliminary data show that total electricity generation decreased by 0.2 percent in 2003, coal-based generation increased by 1.6 percent, resulting in a 23.1-million-short-ton increase in coal consumed in the electric power sector. Total coal use in the non-electricity sector (coke plants, other industrial plants, and the residential and commercial sector) rose by 1.1 percent to a level of 89.8 million short tons.

In the international markets in 2003, both U.S. coal exports and imports increased. U.S. coal exports reversed a six-year downward trend to end 2003 at 43.0 million short tons, an increase of 3.4 million short tons. U.S. coal imports reversed a one-year decline and reached a record level in 2003. Total coal imports were 25.0 million short tons, 8.2 million short tons higher than in 2002, and 5.3 million short tons higher than the previous record set in 2001.

The average delivered price of coal increased in the electric utility sector (a subset of the electric power sector), while declining in the coking coal and other industrial sectors in 2003. The electric utility price increase was 2.6 percent, while the decrease was 0.1 percent for coking coal prices,

and 3.7 for other industrial sector. The average price per ton of export coal, measured in free alongside ship (f.a.s.) value, dropped by 11.0 percent in 2003, while the price of coal imported into the U.S. declined by 11.4 percent.

The newest facet of the coal industry in the United States, coal synfuel production, continued to grow and influence the marketplace. According to preliminary data, the amount of coal that is processed by these plants has increased in 2003 by 35.8 percent.

Production

U.S. coal production decreased in 2003 by 2.3 percent to a level of 1,069.5 million short tons (Figure 1 and Table 1), a production level just slightly above the 1996 level of 1063.9 million short tons. For the first time since 2000, all three coal-producing regions declined for the year, with a slight drop in production in the Interior and Western Regions, while the large decline in Appalachia accounted for over 85 percent of the total decrease in U.S. coal production (Figure 2 and Table 2). As coal demand increased during the year, the decrease in U.S. coal production in 2003 of 24.8 million short tons was offset by a decrease in both consumer and producer stockpiles of 28.1 million short tons.

There were several issues that had an impact on coal production in 2003. Some of them were minor and had temporary effects (weather and transportation), while some were major and could affect the coal industry well into the future (legal and financial).

Among the minor issues were weather (rain or the lack thereof), transportation bottlenecks, and a one-day disruption in the electric power grid. The weather played a part in some of the transportation bottlenecks. The lack of rain led to low water levels in the river transportation system, in particular on the Mississippi River in January and again in August, which resulted in delayed coal barge shipments. There were severe rains in the Powder River Basin in June that impacted both coal production (causing some mine pit flooding and collapsing highwalls) and transportation (delays in train deliveries). Rail congestion problems continued to occur periodically in some States in the Western Region during the year. In August of 2003, there was an electricity blackout that affected over 50 million customers in the northeast U.S. and portions of Canada.

Table 1. U.S. Coal Supply, Disposition, and Prices, 2000 – 2003
(Million Short Tons and Nominal Dollars per Short Ton)

Item	2000	2001	2002	2003
Production By Region				
Appalachia	419.4	431.2	396.2	375.0
Interior.....	143.5	146.9	146.6	146.2
Western	510.7	547.9	550.4	547.3
Refuse Recovery	0.0	1.8	1.0	1.0
Total	1,073.6	1,127.7	1,094.3	1,069.5
Consumption By Sector				
Electric Power.....	985.8	964.4	977.5	1,000.6
Coke Plants	28.9	26.1	23.7	24.2
Other Industrial Plants	65.2	65.3	60.7	61.2
Combined Heat and Power (CHP).....	28.0	28.9	26.2	26.4
Non – CHP.....	37.2	36.3	34.2	34.7
Residential/Commercial Users	4.1	4.4	4.4	4.4
Residential	0.5	0.5	0.5	0.5
Commercial.....	3.7	3.9	3.9	3.9
Total	1,084.1	1,060.1	1,066.4	1,090.5
Year-End Coal Stocks				
Electric Power.....	102.0	138.5	141.7	121.6
Coke Plants	1.5	1.5	1.4	0.9
Other Industrial Plants	4.6	6.0	5.8	4.7
Producers/Distributors	31.9	35.9	43.3	36.8
Total	140.0	181.9	192.1	164.0
U.S. Coal Trade				
Exports.....	58.5	48.7	39.6	43.0
Steam Coal	25.7	23.3	18.1	20.9
Metallurgical Coal	32.8	25.4	21.5	22.1
Imports.....	12.5	19.8	16.9	25.0
Net Exports	46.0	28.9	22.7	18.0
Average Delivered Price				
Electric Utilities(1)	24.28	24.68	24.74	25.39
Coke Plants	44.38	46.42	50.67	50.63
Other Industrial Plants	31.46	32.26	35.49	34.17
Average Free Alongside Ship (f.a.s.) Price				
Exports.....	34.90	36.97	40.44	35.98
Steam Coal.....	29.67	31.88	34.51	26.94
Metallurgical Coal	38.99	41.63	45.41	44.55
Imports.....	30.10	34.00	35.51	31.45

(1) Average delivered price at electric utilities is through October 2003.

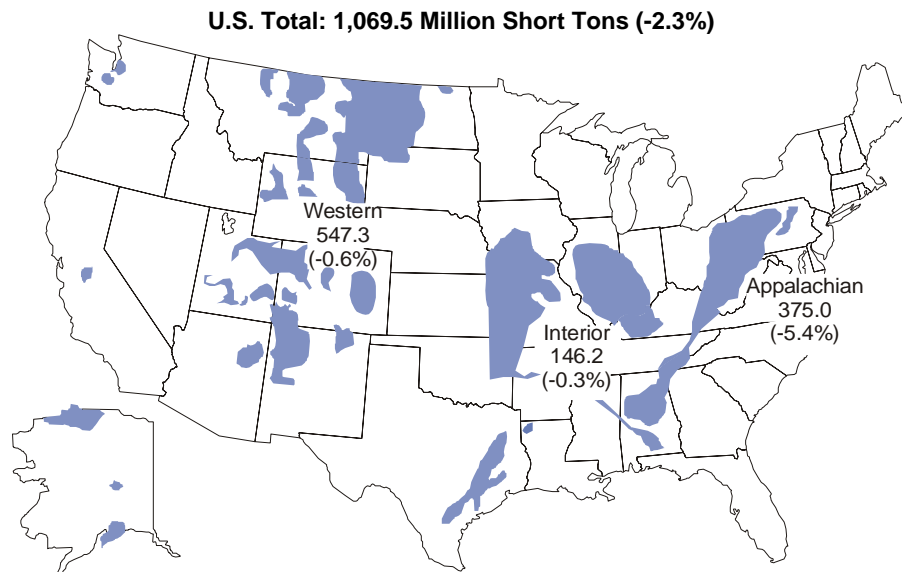
Notes: Totals may not equal sum of components due to independent rounding. Sum of net exports, stock changes, and consumption may not equal production, primarily because the supply and disposition data are obtained from different surveys. Electric power sector data is preliminary.

Sources: **Production, consumption, stocks, and prices:** Energy Information Administration, *Quarterly Coal Report, October-December 2003*, DOE/EIA-0121(2003/Q4) (Washington, DC, March 2004); *Coal Industry Annual 2000*, DOE/EIA-0584(2000) (Washington, DC, January 2002); *Annual Coal Report 2002*, DOE/EIA-0584(2002) (Washington, DC, November 2003); Electric Power Monthly, February 2004, DOE/EIA-0226(2004/02) (Washington, DC, March 2004); and Federal Energy Regulatory Commission Form 423, "Cost and Quality of Fuels for Electric Utilities." **Exports and imports:** U.S. Department of Commerce, Bureau of the Census, "Monthly Report EM 545" and "Monthly Report IM 145."

The major issues that had an effect on coal production in 2003 were primarily legal and financial, but also included operational problems. Legal issues continue to swirl around all aspects of the coal industry. The industry was still mired in the aftereffects of some actions that had been working their way through the legal system for several years, as well as some new legal challenges that occurred during the year.

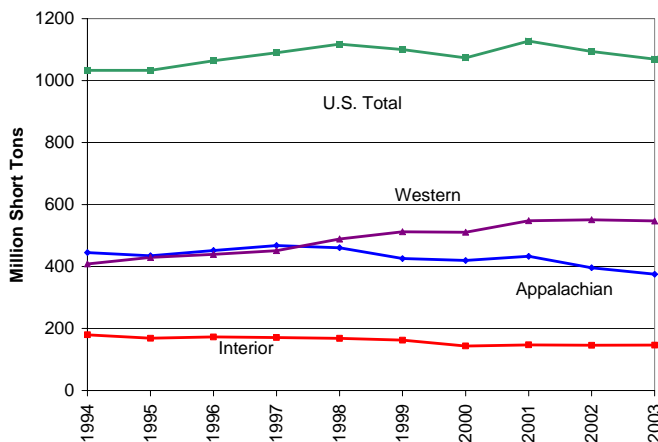
The subject of increasing the legal weight of coal trucks used to transport coal in southern West Virginia was resolved in 2003, with an increase in the amount of coal that trucks could transport on designated highways. Also, with the circuit court overturning the suspension in the issuing of permits by the Corps of Engineers office in Huntington, West Virginia (covering eastern Kentucky,

Figure 1. Coal Production by Coal-Producing Region, 2003
(Million Short Tons and Percent Change from 2002)
Regional totals do not include refuse recovery



Source: Energy Information Administration, "Quarterly Coal Report", October-December 2003, DOE/EIA-0121(2003/Q4) (Washington, D.C., March 2004).

Figure 2. Coal Production by Region, 1994-2003
(Million Short Tons)
Regional totals do not include refuse recovery



Sources: Energy Information Administration, *Quarterly Coal Report, October-December 2003*, DOE/EIA-0121(2003/Q4) (Washington, DC, March 2004); *Coal Industry Annual*, DOE/EIA-0584, various issues; and *Annual Coal Report 2002*, DOE/EIA-0584(2002), (Washington, DC, November 2003).

Ohio, and southern West Virginia), the resumption in the permitting system was slowed due to the backlog that had occurred while the lawsuit progressed through the legal

system. The backlog contributed to the delay in the opening of new mines in that area with the renewal of existing permits taking precedence.

Also, there were new legal challenges to the coal industry in 2003. A new lawsuit was filed over the level of environmental review needed in the permitting system as well as new challenges to the New Source Review program requirements for power plants. A coalition of environmental groups filed a lawsuit stating that all applications for permits should get full environmental review, while a coalition of several States and local governments sued the Environmental Protection Agency (EPA) to block the implementation of the new rule published at the end of October.

Bankruptcies continued to exert their influence on the coal industry as several producers and a few consumers were still trying to emerge from Chapter 11 during the year and another mid-sized coal company filed for bankruptcy protection in 2003 as it tried to realign its finances. The year also saw the continuing effort of several companies trying to exit the coal business by selling their mining interests to other parties. Adverse geological conditions and equipment problems continue to trouble some mining operations in both the Appalachian and Western Regions, while underground fires in Appalachia caused some mining operations to temporarily suspend production during 2003.

Table 2. U.S. Coal Production by Coal-Producing Region and State, 2000 – 2003
(Million Short Tons)

Coal-Producing Region and State	2000	2001	2002	2003	Percent Change 2002 – 2003
Appalachia Total	419.4	431.2	396.2	375.0	-5.4
Alabama.....	19.3	19.4	18.9	20.0	5.9
Kentucky, Eastern.....	104.9	109.1	99.4	91.7	-7.7
Maryland.....	4.5	4.6	5.1	5.1	-1.6
Ohio.....	22.3	25.4	21.2	22.0	3.9
Pennsylvania Total.....	74.6	74.1	68.4	63.7	-6.9
Anthracite.....	4.6	1.5	1.3	1.2	-4.9
Bituminous.....	70.0	72.7	67.1	62.5	-6.9
Tennessee.....	2.7	3.3	3.2	2.6	-19.0
Virginia.....	32.8	32.8	30.0	31.5	5.3
West Virginia.....	158.3	162.4	150.1	138.4	-7.8
Northern.....	37.6	38.2	34.0	34.9	2.7
Southern.....	120.7	124.5	116.0	103.4	-10.9
Interior Total	143.5	146.9	146.6	146.2	-0.3
Arkansas.....	*	*	*	*	-45.1
Illinois.....	33.4	33.8	33.3	31.6	-5.0
Indiana.....	28.0	36.7	35.3	35.4	0.2
Kansas.....	0.2	0.2	0.2	0.2	-24.9
Kentucky, Western.....	25.8	24.7	24.7	21.4	-13.5
Louisiana.....	3.7	3.7	3.8	4.0	5.9
Mississippi.....	0.9	0.6	2.3	3.7	60.3
Missouri.....	0.4	0.4	0.2	0.5	115.1
Oklahoma.....	1.6	1.7	1.4	1.8	26.7
Texas.....	49.5	45.0	45.2	47.5	5.0
Western Total	510.7	547.9	550.4	547.3	-0.6
Alaska.....	1.6	1.5	1.1	1.1	-5.6
Arizona.....	13.1	13.4	12.8	12.1	-5.8
Colorado.....	29.1	33.4	35.1	35.7	1.8
Montana.....	38.4	39.1	37.4	37.0	-1.0
New Mexico.....	27.3	29.6	28.9	25.8	-10.7
North Dakota.....	31.3	30.5	30.8	30.8	-0.1
Utah.....	26.7	27.0	25.3	23.1	-8.8
Washington.....	4.3	4.6	5.8	6.2	6.9
Wyoming.....	338.9	368.7	373.2	375.5	0.6
Refuse Recovery	0.0	1.8	1.0	1.0	-0.1
U.S. Total	1,073.6	1,127.7	1,094.3	1,069.5	-2.3

* Less than 0.5 million short tons.

Source: Energy Information Administration, *Coal Industry Annual 2000*, DOE/EIA-0584(2000) (Washington, DC, January 2002); *Annual Coal Report 2002*, DOE/EIA-0584(2002)(Washington, DC, November 2003); and *Quarterly Coal Report*, October-December 2003, DOE/EIA-0121(2003/Q4)(Washington, DC, March 2004).

Appalachian Region

Although there was a slight increase in U.S. coal exports in 2003 (which are primarily produced in the East), the Appalachian region experienced another decline in coal production, the fifth drop in the last six years. Coal production in the Appalachian Region declined in 2003 to a total of 375.0 million short tons, the lowest level seen since 1978, when coal production was curtailed by a United Mine Workers of America strike that lasted from December 6, 1977, to March 25, 1978.

The decline in coal production in 2003 in the Appalachian Region was a result of several factors. The legacy of past lawsuits, that had temporarily halted the issuance of needed

permits to open new mines, continued to constrain the amount of coal produced. Bankruptcies continued to plague Appalachia as another mid-size coal company filed for Chapter 11 in early 2003, while several other coal companies were still working through their bankruptcy processes. Geological problems and underground mine fires added to the decline in coal production in some Appalachian States. Finally, several mines closed as they reached the end of their reserve base adding to the continuing reserve depletion that is affecting coal production in the East. Declining productivity and increasing labor costs also contributed to lower production levels in the region.

West Virginia, the largest coal-producing State in the Appalachian Region and the second largest in the United

States, declined 7.8 percent to end the year with 138.4 million short tons of production, a level not seen since 1993. The Pinnacle mine was closed in the fall of 2003 as a consequence of ventilation problems and was unable to produce coal for the rest of the year, while a fire in the Loveridge underground mine early in the year disrupted production for some time. Geological problems slowed production at other mines in the State, while depleted reserves lead to the closure of some mines. Four other million-ton mines, Windsor, Lightfoot No. 2, Triad No. 1, and Fourmile Fork, were placed into a non-producing status in 2003 as a result of either the bankruptcy process or until market conditions support the reopening of the mines.

Eastern Kentucky produced 91.7 million short tons of coal in 2003, down by 7.7 million short tons, a level not seen since 1976. The drop in Eastern Kentucky is in part due to the closing of several mines due to reserve depletion and also due to the ongoing bankruptcies among several coal producers that have numerous operations in Kentucky. Pennsylvania produced 63.7 million short tons, a drop of 6.9 percent from 2002. Some of the decline in coal production in Pennsylvania was a result of the idling of three mines in 2003. Two of the mines, Burrell and Dilworth, were idle the entire year, while the Maple Creek mine was idle for the majority of the year. These three mines accounted for a total of 6.6 million short tons of production in 2002. Alabama, Ohio, and Virginia had increased coal production in 2003, while Maryland and Tennessee had decreased coal production. Alabama benefited from the resumption of mining at the Jim Walter's Mine No. 5, which had experienced an explosion in 2002 that halted production for several months. Virginia saw an increase as several new mines began producing coal during 2003.

Interior Region

The Interior Region experienced a slight decrease in coal production in 2003, declining by 0.4 million short tons, or 0.3 percent. One reason coal production in the Interior Region did not fall further was the increased coal production in Mississippi and Texas. The demand for coal by the electric power sector in both States helped to keep total coal production in the Interior Region from eroding further. Mississippi, in its fifth year of recorded coal production ever, increased production by 1.4 million short tons, to a level of 3.7 million short tons. This additional production was a result of the increased coal needs of the mine's only customer, a power plant, for its first full year of operation in 2003. Texas, the largest coal-producing State in the Interior Region showed an increase in its coal production, ending the year at 47.5 million short tons, up 5.0 percent. This total brought Texas back to production levels of the early 1990's, as two of the three largest mines in the State, Jewett and Sandow, expanded production, while another mine previously idle, Tatum, came back into

production during the year. The increase in coal production in Texas was due to increased demand by the electric power sector as a result of the high natural gas prices as well as the somewhat hotter than normal summer experienced in the region during 2003.

Indiana, the second largest coal producing State in the Interior Region increased slightly in 2003 (0.2 percent) to 35.4 million short tons. Coal production decreased in Illinois by 5.0 percent to end the year at 31.6 million short tons due to the suspension of production in mid-2002 of the Rend mine and the closing of the Pattiki mine during early 2003. Western Kentucky coal production declined in 2003 by 13.5 percent, to a level of 21.4 million short tons due in part to idling of two large mines, the Baker and East Volunteer, and the closure of the Camp No. 11 mine due to depleted reserves. The other States in the Interior region (Arkansas, Kansas, Louisiana, Missouri, and Oklahoma), which accounted for a total of 4.5 percent of the entire region's production in 2003, all fluctuated some from their 2002 coal production levels.

Western Region

Coal production in the Western Region declined slightly in 2003 by a total of 3.1 million short tons, or 0.6 percent. This decrease was only the fourth one experienced for the Western Region in the last 20 years. Of the nine States in the Western Region, only three had higher coal production levels in 2003: Colorado, Washington, and Wyoming. The other six States had declines in coal production ranging from 64,000 short tons to 3.1 million short tons, with the causes of the declines ranging from lost coal contracts to the closing of some mines in the region due to depleted reserves. Wyoming continued its dominance as the biggest coal-producing State in the Nation, a position it has held for 17 consecutive years. In 2003, Wyoming produced a record 375.5 million short tons of coal, an increase of 0.6 percent for the year. This production level was 12.8 million short tons more than the combined total of the next four largest coal-producing States (West Virginia, Kentucky, Pennsylvania, and Texas). The sheer dominance of Wyoming's coal industry in the United States is further illustrated by the fact that Wyoming accounted for about 35 percent of the total U.S. coal production, while West Virginia, the Nation's second largest coal producing State, accounted for about 13 percent of the U.S. total.

Colorado produced 35.7 million short tons of coal in 2003, an increase of 0.6 million short tons. The increase in production for Colorado is credited to the increase in coal production at the Elk Creek mine in its second year of operation. The mine finished installing a longwall mining machine at the beginning of 2003. Coal production in Washington was up in 2003, ending the year at 6.2 million short tons, an increase of 6.9 percent. The higher production level was used to generate electricity to help

replace some of the losses due to the still lower-than-normal hydroelectric generation totals in the State.

Montana, the second largest coal-producing State in the region, had a slight decline in coal production in 2003 of 0.4 million short tons, to end the year at 37.0 million short tons. Coal production in North Dakota was flat in 2003, ending the year at 30.8 million short tons.

Coal production in Utah fell to 23.1 million short tons, a drop of 2.2 million short tons, as a result of two mines experiencing problems of lower coal seam thickness or water intrusion, and one mine suspending production in the second half of 2003. Coal production in New Mexico declined by 3.1 million short tons, or 10.7 percent, the largest decline of any State in the Western Region. The drop in coal production in New Mexico was a consequence of the closure of the La Plata mine at the end of 2002, as well as the downtime experienced by a longwall mining machine move at another mine and an outage at a customer plant that lowered coal demand. The other two States in the Western Region (Alaska and Arizona) both had declines in their coal production levels in 2003.

Consumption

As the economy recovered in 2003, so did total U.S. coal consumption. Preliminary data shows that total coal consumption increased 24.1 million short tons to reach a level of 1,090.5 million short tons, surpassing the consumption level of 1,084.1 million short tons achieved in 2000 (Table 1). Almost 92 percent of all coal consumed in the United States was in the electric power sector, the driving force for all coal consumption. However, all of the coal consuming sectors had increased coal consumption in 2003, something not experienced since 1987.

Coal consumption in the electric power sector increased by 23.1 million short tons to end 2003 at a record level of 1,000.6 million short tons, surpassing the 2000 consumption total of 985.8 million short tons (Figure 3). Nationally, gains in electricity generation by hydroelectric plants and other sources, as well as coal, helped to make up the loss in generation experienced by the nuclear and natural gas sectors (Figure 4). The decline in electric generation by natural gas was due to its high prices during 2003. Part of the decline in nuclear generation was a consequence of the shutdown of nine reactors in the northeastern United States as a result of the blackout in August. It was estimated that the total days of lost generation by those reactors was 43 days.

Another factor helping to drive the increase in total coal consumption for electric generation was the hotter-than-normal summer weather experienced during July and August over the western portion of the country in 2003. Overall, the United States experienced a 7.2-percent increase above normal in cooling degree-days during the

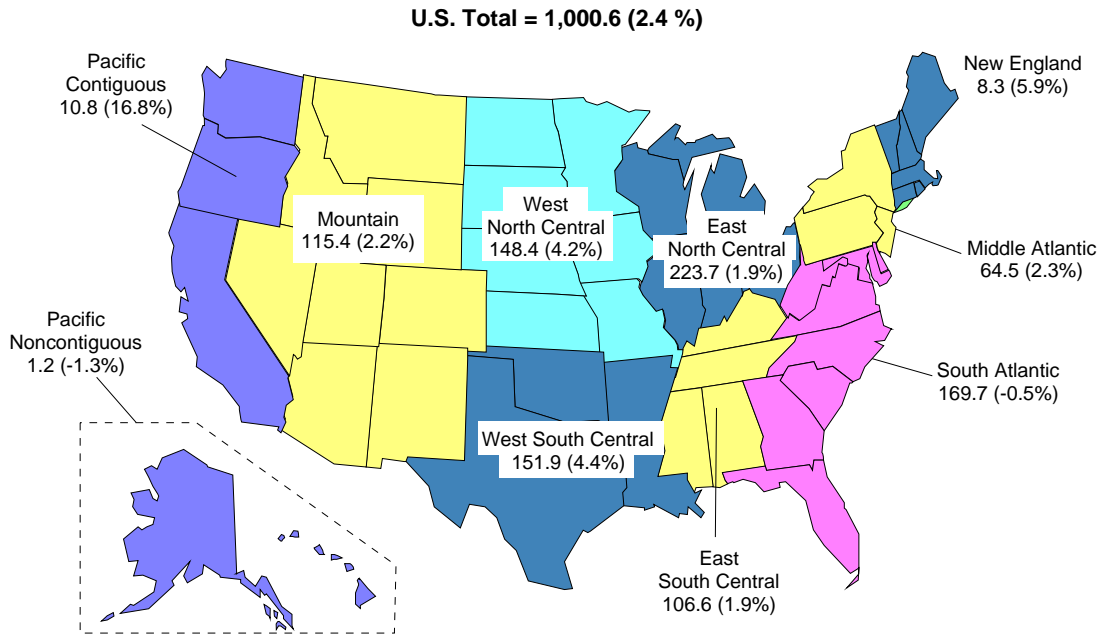
summer, while the western portion of the country experienced a 13.9-percent increase above normal. Of the eight Census Divisions that had increases in coal consumption in 2003, two of the western divisions, the West North Central and the West South Central accounted for 52.0 percent of the increase in total coal consumption in the electric power sector.

Only one of the nine Census Divisions had lower coal consumption for electricity generation in 2003, the South Atlantic. The South Atlantic Census Division is one of the five Census Divisions, (East North Central, West North Central, South Atlantic, East South Central, and Mountain) where coal usually accounts for over 50 percent of total electric power generation from all energy sources. The other four of those five divisions, the East North Central, the West North Central, the East South Central and the Mountain, all had an increase in coal consumption in the electric power sector in 2003 ranging from an increase of 2.0 million short tons in the East South Central to 6.0 million short tons in the West North Central Division. Together, these four Census Divisions accounted for 14.5 million short tons (63.0 percent) of the total increase in electric power coal consumption. In the one Census Division that had the largest increase in total coal consumption, the West South Central, where coal and natural gas compete to be the leading fuel for electricity generation, (together the two fuel sources typically account for 80 to 85 percent of total generation during a year), coal consumption for electric power generation increased 6.0 million short tons in 2003 as coal displaced the higher-priced natural gas.

For the first time since 2000, overall coal consumption in the non-electric power sector increased in 2003, with gains in coking coal consumption and other industrial coal consumption. Coal consumption in the residential and commercial sector remained steady in 2003.

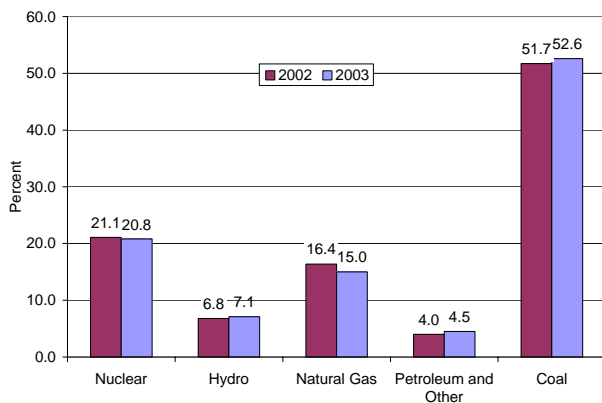
It was a good-news/bad-news year for the coking coal industry. In 2003, increased demand for steel in the U.S. resulted in an increase in coal consumption at coke plants for the first time in three years. Coal consumption at coke plants was 24.2 million short tons, an increase of 2.5 percent. However, in November, the U.S. Government lifted the tariffs on foreign steel imports that had been in place since early 2002, in part, as a response to a World Trade Organization (WTO) report that stated the tariffs were inconsistent with safeguards against protectionism. In April, the EPA enacted final rules to control emissions from coke plants that could result in the closure of some of the aging coke ovens. The good news for the coking coal industry was that, in December, construction began on a new coke plant in Ohio that should be on line in early 2005. The new plant will use a process that virtually eliminates coke oven emissions, thereby meeting the new EPA regulations.

**Figure 3. Electric Power Sector Consumption of Coal by Census Region, 2003
(Million Short Tons and Percent Change from 2002)**



Sources: Energy Information Administration, Form EIA-906, "Power Plant Report", and *Short-Term Energy Outlook, March 2004*, DOE/EIA (Washington, DC, March 2004).

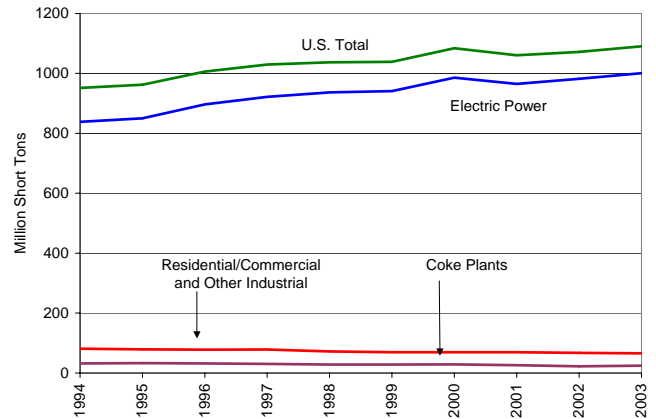
Figure 4. Share of Electric Power Industry Net Generation by Energy Source, 2002 vs. 2003



Sources: Energy Information Administration, Form EIA-906, "Power Plant Report", and *Short-Term Energy Outlook, March 2004*, DOE/EIA (Washington, DC, March 2004).

The economic recovery did not extend very deeply into the manufacturing sector in 2003, but did result in an increase in coal consumption in the other industrial sector of only 0.7 percent to end the year at 61.2 million short tons

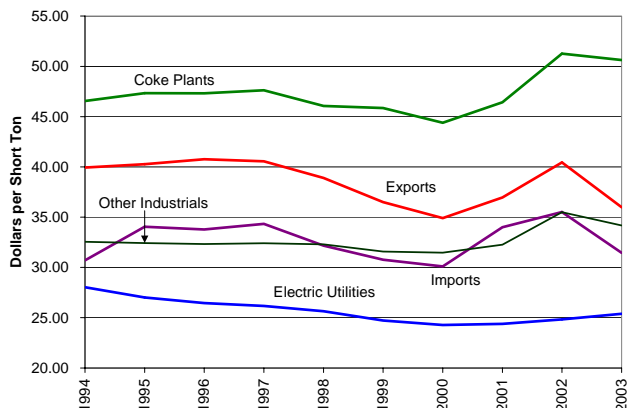
**Figure 5. Coal Consumption by Sector, 1994-2003
(Million Short Tons)**



Sources: Energy Information Administration, *Monthly Energy Review, March 2004*, DOE/EIA-0035(2004/03) (Washington, DC, March 2004; and *Short-Term Energy Outlook, March 2004*, DOE/EIA (Washington, DC, March 2004).

(Figure 5). The manufacturing sectors that experienced increases in coal consumption in 2003 include the food, beverage, primary metal, fabricated metal, and furniture manufacturing.

Figure 6. Delivered Coal Prices, 1994-2003
(Nominal Dollars)

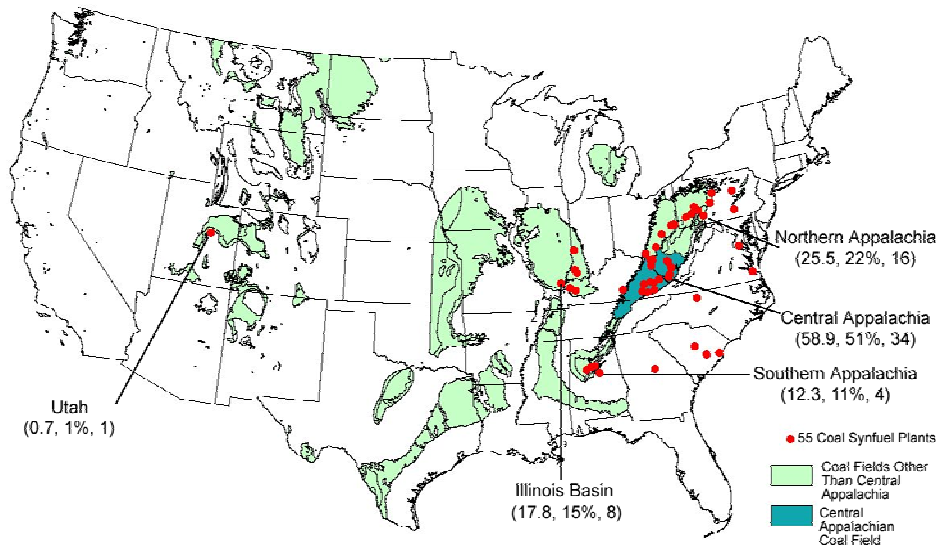


Sources: Energy Information Administration, *Quarterly Coal report, October-December 2003*, DOE/EIA-0121(2003/Q4) (Washington, DC, March 2004); *Coal Industry Annual*, DOE/EIA-0584, various issues; and *Annual Coal Report 2002*, DOE/EIA-0584(2002), (Washington, DC, November 2003); and U.S. Department of Commerce, Bureau of the Census, "Monthly Report EM 545" and "Monthly Report IM 145."

Coal Prices

Coal prices in the consuming sectors were mixed in 2003. According to preliminary data through October 2003, coal prices to electric utilities (a subset of the electric power sector) increased for the third year. However, the delivered price of coal declined in the other sectors in 2003. The average delivered price of coal to electric utilities was \$25.39 per short ton (124.6 cents per million Btu), up 2.6 percent from the annual 2002 level of \$24.74 per short ton (121.8 cents per million Btu) (Table 1). New data available from the independent power producers showed a decline in average delivered price from \$27.96 per short ton (137.5 cents per million Btu) through October 2002 to \$27.32 per short ton (136.8 cents per million Btu) through October 2003. Although there was an increase in consumption by the domestic coking coal market, the average delivered price of coal to coke plants decreased slightly in 2003 by 0.1 percent to \$50.63 per short ton. The average price of coal delivered to the other industrial sector was lower in 2003 by 3.7 percent, ending the year at \$34.17 per short ton (Figure 6).

Figure 7. Coal Shipments from Coal Producing Sub-Regions to Coal Synfuel Plants, 2003
(Million Short Tons, Percent of U.S. Total, and Number of Plants)



Note: The numbers of plants inside the parentheses add to 63 rather than 55 plants because 2 synfuel plants received coal from 3 different coal producing sub-regions and 4 other synfuel plants received coal from 2 different coal producing sub-regions.

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

Table 3. Coal Statistics for Synthetic Fuel Plants
(Thousand Short Tons)

Year and Quarter	Coal Receipts	Average Price of Receipts	Coal Processed	Coal Stocks
2001				
January – March	9,409	\$26.69	9,326	287
April – June	11,370	\$28.19	11,158	523
July – September	13,261	\$31.08	13,309	507
October – December.....	15,286	\$32.61	14,578	631
	49,326	\$30.05	48,371	
2002				
January – March	17,635	\$32.27	17,237	970
April – June	20,367	\$31.48	20,652	771
July – September	23,578	\$31.87	23,248	1,128
October – December.....	23,600	\$32.02	23,789	951
	85,180	\$31.90	84,925	
2003				
January – March	26,558	\$32.10	26,334	1,210
April – June	31,327	\$32.71	31,077	1,455
July – September	27,911	\$33.13	28,110	1,287
October – December.....	29,380	\$33.52	29,787	1,132
	115,177	\$32.88	115,309	

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

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

Coal Synfuel

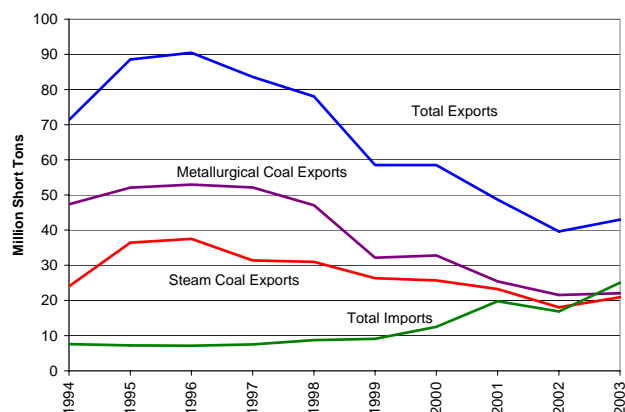
The coal synfuel industry is a recent addition to the U.S. marketplace. According to preliminary data, there were 55 coal synfuel plants in operation in the U.S. at the end of 2003. These plants process both waste coal and run-of-mine coal to produce their end product, typically referred to as coal synfuel, which enters into the supply chain and is consumed by various users in almost all sectors. For a period of several weeks there was a pall over the coal synfuel industry in 2003, as the Internal Revenue Service (IRS) reviewed the specific chemical change requirements as stipulated in Section 29 of the tax code. The IRS suspended the issuance of Private Letter Rulings (the mechanism that allows the investors in a coal synfuel plant to claim the allowable tax credits) while they reviewed the validity of the "significant chemical change" test procedures and results provided to them by the coal synfuel plants. In October, the IRS resumed the issuance of Private Letter Rulings for coal synfuel plants. Even though some of the coal synfuel plants suspended or slowed their production process during the investigation, the amount of coal processed by all the coal synfuel plants in 2003 was a total of 115.3 million short tons, an increase of 30.4 million short tons over the 2002 amount. While over half of the increase (15.9 million short tons) in the total amount of coal processed at coal synfuel plants is due to increases at plants previously identified by EIA in its data collection activities through the final quarter 2002, the rest of the increase (14.5 million short tons) is attributable to the

identification and collection of data from additional coal synfuel plants that existed prior to 2003 but for which data were not previously obtained (Figure 7 and Table 3).

Exports and Imports

Exports. U.S. coal exports, which have been falling since 1996, increased in 2003. Total U.S. coal exports were 43.0 million short tons, an increase of 3.4 million short tons (Figure 8). Even with the increased level of total coal exports in 2002, it was still less than total coal exports in 2001 by 5.7 million short tons. While coal exports were up

Figure 8. U.S. Coal Export and Imports, 1994-2003
(Million Short Tons)



Sources: U.S. Department of Commerce, Bureau of the Census, "Monthly Report EM 545 and "Monthly Report IM 145."

8.6 percent in 2003, the average price per ton decreased by 11.0 percent to \$35.98.

Although the international coal market continues to grow, the U.S. continues to be a swing supplier in the world marketplace. Total steam coal exports increased by 15.8 percent to a level of 20.9 million short tons in 2003, while the average price per ton dropped by 21.9 percent to \$26.94. The increase of 2.9 million short tons of steam coal accounted for almost 84 percent of the increase in total coal exports. Canada, the largest market for U.S. steam coal exports, received 17.2 million short tons of U.S. steam coal exports, a 43.4-percent increase over the 2002 total. Canada basically became the only market for U.S. steam coal exports in 2003 with the tonnage accounting for 82.0 percent of all steam coal exports.

Europe, which has traditionally been a mainstay for U.S. steam coal exports, declined even further in 2003. Steam coal exports to Europe were 2.8 million short tons, a decrease of 28.8 percent from 2002. Major declines in steam coal exports to Europe were experienced by Spain, declining 0.5 million short tons (79.2 percent), Ireland declining 0.5 million short tons (65.8 percent), and Italy declining 0.4 million short tons (85.6 percent). On the positive side, steam coal exports to both Portugal and the Netherlands increased in 2003 by 0.3 million short tons in 2003.

Coal exports to Asia decreased drastically in 2003. As a consequence of the collapsing market for U.S. coal in the Pacific Rim, the Los Angeles Coal Export Terminal closed its coal-handling facility in May 2003, less than six years after it was opened. Even though the average price of steam coal exports to Asia declined by 18.1 percent to an average of \$28.08 per ton in 2003, steam coal exports to Asia fell 1.5 million short tons or 85.7 percent. The total steam coal exports to Asia, 245 thousand short tons, was less than the amount of steam coal exports to South America in 2003. Japan, traditionally the largest market for U.S. steam coal in Asia, received only 5 thousand short tons in 2003, a decrease of 1.2 million short tons (99.6 percent).

Metallurgical coal exports increased somewhat in 2003, ending the year at 22.1 million short tons, an increase of 2.6 percent from the 2002 total, while the price per ton declined by 1.9 percent to \$44.55 per short ton. Although Canada and Brazil were the major markets for U.S. metallurgical coal in 2003, accounting for 16.3 percent and 15.0 percent, respectively, of all metallurgical coal exports, both countries had declines in their shipments from the United States. Canada received 3.6 million short tons of metallurgical coal exports in 2003, a decline of 23.7 percent. The decrease of 1.1 million short tons was in part due to an increase in production at some Canadian metallurgical coal mines as they recovered from some production problems experienced in 2002. Shipments of

U.S. metallurgical coal to Brazil decreased by 0.2 million short tons, or 5.8 percent in 2003, to end the year at 3.3 million short tons.

Increases in metallurgical coal exports to Europe more than offset the declines experienced by most other continents in 2003. Italy, the primary destination in the European market, had an increase of 0.2 million short tons (6.2 percent), while Spain had an increase of 0.4 million short tons (32.0 percent). Small increases in U.S. metallurgical coal exports to several other countries in Europe offset the declines in shipments to Belgium, France, and the United Kingdom in 2003.

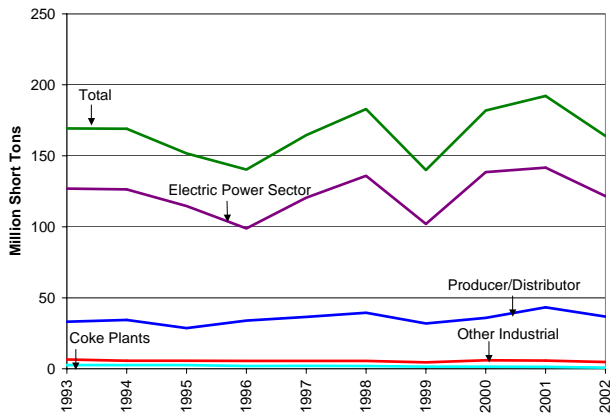
The Asian market for U.S. metallurgical coal, which as recently as 2000 imported 2.4 million short tons, continued to vanish in 2003, as Japan and Korea obtained metallurgical coal from other coal-producing countries, primarily Australia, to satisfy their needs. The U.S. metallurgical coal producers (primarily in the eastern part of the country), faced with increased competition in the Asian market combined with the cost of transporting coal over such long distances, shipped less than 22 thousand short tons in 2003.

Imports. U.S. coal imports reversed direction in 2003 and reached a record level of 25.0 million short tons, an increase of 48.4 percent. Imports represent less than 3 percent of total U.S. coal consumption. However, in 2003, the total amount of U.S. coal imports surpassed the amount of U.S. metallurgical coal exports. It also surpassed the total amount of U.S. steam coal exports for the year. The average price of imported coal decreased in 2003 by 11.4 percent to a level of \$31.45 per short ton. Colombia continued to dominate the U.S. coal import market, accounting for 15.5 million short tons, or 61.8 percent of all coal imports. This was an increase of 6.3 million short tons from the 2002 level. Coal imports from Venezuela, the second largest supplier, increased in 2003 by 1.2 million short tons. Coal imports from Indonesia rose by 1.1 million short tons, while coal imports from Canada remained level in 2003.

Coal Stocks

Total coal stocks at the end of 2003 totaled 164.0 million short tons, a decrease of 28.1 million short tons from the prior year (Figure 9). Coal stocks held by coal producers and distributors decreased by 6.5 million short tons, a drop of 15.0 percent as producers used their stockpiles to supplement the lower production level. Industrial users, including coke plants, held a total of 5.6 million short tons at the end of 2003, 1.5 million short tons less than the level at the start of the year. Coal stocks in the electric power sector dropped 20.1 million short tons, down 14.2 percent, as facilities used their stockpiles to meet increasing demand for electricity.

Figure 9. Year-End Coal Stocks, 1994-2003
(Million Short Tons)



Sources: Energy Information Administration, *Quarterly Coal Report, October-December 2003*, DOE/EIA-0121 (2003/Q4) (Washington, DC, March 2004); *Coal Industry Annual*, DOE/EIA-0584, various issues; and *Annual Coal Report 2002*, DOE/EIA-0584(2002), (Washington, DC, November 2003).

Summary

For the second year in a row in 2003, the coal industry experienced falling production levels even as coal consumption increased. Although total coal exports

experienced a slight turnaround for the year, coal imports reached a level that surpassed both the steam and metallurgical coal export level. On the positive side for the industry in 2003, delivered coal prices at electric utilities increased for the third consecutive year. Coal stocks declined in every sector, something that hadn't occurred since 2000. Some of the negative factors that affected production are expected to change in 2004 as the economy continues to rebound and increasing demand for electricity pushes coal production to higher levels. Factors contributing to increased coal demand and production in 2004 (see Energy Information Administration's *Short-Term Energy Outlook*) include:

- Continued economic recovery
- Continued recovery in coal exports
- Return to normal weather patterns (colder winter weather)
- High natural gas prices
- Settlement of legal issues affecting both coal producers and consumers

Although 2003 wasn't a banner year for the coal industry, there were many positive elements. The outlook for U.S. coal in 2004 is likely to be better than 2003, with increasing economic growth, rising consumer stocks, increases in coal exports, and normal weather patterns pushing production levels upward.