KENTUCKY COAL FACTS

12th EDITION

PUBLISHED BY THE
KENTUCKY ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENERGY DEVELOPMENT AND INDEPENDENCE
IN PARTNERSHIP WITH THE KENTUCKY COAL ASSOCIATION

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2011 Highlights

After almost two centuries of commercial mining operations, Kentucky's domestic supply of coal remains a significant component of the Commonwealth's economy. Kentucky was the third highest coal producer in the United States during 2011, and coal mining was by far the largest source of energy production in the Commonwealth. Coal mines employed more than 19,000 individuals on-site through the year, and mining directly contributed approximately $4 billion to the economy of Kentucky. Additionally, though a quarter of the 2011 production was consumed by the Commonwealth, the much larger market for Kentucky coal was spread across 19 different states—making the coal industry in Kentucky a focal point of interstate energy supplies, trade, investments, and economic activity.

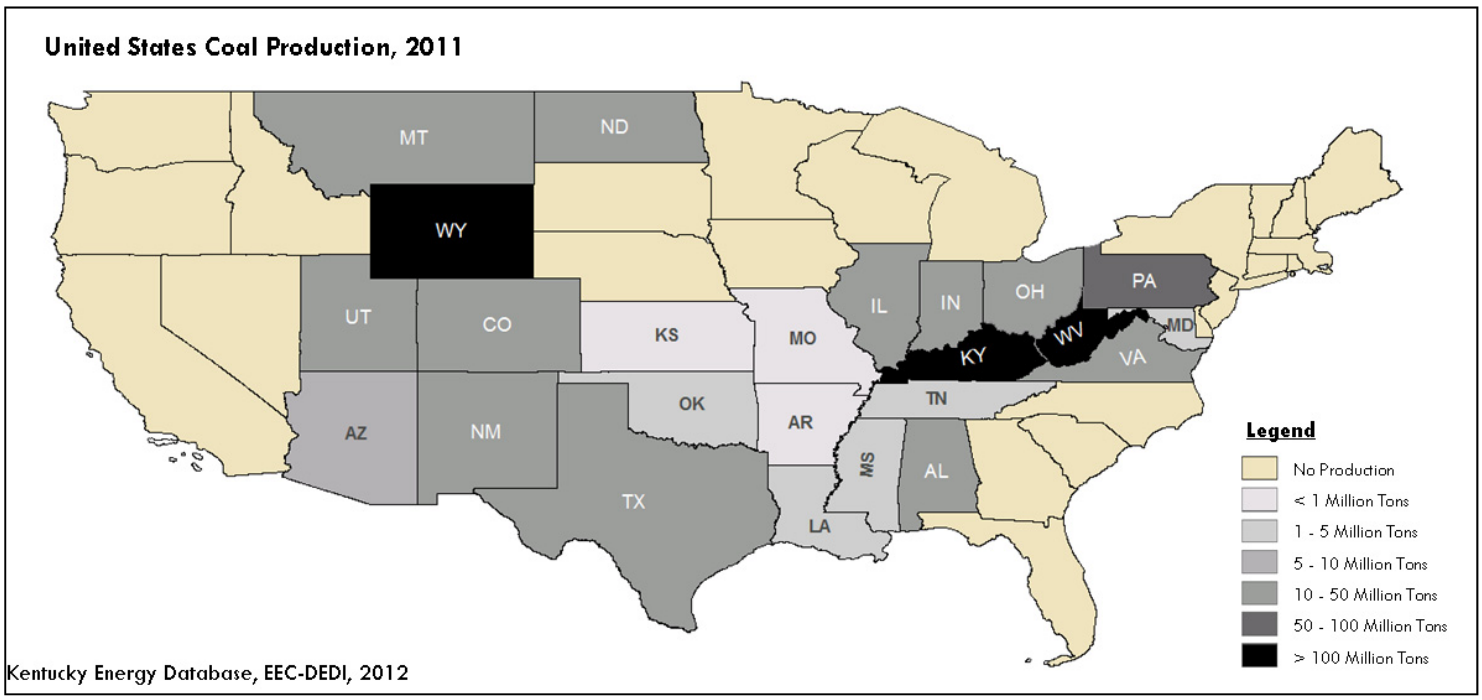
Rising production from western Kentucky increased statewide coal production by 1.2 percent to 106.2 million tons during 2011. Underground mines in the state accounted for 61 percent of coal production, or 64.6 million tons, whereas surface mines supplied 41.6 million tons and 39 percent of annual production. The coal mining counties of eastern Kentucky produced 65.5 million tons of coal during 2011, contributing 62 percent of annual production, though tonnage decreased by 3.8 percent for the year. In the coal mining counties of western Kentucky, coal production increased by 10.8 percent compared to 2010 to more than 40.7 million tons, representing 38 percent of annual production.

Direct coal mining employment accounted for one percent of total, statewide employment in Kentucky during 2011, with 19,102 full-time miners. These miners worked in underground mines, surface mines, preparation plants, and mine-site offices, and were most commonly employed at underground mine sites which represented 52 percent of mining employment. With 370 active mines during 2011, the coal field of eastern Kentucky led mining employment with 14,674 full-time miners—an increase of 1.6 percent from 2010. Coal mining employment in western Kentucky increased by 6.4 percent to 4,427 miners at the 26 active mine sites in the Western Coal Field. Direct mining employment statewide increased by 2.7 percent during 2011.

Coal mine productivity decreased by two percent compared to 2010 to 2.5 tons per labor hour, but with important differences by mine-type and region. Surface mines in Kentucky during 2011 were on average 56 percent more efficient in production than underground mines. Regionally, average coal mine productivity in western Kentucky was 86 percent higher than eastern Kentucky during the year. While western Kentucky productivity has remained stable over the past five years, eastern Kentucky productivity decreased by 6 percent from 2010 and has fallen by 46 percent since 2000.

The markets and destinations for Kentucky coal during 2011 were predominantly concentrated in 20 states, with a small market for international exports. Approximately 25 percent of the coal mined in Kentucky during 2011 was consumed in the Commonwealth—primarily by electric utilities—making Kentucky the largest single market for Kentucky coal. However, the vast majority of Kentucky coal—60.6 million tons—was shipped to electric power plants in 19 different states, principally located in the Southeast. Following Kentucky, the states of Florida, Georgia, and South Carolina were the largest consumers of Kentucky coal during 2011. Coal producers in Kentucky exported 7.1 million tons, or 6.7 percent of total production, to foreign countries during 2011, with Canada and Mexico receiving the majority of international exports. Small quantities of coal were also exported to customers in Europe, China, and India during 2011.

U.S. Coal Production, 2011

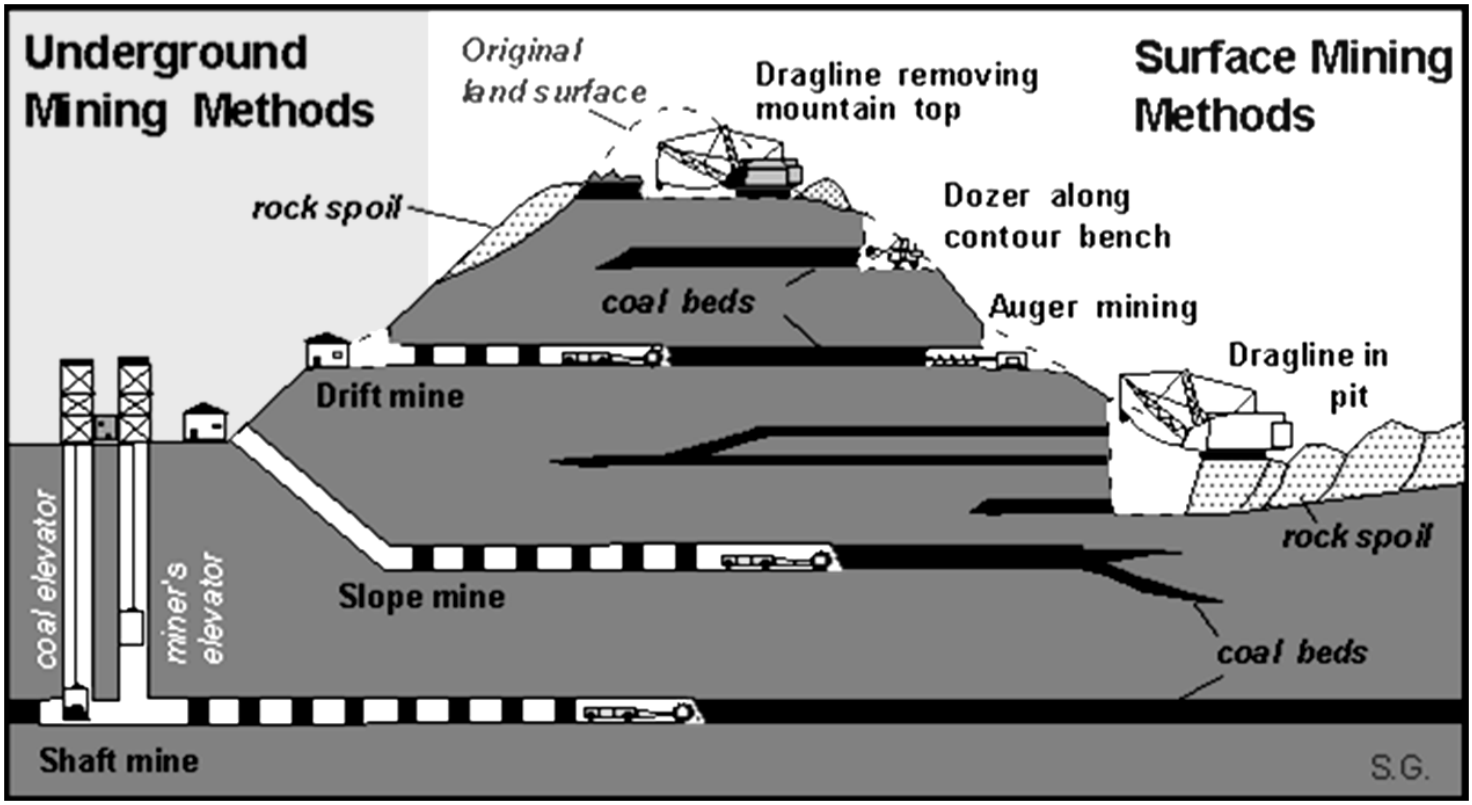


U.S. Coal Production by State, 2011			
State	Thousand Tons	Percentage	Region
Wyoming	438,205	41%	Western
West Virginia	138,030	13%	Appalachian
Kentucky	106,285	10%	Int. & App.
Pennsylvania	55,643	5%	Appalachian
Texas	45,904	4%	Interior
Montana	41,600	4%	Western
Indiana	38,193	4%	Interior
Illinois	37,608	4%	Interior
North Dakota	28,214	3%	Western
Ohio	28,118	3%	Appalachian
Colorado	26,890	2%	Western
Virginia	22,638	2%	Appalachian
New Mexico	21,922	2%	Western
Utah	19,648	2%	Western
Alabama	19,349	2%	Appalachian
Arizona	8,111	<1%	Western
Louisiana	3,865	<1%	Interior
Maryland	2,919	<1%	Appalachian
Mississippi	2,748	<1%	Interior
Alaska	2,149	<1%	Western
Tennessee	1,392	<1%	Appalachian
Oklahoma	1,145	<1%	Interior
Missouri	465	<1%	Interior
Arkansas	133	<1%	Interior
Kansas	37	<1%	Interior

Coal production in the United States increased to 1.09 billion tons during 2011, but remained 7% below the pre-recession high of 1.17 billion tons reached during 2008. Accessing substantial reserves in the Powder River Basin, the State of Wyoming remained the largest producer of coal in 2011, representing 41% of national production with 438.2 million tons. The second largest producer during the year was West Virginia, which accounted for 13% of national production and supplied consumers with 138 million tons of low-sulfur, Central Appalachian Basin coal.

Kentucky, the third largest producer with 10% of national production in 2011, provided coal supplies from deposits of the Central Appalachian Basin in the eastern portion of the state and the Illinois Basin in the western portion of the state. Coal production in Kentucky increased by 1% to 106.2 million tons in 2011. Peak production was reached in 1990 when the Commonwealth mined 179.4 million tons of coal. Since 1990, statewide coal production in Kentucky has been in decline.

Types of Coal Mining



Several different mining methods are used in the Commonwealth to access coal deposits in the Central Appalachian Basin of eastern Kentucky and the Illinois Basin of western Kentucky. The selected mining approach, or combination of mining approaches, at a given mine site is largely dictated by local geography and hydrology, as well as the amount of soil and rock overburden in place above a coal seam. For simplicity of accounting, coal mines are generally divided between surface operations and underground operations, though several sub-categories exist to describe exact mining approaches and mine permits.

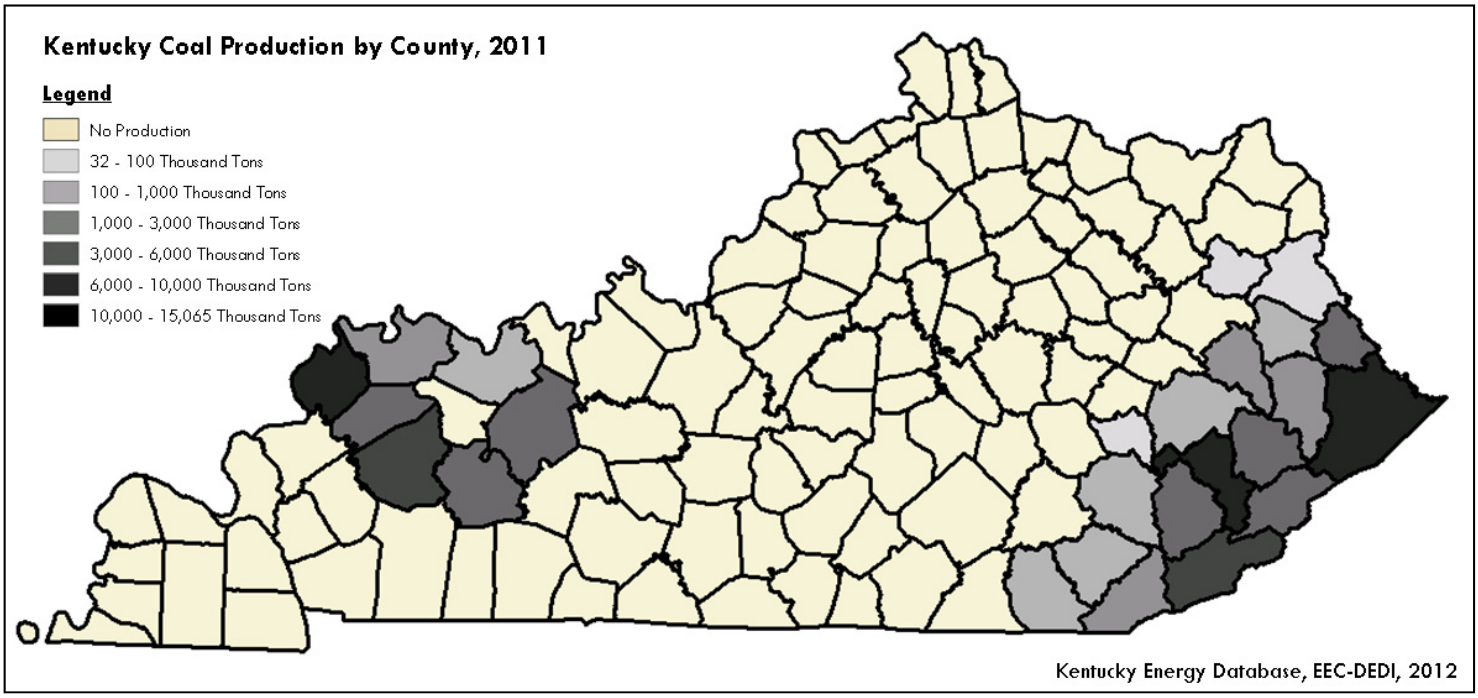
Underground mine operations accounted for 61% of coal production in Kentucky in 2011, with room and pillar systems being the most common form of mining method. Various categories of surface mines accounted for 39% of statewide production. Historically, underground mines have provided the bulk of employment and coal production in the state. During 2011, combined coal production from underground operations and surface operations was more than 106 million tons with the majority of production concentrated in eastern Kentucky.

Kentucky Coal Production by Mining Method, 2011*					
Mine Type	Auger	Refuse	Strip & Auger	Strip	Underground
State	293,596	246,542	2,215,473	38,761,111	64,634,880
EKY	268,805	96,333	1,009,742	31,272,870	32,732,060
WKY	24,791	150,209	1,205,731	7,488,241	31,902,820

*Source: Processed data in table, Kentucky Department of Energy Development & Independence, Kentucky Energy Database, 2012. Raw data, U.S. Department of Labor, Mine Safety and Health Administration, "Quarterly Mine Employment and Coal Production Report" (MSHA Form 7000-02). The above table summarizes the five most common mining methods or mine types used in 2011 to access coal seams in Kentucky. As a result of this summarization, small quantities of coal that are counted in total statewide production may not necessarily be represented in the above totals.

Refuse recovery mines and culm bank mines register production only when new coal is brought to market. These types of mines extract new coal from waste material discarded or impounded by previous mining operations.

Kentucky Coal Production, 2011



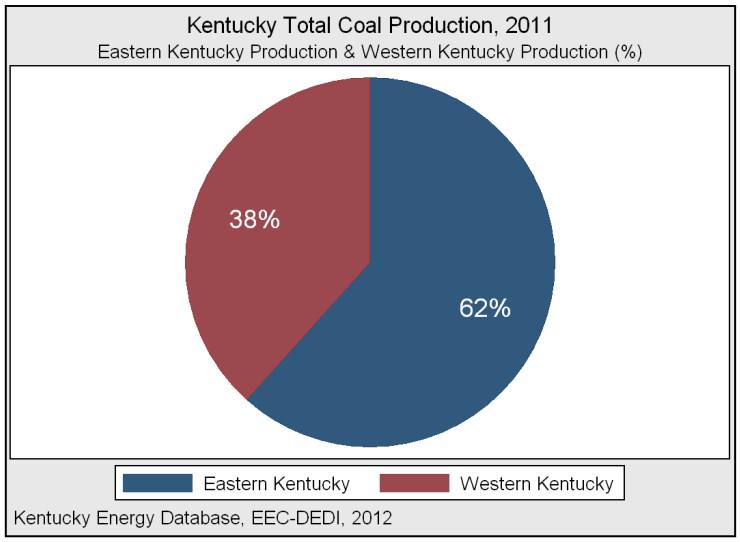
County	Thousand Tons	Percentage	Year Change
Total	106,285	100%	1%
Pike	15,065	14%	- 7%
Perry	12,975	12%	- 7%
Union	12,333	12%	20%
Harlan	9,682	9%	- 8%
Hopkins	8,786	8%	- 33%
Webster	5,731	5%	188%
Ohio	5,528	5%	33%
Muhlenberg	5,518	5%	20%
Martin	5,486	5%	- 1%
Knott	4,853	5%	3%
Letcher	4,544	4%	10%
Leslie	4,094	4%	11%
Floyd	2,702	3%	54%
Henderson	2,471	2%	6%

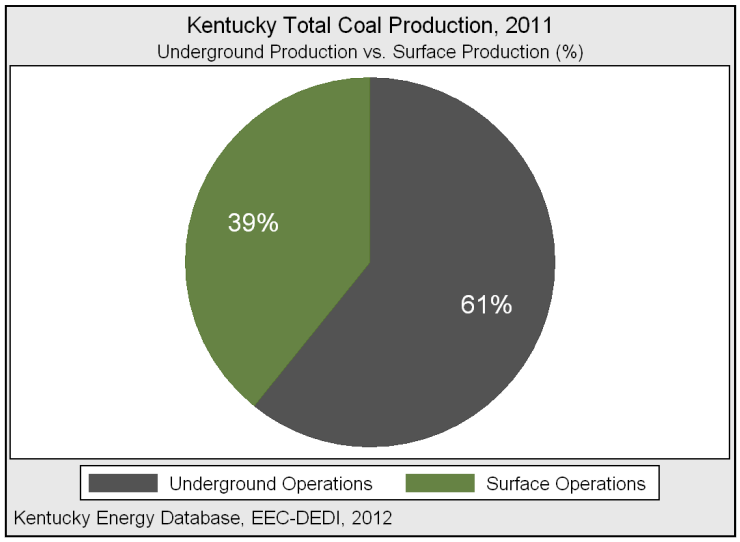
County	Thousand Tons	Percentage	Year Change
Magoffin	2,278	2%	- 16%
Bell	1,495	1%	- 32%
Breathitt	860	1%	- 20%
Daviess	406	<1%	8%
Whitley	405	<1%	15%
Clay	370	<1%	- 24%
Knox	314	<1%	- 37%
Johnson	231	<1%	50%
Lawrence	65	<1%	- 58%
Owsley	61	<1%	13%
Elliot	31	<1%	-

State and County-level statistics are aggregated from MSHA Form 7000-02 quarterly reports through 2011.

In Kentucky, coal mining is divided between two distinct geologic basins: The Central Appalachian Basin of eastern Kentucky, and the Illinois Basin of western Kentucky. Both of these resource fields contain rich deposits of bituminous coal, and have seen coal mining activities in numerous counties for over 100 years. In 2011, coal production in the Commonwealth reached more than 106 million tons, with 62% of tonnage originating in the coal mining counties of eastern Kentucky. Over the last 35 years the Eastern Coal Field has on average accounted for 75% of annual statewide production. However, though Pike County in eastern Kentucky remained the single largest producer with more than 15 million tons, the major coal mining counties of western Kentucky have substantially increased production since 2002 and represented five of the top eight producing counties in 2011.

Kentucky Coal Production



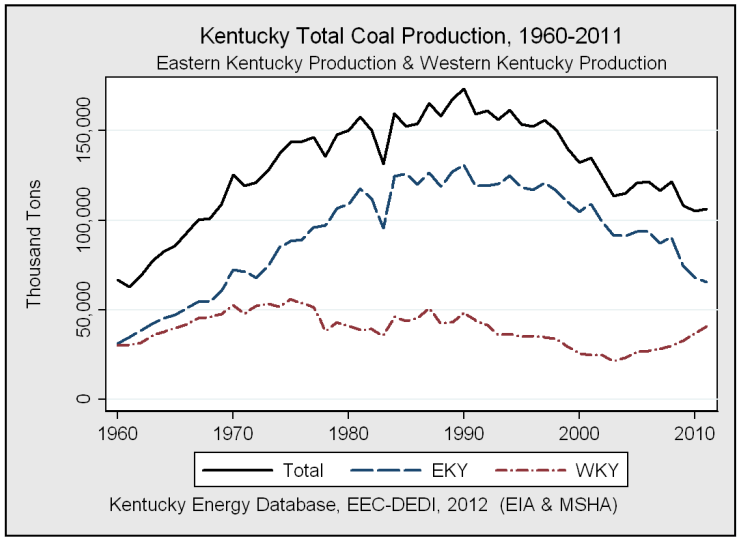


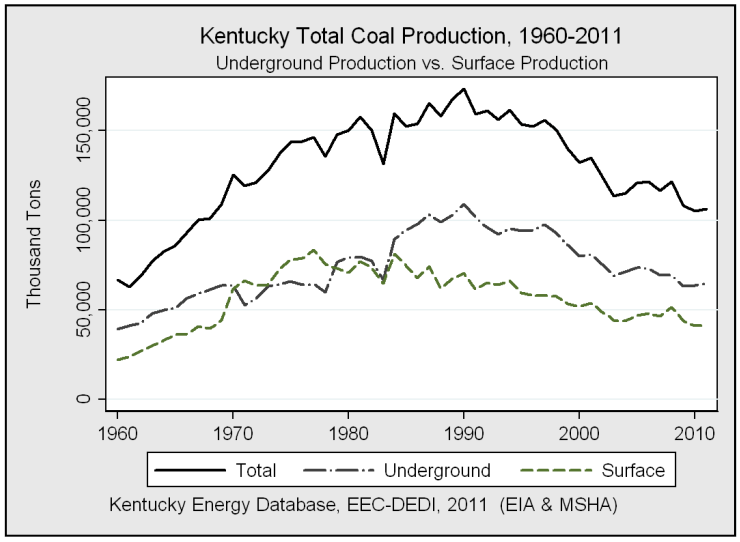
Region	Thousand Tons	Percentage
Total	106,285	100%
Eastern Kentucky	65,514	62%
Western Kentucky	40,771	38%

Eastern Kentucky has on average represented 75% of annual coal production over the last 35 years. During 2011, the region represented 62% of statewide production.

Mine Type	Thousand Tons	Percentage
Total	106,285	100%
Underground	64,635	61%
Surface	41,650	39%

Following the Surface Mining Control and Reclamation Act of 1977 (SMCRA), annual coal production in Kentucky has been consistently led by underground operations.

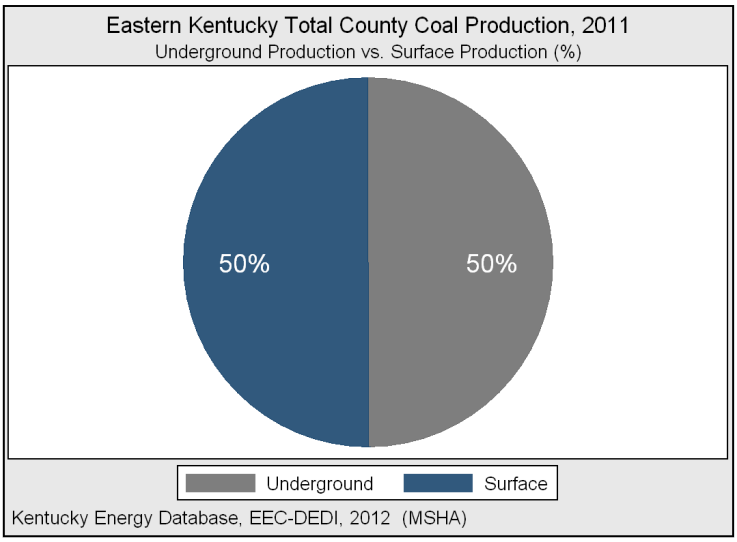


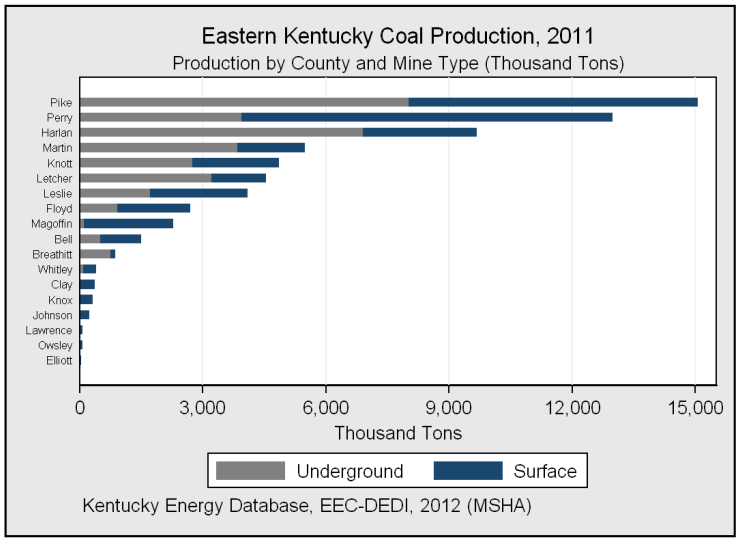


The coal fields of Kentucky produced 106 million tons of coal in 2011. For the year, the coal mining counties of eastern Kentucky remained the largest concentration of production, representing 62% of statewide tonnage. Coal mined in western Kentucky reached 40 million tons, and represented 38% of total production. Overall, the statewide trend in coal production has been downward since 1990. However, recent regional trends have been different, with western Kentucky substantially increasing production since 2002 while eastern Kentucky production has continued to decline.

Coal production in Kentucky was led by underground mines in 2011. Accounting for 64 million tons and 61% of total tonnage, underground operations increased production levels slightly, compared with 2010. Surface mine operations, which generated 41 million tons of coal, also increased production compared to the previous year, with the majority of surface production located in eastern Kentucky. The relative share of production from surface and underground operations has remained fairly stable since the year 2000.

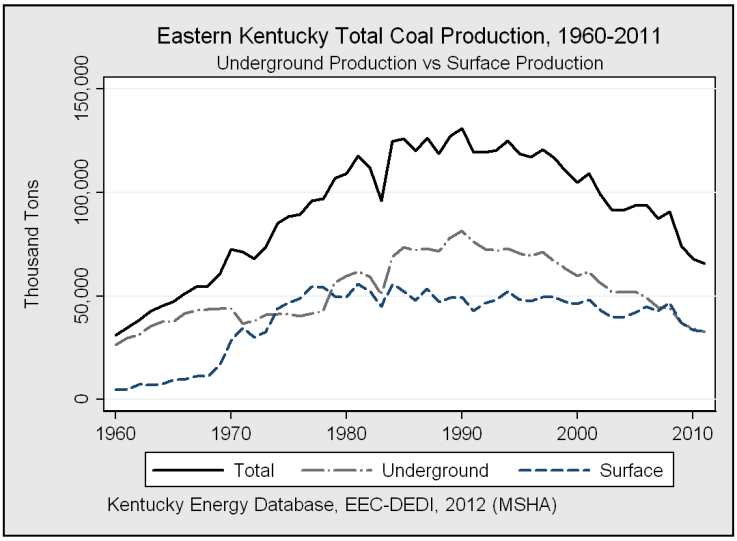
Eastern Kentucky Coal Production





Mine Type	Thousand Tons	Percentage
Total	65,514	100%
Underground	32,732	50%
Surface	32,782	50%

More than 14,600 people were directly employed by coal mines in eastern Kentucky in 2011. Pike County was the single largest employer in the region during the year.



The coal field of eastern Kentucky, part of the Appalachian Basin, contains deposits of bituminous coal characterized by high heat content and numerous beds with low sulfur content. In 2011, production in eastern Kentucky was more than 65 million tons with a nearly even split between underground and surface operations. Pike County remained the largest producer of coal within the region and the state, accounting for 23% of eastern coal production. Perry County and Harlan County were the next largest producers, representing 20% and 15% of regional production, respectively.

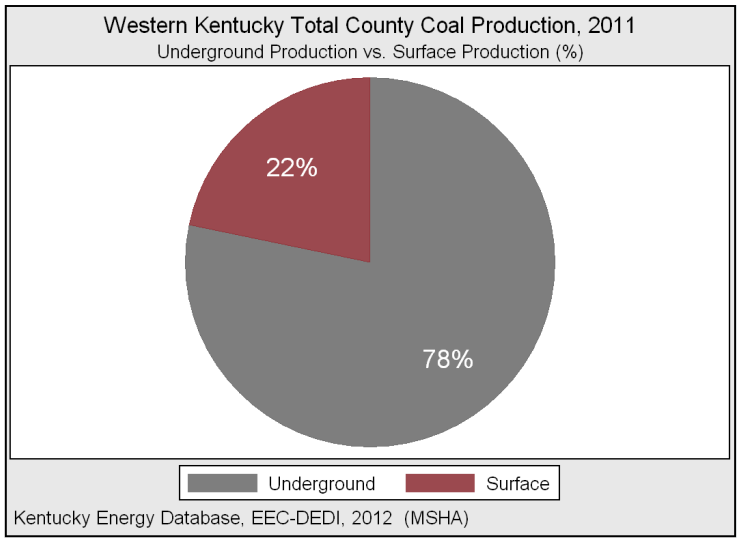
County*	Thousand Tons	Percentage
Pike	15,065	23%
Perry	12,975	20%
Harlan	9,682	15%
Martin	5,486	8%
Knott	4,853	7%
Letcher	4,544	7%
Leslie	4,094	6%
Floyd	2,702	4%
Magoffin	2,278	3%
Bell	1,495	2%
Breathitt	860	1%
Whitley	405	<1%
Clay	370	<1%
Knox	314	<1%
Johnson	231	<1%
Lawrence	65	<1%
Owsley	61	<1%

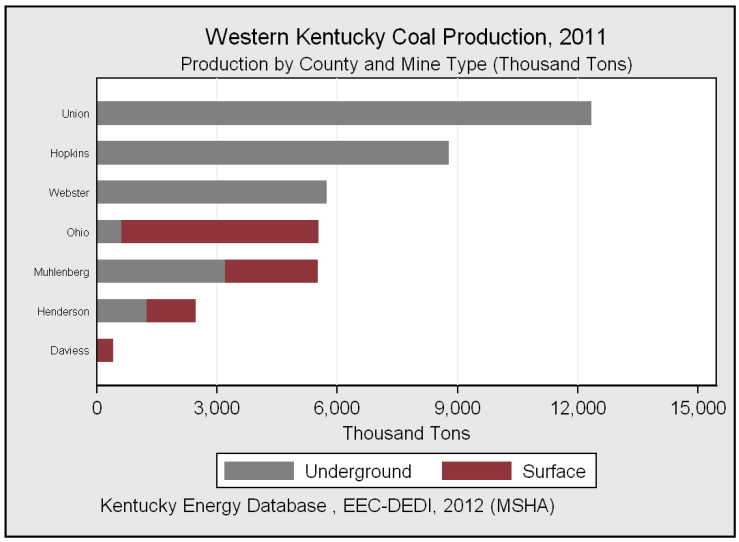
*Counties with less than 50,000 tons not listed.

Active Mines	Underground	Surface
370	153	217

In 2011, the majority of active coal mines in eastern Kentucky involved surface operations. Different from mining in western Kentucky, the Eastern Coal Field has many more active mines as well as a substantial proportion of small mines. These differences are a function of the size and location of accessible coal seams, and the topography of eastern Kentucky. Ultimately, these factors influence mining techniques in the region and help explain the nearly even split in production between surface and underground operations.

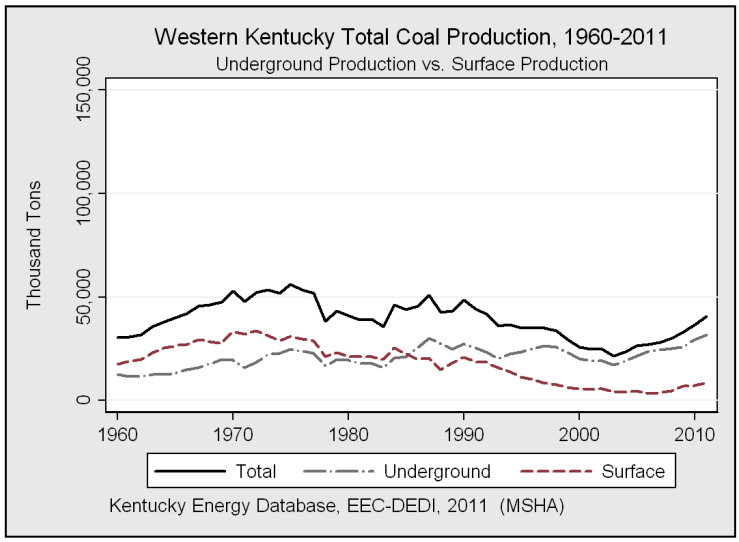
Western Kentucky Coal Production





Mine Type	Thousand Tons	Percentage
Total	40,772	100%
Underground	31,903	78%
Surface	8,869	22%

More than 4,400 people were directly employed by coal mines in western Kentucky in 2011. Union County was the single largest employer in the region during the year.



Coal produced in western Kentucky comes from the Illinois Basin, and typically has a moderately high heat content and high sulfur content. Through 2011, coal mines in the region produced 40.7 million tons with the majority of this total from underground operations. Of the seven counties that registered coal production in 2011, Union County was the largest producer with 30% of regional production. Though the region accounted for 38% of statewide production, five of the top eight most productive counties in the state were located in western Kentucky during the year.

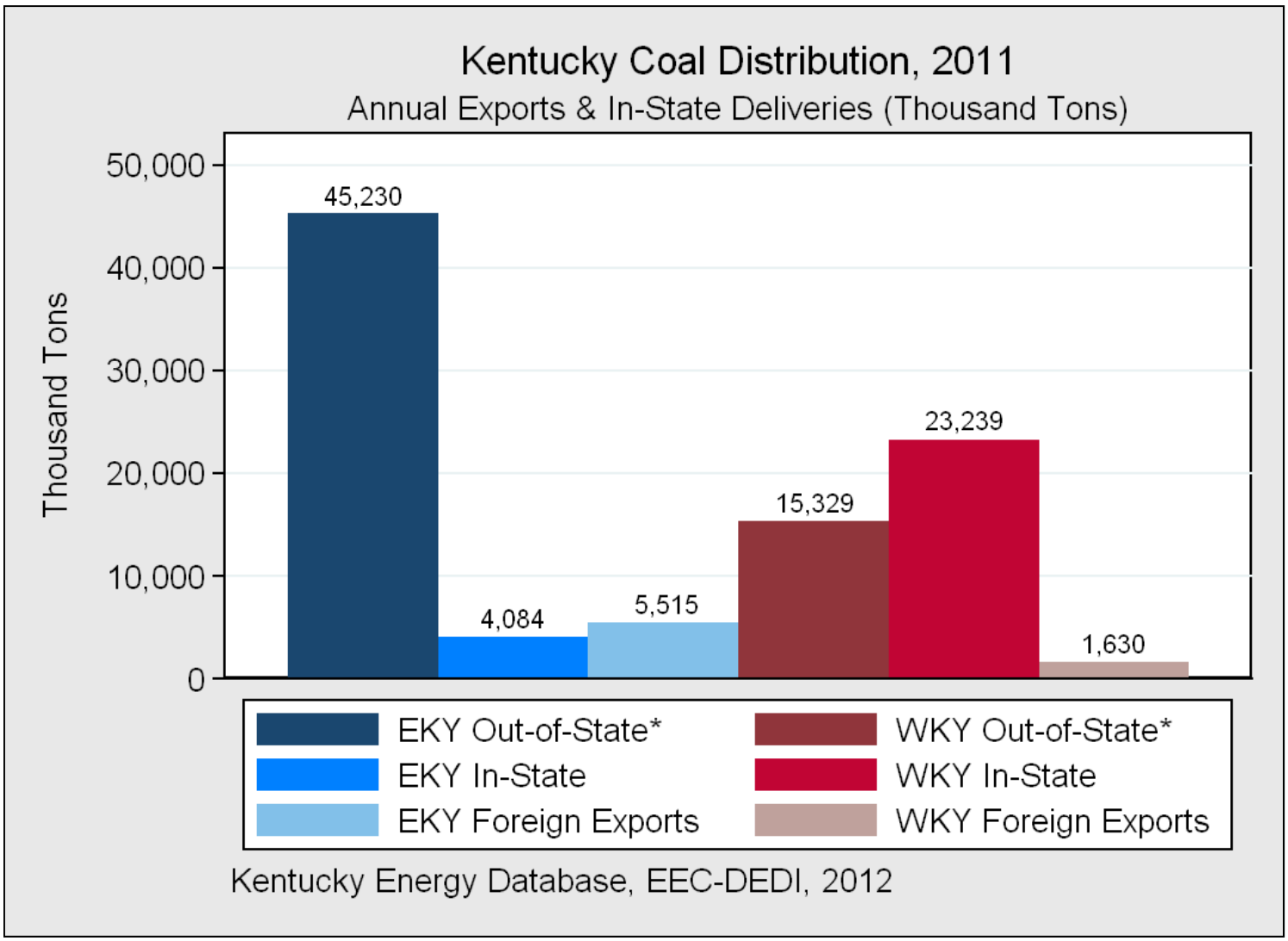
County	Thousand Tons	Percentage
Union	12,333	30%
Hopkins	8,786	22%
Webster	5,730	14%
Ohio	5,528	14%
Muhlenberg	5,518	14%
Henderson	2,471	6%
Daviess	405	<1%

Active Mines	Underground	Surface
26	13	13

Since 2002, underground mine development in western Kentucky counties has resulted in increasing production for the region. Though there were an equal amount of active underground and surface mines in 2011, the size and productivity of underground mines in western Kentucky accounted for 78% of regional production.

In addition, the topographic location of economically accessible coal seams in western Kentucky differs from deposits in eastern Kentucky. The gentle topography and basinal structure of the western Kentucky coalfield limits surface-accessible coal to the outer margin of the basin, and helps explain why surface mining has declined and underground mining has increased in the region since 1988.

Kentucky Coal Distribution



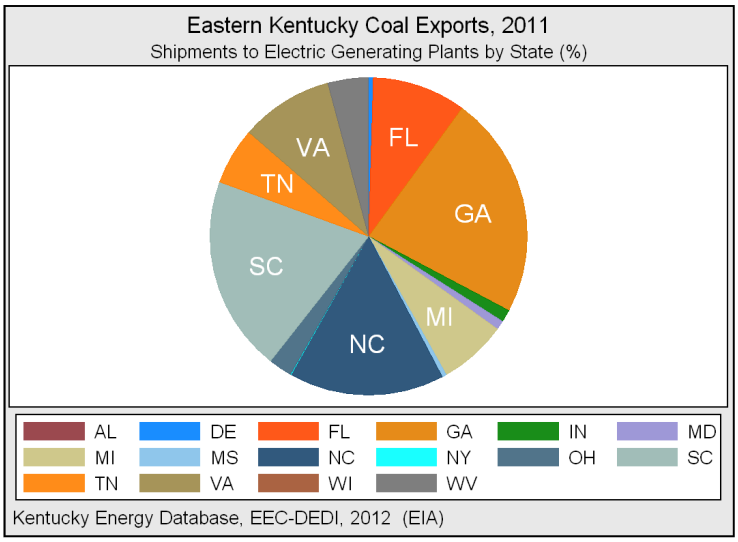
Coal Distribution by Destination, 2011		
Coal & Destination	Thousand Tons	Percentage
Total Distribution	95,027	100%
EKY Out-of-State*	45,230	48%
WKY In-State	23,239	24%
WKY Out-of-State*	15,329	16%
EKY Foreign Exports	5,515	6%
EKY In-State	4,084	4%
WKY Foreign Exports	1,630	2%

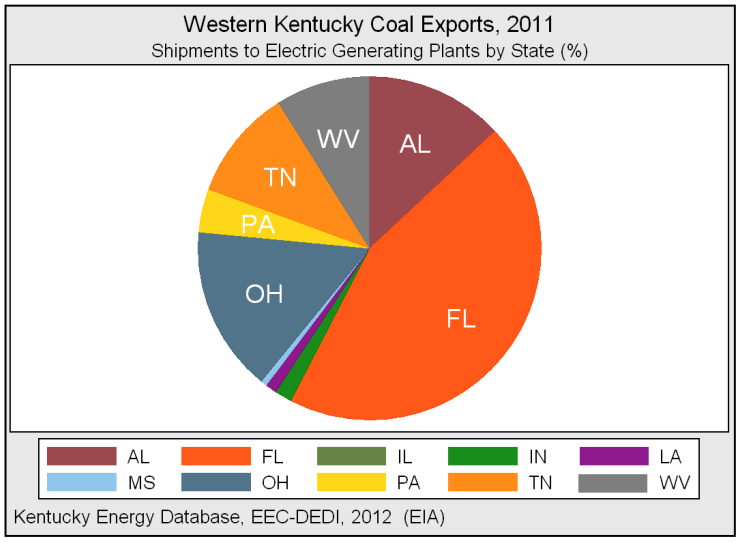
*Totals labeled "Out-of-State" represent shipments of coal to consumers within the United States, and may also be considered domestic exports. A difference of approximately 11.2 million tons exists between total production and total distribution in the table above. This gap can be explained by coal stockpiling, lags in data reporting, calendar year parameters, comparison of statistics across multiple data sources, and reporting errors.

The annual distribution of coal mined in Kentucky is a combination of in-state consumers, out-of-state power plants and factories, and foreign exports. Demand from out-of-state consumers has consistently been the largest component of Kentucky coal deliveries since 1990.

In 2011, the largest portion (43%) of Kentucky coal deliveries were domestic exports of eastern Kentucky coal, involving customers outside of the Commonwealth but within the United States. The next most common destination of Kentucky coal in 2011 was in-state deliveries of coal from western Kentucky, followed by domestic exports of western Kentucky coal. Foreign exports of Kentucky coal represent a small percentage of total production, and combined accounted for approximately 8% of coal shipments in 2011. In-state consumption of eastern Kentucky coal was the smallest portion of Kentucky coal deliveries during the year.

Kentucky Coal Domestic Exports





Importing State	Thousand Tons	Percentage
Total	45,300	100%
Georgia	10,286	23%
South Carolina	9,052	20%
North Carolina	7,155	16%
Florida	4,313	10%
Virginia	4,306	10%
Michigan	3,147	7%
Tennessee	2,609	6%
West Virginia	1,863	4%
Ohio	1,080	2%
Indiana	577	1%
Maryland	423	1%
Delaware	215	<1%
Mississippi	195	<1%
New York	54	<1%
Alabama	12	<1%
Wisconsin	10	<1%

Importing State	Thousand Tons	Percentage
Total	15,329	100%
Florida	6,827	45%
Ohio	2,393	16%
Alabama	1,998	13%
Tennessee	1,612	11%
West Virginia	1,363	9%
Pennsylvania	625	4%
Indiana	251	2%
Louisiana	146	1%
Mississippi	92	1%
Illinois	0.1	<1%

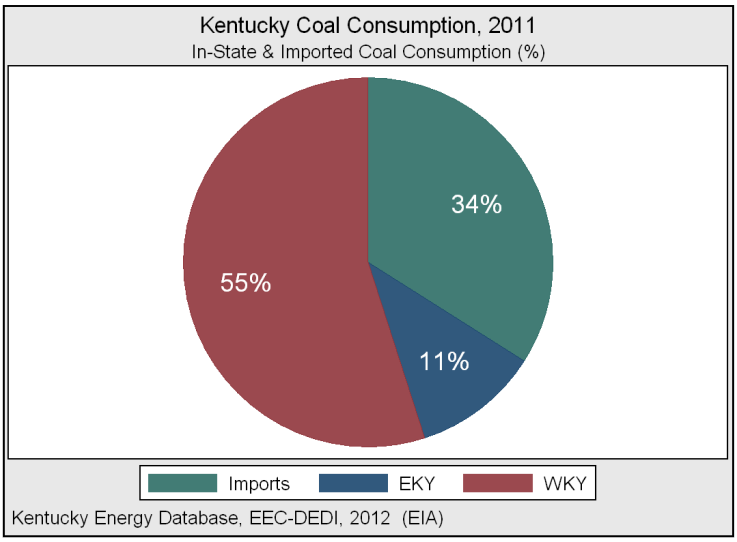
Coal Field	Thousand Tons	Percentage
Total Exports	60,629	100%
Eastern Kentucky	45,300	75%
Western Kentucky	15,329	25%

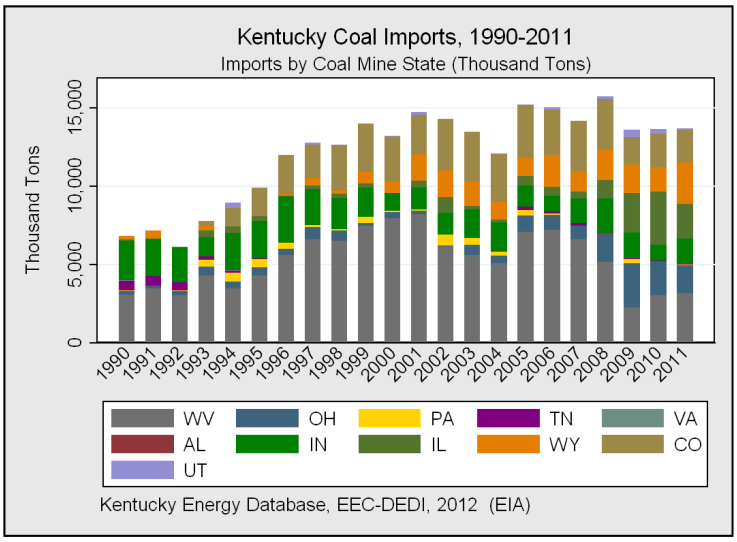
Importing States	Western Kentucky	Eastern Kentucky
Total	10	17

In 2011, coal mined from the Appalachian Basin in eastern Kentucky was exported to 17 different states, with shipments totaling more than 45.3 million tons. Traditionally large consumers of eastern Kentucky coal remain in the Southeast, with Georgia topping all importers at 10.2 million tons in 2011. Other major markets for eastern Kentucky coal during the year were South Carolina, North Carolina, Florida, and Virginia which combined accounted for 56% of shipped tonnage from the region. Compared with 2010, domestic exports of eastern Kentucky coal decreased by 21% in 2011.

Domestic shipments of western Kentucky coal exceeded 15.3 million tons and were delivered to 10 different states in 2011. During the year, electric utilities in Florida were by far the largest external consumers of western Kentucky coal, accounting for more than 6.8 million tons. Ohio, Alabama, and Tennessee were the next largest markets for western Kentucky coal, and combined, represented 41% of all exported tonnage in 2011. Overall, domestic exports of western Kentucky coal decreased by 4% compared with 2010.

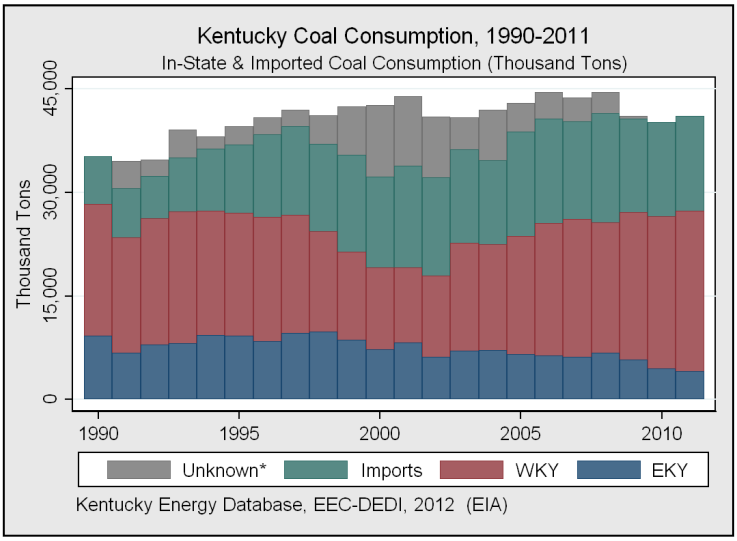
Kentucky In-State Coal Consumption





Origin of Coal	Thousand Tons	Percentage
Total	41,051	100%
Western Kentucky	23,239	55%
Imports	13,728	34%
Eastern Kentucky	4,084	11%

Origin of Coal	Thousand Tons	Percentage
Imports	13,728	100%
West Virginia	3,203	23%
Wyoming	2,638	19%
Illinois	2,222	16%
Colorado	2,078	15%
Ohio	1,778	13%
Indiana	1,621	12%
Utah	91	1%
Tennessee	50	<1%
Pennsylvania	47	<1%



In 2011, industries within the Commonwealth of Kentucky consumed more than 41 million tons of coal with the vast majority of this commodity delivered to electric power plants throughout the state. Coal mined in western Kentucky represented 55% of annual consumption in 2011, followed by coal from eastern Kentucky with 11% of total demand. However, combined imports from nine different states accounted for 34% of Kentucky coal consumption during the year.

The market variables affecting the use of imported coal in Kentucky primarily involve price, heat content of a particular coal, and the sulfur content of a particular coal. For electrical power generation, electric utilities must balance the financial and environmental costs of these factors when purchasing coal. As a result, electric utilities, municipalities, and power producers blend coal from in-state and out-of-state sources so as to maintain a diversified fuel resource while complying with environmental regulations. Since 1990, electric utilities in Kentucky have increasingly used higher sulfur coal, a trend accelerated through the installation of sulfur dioxide scrubbers on many coal-fired generators throughout the state. (Nationally, many other electric utilities have elected to install similar environmental control systems, thereby altering traditional coal sourcing requirements). The net result of these decisions in Kentucky, specifically, has been an increasing reliance on western Kentucky coal supplies, and a diminishing demand for eastern Kentucky coal. Additionally, the relatively low price of coal from several western states has also increased imports for electric power generation.

Eastern Kentucky Coal Deliveries

Eastern Kentucky Coal Deliveries to Electric Power Plants, 2011				
Rank	Plant ID	Power Plant Name	State	Annual Deliveries (Tons)
1	703	Bowen	GA	5,640,872
2	130	Cross	SC	2,893,802
3	709	Harllee Branch	GA	2,165,618
4	1733	Monroe	MI	1,981,718
5	2712	Roxboro	NC	1,854,053
6	3797	Chesterfield	VA	1,845,284
7	1353	Big Sandy	KY	1,671,713
8	6249	Winyah	SC	1,612,060
9	564	Stanton Energy Center	FL	1,498,598
10	2727	Marshall	NC	1,334,554
11	3297	Wateree	SC	1,136,215
12	1355	E W Brown	KY	1,100,706
13	628	Crystal River	FL	1,061,860
14	3298	Williams	SC	1,040,200
15	8042	Belews Creek	NC	1,011,290
16	7210	Cope	SC	987,655
17	7213	Clover	VA	924,706
18	3935	John E Amos	WV	820,873
19	710	Jack McDonough	GA	802,610
20	10672	Cedar Bay Generating Company LP	FL	778,863
21	50481	Tennessee Eastman Operations	TN	772,536
22	3405	John Sevier	TN	761,711
23	2850	J M Stuart	OH	715,924
24	2721	Cliffside	NC	711,209
25	676	C D McIntosh Jr	FL	639,880
26	1384	Cooper	KY	613,916
27	3396	Bull Run	TN	574,943
28	1745	Trenton Channel	MI	567,681
29	708	Hammond	GA	554,240
30	6166	Rockport	IN	539,700
31	3809	Yorktown	VA	513,222
32	3407	Kingston	TN	500,112
33	2718	G G Allen	NC	485,554
34	2713	L V Sutton	NC	482,971
35	1385	Dale	KY	402,879
36	6264	Mountaineer	WV	396,714
37	2732	Riverbend	NC	386,915
38	1573	Morgantown Generating Plant	MD	372,209
39	6052	Wansley	GA	334,517
40	54081	Spruance Genco LLC	VA	320,870
41	663	Deerhaven Generating Station	FL	286,578
42	6250	Mayo	NC	279,710
43	3264	W S Lee	SC	276,965
44	3947	Kammer	WV	255,307
45	2706	Asheville	NC	249,905

Eastern Kentucky Coal Deliveries

Eastern Kentucky Coal Deliveries to Electric Power Plants, 2011				
Rank	Plant ID	Power Plant Name	State	Annual Deliveries (Tons)
46	728	Yates	GA	243,968
47	3948	Mitchell	WV	218,855
48	594	Indian River Generating Station	DE	215,817
49	7737	Cogen South	SC	211,391
50	3287	McMeekin	SC	205,992
51	54304	Birchwood Power	VA	203,003
52	3280	Canadys Steam	SC	202,515
53	2708	Cape Fear	NC	198,656
54	6061	R D Morrow	MS	193,787
55	50398	International Paper Savanna Mill	GA	189,082
56	1720	J C Weadock	MI	173,819
57	3251	H B Robinson	SC	158,073
58	1740	River Rouge	MI	140,581
59	2830	Walter C Beckjord	OH	132,801
60	3788	Potomac River	VA	129,421
61	2709	Lee	NC	116,449
62	52151	International Paper Eastover Facility	SC	115,140
63	1356	Ghent	KY	113,421
64	54358	International Paper Augusta Mill	GA	111,521
65	3796	Bremo Bluff	VA	105,557
66	50806	Stone Container Florence Mill	SC	96,680
67	54101	Georgia Pacific Cedar Springs	GA	96,234
68	3775	Clinch River	VA	94,102
69	6031	Killen Station	OH	92,683
70	8848	Ceredo	WV	89,112
71	3319	Jefferies	SC	88,152
72	52007	Mecklenburg Power Station	VA	86,793
73	6018	East Bend	KY	81,558
74	1695	B C Cobb	MI	80,961
75	6041	H L Spurlock	KY	75,142
76	2828	Cardinal	OH	71,997
77	54004	Dublin Mill	GA	70,725
78	1723	J R Whiting	MI	70,016
79	3938	Philip Sporn	WV	55,565
80	10025	Kodak Park Site	NY	53,834
81	10361	Savannah River Mill	GA	44,769
82	2832	Miami Fort	OH	44,135
83	2716	W H Weatherspoon	NC	44,098
84	50835	TES Filer City Station	MI	42,543
85	50976	Indiantown Cogeneration LP	FL	38,971
86	10774	Southampton Power Station	VA	32,409
87	602	Brandon Shores	MD	30,799
88	10328	T B Simon Power Plant	MI	28,098
89	54087	International Paper Georgetown Mill	SC	27,625
90	10208	Escanaba Paper Company	MI	27,411

Eastern Kentucky Coal Deliveries

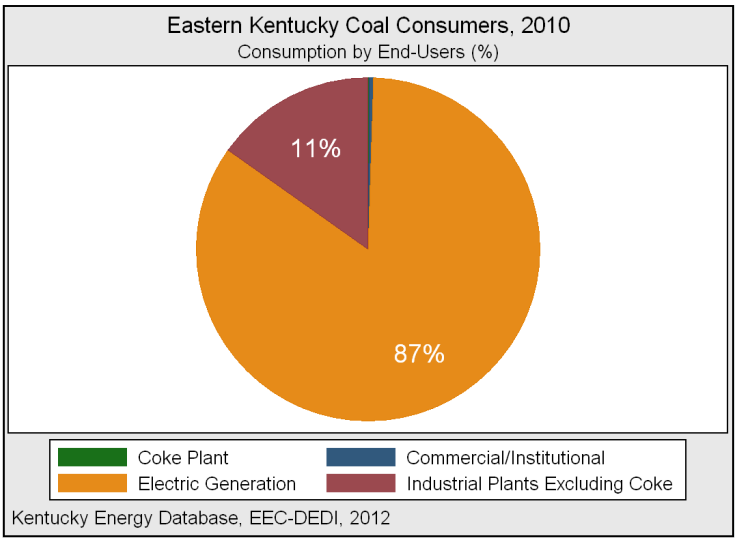
Eastern Kentucky Coal Deliveries to Electric Power Plants, 2011				
Rank	Plant ID	Power Plant Name	State	Annual Deliveries (Tons)
91	3936	Kanawha River	WV	26,241
92	988	Tanners Creek	IN	24,036
93	3803	Chesapeake	VA	22,135
94	1710	J H Campbell	MI	21,813
95	733	Kraft	GA	19,277
96	1554	Herbert A Wagner	MD	18,545
97	50900	Covington Facility	VA	16,881
98	1008	R Gallagher	IN	12,885
99	727	Mitchell	GA	12,807
100	6019	W H Zimmer	OH	12,791
101	50	Widows Creek	AL	12,616
102	10771	Hopewell Power Station	VA	12,288
103	1743	St Clair	MI	12,000
104	6823	D B Wilson	KY	11,625
105	1361	Tyrone	KY	10,437
106	4125	Manitowoc	WI	10,189
107	2848	O H Hutchings	OH	10,065
108	8829	US United Bulk Terminal	FL	7,167
109	1374	Elmer Smith	KY	2,965
110	8851	Associated Terminals	MS	1,730
111	8827	IMT Transfer	FL	1,692
112	1571	Chalk Point LLC	MD	111

The Plant ID represents the ORISPL identification number for each power plant, and stands for the Office of the Regulatory Information System Plant Location number. This number provides a unique identification code for power plants in the United States.

Western Kentucky Coal Deliveries

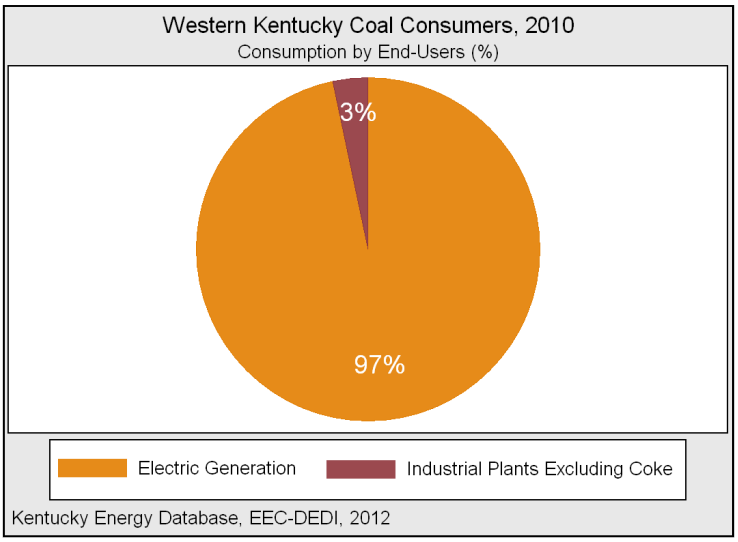
Western Kentucky Coal Deliveries to Electric Power Plants, 2011				
Rank	Plant ID	Power Plant Name	State	Annual Deliveries (Tons)
1	1378	Paradise	KY	4,297,619
2	1364	Mill Creek	KY	3,839,085
3	1356	Ghent	KY	3,261,454
4	136	Seminole	FL	2,474,422
5	6071	Trimble County	KY	2,370,779
6	50	Widows Creek	AL	1,955,495
7	645	Big Bend	FL	1,827,709
8	6041	H L Spurlock	KY	1,598,579
9	1381	Kenneth C Coleman	KY	1,506,539
10	6018	East Bend	KY	1,375,831
11	3399	Cumberland	TN	1,345,166
12	1374	Elmer Smith	KY	1,235,539
13	8816	Davant Transfer	FL	1,220,347
14	6639	R D Green	KY	1,129,516
15	6823	D B Wilson	KY	1,017,519
16	1363	Cane Run	KY	889,840
17	2850	J M Stuart	OH	831,562
18	8827	IMT Transfer	FL	739,694
19	1382	HMP&L Station Two Henderson	KY	717,054
20	6004	FirstEnergy Pleasants Power Station	WV	683,043
21	8848	Ceredo	WV	612,174
22	6031	Killen Station	OH	529,930
23	8829	US United Bulk Terminal	FL	442,525
24	2832	Miami Fort	OH	433,737
25	6019	W H Zimmer	OH	324,912
26	3181	FirstEnergy Mitchell Power Station	PA	302,256
27	3407	Kingston	TN	265,021
28	2830	Walter C Beckjord	OH	244,369
29	3179	FirstEnergy Hatfields Ferry	PA	220,492
30	6190	Brame Energy Center	LA	164,953
31	6705	Warrick	IN	160,280
32	8851	Associated Terminals	MS	92,839
33	667	Northside Generating Station	FL	87,357
34	3943	FirstEnergy Fort Martin Power Station	WV	67,837
35	983	Clifty Creek	IN	58,226
36	6094	FirstEnergy Bruce Mansfield	PA	58,158
37	3178	FirstEnergy Armstrong Power Station	PA	44,210
38	56	Charles R Lowman	AL	43,348
39	1008	R Gallagher	IN	32,694
40	2866	FirstEnergy W H Sammis	OH	28,985
41	564	Stanton Energy Center	FL	22,345
42	676	C D McIntosh Jr	FL	12,778
43	3406	Johnsonville	TN	1,408
44	3149	PPL Montour	PA	195
45	10865	Archer Daniels Midland Decatur	IL	149

Kentucky Coal Distribution



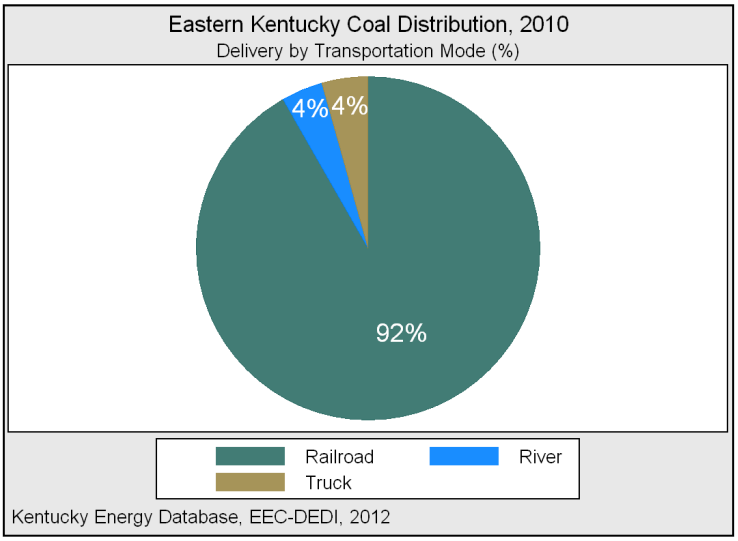
End-User	Thousand Tons	Percentage
Electric Generation	54,375	87%
Industrial	6,864	11%
Coke	943	1%
Commercial	434	<1%

Source: EIA "Annual Coal Distribution Report" (2011).

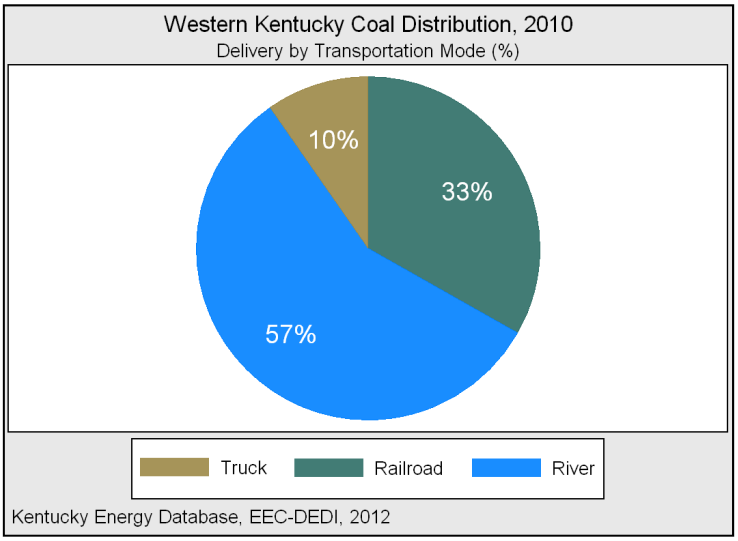


End-User	Thousand Tons	Percentage
Electric Generation	35,163	97%
Industrial	1,003	3%
Coke	48	<1%
Commercial	38	<1%

Source: EIA "Annual Coal Distribution Report" (2011).

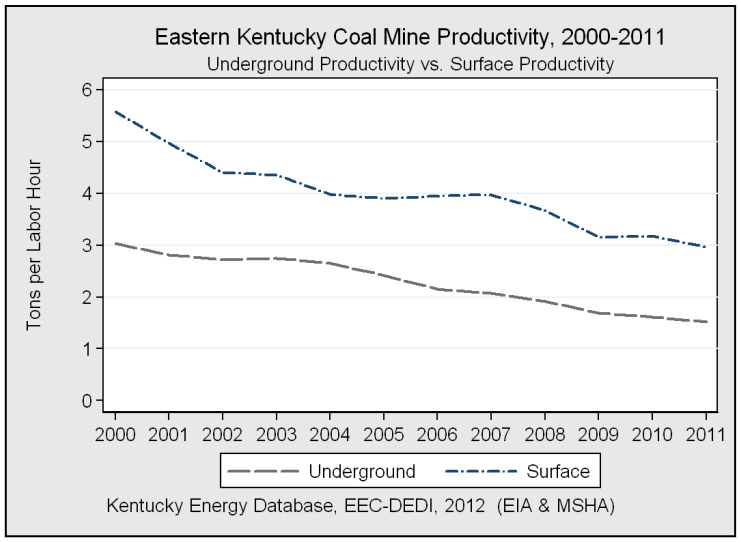


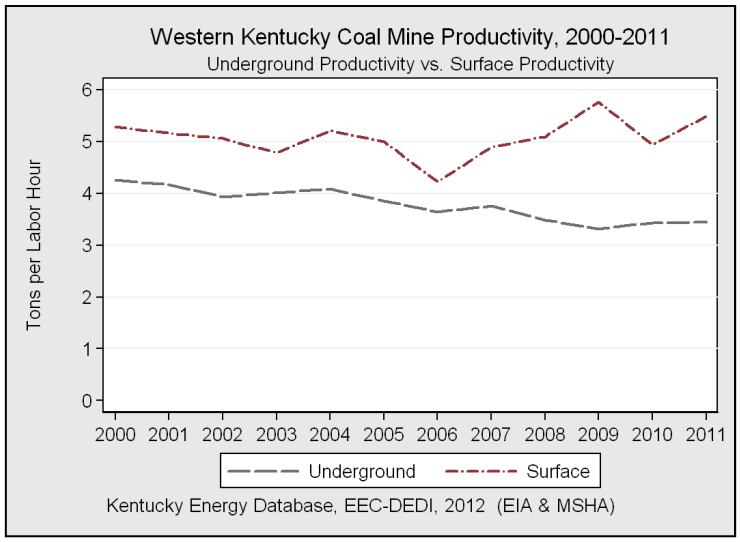
The vast majority of coal mined in eastern Kentucky in 2010 was loaded onto rail cars and delivered to electric power plants in the United States. Industrial facilities were the next largest consumer of eastern Kentucky coal, and represented 11% of demand for the commodity. Coke plant deliveries and demand from commercial/institutional consumers accounted for around two percent of eastern Kentucky coal distribution during the year.



Due to geography and the accessibility of river ports, the majority of western Kentucky coal was loaded onto barges and delivered to electric utilities in the United States in 2010. Nearly a third of western Kentucky coal was transported by rail during the same year, while ten percent was delivered by truck.

Coal Mine Productivity





Region	Mine Type	Tons/Hour
Eastern Kentucky	All*	2.01
Eastern Kentucky	Underground	1.52
Eastern Kentucky	Surface	2.96

Region	Mine Type	Tons/Hour
Western Kentucky	All*	3.74
Western Kentucky	Underground	3.44
Western Kentucky	Surface	5.48

Total Labor Hours	Underground	Surface
32,565,740	21,497,030	11,068,710

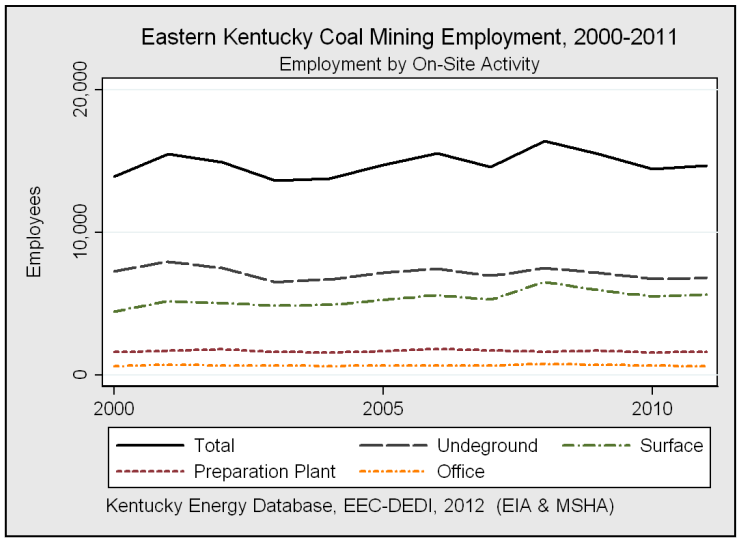
Total Labor Hours	Underground	Surface
10,897,110	9,280,072	1,617,038

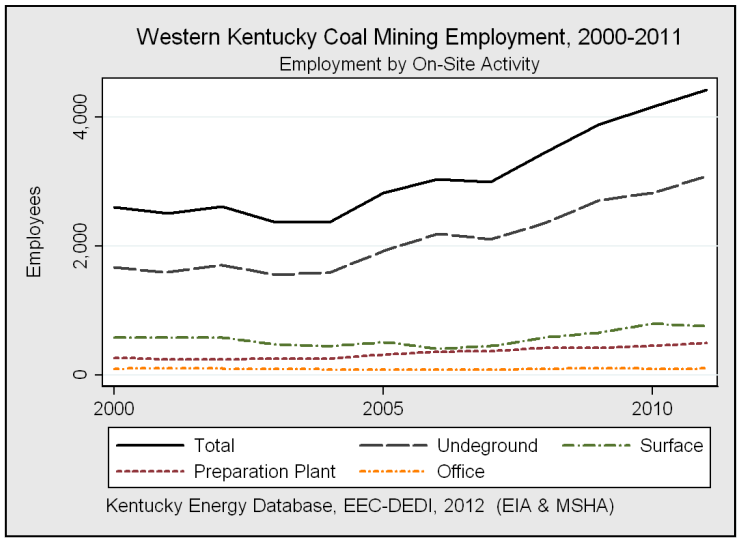
Source: U.S. Department of Labor, Mine Safety and Health Administration, "Quarterly Mine Employment and Coal Production Report" (MSHA Form 7000-02). Coal mine productivity is defined as total coal production (tons) divided by total employee labor hours. Total labor hours include the combination by mine site of direct miner hours, preparation plant hours, and on-site office employee hours. ***Productivity values in the tables above represent the summation of production divided by the summation of labor hours, separated by region and by mine type**. As of publication, processed data for productivity as displayed above was only available for the years 2000-2011. Historical and current reporting on mine productivity statewide and nationwide indicates a trend of declining productivity across all coal fields in the United States since the year 2000, further illustrated by eastern Kentucky and western Kentucky.

Coal mining productivity in both coal fields of Kentucky has been falling over the last decade. Yet, the decline in eastern Kentucky productivity during this time has been substantial. At an average of 2.01 tons per labor hour in 2011, productivity in the Eastern Coal Field is down 46% from the year 2000. Moreover, productivity for both surface mines and underground mines in eastern Kentucky has been falling consistently over the last eleven years. However, surface mines in eastern Kentucky remained the most efficient form of coal mining in the region, nearly twice as productive as underground mines in 2011.

At 3.74 tons per labor hour in 2011, average coal mining productivity in western Kentucky was 86% higher than eastern Kentucky. Interestingly, while surface mine productivity was 5.48 tons per hour in 2011, surface mine production accounted for only 22% of regional production; meaning, western Kentucky productivity was most influenced by underground operations. Additionally, though overall coal mine productivity in western Kentucky has fallen by 15% since 2000, productivity in the coal field has held relatively stable over the past 5 years.

Coal Mine Employment





EKY Counties	Employment	Percentage
All	14,619	100%
Pike	3,527	24.0%
Harlan	2,310	15.7%
Perry	2,158	14.7%
Martin	1,124	7.7%
Letcher	1,016	6.9%
Knott	1,004	6.8%
Leslie	872	5.9%
Bell	692	4.7%
Floyd	599	4.1%
Magoffin	339	2.3%
Whitley	212	1.4%
Breathitt	206	1.4%
Knox	169	1.2%
Clay	133	0.9%
Johnson	81	0.6%
Boyd	78	0.5%
Owsley	35	0.2%
Lawrence	34	0.2%
Elliot	11	<0.1%
Other Counties	19	<0.1%

Pike County has historically been the largest coal producer in Kentucky, and in 2011 mines in the county were the largest source of on-site coal mine employment in the eastern coalfield and the state. Harlan County, also located in eastern Kentucky, had the second highest level of direct coal mining employment within the state and region during 2011.

WKY Counties	Employment	Percentage
All	4,483	100%
Union	1,278	28.5%
Hopkins	876	19.5%
Webster	717	16.0%
Muhlenberg	630	14.1%
Ohio	551	12.3%
Henderson	278	6.2%
Livingston	56	1.2%
Marshall	46	1.0%
Daviess	40	0.9%
McLean	11	0.2%

By far, mines in Union County employed the most on-site coal mine workers in western Kentucky in 2011. With over 1,200 full-time employees, Union County mines ranked fourth highest in the state for direct coal mine employment by county.

Description	Employment	Percentage
State Total	19,102	100%
Underground	9,906	52%
Surface	6,396	33%
Preparation Plant	2,114	11%
Office	686	4%

During 2011, more than19,000 people were employed full-time in coal mines or preparation plants in eastern and western Kentucky. The majority of these individuals worked in underground mines, and helped produce 61% of the Commonwealth's coal production for the year. Surface mine operations were the second largest concentration of coal mining employment, and accounted for 39% of coal production. Coal preparation plants and mine offices were also a significant source of employment in 2011.

Employment (2011)

Region	Direct Employment at Coal Mines	Underground Miners	Surface Miners	Preparation Plant Workers	Office Staff	Percent of Employment	Percent of Labor Force
Kentucky	**19,102**	**9,906**	**6,396**	**2,114**	**686**	**1.07%**	**0.92%**
Eastern Kentucky	**14,619**	**6,821**	**5,643**	**1,568**	**587**	**8.71%**	**7.79%**
Pike	3,527	1,752	1,196	370	209	14.98%	13.67%
Harlan	2,310	1,390	677	190	53	24.19%	21.63%
Perry	2,158	823	1,004	219	112	20.92%	18.79%
Martin	1,124	616	332	153	23	33.10%	29.69%
Letcher	1,016	673	246	72	25	12.68%	11.39%
Knott	1,004	547	373	73	11	17.90%	15.91%
Leslie	872	415	391	63	3	26.44%	23.15%
Bell	692	170	287	143	92	8.42%	7.31%
Floyd	599	227	301	51	20	4.41%	3.96%
Magoffin	339	31	306	0	2	9.29%	7.74%
Whitley	212	16	140	44	12	1.51%	1.35%
Breathitt	206	124	46	36	0	4.16%	3.73%
Knox	169	29	129	7	4	1.56%	1.38%
Clay	133	8	98	23	4	2.17%	1.88%
Johnson	81	0	46	35	0	0.94%	0.85%
Boyd	78	0	0	70	8	0.38%	0.34%
Owsley	35	0	33	0	2	2.50%	2.21%
Lawrence	34	0	27	5	2	0.62%	0.55%
Elliot	11	0	11	0	0	0.39%	0.34%
Other Counties	19	0	0	14	5	--	--
Western Kentucky	**4,483**	**3,085**	**753**	**546**	**99**	**3.09%**	**2.82%**
Union	1,278	1,097	49	113	19	16.81%	15.45%
Hopkins	876	744	27	81	24	4.14%	3.81%
Webster	717	613	30	54	20	12.28%	11.28%
Muhlenberg	630	332	209	75	14	5.00%	4.51%
Ohio	551	142	313	86	10	4.69%	4.31%
Henderson	278	157	87	32	2	1.30%	1.19%
Livingston*	56	0	0	53	3	1.28%	1.16%
Marshall*	46	0	0	41	5	0.34%	0.31%
Daviess	40	0	38	0	2	0.09%	0.08%
McLean*	11	0	0	11	0	0.27%	0.24%

Note: The direct mining employment classification includes persons employed at a Kentucky coal mine and does not include direct employment involving coal transportation by trucks, trains, or barges nor the administrative or professional employees of coal companies located in Kentucky metropolitan areas such as Lexington and Louisville. These employment figures also do not include the many private services or indirect employment induced by the economic activity of coal extraction and preparation.

* Registered no coal production in 2011 (direct coal mining employment connected to coal distribution infrastructure such as coal river port terminals and rail depots).

Employment

Direct Benefits

The Kentucky coal industry provides direct benefits in terms of coal severance revenue, jobs, and wages to miners. These direct benefits are as follows:

- Employed 18,850 miners in 2009, with 3,703 in Western Kentucky and 15,147 in Eastern Kentucky.
- Paid wages of $1.473 billion in 2009, resulting in an average weekly wage of $1,214 per miner.
- Produced over 107 million tons of coal with an approximate value of $6.3 billion dollars.
- Severance taxes on FY 2009-2010 coal production were $241 million with a total of $270 million being collected (includes some previous year assessments).
- $97.3 million in coal severance tax receipts were returned to coal-producing counties for infrastructure improvements and economic development projects.
- $16.9 million in unmined mineral taxes were collected in FY 2009-2010.

Indirect Benefits

The coal industry provides many benefits to Kentucky in addition to the direct benefits mentioned above. Indirect benefits include new income flowing into the coal industry that is then re-spent creating a multiplier effect. Economic impact models trace the flow of these dollars for new spending in the economy. Economic impact models are not designed to calculate the impact for an existing industry. We can, however, gauge the industries that will receive the greatest impact for any new investment. Below are the top five types of industries that receive the greatest percentage of an indirect impact.

- 20% of indirect spending would be spent in industries defined as mining coal and support activities for mining. This is essentially intra-industry trade that does show up as new revenue.
- 15% would be spent in the transportation industry by rail or truck.
- 14% would be spent in professional services industries. These are typically industries such as architectural and industrial engineering, management companies, legal services, financial institutions and other industries that provide services that might not be offered in house.
- 9% would be spent in the petroleum industry, natural gas and electric power transmission.
- 9% would be spent in industries that sell or maintain commercial equipment and structures used to support the coal industry.

Induced Effects

In addition to indirect effects, induced effects also contribute to the economic impact of new spending in the coal industry in Kentucky. Induced effects occur when money that is received as income by employees and/or owners either at the direct or indirect level is spent on personal expenditures such as household goods and services.

Source: Dr. Christopher Jepsen, Associate Director and Dr. Anna Stewart, Economic Analyst, University of Kentucky Gatton College of Business and Economics, Center for Business and Economic Research.

Coal Severance

DEFINITION OF SEVERANCE

"Severing" or "severed" means the physical removal of the natural resource from the earth or waters of this state by any means; however, "severing" or "severed" shall not include the removal of natural gas from underground storage facilities into which the natural gas has been mechanically injected following its initial removal from the earth. (KRS 143A.010 (3)).

COAL SEVERANCE TAX CALCULATION

For the privilege of severing or processing natural resources in this state, a tax is hereby levied at the rate of four and one-half percent (4.5%) on natural gas and four and one-half percent (4.5%) on all other natural resources, such rates to apply to the gross value of the natural resource severed or processed except that no tax shall be imposed on the processing of ball clay. (KRS 143A.020 (1)).

Specifically for coal, this means that a tax of 4.5% is levied on the sale price of every ton of coal mined in Kentucky. For example, if a ton of coal mined in Kentucky sells for $50, then the coal severance tax revenue for the Commonwealth from this sale will be $2.25. (1 Ton X $50 X 0.045 = $2.25).

COAL SEVERANCE TAX REVENUE, PROGRAMS, & OUTLAYS

Severance tax revenue generated through the production of coal is distributed to several state budgetary programs including the Kentucky General Fund, the Local Government Economic Assistance Fund (LGEAF), and the Local Government Economic Development Fund (LGEDF).

Coal Severance Revenue

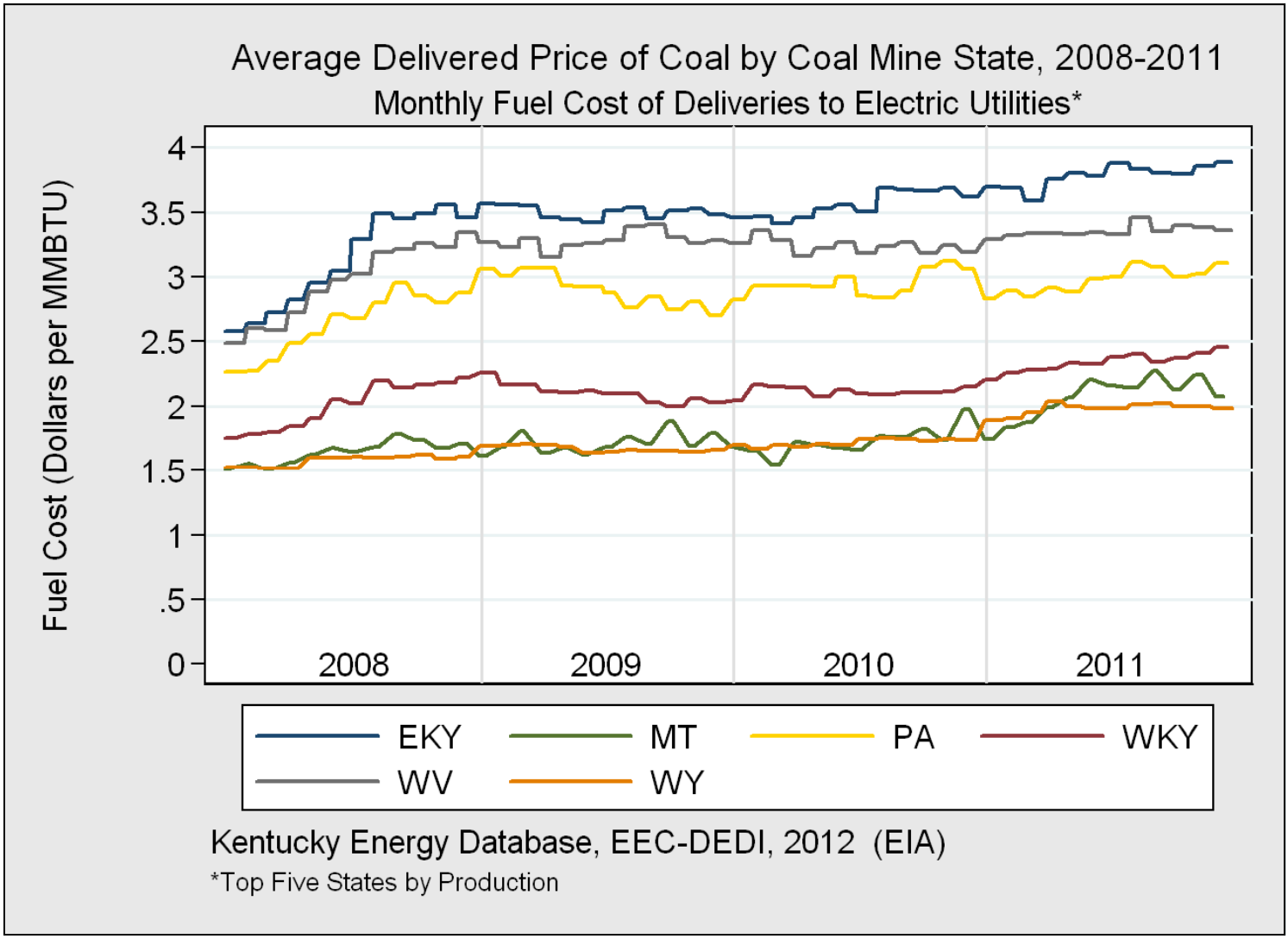
Region	Taxes Collected				Taxes Returned to Counties		
	Gross Value of Severed Coal	Severed Coal Tax	Gross Value of Processing	Total Receipts	LGEAF†	LGEDF*	Unmined Mineral Taxes
State Total	**$5,656,656,607**	**$241,305,000**	**$831,233,257**	**$270,341,379**	**$32,845,283**	**$60,533,908**	**$16,903,420**
East KY	**$4,380,132,034**	**$189,144,948**	**$672,053,462**	**$217,507,319**	**$26,238,221**	**$34,189,458**	**$14,676,207**
Bell	$158,730,060	$6,462,965	$22,217,916	$7,362,210	$896,948	$1,303,183	$271,458
Boyd	-	-	$208,502,871	$533,345	$0	$147,109	$3,561
Breathitt	$203,068,964	$9,139,955	$6,379,602	$9,427,037	$1,069,342	$1,270,666	$691,372
Carter					$0	$0	$414
Clay	$22,388,094	$745,374	$8,386,146	$1,096,369	$383,833	$468,616	$26,933
Elliott	$163,510,463	$7,297,743	$11,647,957	$7,833,112	$159,987	$140,088	$2,426
Floyd					$1,712,023	$1,714,200	$1,303,741
Harlan	$659,987,635	$29,269,635	$80,486,084	$32,598,573	$3,061,470	$3,246,148	$2,052,735
Jackson					$255,868	$322,564	$525
Johnson	$21,610,353	$989,799	$670,512	$733,303	$628,073	$517,764	$71,068
Knott	$415,511,267	$18,216,768	$43,419,878	$20,328,647	$2,217,397	$4,574,740	$1,827,813
Knox	$43,220,649	$1,328,015	$8,079,762	$1,517,860	$453,214	$327,084	$54,090
Laurel					$367,903	$148,793	$160
Lawrence	$24,721,778	$1,023,598	$4,101,964	$990,345	$910,681	$520,355	$60,910
Lee					$108,649	$452,650	$1,059
Leslie	$241,525,031	$10,868,670	$32,827,311	$12,325,238	$1,261,784	$2,031,516	$1,202,575
Letcher	$399,173,509	$17,928,810	$30,602,944	$19,294,034	$2,056,022	$2,724,356	$1,287,252
McCreary					$0	$0	$583
Magoffin	$108,113,833	$4,869,007	$194,917	$12,874,192	$703,842	$945,166	$264,087
Martin	$288,758,421	$11,539,031	$30,203,501	$12,874,192	$1,404,130	$3,005,907	$934,667
Menifee					$0	$200,101	$0
Morgan					$224,269	$266,569	$4,889
Owsley					$178,333	$344,748	$8,415
Perry	$624,338,850	$27,493,771	$52,081,872	$29,891,381	$2,939,848	$3,063,834	$2,097,777
Pike	$994,498,952	$41,614,225	$131,230,329	$47,503,662	$4,901,613	$5,708,438	$2,486,880
Pulaski					$0	$104,258	$12
Rockcastle					$0	$134,992	$0
Whitley	$10,974,174	$357,581	$1,019,894	$323,820	$342,990	$220,261	$13,072
Wolfe					$0	$285,352	$7,730
West KY	**$1,010,558,508**	**$40,191,390**	**$125,625,423**	**$47,264,674**	**$6,607,063**	**$6,166,480**	**$2,227,213**
Crittenden					$0	$144	$0
Davies					$638,772	$88,079	$34,286
Hancock					$38,432	$49,824	$1,949
Henderson					$845,357	$647,644	$434,211
Hopkins	$537,118,387	$18,891,442	$64,507,972	$22,971,214	$2,040,483	$1,706,570	$547,183
McLean					$0	$0	$2,428
Muhlenburg	$138,926,518	$6,291,261	$16,340,266	$7,039,752	$955,668	$957,064	$359,862
Ohio					$598,466	$248,125	$288,434
Union	$178,165,690	$8,023,187	$21,543,116	$9,007,868	$617,847	$1,125,051	$371,548
Webster	$156,347,913	$6,985,500	$23,234,069	$8,245,840	$872,038	$1,200,566	$187,213

All above data is from the 2009-2010 fiscal year. Due to the small number of mining operations in these counties, data for Daviess, Elliot, Hancock, Henderson, Jackson, Laurel, Morgan, Ohio, and Owsley counties is withheld to protect proprietary business information. The above figures summarize coal severance funds only, and do not include business taxes, sales taxes, employee income taxes, and other tax revenues, such that these represent only a small portion of the Kentucky tax revenue generated from coal production. Differences may occur due to independent rounding.

†LGEAF: Local Government Economic Assistance Fund

**LGEDF: Local Government Economic Development Fund*

Price of Coal by State



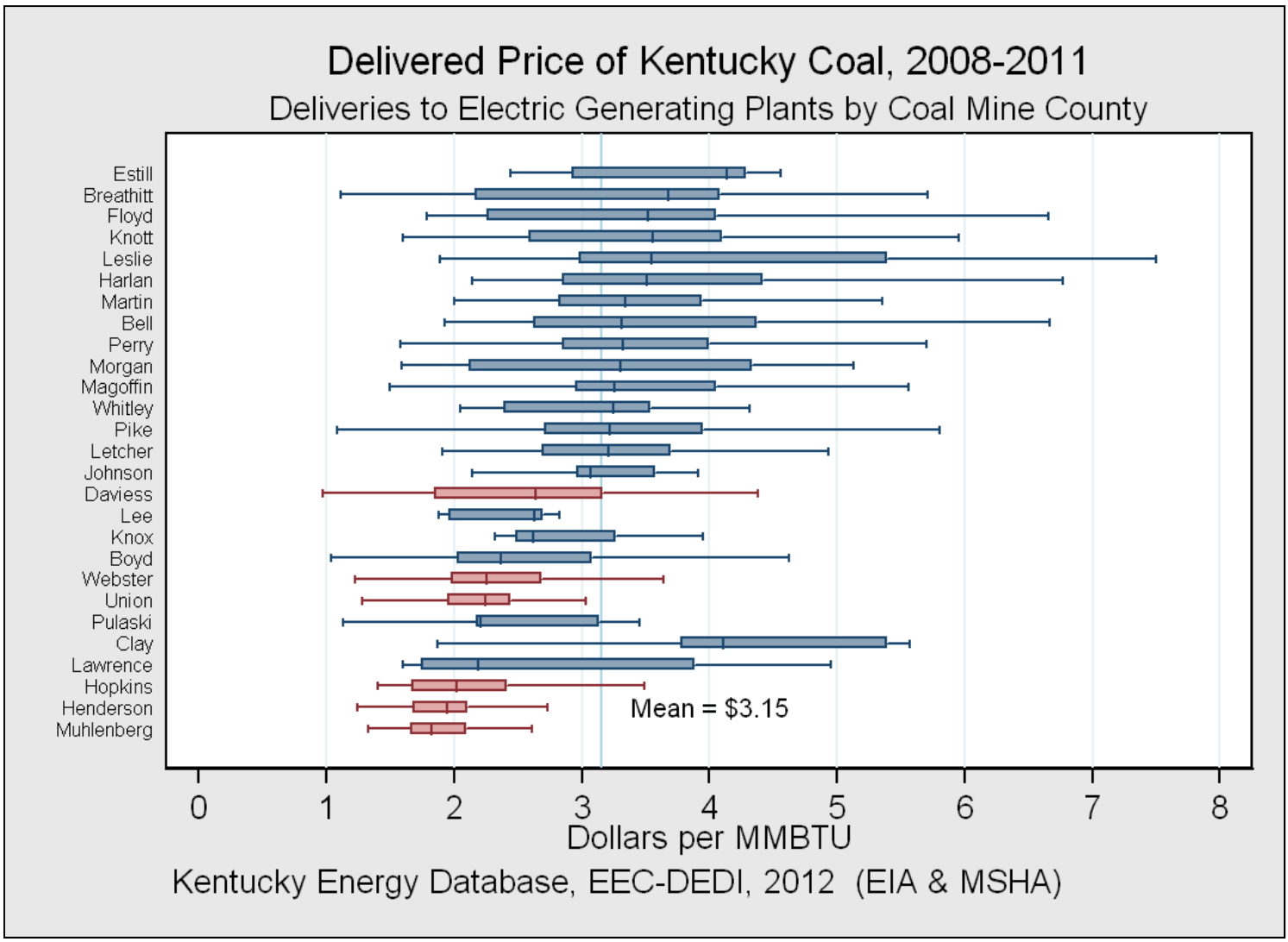
State	$ per MMBtu (2011)	Since 2008
Eastern Kentucky	3.78	+ 20%
West Virginia	3.35	+ 13%
Pennsylvania	2.97	+ 13%
Western Kentucky	2.34	+ 16%
Montana	2.07	+ 25%
Wyoming	1.97	+ 25%

In 2011, Wyoming, West Virginia, Kentucky, Pennsylvania, and Montana represented 70% of coal production in the United States. A group of 21 states accounted for the remaining 30% of coal production; yet, no state within this group represented more than 4% of national production, individually.

Of the five largest coal-producing states in 2011, coal mined in eastern Kentucky was on average the most expensive coal delivered to electric utilities in the United States. West Virginia and Pennsylvania, which also produce bituminous coal from the Central Appalachian Basin, supplied the second and third most expensive coal to electric power facilities. Wyoming, which was the largest producer of coal in 2011 and mines sub-bituminous coal in the Powder River Basin, offered the least expensive coal on average to power plants during the year.

Variables such as market demand, coal mine productivity, heat content, sulfur content, and transportation costs all combine to affect the ultimate, delivered cost of any shipment of coal.

Price of Coal by Kentucky County



Eastern Kentucky Coal Prices, 2011		
Range	County	Median (Dollars per MMBtu)
Max	Leslie	5.99
Average	All	3.78
Min	Johnson	3.00

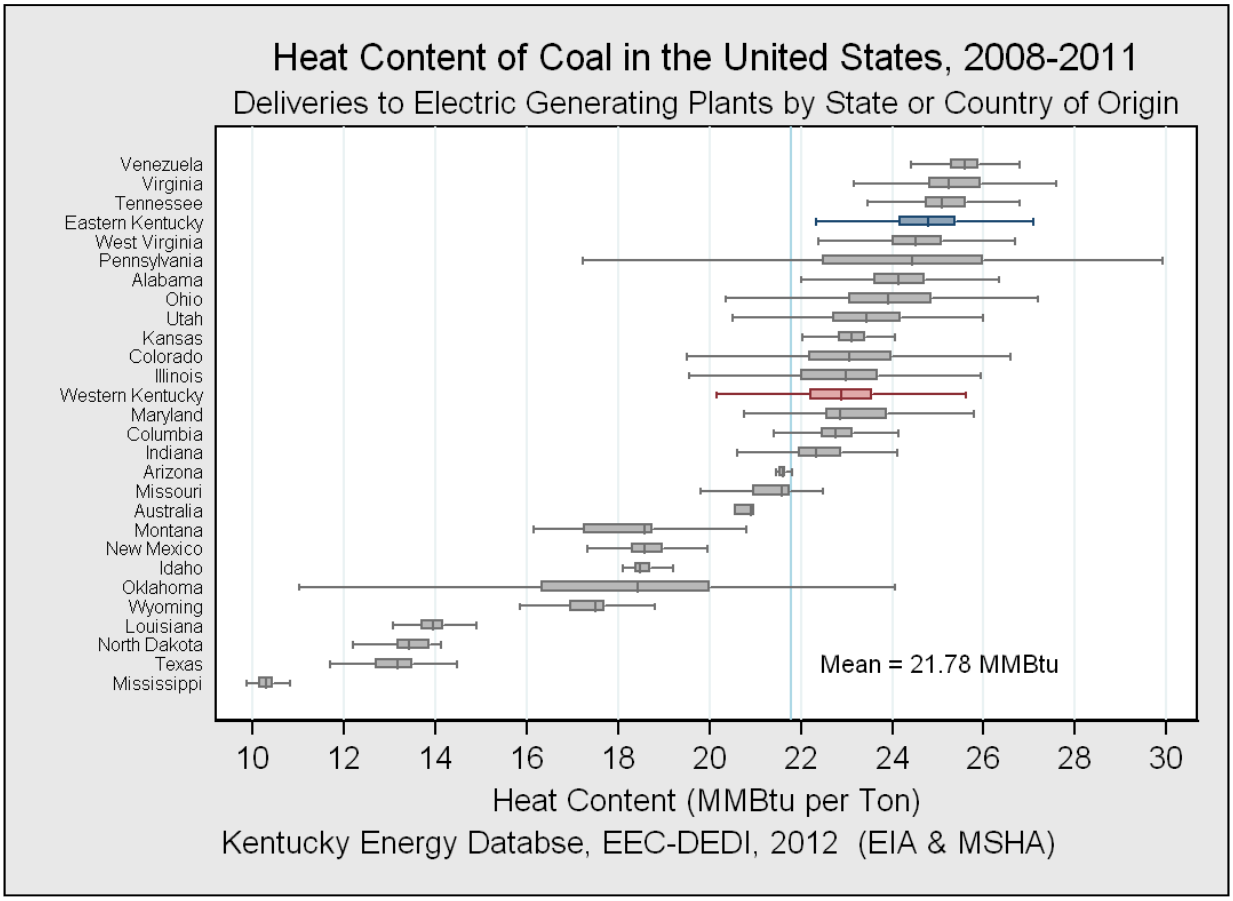
Western Kentucky Coal Prices, 2011		
Range	County	Median (Dollars per MMBtu)
Max	Daviess	2.97
Average	All	2.34
Min	Muhlenberg	2.05

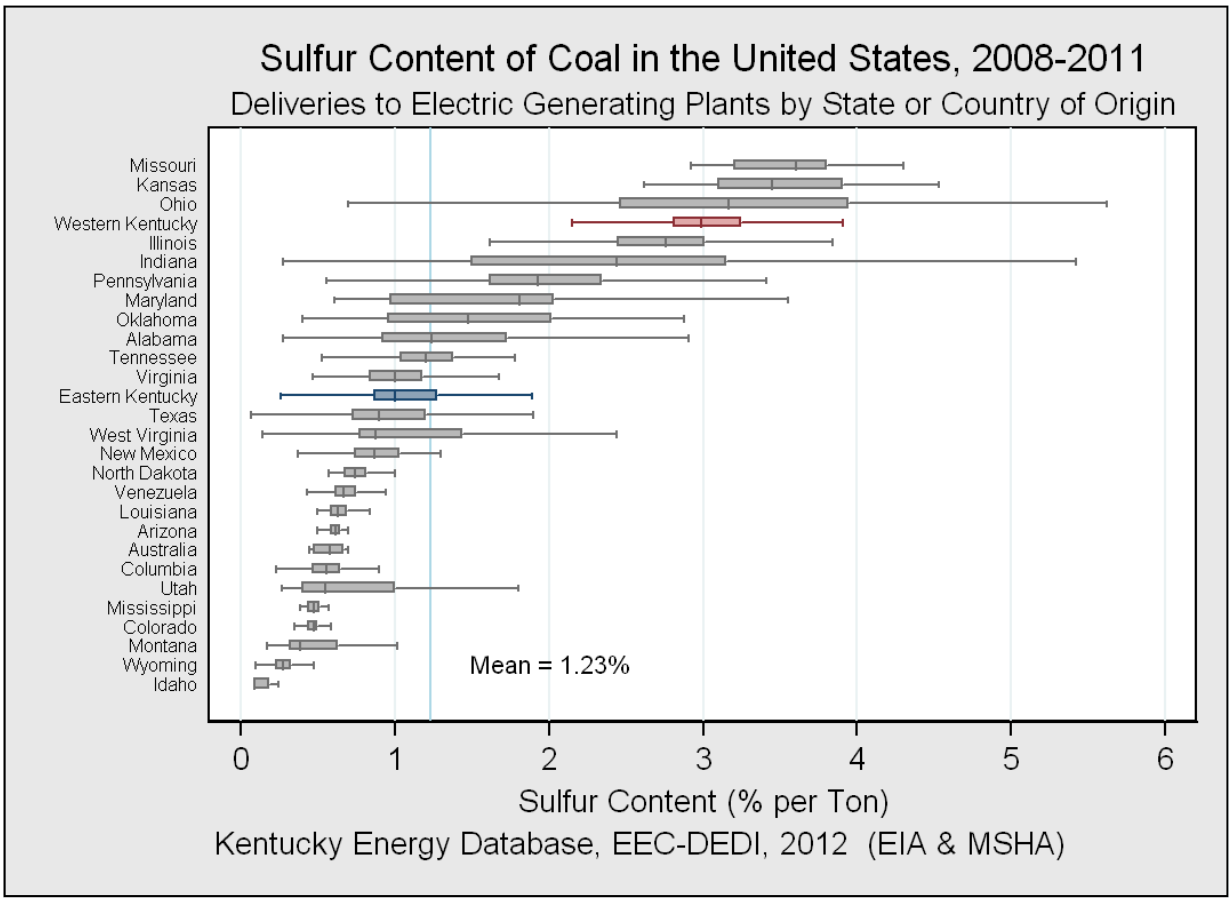
The above graphic provides data on the delivery price of coal, after processing, for coal-mining counties in Kentucky for the years 2008 through 2011. However, the table represents median price delivery data for only the year 2011.

Typically, the median delivery price of coal mined in eastern Kentucky counties is higher than that of coal mined in western Kentucky counties. The range of prices within a county as well as the difference in prices between counties are a function of several variables such as mine productivity, coal sulfur content, coal heat content (Btu content), coal ash content, terms of a delivery contract, and the transportation costs connected to delivery. Ultimately, the interaction of all these major variables affects the delivery price of any coal available on the market.

The above chart summarizes the range of delivered prices for coal by coal mining county. The whiskers (horizontal lines) on each plot denote the minimum and maximum prices for each county, while the box component represents the 25th percentile through the 75th percentile of price values (or 50% of the data). The vertical line within the box component marks the median delivered price.

U.S. Market Steam Coal Properties





U.S. Market Steam Coal Properties

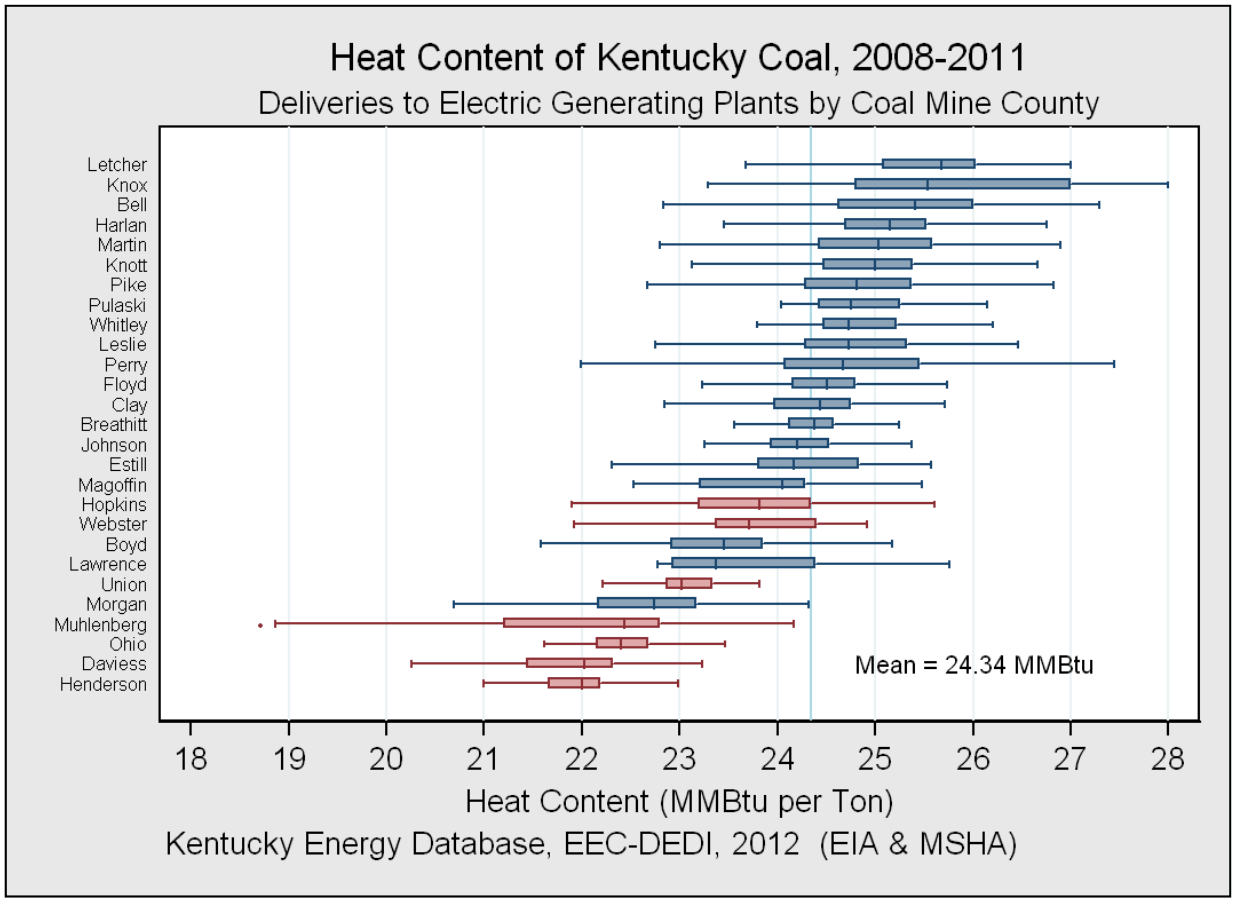
State	Mean Heat Content (MMBTU per Ton)	Mean Sulfur Content (%)	Mean Ash Content (%)	2011 Mean Delivered Price (Dollars per MMBTU)
Alabama	24.3059	1.3526	12.4016	3.66
Australia	20.8786	0.5686	7.8	-
Arizona	21.5979	0.6171	10.4104	1.95
Columbia	22.8909	0.5932	7.6304	4.39
Colorado	22.7348	0.5073	9.7723	3.06
Eastern Kentucky	**24.7124**	**1.1104**	**10.4017**	**3.78**
Illinois	22.5416	2.6846	9.4876	2.60
Indiana	22.3027	2.3304	8.9045	2.55
Louisiana	13.955	0.6542	13.3711	2.43
Maryland	22.8947	1.6848	18.1235	2.13
Missouri	21.0031	3.3553	14.246	2.44
Mississippi	10.3128	0.4749	14.7936	-
Montana	18.1025	0.458	6.4733	2.08
North Dakota	13.4139	0.756	8.7244	1.26
New Mexico	18.6442	0.8601	17.1949	2.20
Ohio	23.8547	3.1455	11.0324	2.09
Oklahoma	18.006	1.8058	33.8205	3.44
Pennsylvania	22.8561	1.9294	15.93	2.96
Tennessee	24.7791	1.2266	9.2231	3.37
Texas	12.9268	1.1036	17.653	2.24
Utah	23.1769	0.6878	11.6671	2.05
Virginia	25.3091	1.0486	10.6178	3.58
Venezuela	25.4137	0.6942	7.2103	3.12
Western Kentucky	**22.877**	**3.0186**	**10.1130**	**2.34**
West Virginia	24.3351	1.3135	12.2911	3.35
Wyoming	17.3653	0.2941	5.1349	1.98

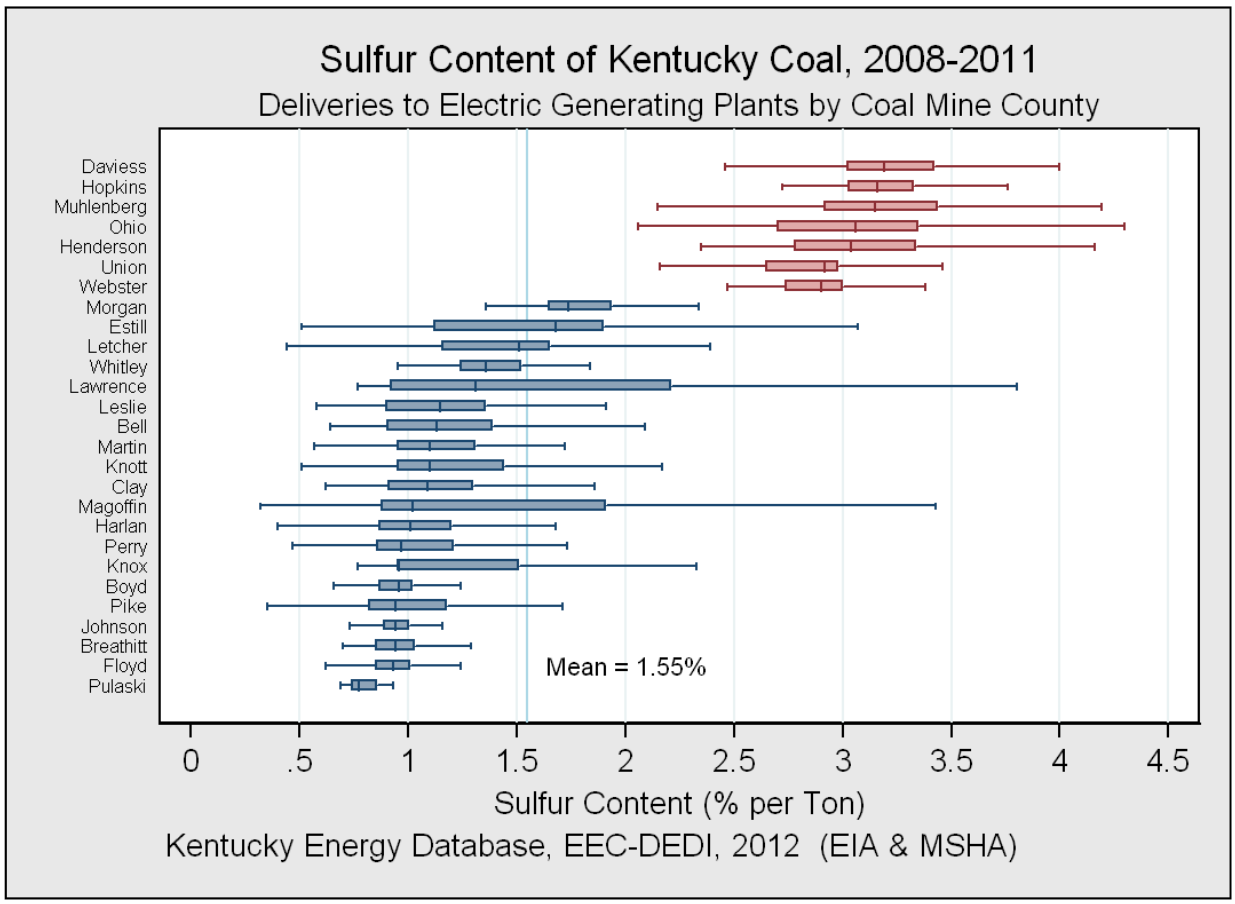
Steam Coal Properties

Coals from different states and coal fields across the country have distinct characteristics. For example, eastern Kentucky coal has one of the highest average heat contents in the United States. This table and previous graphics show the average chemical and cost properties for Kentucky coal, separated by region, relative to all other major sources of coal consumed in the United States. The average (simple arithmetic mean) properties were derived by analyzing federal fuel shipment receipts as reported by electric utilities across the United States in EIA Form 923 and FERC Form 423.

The preceding box and whisker plots summarize the range of heat content or sulfur content of coal by coal mine state or country. The whiskers (horizontal lines) on each plot denote the minimum and maximum values for each state or country, while the box component represents the 25th percentile through the 75th percentile of values (or 50% of the data). The vertical line within the box component marks the median value.

Kentucky Steam Coal Properties





Kentucky Steam Coal Properties

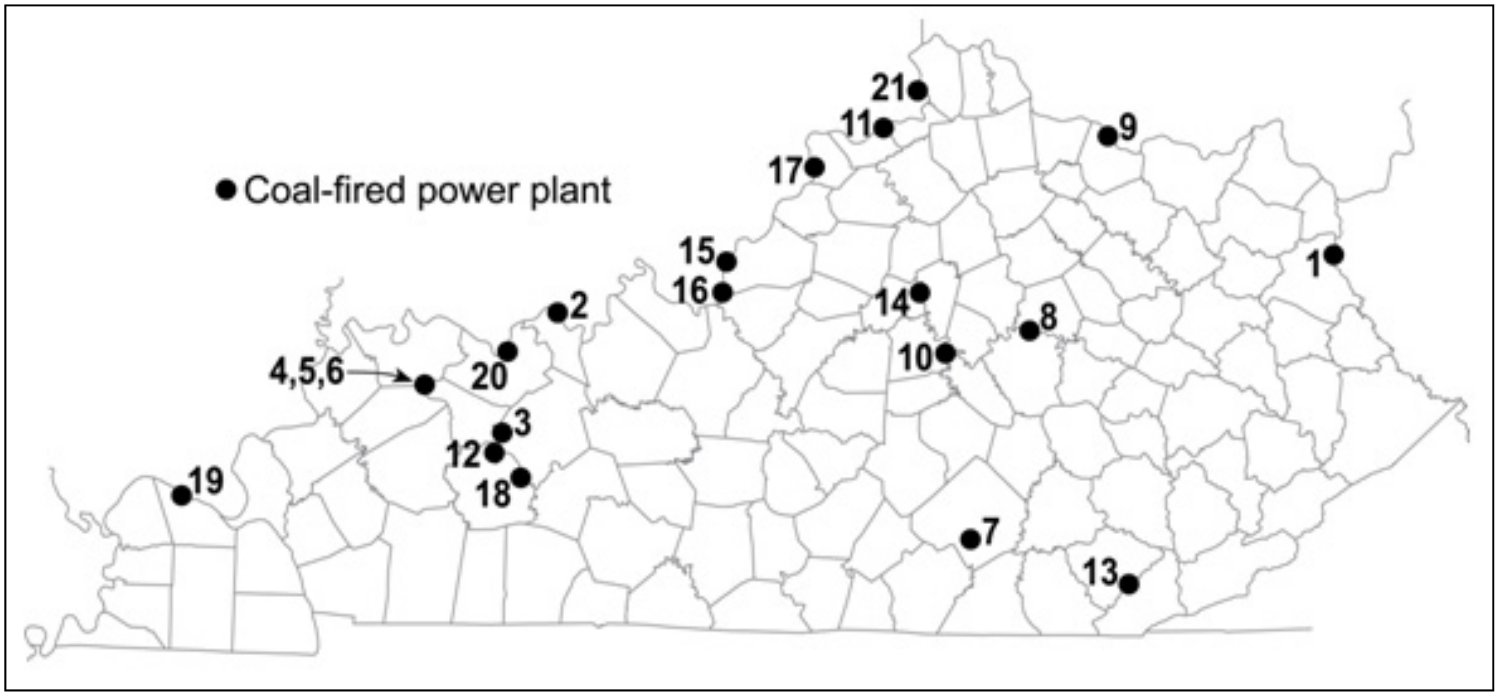
Region	Mean Heat Content (MMBTU per Ton)	Mean Sulfur Content (%)	Mean Ash Content (%)	2011 Mean Delivered Price (Dollars per MMBTU)
Kentucky	**24.3037**	**1.5474**	**10.3356**	**3.32**
Eastern Kentucky	**24.7124**	**1.1104**	**10.4017**	**3.78**
Bell	25.1871	1.3658	9.4795	3.62
Boyd	23.5447	1.1745	12.3378	2.92
Breathitt	24.2176	1.1079	10.9979	3.79
Clay	24.3283	1.1964	11.7361	4.42
Estill	24.1900	1.6440	11.0400	3.83
Floyd	24.5063	0.9395	10.4118	3.68
Harlan	25.1087	1.1091	9.9704	4.34
Johnson	24.1035	0.9441	9.8148	2.96
Knott	24.9953	1.3000	10.1368	3.81
Knox	24.4871	2.1109	10.5727	3.54
Lawrence	24.0800	2.8200	12.9167	Insufficient Data
Leslie	24.8295	1.1603	10.3333	5.06
Letcher	25.5353	1.5734	8.7143	3.46
Magoffin	24.1275	1.0703	10.1070	2.88
Martin	24.8589	1.1632	9.1256	3.66
Perry	24.7278	1.1207	10.3056	3.94
Pike	24.8386	1.0760	10.3810	3.57
Whitley	24.9693	1.2037	10.3947	3.76
Western Kentucky	**22.8877**	**3.0186**	**10.1130**	**2.34**
Daviess	21.9493	3.2818	10.9297	2.69
Henderson	22.1445	3.0388	9.8159	2.08
Hopkins	23.7770	3.1621	9.8794	2.68
Marshall	22.3875	1.1950	8.2429	3.59
Muhlenberg	22.0557	3.1021	12.0279	2.12
Ohio	22.4310	3.0359	10.0066	2.07
Union	23.2165	2.8577	8.7395	2.44
Webster	23.7710	2.7788	9.4972	2.53

Kentucky Steam Coal Chemical Properties

In Kentucky, coal mining is divided between two distinct geologic basins: The Central Appalachian Basin of eastern Kentucky, and the Illinois Basin of western Kentucky. This table and previous graphics display the average (simple arithmetic mean) chemical and cost properties for Kentucky steam coal by county as reported by electric generating stations across the United States. Relative to western Kentucky, coal mined in eastern Kentucky between 2008 and 2011 had an 8% higher heat content per ton, 63% less sulfur, and in 2011, nominal delivered costs that were 61% higher per MMBTU. Since the Clean Air Act Amendments of 1990, demand for eastern Kentucky coal has been, in part, driven by demand for lower sulfur coal that reduces the emission of sulfur dioxides. However, in order to comply with increasingly stringent sulfur dioxide limits, many coal-fired power plants have elected to install desulfurization equipment that enables them to burn higher sulfur and lower cost coal such as is mined in western Kentucky.

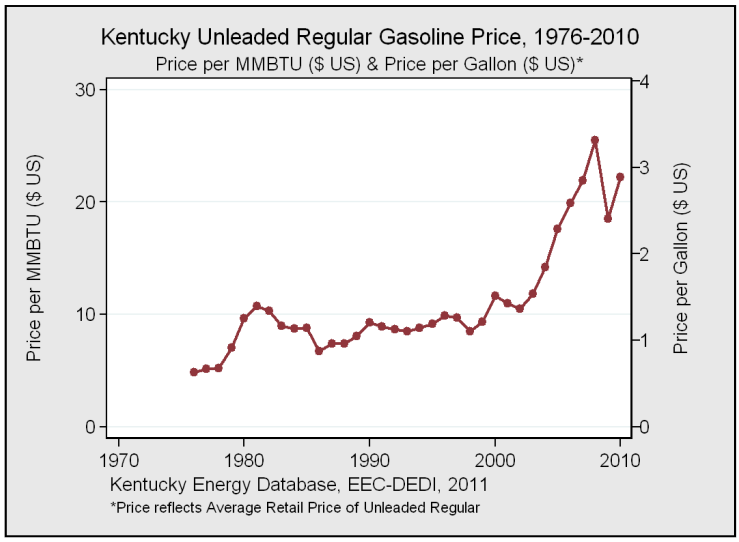
The preceding box and whisker plots summarize the range of heat or sulfur content of coal by county. The whiskers denote the minimum and maximum values for each county, while the box component represents the 25th percentile through the 75th percentile of values (or 50% of the data). The vertical line within the box component marks the median value.

Coal Power Plants in Kentucky



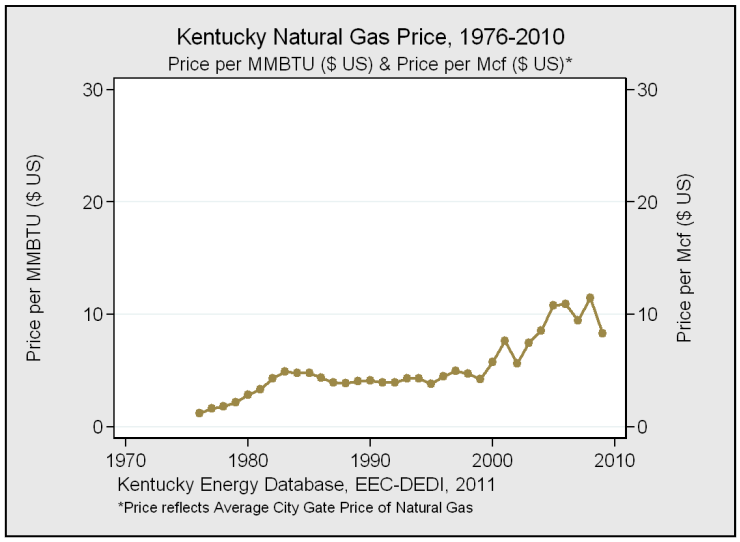
Map ID	Power Plant	Electric Utility/Operator	County	Phone
1	Big Sandy	Kentucky Power Company (AEP)	Lawrence	(606) 686-1403
2	Coleman	Big Rivers Electric Corp.	Hancock	(270) 844-6153
3	Wilson	Big Rivers Electric Corp.	Ohio	(270) 844-6154
4	Green	Big Rivers Electric Corp.	Webster	(270) 844-6155
5	Henderson	HMPL	Webster	(270) 844-6156
6	Reid	Big Rivers Electric Corp.	Webster	(270) 844-6157
7	Cooper	East Kentucky Power Co-op	Pulaski	(859) 745-9450
8	Dale	East Kentucky Power Co-op	Clark	(859) 745-9451
9	Spurlock	East Kentucky Power Co-op	Mason	(859) 745-9452
10	Brown	Kentucky Utilities Company	Mercer	(859) 367-1105
11	Ghent	Kentucky Utilities Company	Carroll	(859) 367-1106
12	Green River	Kentucky Utilities Company	Muhlenberg	(859) 367-1107
13	Pineville	Kentucky Utilities Company	Bell	(859) 367-1108
14	Tyrone	Kentucky Utilities Company	Woodford	(859) 367-1109
15	Cane Run	Louisville Gas & Electric Co.	Jefferson	(502) 627-2713
16	Mill Creek	Louisville Gas & Electric Co.	Jefferson	(502) 627-2714
17	Trimble County	Louisville Gas & Electric Co.	Trimble	(502) 627-2715
18	Paradise	Tennessee Valley Authority	Muhlenberg	(270) 476-3301
19	Shawnee	Tennessee Valley Authority	McCracken	(270) 575-8162
20	Smith	Owensboro Municipal	Henderson	(270) 926-3200
21	East Bend	Duke Energy	Boone	(513) 467-4830

Why Kentucky Uses Coal



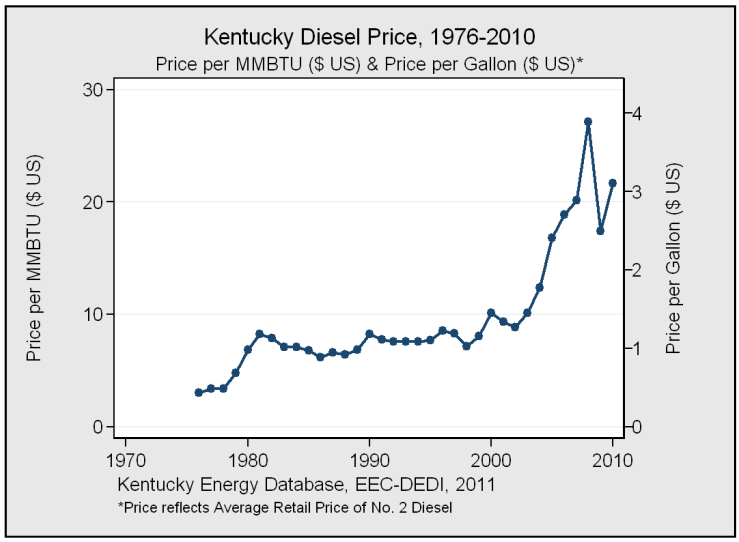
Fuel Type	($US)/MMBTU	($US)/Gallon
Gasoline	22.19	2.75

For comparison, the average price of gasoline in Kentucky in 2010 was $22.19 per MMBTU, an 17% increase from 2009. Gasoline, like other petroleum products, has been subject to higher historical price volatility compared to coal.



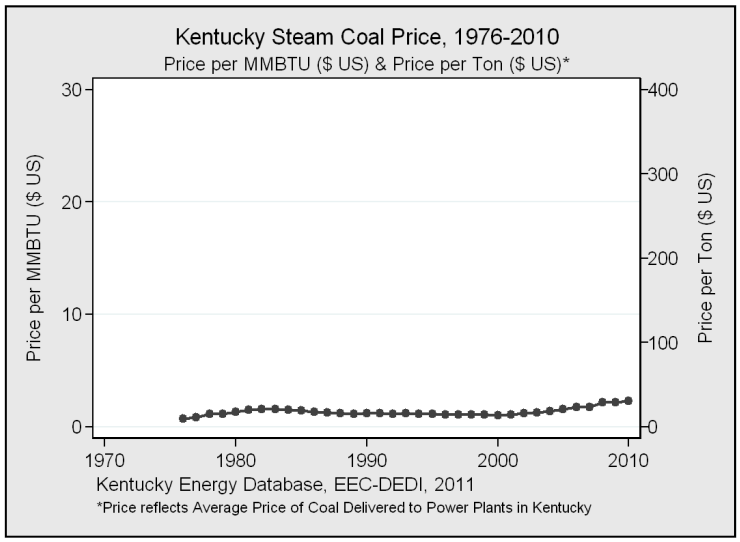
Fuel Type	($US)/MMBTU	($US)/Mcf
Natural Gas	5.77	5.77

The average price of natural gas in Kentucky in 2010 was $5.77 per thousand MMBTU, a 4% decrease from 2009. Natural gas is currently at record low prices; however, remains more expensive than coal on a per unit of heat basis.



Fuel Type	($US)/MMBTU	($US)/Gallon
Diesel	21.68	2.99

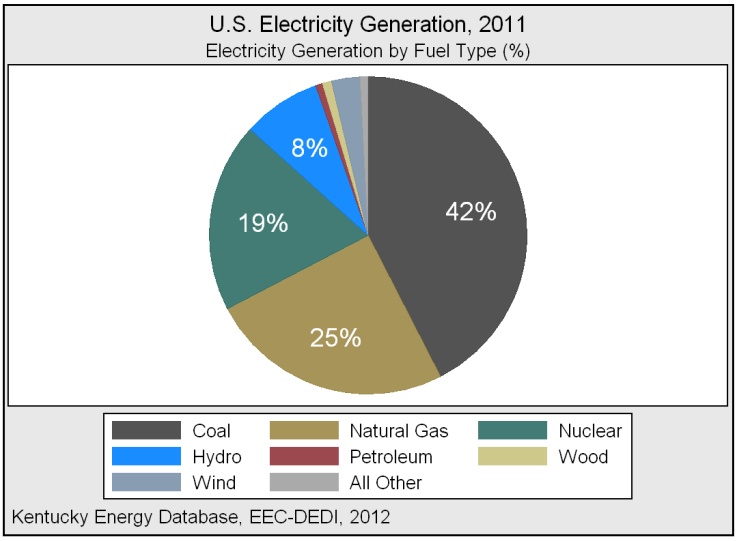
The average price of Diesel in Kentucky in 2010 was $21.68 per MMBTU, a 23% increase from 2009. Petroleum generators are used in Kentucky primarily for peak-load generation, because they have rapid start up times compared to coal; however, they are substantially more expensive than coal to operate.

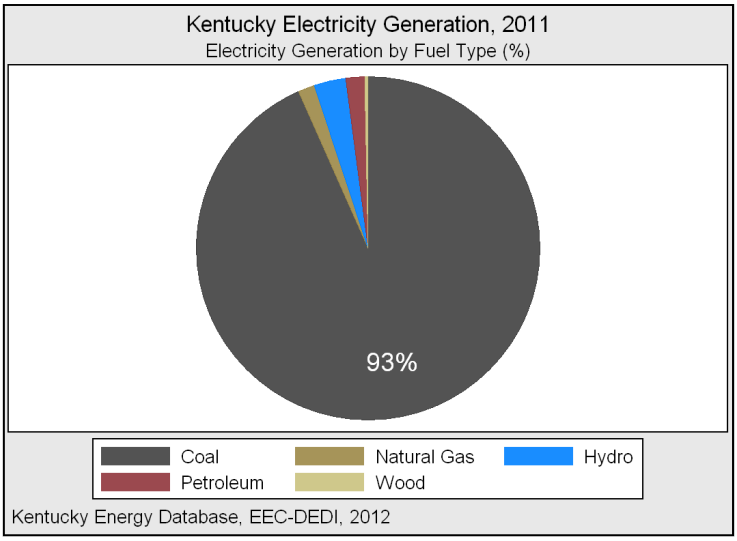


Fuel Type	($US)/MMBTU	($US)/Ton
Coal	2.26	51.67

Kentucky uses coal to generate electricity because it is low-cost, abundant, and reliable. The average price of steam coal in Kentucky in 2010 was $2.26 per MMBTU, a 4% increase from 2009. Coal is also the only commodity produced here in Kentucky in sufficient quantities to meet our electricity demands.

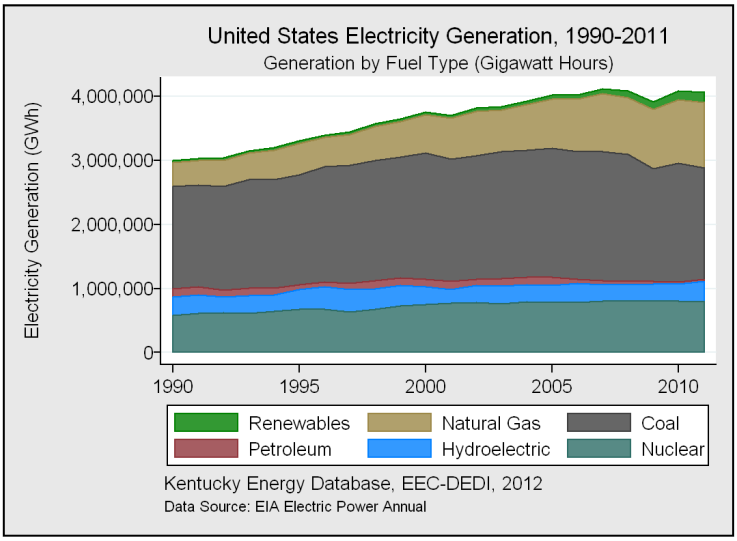
Electricity Generation

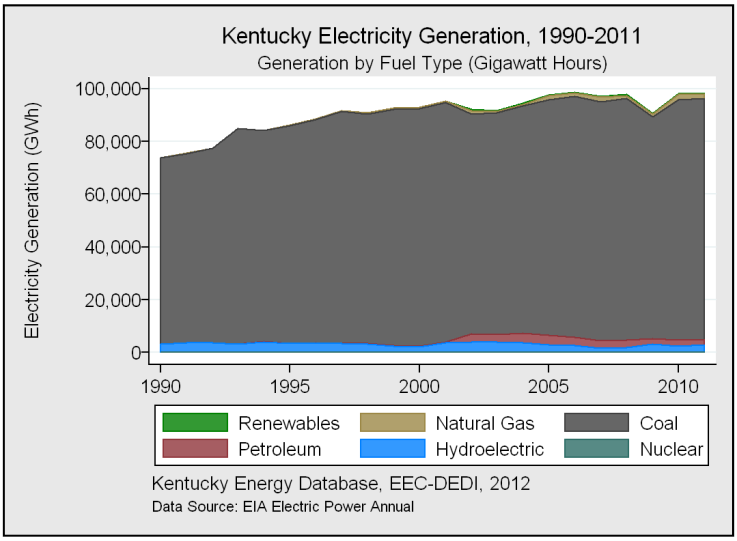




Fuel Type	Gigawatt Hours	Percentage
Total*	4,105,735	100%
Coal	1,734,266	42%
Natural Gas	1,016,595	24%
Nuclear	790,225	19%
Hydro	325,074	6%
Wind	119,747	2%

Fuel Type	Gigawatt Hours	Percentage
Total*	98,184	100%
Coal	91,571	93%
Hydro	2,941	3%
Petroleum	1,732	2%
Natural Gas	1,496	2%
Wood & Biomass	432	<1%



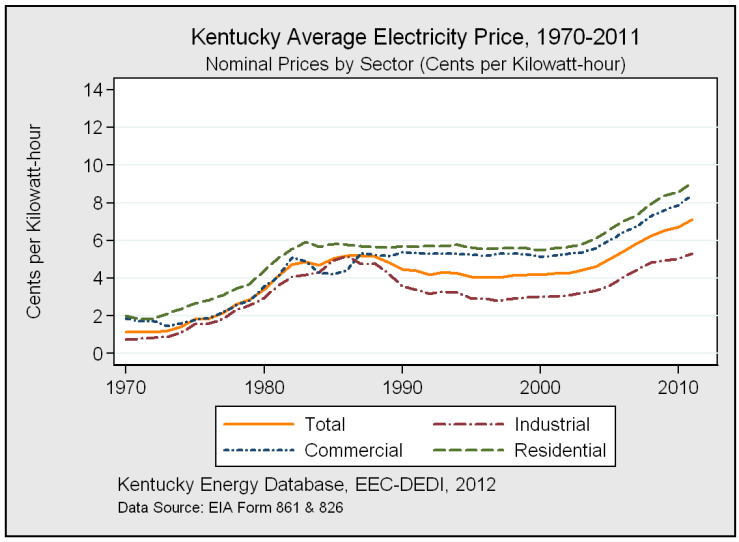


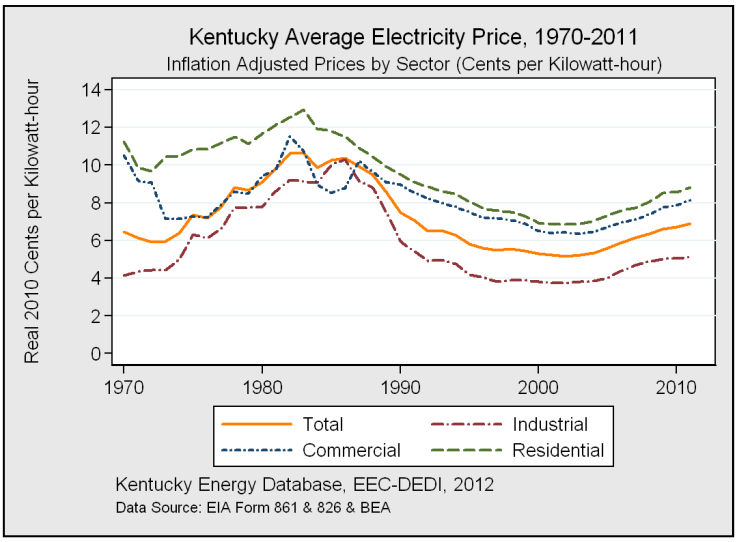
Despite substantial increases in natural gas generation and installed capacity, as well as notably low natural gas prices, coal remained the largest fuel source for electricity in the United States in 2011. Following coal, natural gas and nuclear power plants were the next largest producers of electricity during the year. Since 2007, wind resources and natural gas facilities have been the fastest growing sources of electricity generation in the country.

*Only the top five primary fuels or generating technologies are listed.

In 2011, electric power plants in Kentucky generated 98,184 Gigawatt-hours of electricity. Of this amount, 93% of the electricity generated in Kentucky was derived through the combustion of coal. Hydroelectric facilities were the next largest source of electricity, supplying approximately 3% of total generation, followed by petroleum, natural gas, and biomass units. Due to the availability of coal resources and existing power plant infrastructure, Kentucky has consistently used coal to meet the vast majority of electricity demand within the Commonwealth.

Kentucky Electricity Prices





Sector	Cents/kWh	Since 2000
Average	7.1 ¢	+ 70%
Residential	9.1 ¢	+ 66%
Commercial	8.4 ¢	+ 64%
Industrial	5.3 ¢	+ 76%

Nominal $US

Sector	Real Cents/kWh	Since 2000
Average	6.9 ¢	+ 30%
Residential	8.8 ¢	+ 27%
Commercial	8.1 ¢	+ 25%
Industrial	5.1 ¢	+ 35%

Real $US 2010

Electricity prices are expressed above in cents per kilowatt-hour of electricity consumed, and were calculated by dividing total annual electricity expenditures by the total annual kilowatt-hours of electricity consumed for each economic sector.

In 2011, the average price of electricity across economic sectors in Kentucky was 7.1¢ per kilowatt-hour. This average price ranked Kentucky the fourth lowest in the country. The Residential Sector paid the highest price at 9.1¢ per kilowatt -hour, followed by the Commercial Sector at 8.4¢ per-kilowatt hour. The Industrial Sector faced a much lower price of electricity, paying on average 5.3¢ per kilowatt-hour.

As displayed by the historical data, the nominal price of electricity in Kentucky for the period 1990-2002 remained very stable. Two major factors maintained this price stability in the Commonwealth: one, predominantly coal-fired electricity; and two, a consistent, low price of coal for electric utilities. However, since 2002 the price of fossil fuels in general (as well as the price of coal, specifically) have been increasing, causing upward pressure on the price of electricity in Kentucky.

Adjusting for inflation, the trend(s) of electricity prices in Kentucky between 1970 and 2011 is notably different from the adjacent, nominal graphic. Resetting historical price data to inflation-adjusted 2010 dollars, the price of electricity in Kentucky actually decreased from 1980 through 2002. This trend of falling real prices was heavily influenced by the facts that Kentucky used coal primarily to generate electricity, and that the inflation-adjusted price of coal for the Electric Power Sector decreased during this timeframe.

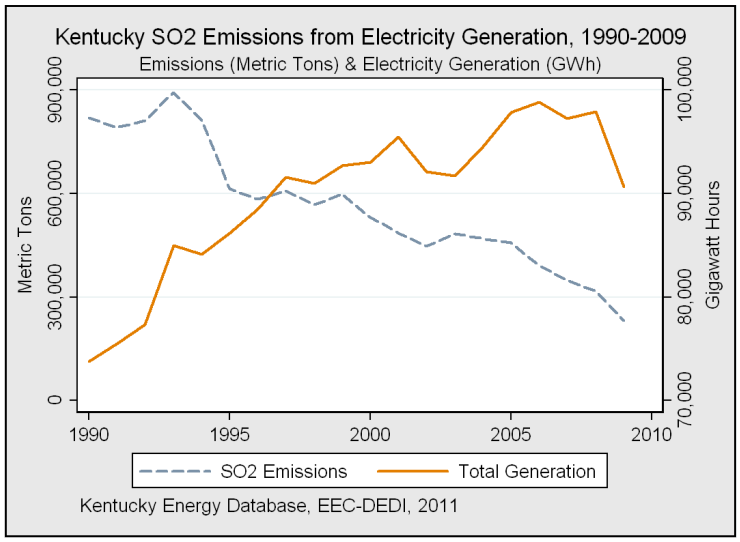
Yet, since 2002 the real price of electricity in Kentucky in inflation-adjusted dollars has been increasing. This period of nine consecutive years of real price increases is contrary to the trend of the previous 20 years. A major factor driving real electricity prices in Kentucky up since 2002 is undoubtedly the rising price of steam coal used by electric utilities.

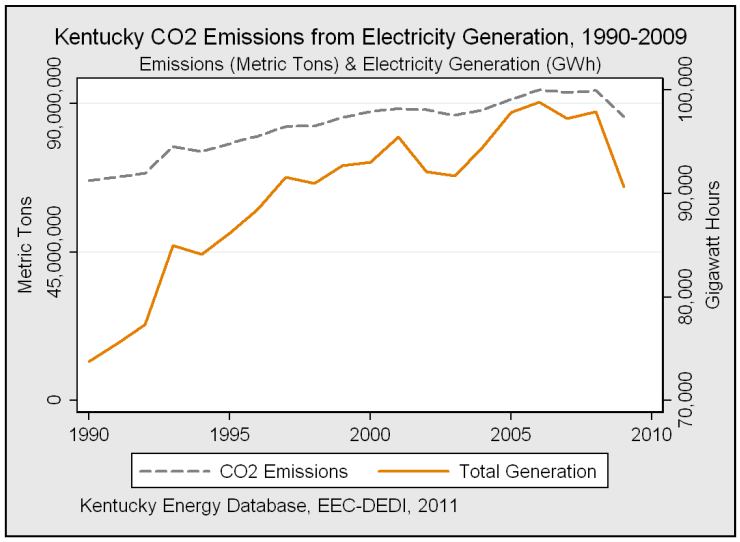
Additionally, in the near-term the price of electricity in Kentucky will be most affected by fuel prices and environmental regulations. Whether coal use continues at historical levels or more natural gas is integrated, the price of electricity will fluctuate most quickly dependent on the price of fuel commodities consumed by electric utilities. The way in which electric utilities choose to comply with new environmental regulations will also shape future rates and ultimate consumer costs.

Average Price of Electricity by State

State	Cents per kWh	Since 2005	Rank (2011)	Rank (2010)	Primary Fuel	Percent Coal
Idaho	6.48	27%	1	2	Hydro	1%
Wyoming	6.58	28%	2	1	Coal	89%
Washington	6.78	16%	3	3	Hydro	8%
Kentucky	7.11	42%	4	4	Coal	93%
Utah	7.13	20%	5	5	Coal	81%
Arkansas	7.46	18%	6	7	Coal	46%
North Dakota	7.49	27%	7	6	Coal	82%
Iowa	7.59	13%	8	12	Coal	72%
Louisiana	7.74	-4%	9	15	Gas	23%
Oklahoma	7.83	14%	10	11	Gas	44%
Nebraska	7.84	34%	11	9	Coal	64%
West Virginia	7.88	53%	12	8	Coal	97%
Indiana	8.04	37%	13	13	Coal	90%
Oregon	8.08	27%	14	10	Hydro	7%
South Dakota	8.09	23%	15	16	Hydro	33%
Montana	8.23	22%	16	17	Coal	62%
Missouri	8.35	36%	17	14	Coal	81%
Minnesota	8.68	31%	18	20	Coal	52%
North Carolina	8.7	21%	19	24	Coal	56%
New Mexico	8.71	16%	20	19	Coal	71%
Mississippi	8.78	16%	21	22	Gas	25%
South Carolina	8.86	32%	22	21	Nuclear	36%
Virginia	8.87	34%	23	25	Nuclear	35%
Kansas	8.89	36%	24	18	Coal	68%
Nevada	8.96	-1%	25	33	Gas	20%
Illinois	9.01	30%	26	28	Nuclear	46%
Ohio	9.05	28%	27	29	Coal	82%
Tennessee	9.14	45%	28	23	Coal	53%
Texas	9.18	1%	29	31	Gas	36%
Alabama	9.21	43%	30	27	Coal	41%
Colorado	9.39	23%	31	30	Coal	68%
Georgia	9.65	30%	32	26	Coal	53%
Arizona	9.73	25%	33	32	Coal	39%
Wisconsin	10.23	37%	34	34	Coal	62%
Michigan	10.37	43%	35	35	Coal	59%
Pennsylvania	10.49	27%	36	36	Coal	48%
Florida	10.77	23%	37	37	Gas	26%
Delaware	11.53	49%	38	38	Gas	46%
Maryland	12.02	48%	39	39	Coal	54%
Maine	12.58	19%	40	40	Gas	1%
Rhode Island	13.15	10%	41	43	Gas	0%
California	13.79	19%	42	41	Gas	1%
Vermont	13.79	26%	43	42	Nuclear	0%
Massachusetts	14.26	17%	44	44	Gas	19%
New Jersey	14.32	31%	45	45	Nuclear	10%
New Hampshire	14.75	18%	46	47	Nuclear	14%
New York	15.94	14%	47	48	Gas	10%
Alaska	15.96	36%	48	46	Gas	9%
Connecticut	16.33	35%	49	49	Nuclear	8%
Hawaii	31.59	72%	50	50	Petroleum	14%

Kentucky Electric Power Emissions

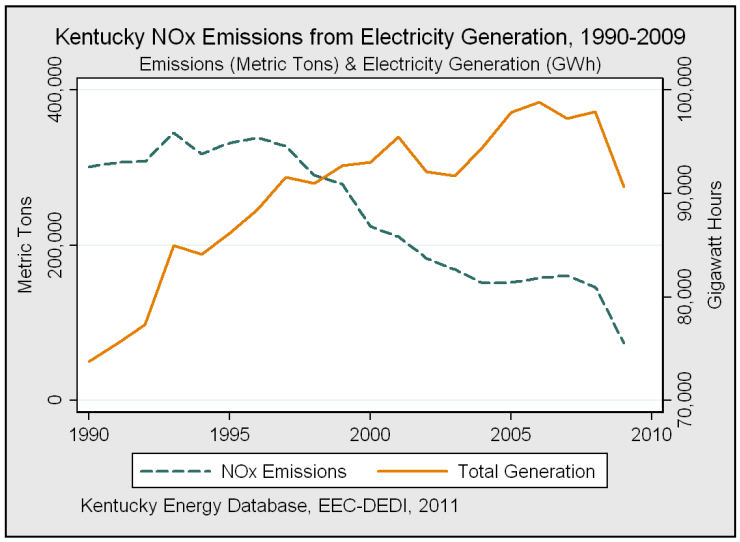




Emission	Metric Tons	Since 1990*
Carbon Dioxide	86,155,120	29%
Sulfur Dioxide	232,401	- 72%
Nitrogen Oxides	73,900	- 75%

Sulfur dioxide and nitrogen oxides are considered criteria pollutants, and their release is restricted by National Ambient Air Quality Standards set forth by the Environmental Protection Agency.

Sulfur Dioxide is a highly reactive gas and major pollutant that is monitored and regulated at the State and Federal level. In 2009, the Electric Power Sector of Kentucky emitted 232,401 metric tons of sulfur dioxide, representing a 27% decrease from 2008. Overall, the electric power sector of Kentucky has reduced sulfur dioxide emissions by 72% since 1990.

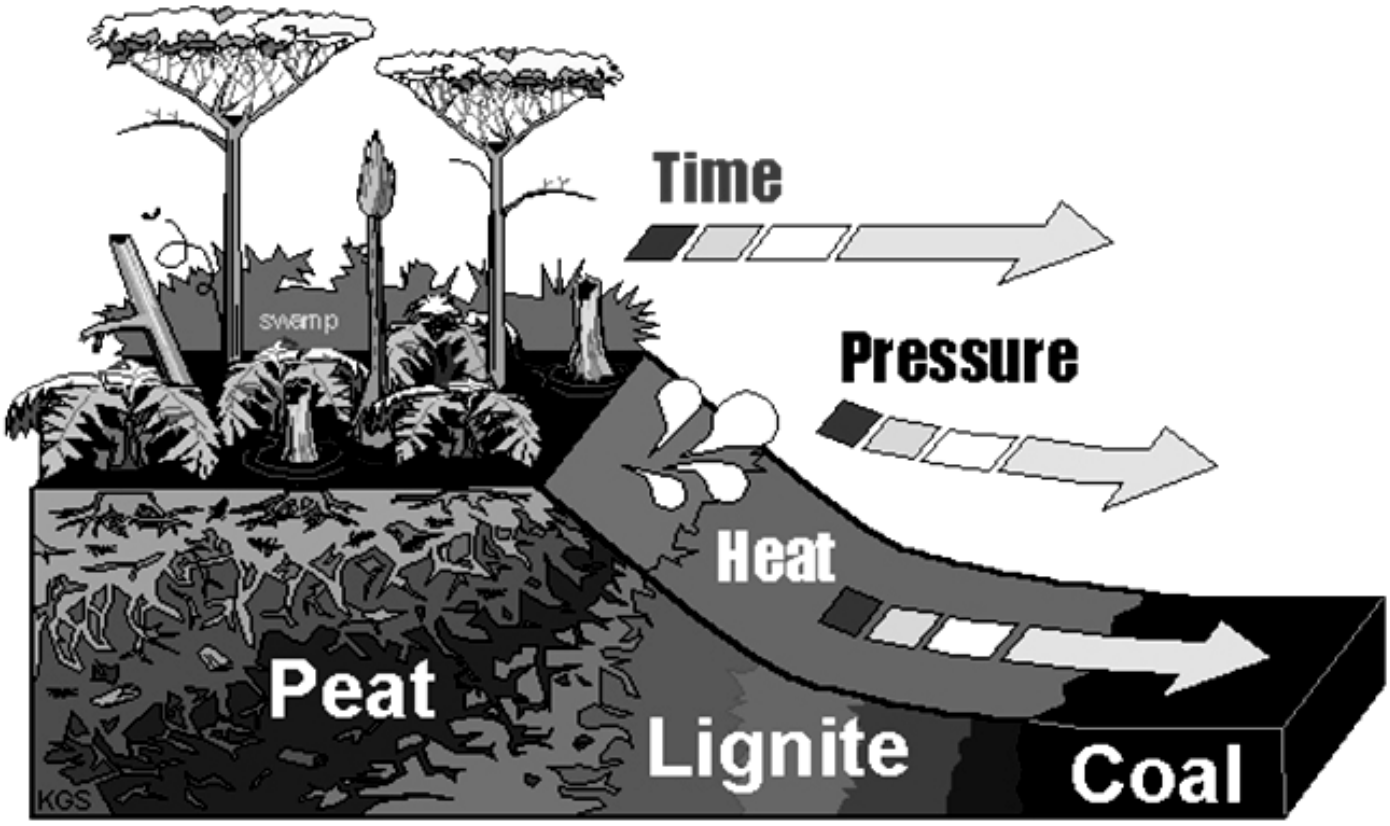


Nitrogen Oxides are a group of highly reactive, regulated pollutants. In 2009, the electric power sector of Kentucky emitted 73,900 metric tons of nitrogen oxides, representing a 49% decrease from 2008. Overall, the electric power sector of Kentucky has decreased nitrogen oxides emissions by 75% since 1990.

Carbon Dioxide emissions from fossil fuel power plants are monitored at the State and Federal level. In 2009, the electric power sector of Kentucky emitted 86,155,120 metric tons of carbon dioxide, a decrease of 8% compared with 2008. Overall, power plants in Kentucky have increased carbon dioxide emissions by 29% since 1990.

* The dual display of electricity generation and regulated emissions indicates that over time, though electricity demand and generation have increased, the release of targeted pollutants has actually decreased. Therefore, both the aggregate emissions as well as intensity of emissions per Gigawatt-hour of criteria pollutants, such as Sulfur Dioxide (SO_2) and Nitrogen Oxides (NOx), have been decreasing in the Commonwealth since 1990. These reductions have been made through a combination of burning low sulfur coal, and the installation of SO_2 Scrubbers and Select Catalytic Reduction (SCR) systems at coal-fired power plants in Kentucky.

Coal Formation & Properties



Formation of Coal

Coal forms from peat that is buried and subsequently altered by a combination of time, pressure and heat. This metamorphic process is termed coalification. Peat is formed and preserved in mires, a collective term that includes all peat-forming ecosystems. Bogs, swamps, and marshes are all specific types of mires. All of the economically-important coal beds in Kentucky are Pennsylvanian in age, forming between 280 to 320 million years ago.

Coal Rank and Grade

Coal is generally classified in terms of Rank and Grade. Rank refers to the level of metamorphism, or alteration, the organic material in the original peat was subjected to after burial. As rank increases, moisture and volatile matter content decrease — fixed carbon content and calorific value increase. Very low rank coal is called lignite. Higher rank coals are classified as either sub-bituminous, bituminous, or anthracite, depending on their calorific value and (in higher rank coal) fixed carbon and volatile matter contents. All of the mineable coal in Kentucky is bituminous in rank. Grade refers to the amount and type of impurities in coal, specifically ash and sulfur. Most of the coal mined in Kentucky contains <15% ash. Eastern Kentucky coal is typically lower in sulfur (<2%), than western Kentucky coal (>2%).

Steam Coal and Metallurgical Coal

"Steam" coal refers to coal that is used by electric utilities to burn in large furnaces. The heat produced by the combustion of the coal is used to produce very high temperature/high pressure steam that drives turbines with generators to produce electricity. Most of the coal mined in Kentucky is sold as steam coal.

"Metallurgical" coal is used by the steel industry to produce "coke", a principle component of steel production. Coke is a carbon-rich material produced by heating coal to very high temperatures in an oxygen deprived furnace. In this process, volatile components of the coal are driven off, concentrating the carbon portion of the coal. Metallurgical coal must contain very low amounts of both ash (<10%) and sulfur (<1%), and have acceptable amounts of both "reactive" and "inert" organic components. Some eastern Kentucky coal is sold as a metallurgical coal blending ingredient.

History of Coal in Kentucky

1701 Coal discovered in Virginia.
1748 First recorded U.S. coal production.
1750 April 13th-Dr. Thomas Walker was the first recorded person to discover and use coal in Kentucky.
1755 Lewis Evan's map showing coal in what is now the Greenup County and Boyd County area of Kentucky.
1758 First commercial U.S. coal shipment.
1820 First commercial mine, known as the "McLean drift bank" opened in Kentucky, near the Green River and Paradise in Muhlenberg County. 328 short tons mined and sold in Kentucky.
1850 Lexington and Big Sandy Railroad proposed.
Kentucky Geological Survey established.
1860 Pre-Civil War Kentucky production record of 285,760 tons.
1866 Surface mining begins near Danville, Illinois.
1870 Post-Civil War Kentucky production declines to 150,582 tons.
St. Louis & Southern Railroad completed from Henderson to Earlington, Kentucky.
1872 First train off the Big Sandy Railroad.
1877 Coal mined with steam-powered shovel.
1880 Mechanical stokers introduced.
First coke ovens in West Kentucky.
Mine Ventilation Law.
First train from Williamson, West Virginia to Pike County, Kentucky.
Coal mining machines come into general use.
1890 N&W Railroad's first mine at Goody in Pike County.
Hopkins County in West Kentucky leading coal producer in the state for 18 straight years.
Miner Pay Law.
United Mine Workers of America formed.
Machines developed to undercut coalbeds.
5,000 kilowatt steam turbine generates electricity.
1900 Child Labor Law.
Edgewater Coal Company's first production in Pike County.
First train off the Lexington and Eastern Railroad.
Independent Geological Survey established.
1910 First train from the Cumberland Valley Railroad.
Fordson Coal Company's first production at Pond Creek.
Pike-Floyd Coal Company's first production at Betsy Layne.
1914 World War I increases demand for coal; Kentucky produced 20.3 million tons.
Short-flame or "permissible" explosives developed.
Mine Safety Law.
1918 First pulverized coal firing in electric power plants.
1920 Federal Mineral Leasing Act.
1923 All-time high U.S. employment of 704,793 bituminous coal and lignite miners.
First dragline excavators built especially for surface mining.
1932 Walking dragline excavators developed.
1940 World War II - coal production in Kentucky rises to 72.4 million tons for the war effort.
Auger surface mining introduced.
1942 Republic Steel Company's first production - Road Creek, Kentucky.
Post-War Marshall Plan - production rose to 88.7 million tons in Kentucky.
Kentucky Water Contamination Legislation.

History of Coal in Kentucky

1947 Kentucky Coal Association founded.
1956 Fish and Wildlife Coordination Act
Railroads begin converting from coal to diesel fuel.
Roof bolting introduced in underground mines.
1960 Railroads begin using unit coal trains.
First longwall mining with powered roof supports.
Kentucky Surface Mining Legislation.
1966 National Historic Preservation Act.
C&O Railroad to John's Creek constructed - Pike County.
1969 Federal Coal Mine Health and Safety Act.
1970 Federal Clean Air Act.
1972 Kentucky Coal Severance Tax established.
Federal Water Pollution Control Act.
Kentucky becomes the leading coal production state.
1973 Endangered Species Act.
OPEC oil embargo: Coal production and prices rise.
1976 Federal Coal Leasing Amendments Act.
1977 Federal Surface Mine Control and Reclamation Act.
1980 Congress enacts the National Acid Precipitation Assessment Program (NAPAP) Study,
a 10 year research program, which invested $550 million for the study of "acid rain."
Industries spend over $1 billion on Air Pollution Control Equipment during 1980.
1983 U.S. Clean Coal Technology Demonstration Program established $2.5 billion in Federal matching funds committed to assist the private sector to develop and demonstrate improved clean coal technologies.
1988 Kentucky Supreme Court rules that the unmined minerals tax on coal is subject to the same state and local property tax rates as other real estate.
TVA 160-MW Atmospheric Fluidized Bed Combustion Unit on line.
Wyoming displaces Kentucky as the leading coal producing state.
1990 Federal Clean Air Act Amendments of 1990.
U.S. coal production exceeds 1 billion tons.
1992 U.S. Energy Policy Act of 1992.
1993 CEDAR, Inc. (Coal Education Development and Resources) formed in Pike County.
1994 Western Kentucky CEDAR, Inc. was formed in Webster and Union Counties.
1996 Kentucky Coal Education (www.coaleducation.org) established.
Workers' Comp Reform Laws are passed in Kentucky.
1997 The Kentucky Fish and Wildlife Commission votes to reintroduce elk into 14 eastern Kentucky counties on post-mined lands, citing mountaintop mining areas and old mine benches as good elk habitat.
Kentucky has the only large free-ranging elk herd in the eastern United States.
1998 Federal synthetic fuel tax credit for use of coal fines begins.
2005 East Kentucky Power Cooperative's Gilbert coal-fueled fluidized-bed power plant begins operation.
Energy Policy Act of 2005 signed by President Bush; includes major Clean Coal Technology programs.
EPA adopts Clean Air Mercury Rule to reduce power plant HG emissions to 15 tons by 2018.
2006 Kentucky Energy Security National Leadership Act (HB 299) enacted; Act calls for strategy for producing liquid and gaseous fuels from Kentucky coal. Kentucky Coal Academy founded to train new coal miners.
Kentucky becomes the first coal state to adopt a drug testing program for certification of coal miners.
Congress passes Mine Improvement & New Emergency Response Act, (MINER Act),
the most significant federal mine safety legislation in 30 years,
requiring underground coal operators to improve accident preparedness.

History of Coal in Kentucky

2007 First year with no underground coal mining fatalities in Kentucky since records began.
House Bill 1, providing incentives for development in Kentucky of industries for producing transportation fuels and synthetic natural gas by gasification of coal enacted.
U.S. Air Force flies B-52 bomber and C-17 transport aircraft on a 50-50 blend of conventional jet fuel and jet fuel produced by the Fischer-Tropsch process that converts gasified coal into liquid fuels and chemicals.

Source:
Kentucky Coal Association

Mine Safety & Training

Basic Regulations & Overview

Safety and health standards are highly regulated by the federal Mine Safety and Health Administration (MSHA) and the Kentucky Office of Mine Safety and Licensing (KOMSL).

All surface and underground mines are inspected regularly. Larger mines may have inspectors at the mine site every day.

All certifications and mining specialties, as established by the Kentucky Mining Board, must be signed by the Director (KOMSL) verifying the holder has completed the requirements for certification. All coal miners must be drug tested prior to being issued any new certification.

Training for Surface Miners

New miners must have 24 hours of training and pass a written exam before being eligible for employment at a surface mine. Workers at prep plants, rail sidings, and river terminals must also meet those training requirements. The inexperienced miner must work a minimum of 45 days at a surface mine before becoming a certified experienced miner. After the initial training, each surface mine employee is required to receive eight hours of retraining annually.

To obtain a Surface Mine Foreman Certification, a miner must have three years of surface mining experience achieved after age 18. To obtain certification, a surface mine foreman must specialize in either coal extraction or post mining activities (coal preparation or coal handling). The applicant must have at least one year of practical experience in the specialty category.

To become a blaster in a surface coal mine, the applicant must attend 30 hours of training and pass both a licensing and certification test. Two years of additional work experience under a licensed blaster is required.

Training for Underground Miners

New miners are required to have a minimum of 40 hours of training plus pass a written exam prior to starting work as an inexperienced miner.

An inexperienced miner must work a minimum of 45 days in an underground mine before becoming a certified experienced miner.

A minimum of 16 hours of annual retraining is required to maintain the miner certification and continue to work at an underground mine.

A newly hired (inexperienced) underground miner must receive eight hours of mine site-specific training prior to working in an underground mine, for an experienced miner the mine–site specific training is as needed.

To receive an Underground Mine Foreman Certification, a miner must have five years of practical underground coal mining experience gained after age 18, with at least one year at the face of an active working section of a coal mine. An Assistant Mine Foreman Certification requires three years practical experience.

Underground Miner Classifications & Training	
Experience Required	Mining Position
5 Years	Electrical Inspector* Mine Inspector/Mine Safety Analyst* Mine Foreman* Electrical Instructor*
3 Years	Asst. Mine Foreman* Instructor
1 Year	Electrical Worker* Hoisting Engineer* Solid Blasting
45 days	Shot Firer* Certified Miners
Special Training	
MET	Mine Emergency Technician
EMT	Emergency Medical Technician

Source: Kentucky Office of Mine Safety and Licensing (KOMSL).

NOTE: More than 20,000 persons are trained or retrained annually for one or more surface and/or underground miner classification by the KOMSL to maintain the current Kentucky miner workforce of 19,102 miners.

*Tests are required in addition to years of experience.

Mines & Licensing

Number of Kentucky Mine Licenses, 1985-2011					
Mine Type	Underground		Surface		State
Year	EKY	WKY	EKY	WKY	Total
1985	1,153	31	1,548	139	2,871
1990	799	27	860	83	1,769
1995	456	28	665	48	1,197
2000	309	14	256	26	605
2002	300	18	310	20	648
2003	268	17	240	16	541
2004	282	14	298	14	608
2005	278	16	281	19	594
2006	287	15	329	16	647
2007	239	15	282	14	550
2008	263	11	338	14	626
2009	233	12	329	18	592
2010	207	12	281	13	513
2011	200	14	305	11	530

Source: Kentucky Division of Mines & Minerals, Annual Reports, 1960-2002; Kentucky Department of Natural Resources, Office of Mine Safety & Licensing, Annual Reports, 2003-2011. (The number of actual mines is smaller than the final number of mine licenses issued each year. For example, a new license is required when a company name or ownership changes.)

Number of Kentucky Coal Mines, 1985-2011					
Mine Type	Underground		Surface		State
Year	EKY	WKY	EKY	WKY	Total
1985	897	24	836	101	1,858
1990	601	26	301	59	987
1995	339	22	201	36	598
2000	234	12	148	14	408
2001	253	11	187	16	467
2002	219	14	180	14	427
2003	201	12	174	13	400
2004	212	11	185	11	419
2005	211	13	193	15	432
2006	214	13	202	13	442
2007	191	10	203	13	417
2008	205	11	241	12	469
2009	186	12	239	12	449
2010	161	13	214	15	403
2011	153	13	218	13	397

Source: U.S. DOE-Energy Information Administration, Coal Production, 1984-1992; U.S. DOE-Energy Information Administration Coal Industry Annual, 1993-2009; U.S. Department of Labor, Mine Safety and Health Administration, "Quarterly Mine Employment and Coal Production Report" (MSHA Form 7000-02), 2010-2011.

Mines & Licensing

Kentucky Coal Production & Mine Licenses by County and Mine Type, 2011									
Location	Underground			Surface			Total		
Area/County	Mines	Licenses	Production	Mines	Licenses	Production	Mines	Licenses	Production
Statewide	166	214	64,634,893	230	316	41,650,297	396	531	106,285,190
EKY	153	200	32,732,067	217	305	32,781,325	370	505	65,513,392
Pike	49	68	8,008,621	46	60	7,056,828	95	128	15,065,449
Perry	7	7	3,943,843	19	23	9,030,866	26	30	12,974,709
Harlan	30	37	6,900,245	26	28	2,781,643	56	65	9,681,888
Martin	8	6	3,836,712	9	15	1,648,844	17	21	5,485,556
Knott	11	16	2,748,736	15	19	2,104,333	26	35	4,853,069
Letcher	19	24	3,217,731	17	16	1,326,174	36	40	4,543,905
Leslie	6	7	1,710,298	12	14	2,383,474	18	21	4,093,772
Floyd	12	19	917,084	15	29	1,785,218	27	48	2,702,302
Magoffin	1	1	105,213	6	7	2,173,285	7	8	2,278,498
Bell	5	7	504,977	12	23	990,456	17	30	1,495,433
Breathitt	1	1	743,695	4	3	116,443	5	4	860,138
Whitley	1	1	79,378	7	10	325,374	8	11	404,752
Clay	1	1	2,621	7	19	367,688	8	20	370,309
Knox	2	5	12,913	8	14	301,550	10	19	314,463
Johnson	-	-	-	5	8	231,357	5	8	231,357
Lawrence	-	-	-	5	7	65,391	5	7	65,391
Owsley	-	-	-	4	9	61,375	4	9	61,375
Elliot	-	-	-	1	1	31,026	1	1	31,026
WKY	13	14	31,902,826	13	13	8,868,972	26	26	40,771,798
Union	3	3	12,333,160	-	-	-	3	3	12,333,160
Hopkins	3	5	8,785,647	-	-	-	3	5	8,785,647
Webster	2	1	5,730,589	-	-	-	2	1	5,730,589
Ohio	2	2	609,696	4	4	4,918,357	6	5	5,528,053
Muhlenberg	2	2	3,203,677	6	6	2,314,606	8	8	5,518,283
Henderson	1	1	1,240,057	2	2	1,230,522	3	2	2,470,579
Daviess	-	-	-	1	1	405,487	1	1	405,487

Source: Kentucky Department of Natural Resources, Office of Mine Safety & Licensing, Database Retrieval (25 July 2012); U.S. Department of Labor, Mine Safety and Health Administration, "Quarterly Mine Employment and Coal Production Report" (MSHA Form 7000-02).

The majority of the 370 active coal mines in eastern Kentucky in 2011 were broadly defined as surface operations. However, the combined annual production of surface mines compared to underground mines in the region was nearly the same; both categories were above 32.7 million tons. Overall, 18 counties in eastern Kentucky registered coal production and maintained mine licenses in 2011.

Though there were an equal amount of active surface mines and underground mines in western Kentucky in 2011, underground operations accounted for 78% of regional production. During the year, seven counties in the region registered coal production with Union County as the leading producer. In total, western Kentucky coal-mining counties represented 38% of statewide production in 2011.

Reclamation

Kentucky Mine Reclamation Status & Primacy Bond Releases, 1990-2011									
Status	Phase I			Phase II			Phase III		
Year	Releases	Acres	Bond Amount	Releases	Acres	Bond Amount	Releases	Acres	Bond Amount
1990	533	15,383	$ 28,108,146	260	7,298	$ 6,221,870	51	1,697	$ 1,569,147
1991	626	14,642	$ 28,373,662	428	12,667	$ 11,200,897	130	2,958	$ 6,890,877
1992	670	18,278	$ 33,822,612	477	13,338	$ 11,489,035	255	8,101	$ 6,811,872
1993	498	13,893	$ 25,386,134	416	12,661	$ 11,242,965	448	15,986	$ 8,629,089
1994	452	15,933	$ 27,423,038	319	10,828	$ 9,768,647	406	14,098	$ 8,709,946
1995	525	16,650	$ 32,343,224	427	13,141	$ 12,399,017	517	18,419	$ 16,338,524
1996	619	23,968	$ 47,602,996	419	14,784	$ 17,378,599	784	27,018	$ 22,365,232
1997	393	13,179	$ 23,571,000	373	13,323	$ 13,463,098	806	30,768	$ 29,923,783
1998	351	12,646	$ 28,589,902	255	8,104	$ 9,370,064	747	21,387	$ 18,859,893
1999	357	11,259	$ 20,644,178	192	5,971	$ 6,719,383	602	19,774	$ 23,043,414
2000	285	10,237	$ 18,529,971	206	6,380	$ 9,449,942	587	20,678	$ 17,215,050
2001	268	9,837	$ 13,321,034	175	7,963	$ 12,064,790	439	13,274	$ 14,176,508
2002	398	14,380	$ 19,236,198	142	5,929	$ 6,130,207	449	15,384	$ 16,013,176
2003	396	12,296	$ 16,879,563	143	5,855	$ 5,424,044	367	10,462	$ 11,291,162
2004	328	11,974	$ 18,229,856	136	3,941	$ 3,581,106	412	10,772	$ 13,163,416
2005	243	9,325	$ 15,142,951	151	5,336	$ 4,535,338	333	12,922	$ 12,687,628
2006	428	15,558	$ 24,028,630	113	4,724	$ 8,563,414	259	7,823	$ 9,135,598
2007	276	11,578	$ 15,743,391	213	5,920	$ 27,299,927	298	8,875	$ 10,958,667
2008	286	11,015	$ 18,958,373	155	6,620	$ 5,512,376	316	9,139	$ 11,283,135
2009	249	9,685	$ 16,916,494	167	12,462	$ 9,730,824	292	8,151	$ 9,795,266
2010	365	12,325	$ 20,912,926	225	11,538	$ 13,797,106	306	10,449	$ 8,559,124
2011	425	9,991	$ 18,364,773	189	7,180	$ 8,219,910	222	8,645	$ 6,886,853
Total	8,971	294,032	$512,129,052	5,581	195,963	$ 223,562,559	9,026	296,780	$ 284,307,360

In accordance with the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA), mined land must be returned to its approximate original contour, with the exception of mountaintop mining operations. Stringent regulations govern the design, operation, and environmental impact of every mine. Mining and reclamation sites are inspected on a regular basis by state inspectors. Federal inspectors also conduct random oversight inspections. Kentucky coal operators through FY 2009 have paid $1.05 billion into the Federal Abandoned Mine Land program to reclaim land mined prior to August 3, 1977.

Before surface mining begins, Kentucky coal operators must post bonds to ensure proper reclamation. Under Kentucky's 1984 Permanent Program or "Primacy Program", bonds are not fully released until a coal operator has demonstrated five years of consecutive successful reclamation. As of September, 2010, the Kentucky mining industry had a total of 10,039 outstanding bonds valued at $839.9 million. The bonds assure timely and successful reclamation.

Mining reclamation bonds are released in the following phases:

Kentucky Mine Reclamation Phases & Criteria			
Bond Release	Reclamation Release Type	Percent Released	Time/Phase Requirements
Phase I	Grading, Drainage, Seeding	60%	Complete Landscaping
Phase II	Vegetation	25%	Two Years of Successful Reclamation
Phase III	Final	15%	Five Consecutive Years of Successful Reclamation

Reclamation

Abandoned Mine Land Reclamation Fund (millions), 1985—2010				
Year	Kentucky Collection	Kentucky State Share*	AML Grant Disbursement	State Share Balance**
1985	$36.91	$17.30	$32.30	$31.40
1990	38.4	19.41	6.4	43.3
1995	35.49	17.61	15.5	77.1
1996	33.98	16.9	16	83.6
1997	34.66	17.24	16.1	90.1
1998	35.04	17.45	15.7	97.4
1999	32.38	16.15	16.5	103.4
2000	30.49	15.19	17	108
2001	29.42	14.71	18.8	111.9
2002	30.16	15.03	16.7	116.9
2003	26.71	13.35	16.4	120.5
2004	26.38	13.19	16	124.4
2005	26	13	15	124.4
2006	26.2	13.1	13.8	128.8
2007	27.68	13.84	13.8	134.8
2008	26	13	30.8	136.6
2009	24.6	12.3	31.1	117.1
2010	23	11.5	37.5	97.6
Total***	821.18	408.54	493.8	2,227.8

*Includes reclamation fees, interest, and audit adjustment. **Column may not balance due to external adjustments.

*** Summation across all years including those not displayed (1985-2010)

Abandoned Mine Land (AML) Reclamation

The federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) established authority for the AML Fund. Production fees of $0.325 per ton for surface-mined coal and $0.125 per ton for underground-mined coal are collected from coal producers at all active coal mining operations. These funds reclaim pre-SMCRA sites left abandoned, un-reclaimed, or insufficiently reclaimed, as well as certain sites under interim programs (1977-1982).

The Kentucky coal industry (through FY 2009) has contributed $1.05 billion to the Abandoned Mine Land (AML) Reclamation Fund since 1978. Nationally, over $9 billion (through FY 2009) has been paid by active coal operators across the United States. Fifty percent (50%) of the total Kentucky AML fees go directly to the state share account. However, $97.6 million (September, 2010) is unallocated due to the federal appropriation process (see Kentucky State Share Balance column in table above). In 2006 Congress passed amendments to SMCRA that provided for mandatory distribution of all unappropriated state share balances over a seven year period and increased grant funding to states like Kentucky with many high priority AML problems remaining on inventory. The result has been an increase in the Kentucky AML Grant over the past three years. The increasing trend is expected to continue for the next several years.

Abandoned Mine Land Reclamation Accomplishments (through 2010)	
113 water line projects ($95.65 Million)	2,186 mine portal closures
Over 35,568 feet of high wall eliminated	210 vertical shafts sealed
Over 261 hazardous structures removed	47.1 miles of stream restoration
Over 2,299 acres landslide projects stabilized	289.7 acres of mine fires controlled
$497 Million in expenditures	74,833 acres reclaimed (GPRA Acres)

Post-Mining Land Use

Regional Airports	
Big Sandy Regional Airport	Martin
Hatcher Field Airport	Pike
Carroll Field Airport	Breathitt
Ford Airport	Perry
Ohio County Airport	Ohio
Correctional Facilities	
Federal Correctional Institute	Clay, Martin
East Kentucky Correctional Complex	Morgan
Medium Security Prison	Muhlenberg, Knott (in development)
Otter Creek Correctional Center	Floyd
Juvenile Boot Camp	Breathitt
Government Facilities	
Earle C. Clements Job Corps Ctr.	Muhlenberg
Army National Guard Training Ctr.	Muhlenberg
U.S. Postal Service	Laurel
County Park	Ohio
Madisonville South By-Pass	Hopkins
Solid Waste Landfills	Daviess, Greenup, Ohio, Hopkins, Perry, Lee
Hazard Armory	Perry
Jail and State Police Barracks	Perry
Veterans' Nursing Home	Perry
Fish & Wildlife	
Duck Refuge Areas	Ohio, Perry, Breathitt, Knott, Martin, Muhlenberg
Catfish Farming	McLean
Wildlife Management Area	Muhlenberg, Ohio, Perry
Wetland Development	Muhlenberg

Post-mining land use changes are a strategy for economic development in Kentucky, especially in many parts of Eastern Kentucky where level to gently rolling land for development is a valued asset.

Farms	
Starfire Project	Perry
MAPCO / Morehead Agriculture Ctr.	Martin
Martin County Coal Corp. Farm	Martin
D&R Brangus Farm	Perry
Hog Farm	Hopkins, Knox
Avian Farms	Wayne
Agricultural Projects / Sites	Daviess, Pike
Chicken / Broiler Houses	Hopkins, McLean, Muhlenberg, Webster
Livestock Feed	Greenup, Harlan, Lee, Johnson, Wolfe, Whitley

Free-ranging elk were re-introduced to the mountains of East Kentucky, with reclaimed mountaintop removal areas, old reclaimed mine benches, and hardwood forests serving as their home once again. The first hunter in more than 150 years to legally kill an elk in Kentucky did so in 2001.

Post-Mining Land Use

Industrial / Commercial	
Electrical Construction Office and Shop	Hopkins
Electric Utility Operations Center	Hopkins
Industrial Scrubber Sludge Disposal	Ohio, Daviess, Webster
Explosive Manufacturing	Muhlenberg
Wood Fabrication Plant	Breathitt, Perry, Pike (proposed)
Apparel Manufacturing	Perry, Boyd
Mine Shops / Welding / Machine / Equip.	Johnson, Hopkins, Knox, Muhlenberg, Ohio, Union
Trucking Company	Muhlenberg, Boyd
Truck / Equipment Sales	Butler
Explosive Company	Perry, Hopkins
Farm Equipment	Hopkins
Sawmill / Logs / Lumber	Bell, Butler, Clay, Jackson, Laurel, Pike, Whitley, Wolfe
Recycling Facility	Letcher
Blacktop / Concrete Facilities	Laurel, Perry
Oil / Gas Facilities	Clay, Lee, Elliott
Cabinet Factory	Perry
Clay-Leslie Regional Industrial Park	Clay, Leslie
Coal fields Regional Industrial Park	Breathitt, Harlan, Leslie, Perry
Corbin Tri-County Industrial Park	Knox
East Park Regional Industrial Park	Boyd, Carter, Elliott, Greenup, Lawrence
Equipment Rental / Sales	Boyd
Gateway Regional Business Park	Floyd, Knott, Letcher, Pike
Honey Branch Regional Business Park	Floyd, Johnson, Magoffin, Martin, Pike
Little Goose Industrial Site	Clay
Maggie Mountain Industrial Park	Floyd
Paul Coffey Industrial Park	Boyd
Pine Mountain Regional Business Park	Bell, Harlan, Knox, Letcher, Whitley
Retail Outfitters	Clay
South McCreary Industrial Park	McCreary (in development)
Tooling Company	Clay
Uniform Rental Services	Carter
Utility	Boyd, Knott, Perry
Wireless Communications	Carter
Plastic Injection Molding Company	Perry
Mine / Electronics Supply	Martin
Industrial Parkway	Greenup
United Parcel Services	Perry, Boyd
Unified Power Distribution	Martin

Source: Kentucky Coal Association.

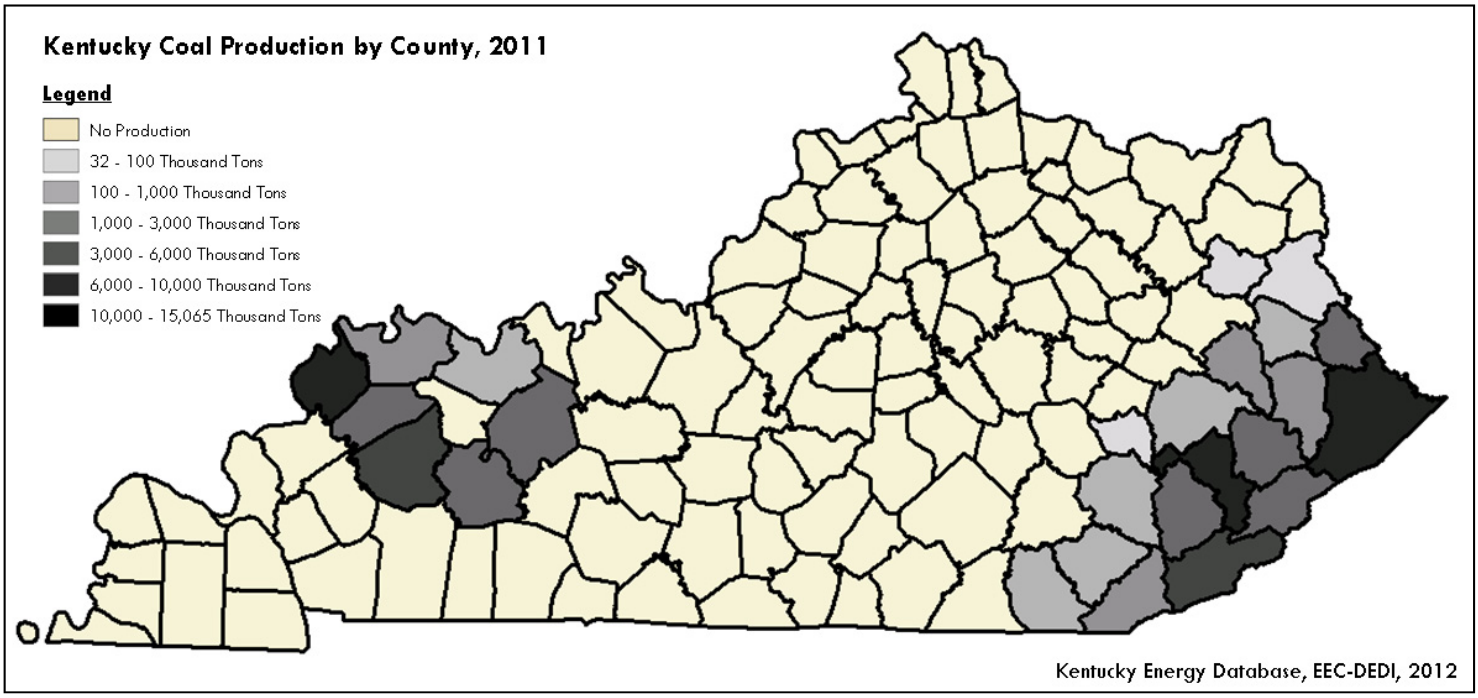
Post-Mining Land Use

Sports & Recreational Facilities	
Baseball Fields	Boyd
Coal Hollow Park	Floyd
Elkhorn Educational Recreation Park	Floyd
Golf Courses	Clay, Laurel, Letcher, Floyd, McLean,
Recreational Area	Lee, Greenup
Red Fox Resort	Knott (in development)
Stonecrest Golf Course	Floyd
Wayland Park	Floyd
Golf (drive & putt)	Webster
Recreational Area & Fishing Lake	Pike
Athletic Facilities	Letcher
Fairgrounds	Morgan
Riding Stables & Trails	Muhlenberg
Campground (proposed)	Hopkins
Hunting Reserve	Webster
Structural Building Sites	
High Schools	Pike
Elementary School	Boyd
Flea Market	Perry
Athletic Complexes	Letcher, Pike
Appalachian Regional Hospital	Perry
Housing Developments	Bell, Boyd, Clay, Floyd, Greenup, Harlan, Johnson, Martin
Church, Daycare	Laurel, Perry
Mobile Home Sales	Laurel
Shopping Centers	Breathitt, Clay, Knox, Laurel, Leslie, Letcher, Pike
Car / Truck / Equipment Sales	Perry
Motel / Hotel	Laurel, Perry
Office Complex	Boyd, Greenup, Morgan, Martin, Perry, Pike
Storage Rental Facility	Hopkins, Perry
Off Track Betting	Perry
Telecommunications Call Center	Perry

Source: Kentucky Coal Association.

In addition to the listed developments, several old coal haul rails have been removed to make walking trails in Hopkins, Muhlenberg, Union, and Webster counties. These efforts are also known as “Rails-to-Trails”.

Coal Producing Counties (2011)



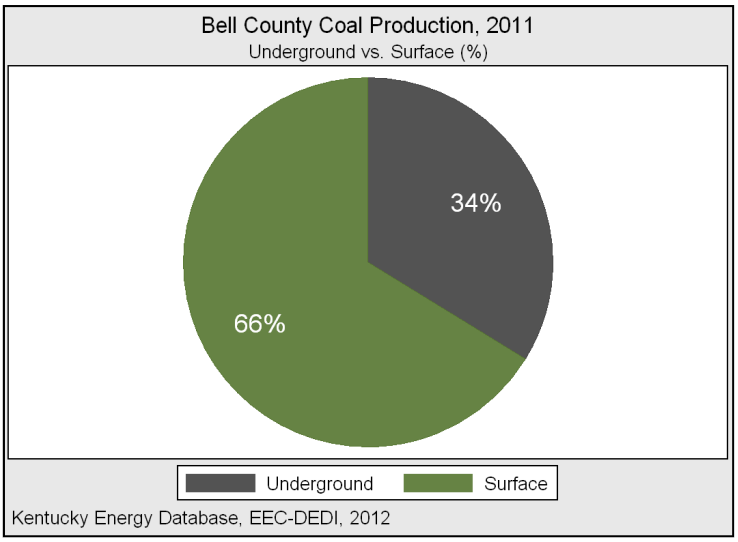
County	Thousand Tons	Region
Union	12,333	WKY
Hopkins	8,786	WKY
Webster	5,730	WKY
Ohio	5,528	WKY
Muhlenberg	5,518	WKY
Henderson	2,471	WKY
Daviess	405	WKY

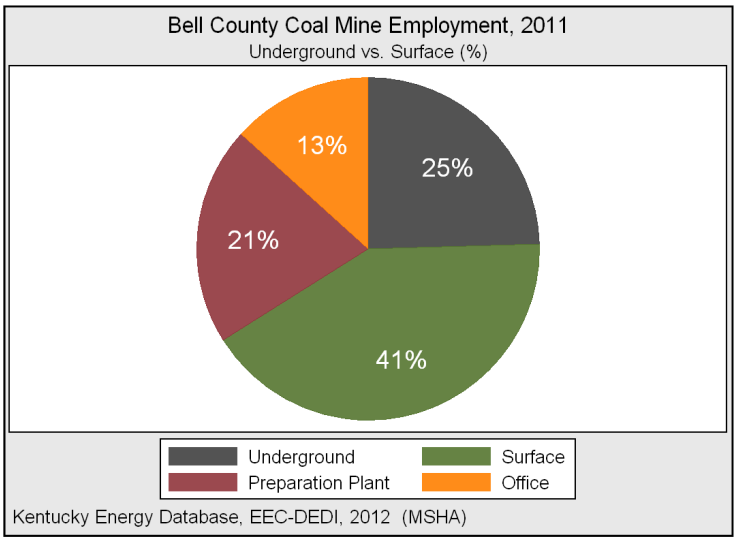
During 2011, there were 24 counties in Kentucky that registered coal production — seven in the Western Coal Field and seventeen the Eastern Coal Field.

Up to 44 individual counties have at some time registered coal mining activity in Kentucky since 1960, though over the past three years no more than 27 counties have produced coal.

County	Thousand Tons	Region
Pike	15,065	EKY
Perry	12,975	EKY
Harlan	9,682	EKY
Martin	5,486	EKY
Knott	4,853	EKY
Letcher	4,544	EKY
Leslie	4,094	EKY
Floyd	2,702	EKY
Magoffin	2,278	EKY
Bell	1,495	EKY
Breathitt	860	EKY
Whitley	405	EKY
Clay	370	EKY
Knox	314	EKY
Johnson	231	EKY
Lawrence	65	EKY
Owsley	61	EKY

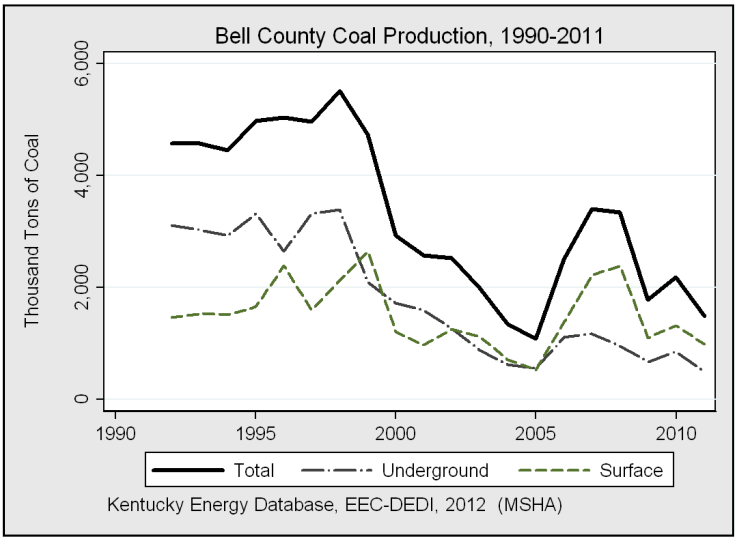
Bell County

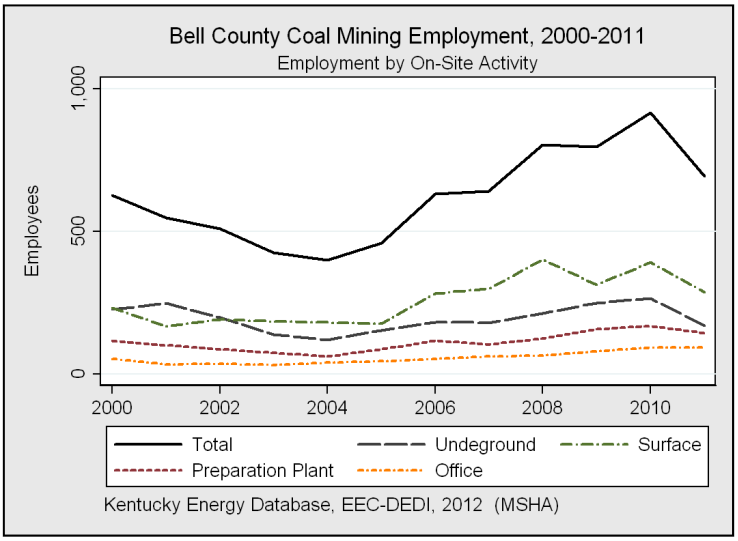




Production Method	Mines	Production	Percentage
Total	22	1,495,433	100%
Surface	17	990,456	66%
Underground	5	504,977	34%

On-Site Activity	Employment	Percentage
Total	692	100%
Surface	287	41%
Underground	170	25%
Preparation Plant	143	21%
Office	92	13%

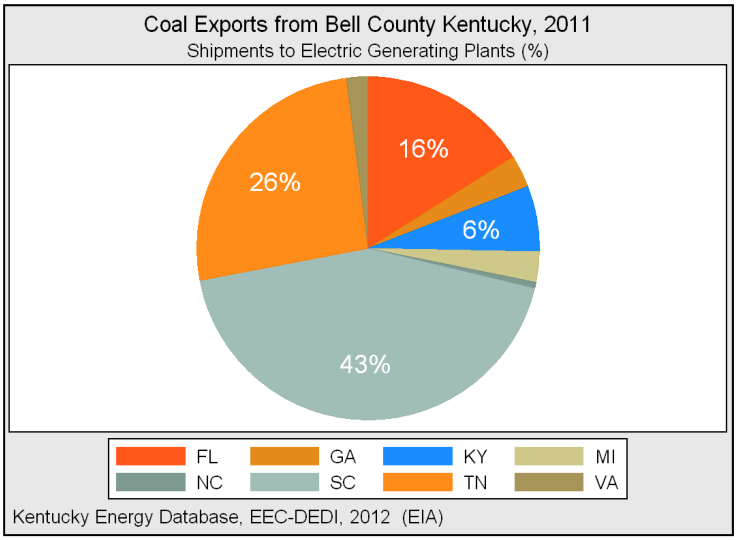


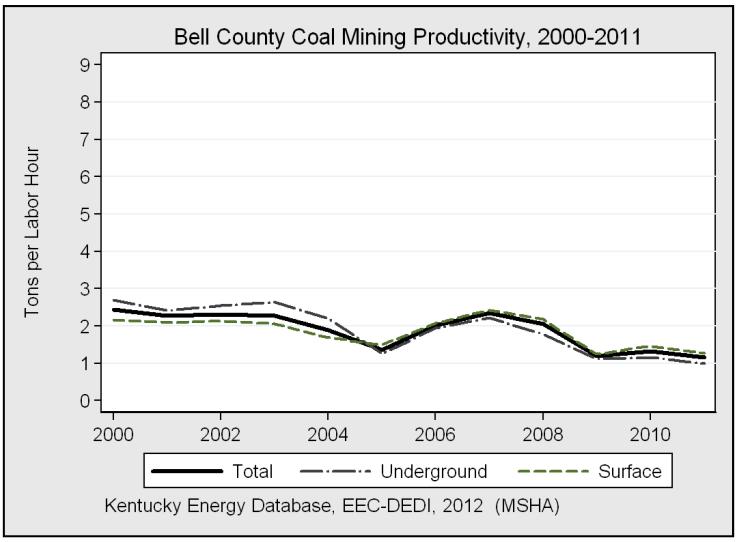


In 2011, the 22 relatively small coal mines in Bell County, 5 underground and 17 surface, produced nearly 1.5 million tons of coal, which accounted for 1.4% of annual coal production in Kentucky. Two-thirds of the coal mined in Bell County, more than 990 thousand tons, was produced in surface mining operations, a decrease of 25% from 2010. The remaining 505 thousand tons were extracted from underground, a decrease of 41% from 2010. Total coal production in Bell County decreased by 31.6% from 2010.

Bell County's 22 coal mines and 10 preparation plants employed an average of 692 full-time employees in 2011, a decrease of 24% from 2010. The majority of these jobs were held by surface miners, who worked a total of 438,259 hours. 170 underground coal miners worked 336,195 hours. 143 employees worked in coal preparation plants for 331,421 hours. There were 92 administrative and support staff who worked in on-site offices at coal mines in Bell County for a total of 182,957 hours.

Bell County





State & Plant	Deliveries (Tons)	Percentage
Total	**2,319,816**	**100%**
South Carolina	**1,002,627**	**43.2%**
Cross	787,867	34%
Cogen South	156,155	6.7%
H.B. Robinson	21,322	<1%
Cope	12,964	<1%
Canadys Steam	12,976	<1%
Wateree	11,343	<1%
Tennessee	**603,605**	**26%**
Eastman Chemical	317,122	13.7%
Bull Run	286,483	12.3%
Florida	**372,387**	**16.1%**
Cedar Bay	372,387	16.1%
Kentucky	**143,375**	**6.2%**
Cooper	143,375	6.2%
Georgia	**71,168**	**3.1%**
Bowen	68,624	3%
I.P. Savannah Mill	2,544	<1%
Michigan	**67,401**	**2.9%**
Monroe	59,000	2.5%
T.B. Simon	8,401	<1%
Virginia	**46,335**	**2%**
Chesterfield	46,335	2%
North Carolina	**12,918**	**<1%**
Marshall	12,918	<1%

Bell County Coal Market

Approximately 6%, or 143,375 tons, of the coal mined in Bell County in 2011 was consumed in Kentucky at East Kentucky Power's John S. Cooper Power plant. The majority of Bell County coal , 93.6%, is primarily exported across the South Eastern United States and used for the generation of electrical power and other industrial purposes. The following 5 facilities alone consumed 82.2% of the coal produced in Bell County in 2011: Cross Generating Station in Pineville, South Carolina; Cedar Bay in Jacksonville, Florida; Eastman Chemical Company in Tennessee; Bull Run Power Plant in Bull Run Creek, Tennessee; and the Cogen South Power Plant in North Charleston, South Carolina.

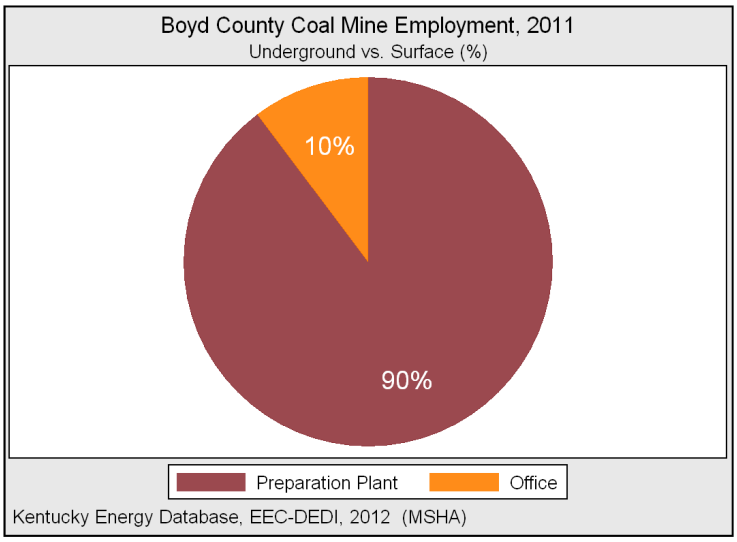
Bell County Coal Mining Productivity

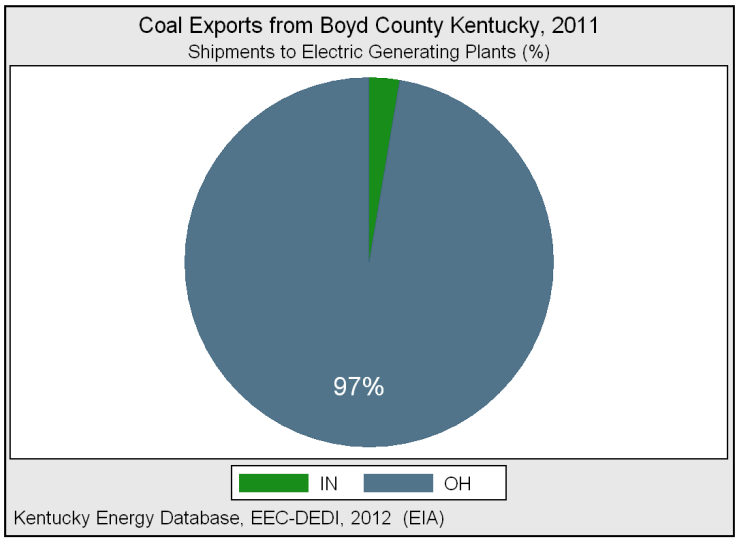
2011 productivity in Bell County was the second lowest of any Kentucky county at 1.16 tons per hour, only marginally higher than neighboring Whitely County. While underground mine productivity was below 1 ton per hour, surface mines in Bell County averaged 1.27 tons per hour for the year.

Chemical Composition and Cost

On average, coal mined in Bell County in 2011 had a mean sulfur content of 1.3%, a mean ash content of 10.3%, and a mean heat content of 24.76 MMBTU per ton. The average delivered price per ton for Bell County coal in 2011 was $63.96, and ranged from $61.23 to $130.03.

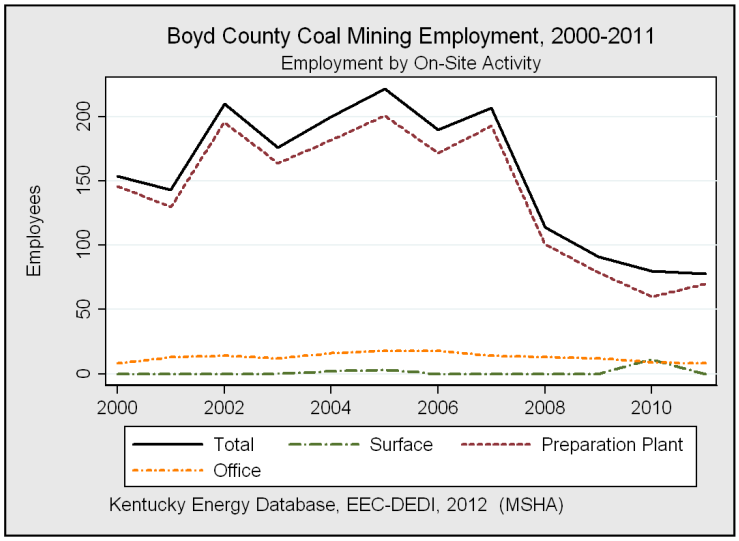
Boyd County





On-Site Activity	Employment	Percentage
Total	78	100%
Preparation Plant	70	90%
Office	8	10%

Since 2000, preparation plants and terminals have been the largest source of direct coal mining employment in Boyd County.

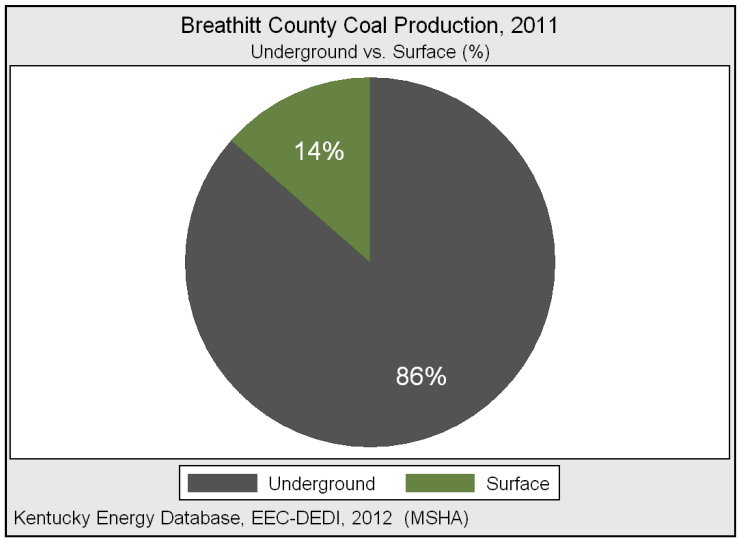


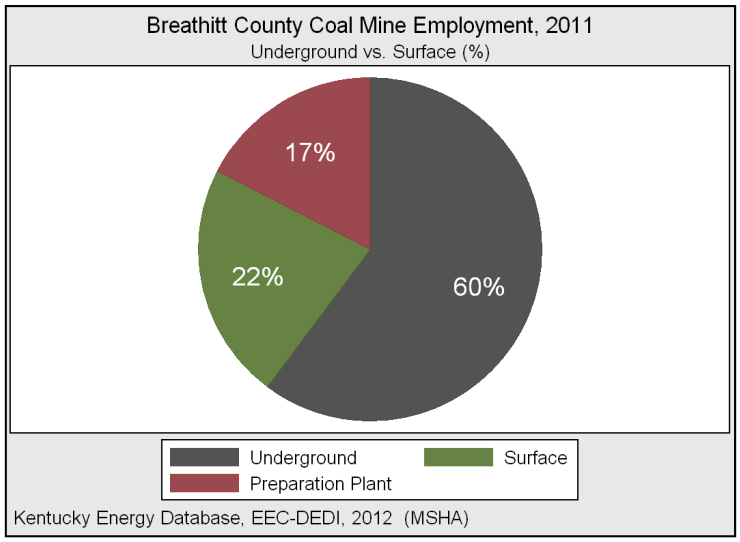
Boyd County registered no coal production in 2011. However, several coal transportation terminals were active in the county during the year. In 2011, coal companies in Boyd County employed 78 individuals full-time, with 70 of these employees operating coal preparation plants. An additional 8 people were employed in office positions connected to the active coal preparation plants.

State & Plant		Deliveries (Tons)	Percentage
Total		488,368	100%
Ohio		475,483	97.4%
	J.M. Stuart	285,756	58.5%
	Beckjord	132,801	27.2%
	Miami Fort	44,135	9%
	Zimmer	12,791	2.6%
Indiana		12,885	2.6%
	Gallagher	12,885	2.6%

Though Boyd County did not directly produce coal in 2011, it did prepare and ship coal from surrounding counties to customers outside of Kentucky. Of the more than 488 thousand tons of coal shipped from Boyd County during 2011, more than 97% was delivered to four power plants in Ohio. Within Ohio, the J.M. Stuart Power Plant located in Aberdeen was the single largest consumer of Boyd County shipments at more than 285 thousand tons. Also, the Gallagher Station of Floyd County, Indiana, received a small quantity of coal shipped from Boyd County in 2011.

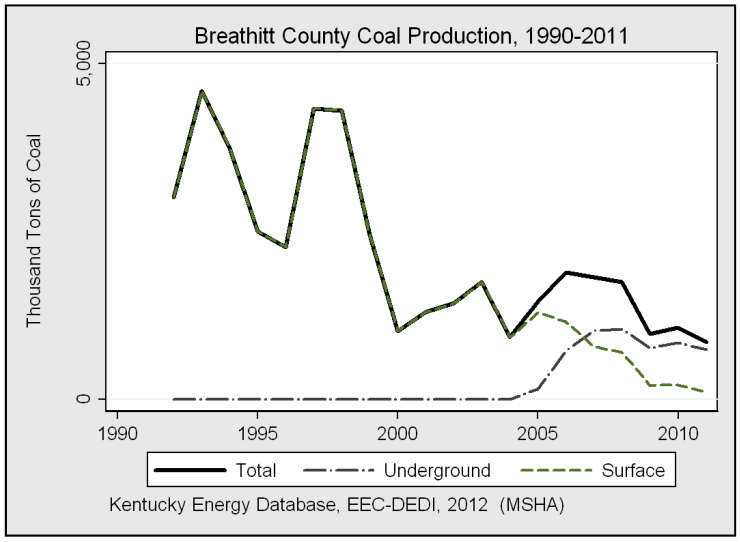
Breathitt County

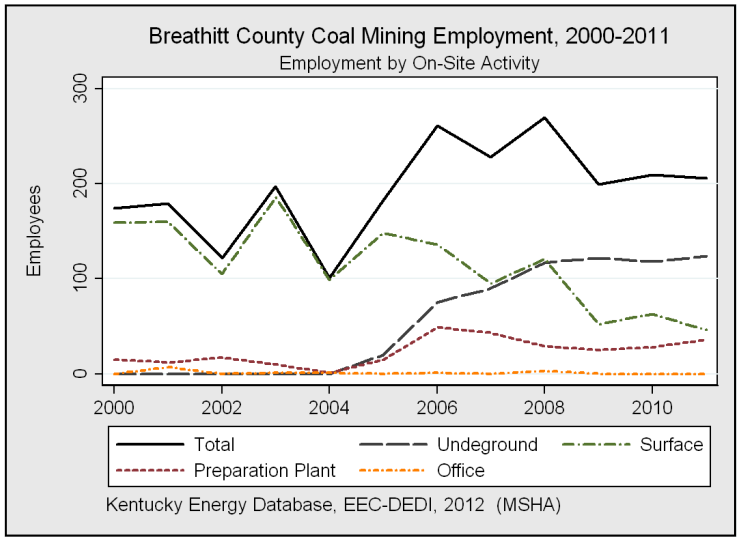




Production Method	Mines	Production	Percentage
Total	5	860,138	100%
Underground	1	743,695	86%
Surface	4	116,443	14%

On-Site Activity	Employment	Percentage
Total	206	100%
Underground	124	60%
Surface	46	22%
Preparation Plant	36	17%

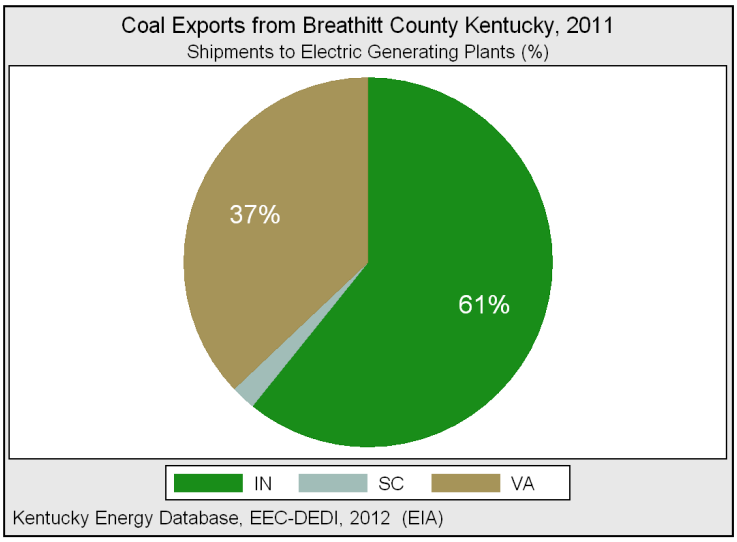


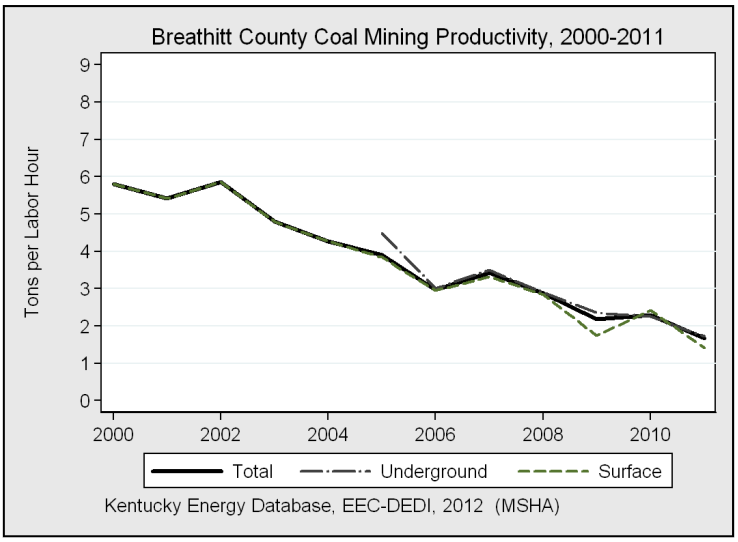


In 2011, four small surface mines and one large underground mine in Breathitt County produced more than 860 thousand tons of coal, which accounted for 0.8% of annual coal production in Kentucky. The majority of coal mined in Breathitt County, 743 thousand tons, was extracted from underground mines, a decrease of 12.7% from 2010. The remaining 116 thousand tons were extracted from surface mines, a decrease of 47.5% from 2010. Total coal production in Breathitt County decreased by 20% from 2010.

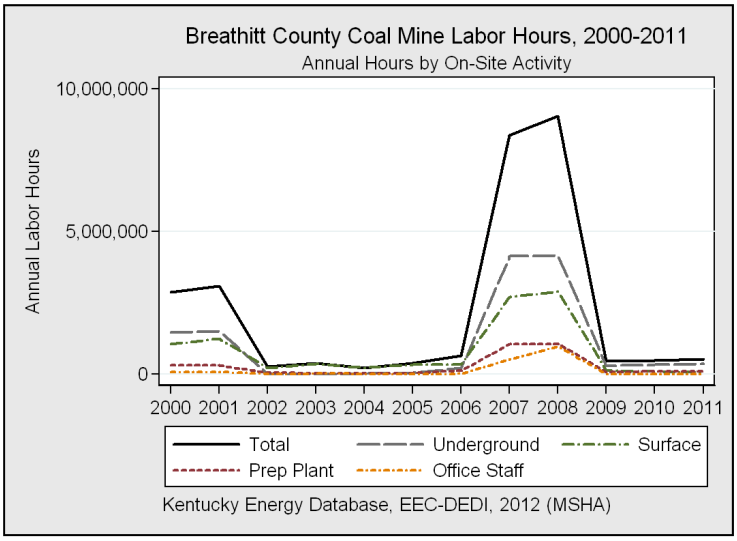
Breathitt County coal mines and preparation plants employed an average of 206 on-site employees in 2011, a increase of 3 full-time jobs from 2010. The majority of these jobs were held by 124 underground miners, who worked a total of 349,459 hours. Forty-six surface miners worked 69,127 hours. Thirty-six employees worked in coal preparation plants for 95,495 hours. Coal mining employment in Breathitt County recently peaked in 2008 at 273 full-time jobs.

Breathitt County





State & Plant	Deliveries (Tons)	Percentage
Total	**861,354**	**100%**
Indiana	**523,607**	**60.8%**
Rockport	523,607	60.8%
Virginia	**319,002**	**37%**
Chesterfield	248,990	28.9%
Bremo Bluff	58,289	6.8%
Chesapeake	11,723	1.4%
South Carolina	**18,745**	**2.2%**
McMeekin	18,745	2.2%



Breathitt County Coal Market

In 2011, no utility-scale power plants in Kentucky received coal mined in Breathitt County. Instead, the majority of coal (60.8%) produced in Breathitt County during the year was consumed by the Rockport Generating Station, located on the Ohio River in Rockport, Indiana. The next largest customer for Breathitt County coal in 2011 was the Commonwealth of Virginia, accounting for approximately 37% of annual deliveries from the county.

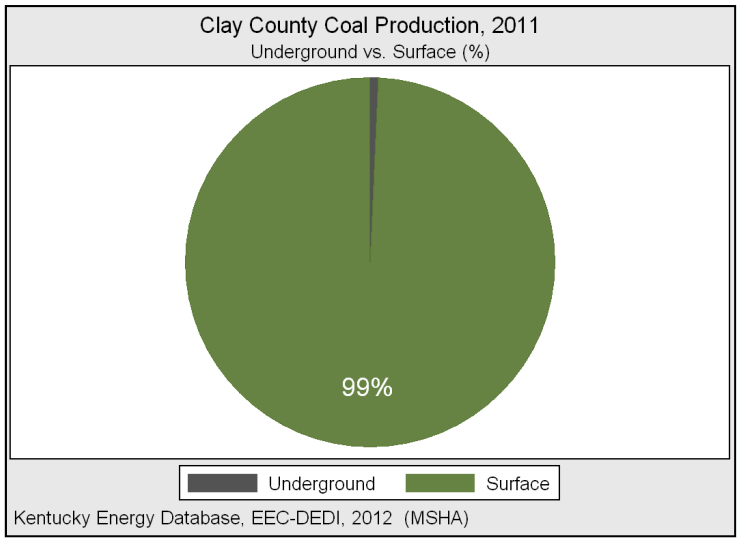
Breathitt County Coal Mining Productivity

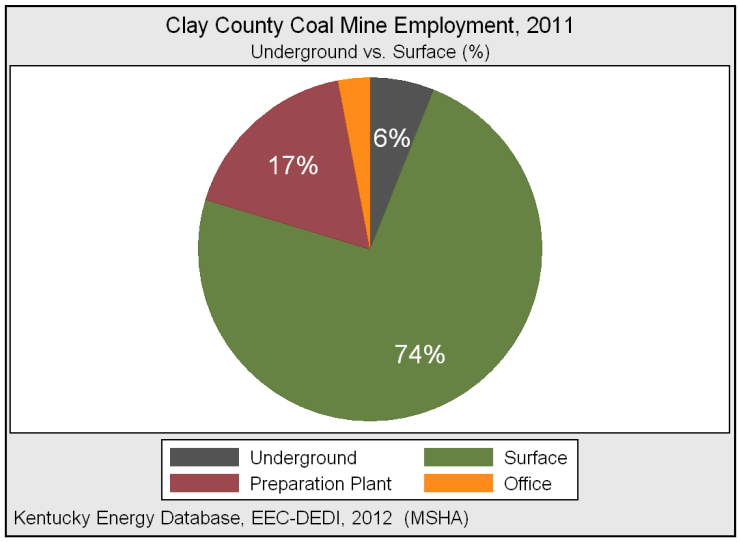
Breathitt County's productivity in 2011, including labor hours at the county's 4 preparation plants, was 1.67 tons per labor hour, a decrease of more than 71% from the year 2000, as illustrated above. The county's only underground mine produced 2.13 tons per labor hour, while the county's 4 surface mines averaged 1.68 tons per miner hour and 1.48 tons per labor hour.

Chemical Composition and Cost

Coal from Breathitt County on average contained 1.1% sulfur, 10.7% ash, and 24.16 MMBtu per ton in 2011. The combination of these factors resulted in an average delivery price of $91.29 per ton, though actual shipment prices ranged from $30.01 to $111.01 during the calendar year.

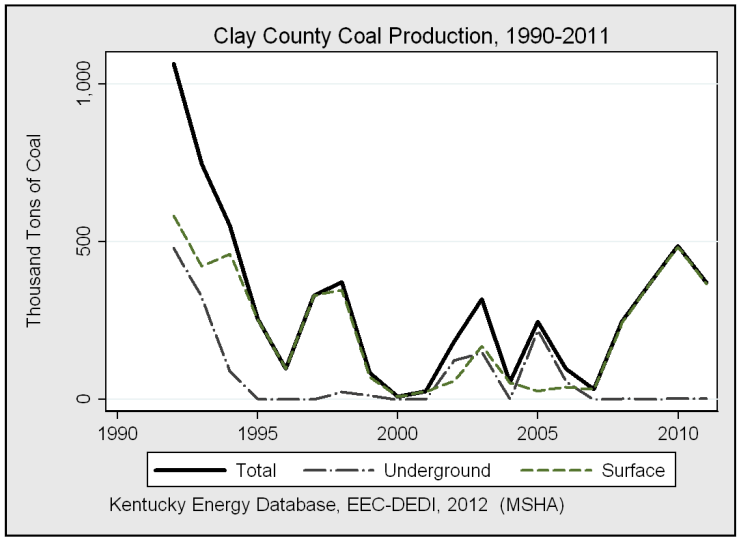
Clay County

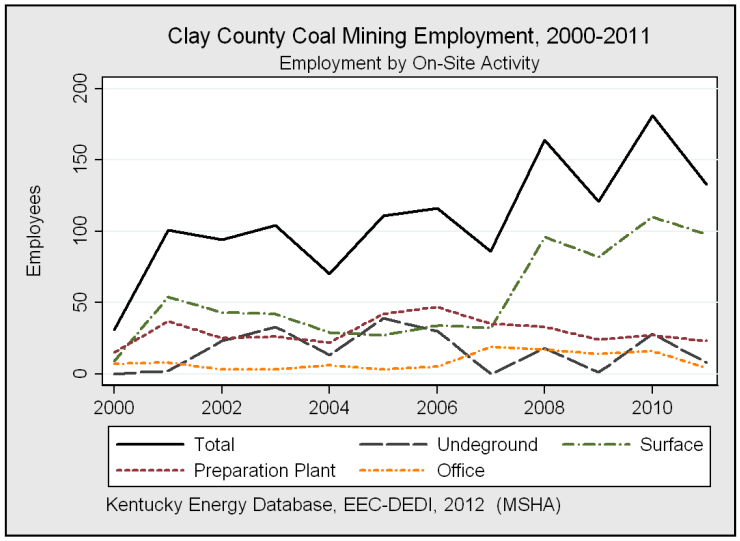




Production Method	Mines	Production	Percentage
Total	8	370,309	100%
Surface	7	367,688	99%
Underground	1	2,621	1%

On-Site Activity	Employment	Percentage
Total	133	100%
Surface	98	74%
Preparation Plant	23	17%
Underground	8	6%
Office	4	3%

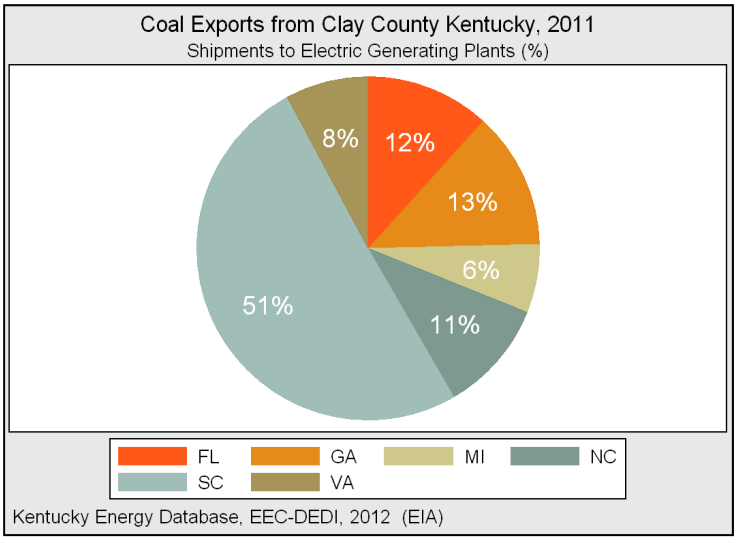


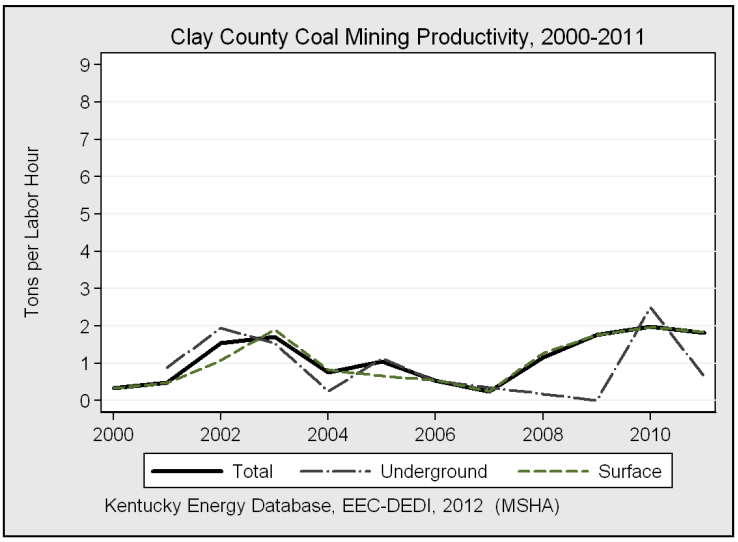


The 8 relatively small coal mines operating in Clay County produced more than 370 thousand tons of coal, which accounted for 0.3% of annual coal production in Kentucky. Almost all of the coal mined in Clay County since 2006 has come from surface mining operations. Total coal production in Clay County decreased by 24% from 2010, and is down by 65% since 1992.

Clay County coal mines employed an average of 133 on-site employees in 2011, which was a decrease of 48 full-time jobs, or 27%, from 2010. The majority of these jobs were held by 98 miners working on the surface, while 8 miners worked primarily underground for a total of 204,127 hours. Twenty-three employees worked in coal preparation plants for 81,071 hours. Direct coal mining employment in Clay County was 181 full-time jobs in 2010.

Clay County





State & Plant	Deliveries (Tons)	Percentage
Total	**751,597**	**100%**
South Carolina	**379,822**	**50.5%**
Cope	321,368	42.8%
Wateree	34,968	4.7%
Lee	11,842	1.6%
Canadys Steam	11,644	1.5%
Georgia	**97,025**	**12.9%**
Dublin Mill	54,918	7.3%
Savannah River Mill	42,107	5.6%
Florida	**88,178**	**11.7%**
Cedar Bay	88,178	11.7%
North Carolina	**79,485**	**10.6%**
Cliffside	79,365	10.6%
Marshall	120	<1%
Virginia	**58,808**	**7.8%**
Chesterfield	58,808	7.8%
Michigan	**48,279**	**6.4%**
River Rouge	48,279	6.4%

Clay County Coal Market

Of the 649,611 tons of coal exported from Clay County in 2011, more than 58% of this production was delivered to the State of South Carolina. The Cope Generating Station in Orangeburg County, South Carolina, was the single largest customer for Clay County coal, receiving 321,368 tons during the year. The States of Florida and North Carolina were also significant consumers of Clay County coal in 2011.

Clay County Coal Mining Productivity

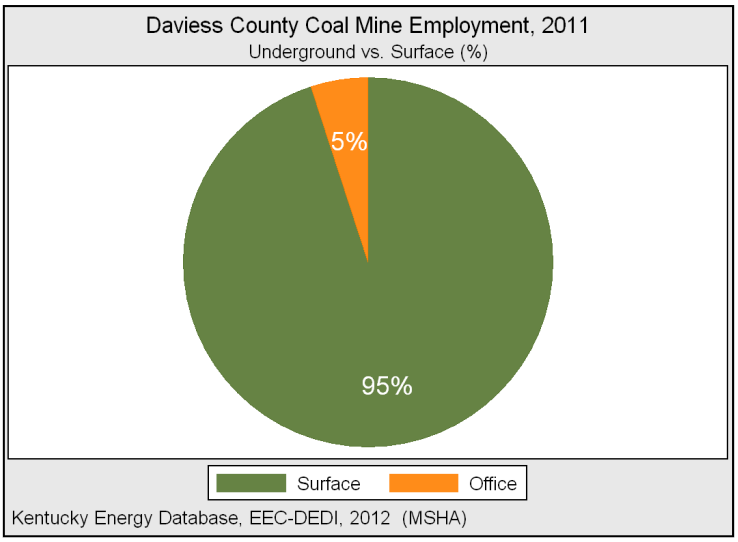
Clay County's productivity in 2011 was 1.81 tons per labor hour, which is higher than the historical average of 1.23. Clay County surface mines were generally more productive than underground mines in 2011, yielding 2.35 tons per miner hour, and 1.84 tons per labor hour. Underground mines yielded only 0.703 tons per miner hour, and 0.649 tons per labor hour.

Chemical Composition and Cost

On average, coal mined in Clay County in 2011 had a mean sulfur content of 1.04%, a mean ash content of 11.5%, and a mean heat content of 24.27 MMBTU per ton. The average delivered price per ton for Clay County coal in 2011 was $82.23, and ranged from $79.60 to $136.43.

Daviess County

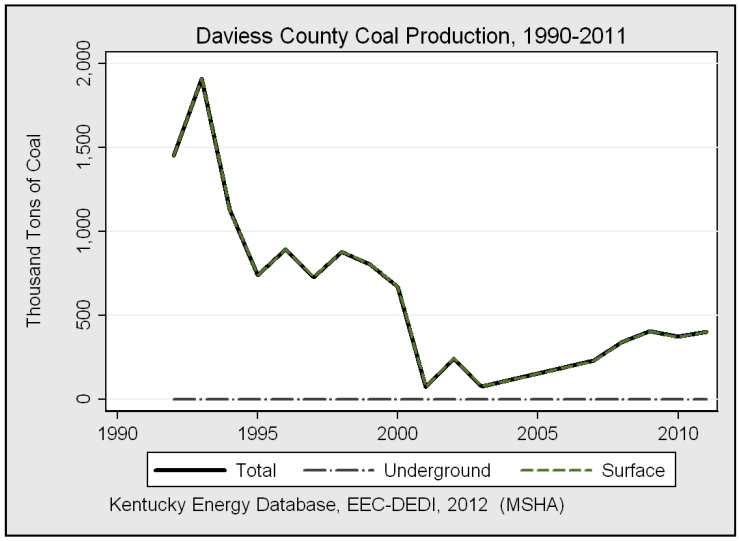
Owensboro Coal Dock circa 1985. Kentucky Energy and Environment Cabinet archives.

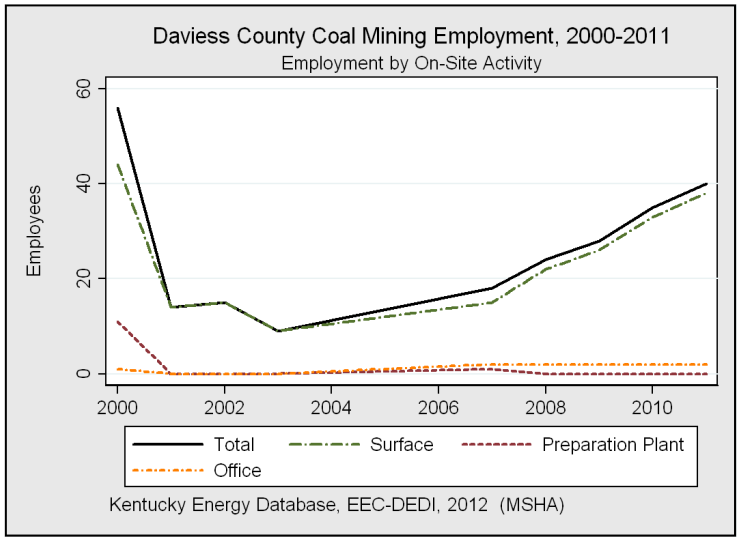


Production Method	Mines	Production	Percentage
Total	1	405,487	100%
Surface	1	405,487	100%

On-Site Activity	Employment	Percentage
Total	40	100%
Surface	38	95%
Office	2	5%

Between 1990 and 2011, coal production in Daviess County peaked in 1993 at 1.9 million tons. Since 1993, annual production is down substantially, though production has been increasing subtly over the past seven years.

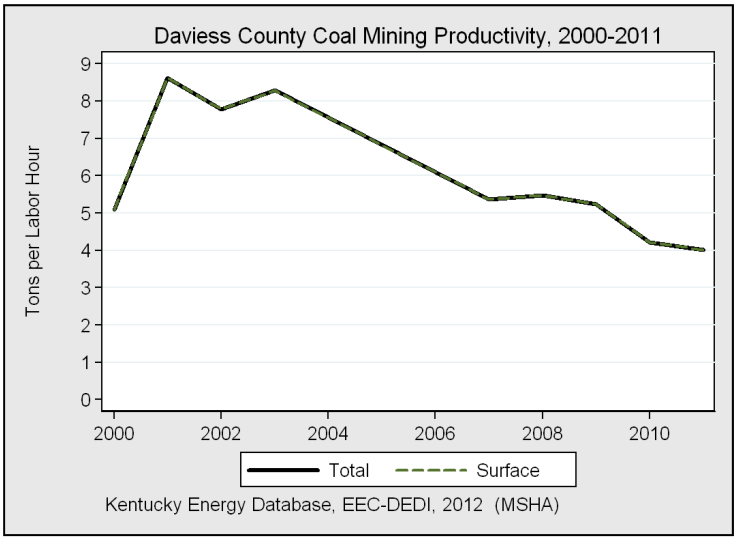


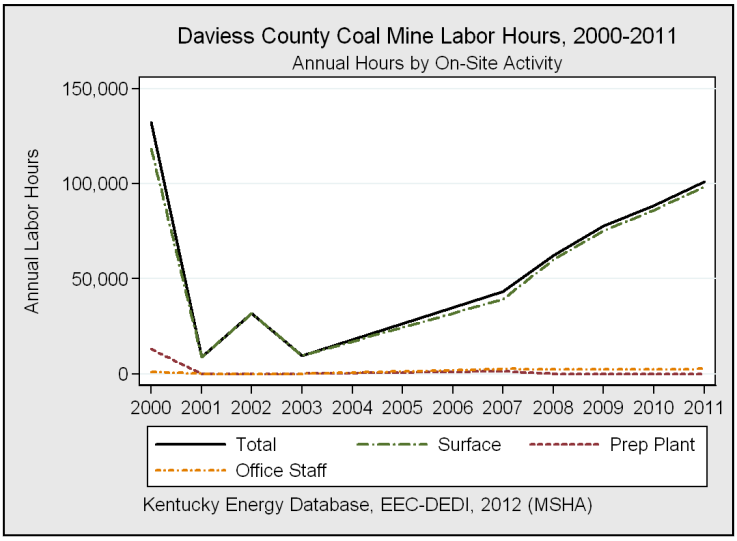


In 2011, Daviess County produced more than 405 thousand tons of coal, which accounted for 0.38% of annual coal production in Kentucky. All of the coal mined in Daviess County in recent decades has come from surface mining operations. Total coal production in Daviess County increased by 8.4% from 2010 and has risen by 374% since 2003.

Daviess County coal mines employed an average of 40 on-site employees in 2011, which was an increase of 5 full-time jobs, or 14%, from 2010. The majority of these jobs were held by 38 miners working on the surface for 86,187 hours. Historically, surface mine labor hours have been the largest source of coal mine employment in Daviess County on an annual basis.

Daviess County





State & Plant	Deliveries (Tons)	Percentage
Total	**1,075,141**	**100%**
Kentucky	**1,075,141**	**100%**
Elmer Smith	460,542	42.8%
Mill Creek	283,130	26.3%
Ghent	282,895	26.3%
Trimble County	48,574	4.5%

Daviess County Coal Mining Productivity

Although Daviess County in western Kentucky had the fourth highest mine productivity in the Commonwealth in 2011, just slightly less than its neighboring counties, productivity has fallen by 53% from its peak in 2001.

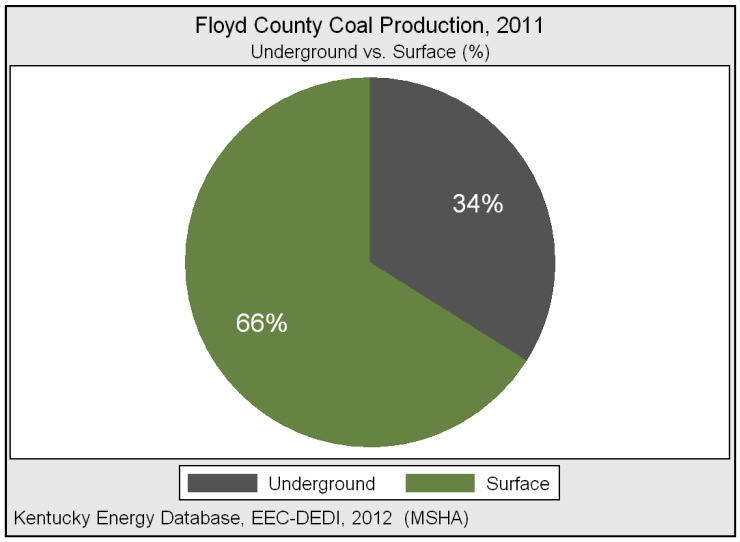
Daviess County Coal Market

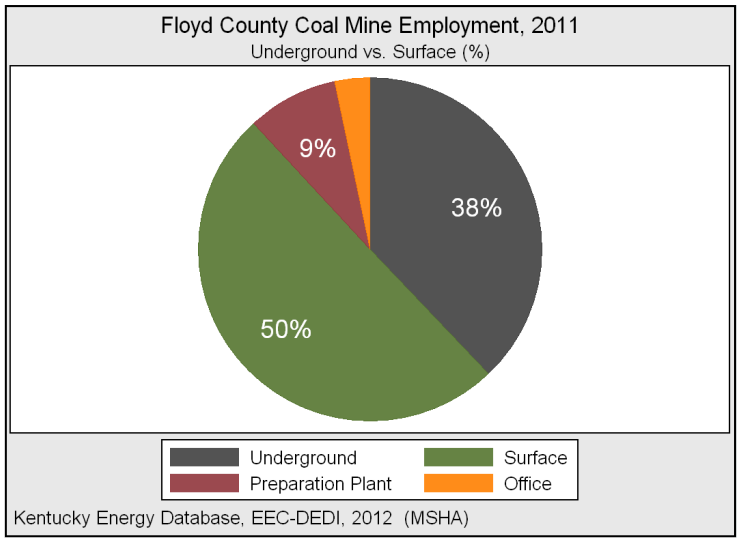
The customer-base for Daviess County steam coal was located entirely in Kentucky in 2011. The Elmer Smith Power Plant, operated by Owensboro Municipal Utilities, was the largest consumer of Daviess County coal, followed by the Mill Creek and Ghent Generating Stations, located in central Kentucky.

Chemical Composition and Cost

With an average sulfur content of 3.6% and average heat content of 21.90 MMBtu, the mean delivery price for coal from Daviess County in 2011 was $52.53 per ton. The average ash content for coal shipped from Daviess County was 11.6% during the year.

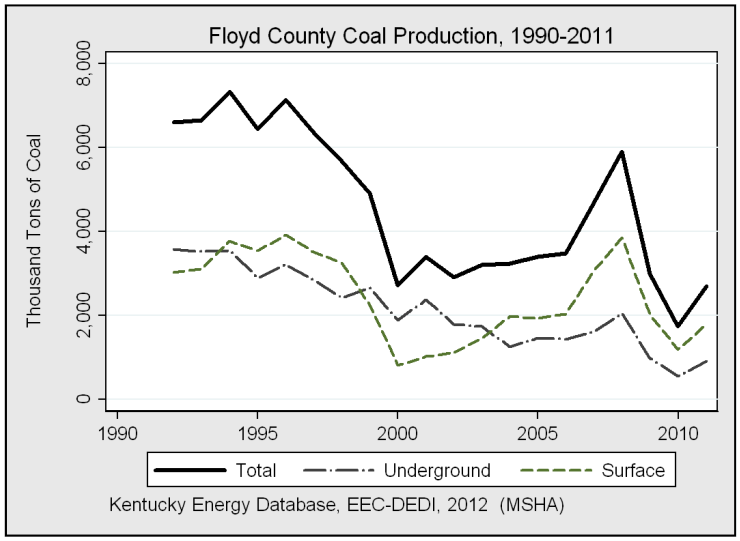
Floyd County

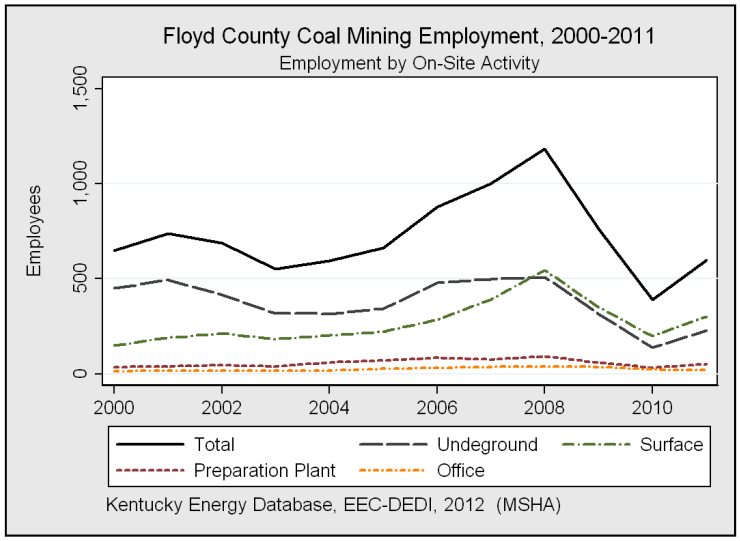




Production Method	Mines	Production	Percentage
Total	30	2,702,302	100%
Surface	18	1,785,218	66%
Underground	12	917,084	34%

On-Site Activity	Employment	Percentage
Total	599	100%
Surface	301	50%
Underground	227	38%
Preparation Plant	51	9%
Office	20	3%

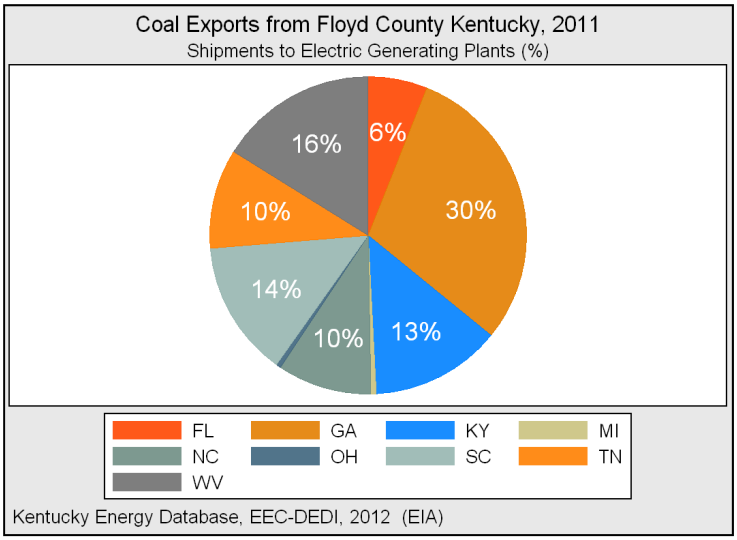


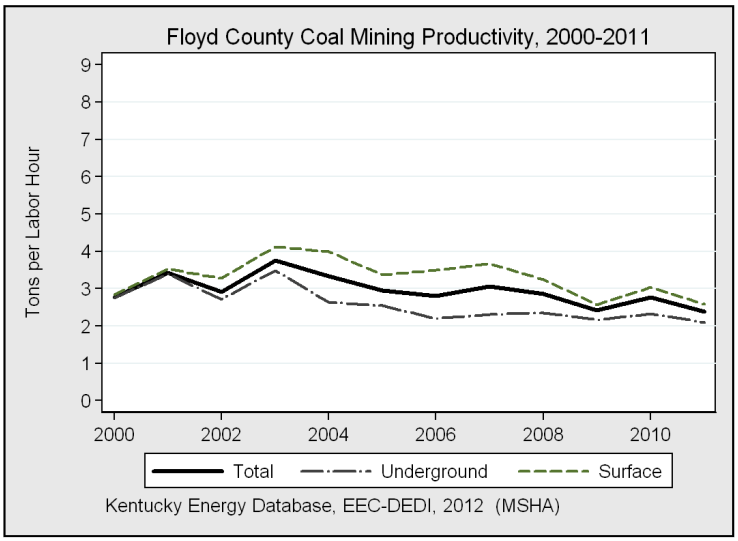


The 30 coal mines and 4 preparation plants in Floyd County produced more than 2.7 million tons of coal in 2011, which accounted for 2.5% of annual coal production in Kentucky. Two-thirds of the coal mined in Floyd County came from surface mining operations and one-third from underground mines. While Floyd County production increased by 54% from 2010, it has fallen by 63% from 1994 when the county produced more than 7 million tons.

Coal mines and preparation plants in Floyd County employed approximately 600 persons on-site in 2011, which was an increase of 209 full-time jobs, or 53%, from 2010. Half of these jobs were held by surface miners who worked a total of 590,677 hours. 227 coal miners worked primarily underground for a total of 384,911 hours. 59 coal preparation plant employees worked 113,069 hours, and 20 administrative staff logged a total of 40,252 hours.

Floyd County





State & Plant	Deliveries (Tons)	Percentage
Total	**1,970,576**	**100%**
Georgia	**585,412**	**29.7%**
Harllee Branch	393,946	20%
Bowen	191,466	9.7%
South Carolina	**272,588**	**13.8%**
Cope	114,005	5.8%
Canadys Steam	50,213	2.5%
Wateree	49,205	2.5%
Williams	38,842	2%
McMeekin	20,323	1%
West Virginia	**316,936**	**16.1%**
John E Amos	134,742	6.8%
Mountaineer	92,879	4.7%
Ceredo	89,112	4.5%
Mitchell	203	<1%
Kentucky	**261,359**	**13.3%**
Big Sandy	250,922	12.7%
Tyrone	10,437	<1%
Tennessee	**198,219**	**10.1%**
Eastman Chemical	198,219	10.1%
North Carolina	**187,510**	**9.5%**
Marshall	141,878	7.2%
Riverbend	34,660	1.8%
Cliffside	10,972	<1%
Florida	**118,172**	**6%**
Cedar Bay	74,855	3.8%
Crystal River	22,983	1.2%
Stanton	11,475	<1%
United Bulk Terminal	7,167	<1%
IMT Transfer	1,692	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**1,970,576**	**100%**
Michigan	**10,922**	**<1%**
Campbell	10,922	<1%
Ohio	**10,032**	**<1%**
Cardinal	10,032	<1%
Indiana	**7,696**	**<1%**
Tanners Creek	7,696	<1%
Mississippi	**1,730**	**<1%**
Associated Terminals	1,730	<1%

Floyd County Coal Market

Of the 1.97 millions tons exported from Floyd County, nearly 30% of this total was consumed by the Harllee Branch and Bowen Power Plants located in Georgia. South Carolina was the next largest market for Floyd County coal, where ten different facilities received deliveries during the year. Additionally, approximately 13% of the county's coal shipments were consumed in-state, with the majority of this amount consumed by the Big Sandy Power Plant in Louisa, KY.

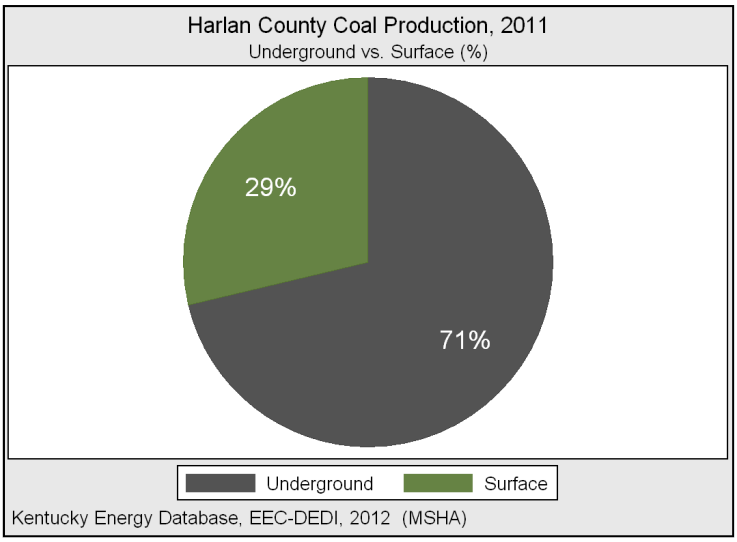
Chemical Composition and Cost

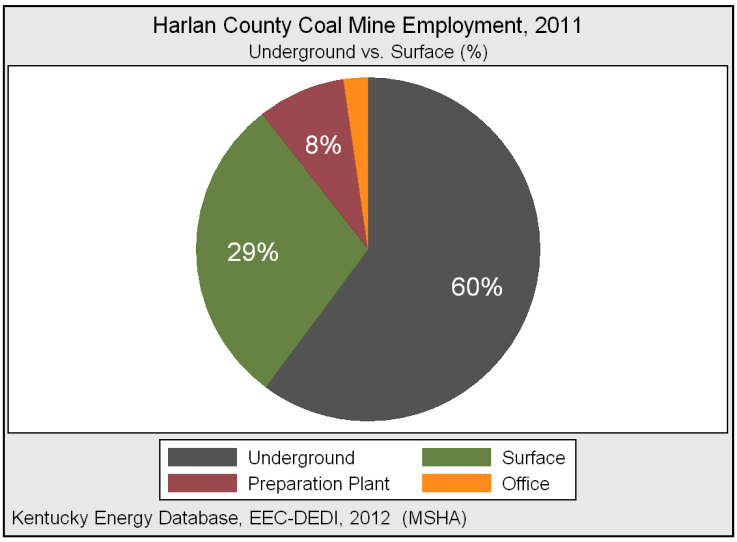
Coal from Floyd County on average contained 1.08% sulfur, 10.6% ash, and 24.32 MMBtu per ton in 2011. The combination of these factors resulted in an average delivery price of $68.88 per ton, though actual shipment prices ranged from $48.67 to $108.58 during the calendar year.

Floyd County Coal Mining Productivity

Floyd County's productivity in 2011 was 2.39 tons per labor hour, a subtle decrease of 13.7% from the year 2000, as illustrated above.

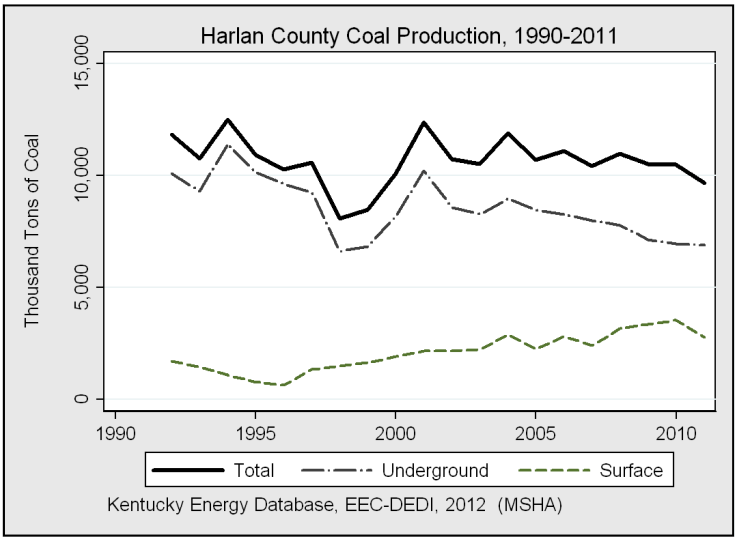
Harlan County

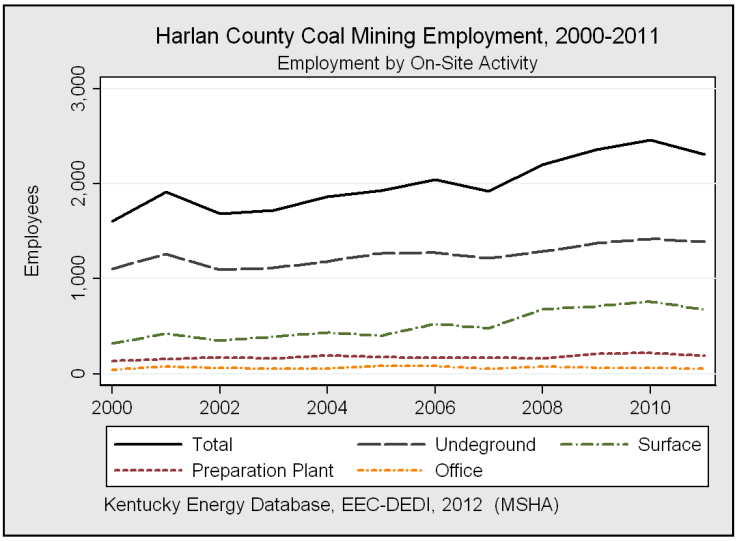




Production Method	Mines	Production	Percentage
Total	62	9,681,888	100%
Underground	29	6,900,245	71%
Surface	33	2,781,643	29%

On-Site Activity	Employment	Percentage
Total	2,310	100%
Underground	1,390	60%
Surface	677	22%
Preparation Plant	190	17%
Office	53	2%

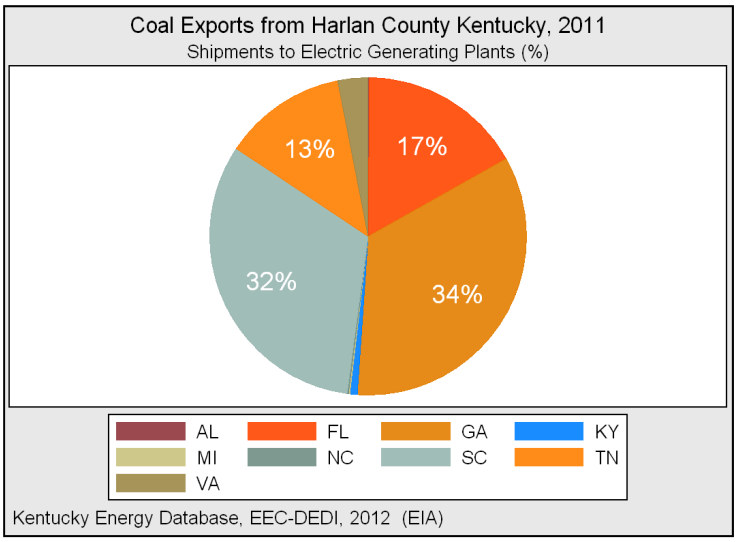


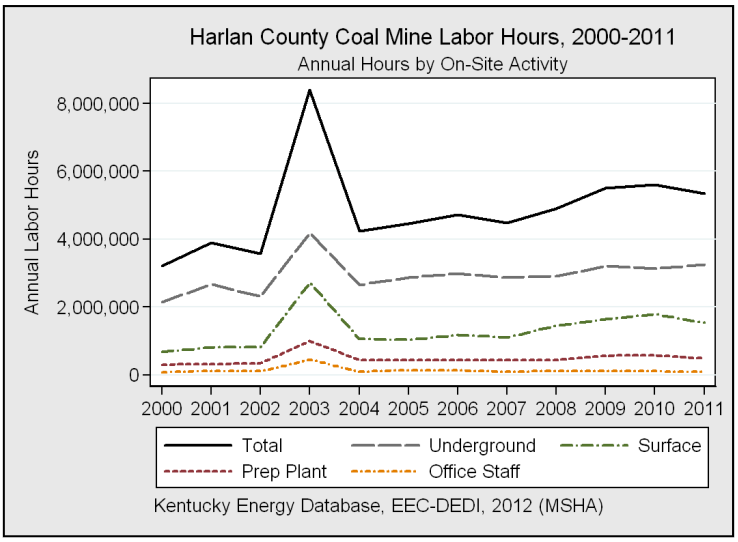


Harlan County produced nearly 9.7 million tons of coal in 2011, which was 9.1% of total production in the Commonwealth, making it the fourth-largest coal-producing county in Kentucky. Yet, production decreased by 7.9% from 2010. Seventy-one percent of the coal produced in 2011 in Harlan County came from underground mining operations, while only 29% from surface mines. From 2001 to 2010, Harlan County's production averaged 10 million tons annually.

The 2,310 individuals employed at Harlan County's 62 coal mines and 13 preparation plants in 2011 represented 12% of all mining employment across Kentucky. While employment decreased by 6% from 2010, it has risen steadily over the past decade, adding 708 jobs since 2000. The majority of these jobs were held by 1,390 underground miners, who worked a total of 3.25 million hours. 677 surface miners worked 1.5 million hours. 190 employees worked in preparation plants and 53 in on-site offices. 56thousand hours.

Harlan County





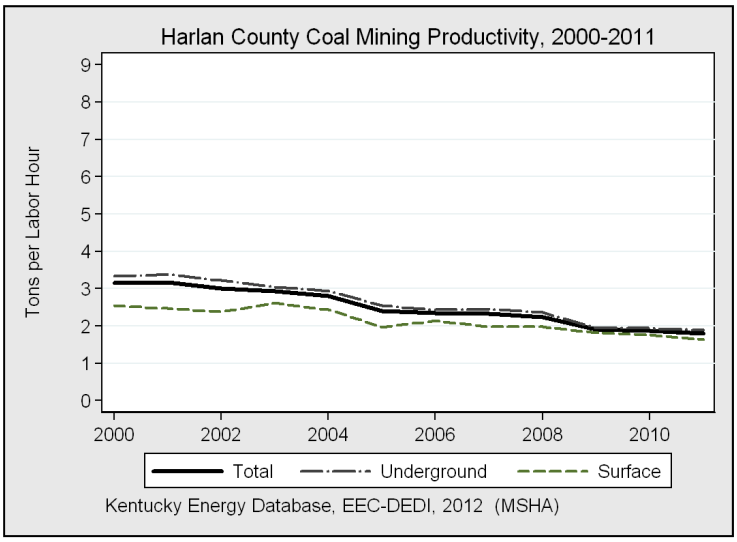
State & Plant	Deliveries (Tons)	Percentage
Total	**10,238,920**	**100%**
Georgia	**3,500,096**	**34.2%**
Bowen	1,945,728	19%
Jack McDonough	754,097	7.4%
Hammond	127,489	1.2%
Kraft	19,277	<1%
Mitchell	12,807	<1%
G.P. Cedar Springs	2,521	<1%
South Carolina	**3,301,100**	**32.2%**
Wateree	924,431	9%
Cross	719,059	7%
Williams	672,105	6.6%
Winyah	434,104	4.2%
Cope	212,225	2.1%
I.P. Eastover	115,140	1.1%
Florence Mill	96,680	<1%
Jefferies	65,905	<1%
Canadys Steam	50,550	<1%
McMeekin	10,871	<1%
Florida	**1,716,775**	**16.8%**
Stanton	854,962	8.4%
McIntosh	554,933	5.4%
Cedar Bay	221,323	2.2%
Crystal River	46,786	<1%
Indiantown	38,971	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**10,238,920**	**100%**
Tennessee	**1,285,789**	**12.6%**
John Sevier	619,341	6%
Kingston	325,652	3.2%
Bull Run	174,248	1.7%
Eastman Chemical	166,548	1.6%
Virginia	**313,783**	**3.1%**
Chesterfield	140,929	1.4%
Clinch River	94,102	<1%
Bremo Bluff	24,903	<1%
Yorktown	22,953	<1%
Clover	20,001	<1%
Spruance Genco	10,895	<1%
Kentucky	**81,844**	**<1%**
Dale	81,147	<1%
Cooper	697	<1%
Michigan	**14,544**	**<1%**
Simon	14,544	<1%
Alabama	**12,616**	**<1%**
Widows Creek	12,616	<1%
North Carolina	**12,175**	**<1%**
Marshall	12,175	<1%

Harlan County Coal Market

The States of Georgia, South Carolina, Florida, and Tennessee represented more than 95% of the demand for Harlan County steam coal in 2011. The Bowen Power Plant of Bartow County, Georgia, by itself received almost one-fifth of all tons shipped during reporting year 2011. Less than one percent of the coal shipped from Harlan County during the year was consumed in Kentucky.

Harlan County



Clover Loadout, Bledsoe Coal Corporation, Harlan County, KY.

(Photo provided courtesy of the James River Coal Company).

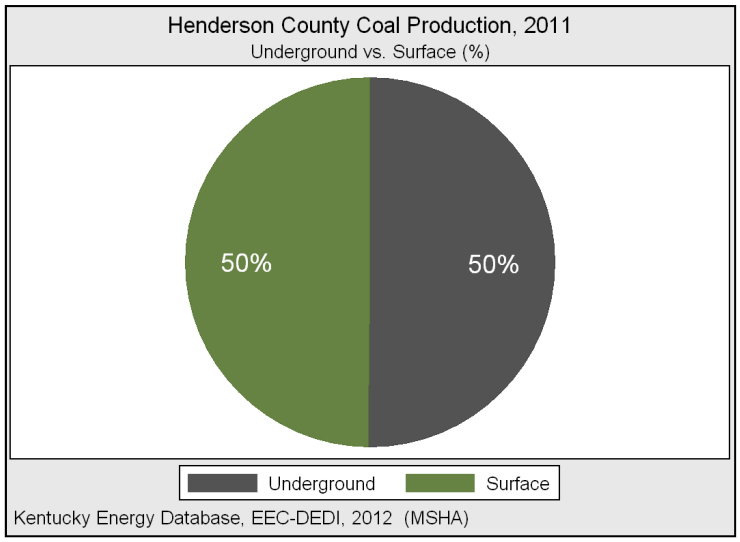
Harlan County Coal Mining Productivity

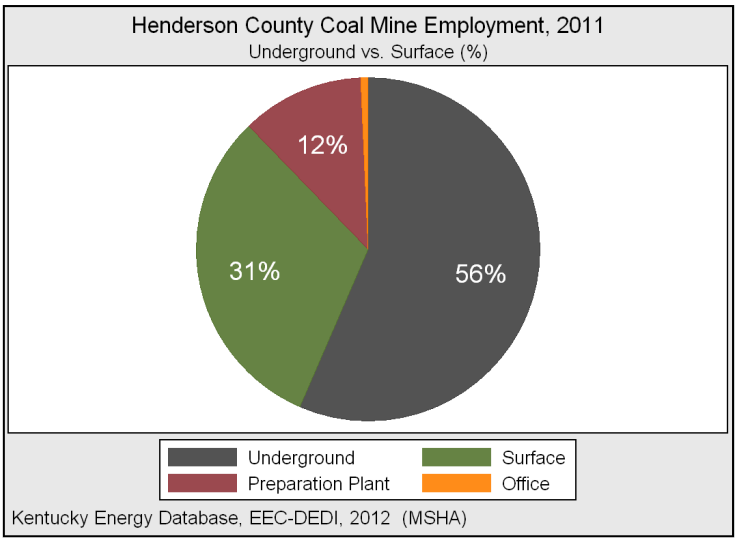
Harlan County's productivity in 2011 was 1.88 tons per labor hour, a decrease of almost 43% since the year 2000. Surface mines in Harlan County, both in 2011 and historically, have not been as productive as the county's underground mines. Underground mines yielded 2.12 tons per miner hour, and 1.887 tons per labor hour. Surface mines yielded 1.812 tons per miner hour and 1.637 per labor hour.

Chemical Composition and Cost

The average delivery price of coal from Harlan County was the second highest in Kentucky at $98.94 in 2011, and ranged in price from $56.40 to $182.79 a ton. Additionally, a typical ton of coal from Harlan County had an ash content of 10.3%, sulfur content of 1.1%, and a heat content of 25.01 MMBtu.

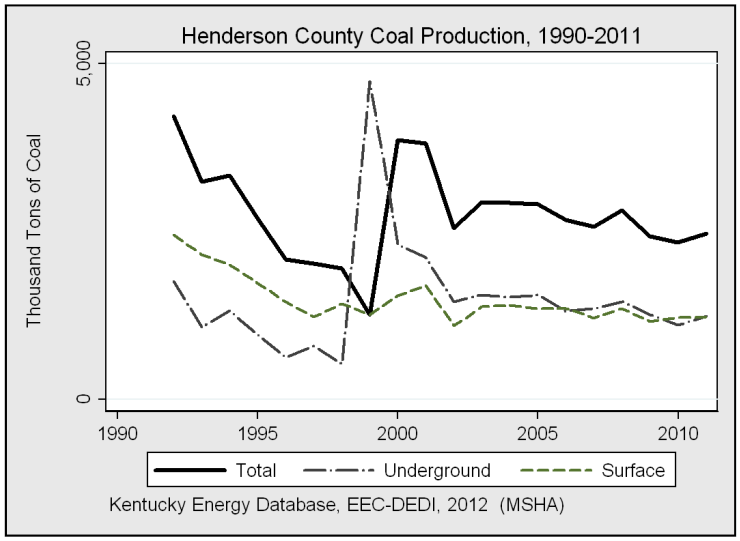
Henderson County

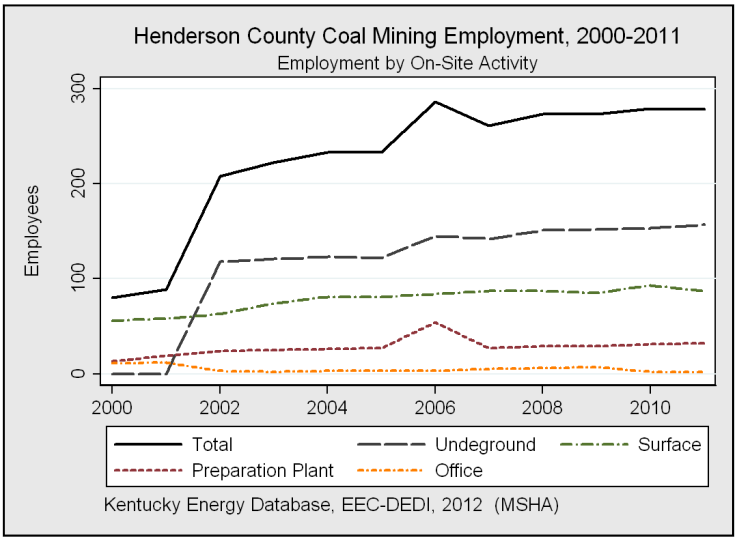




Production Method	Mines	Production	Percentage
Total	3	2,470,579	100%
Underground	1	1,240,057	71%
Surface	2	1,230,522	29%

On-Site Activity	Employment	Percentage
Total	278	100%
Underground	157	56%
Surface	87	31%
Preparation Plant	32	12%
Office	2	1%

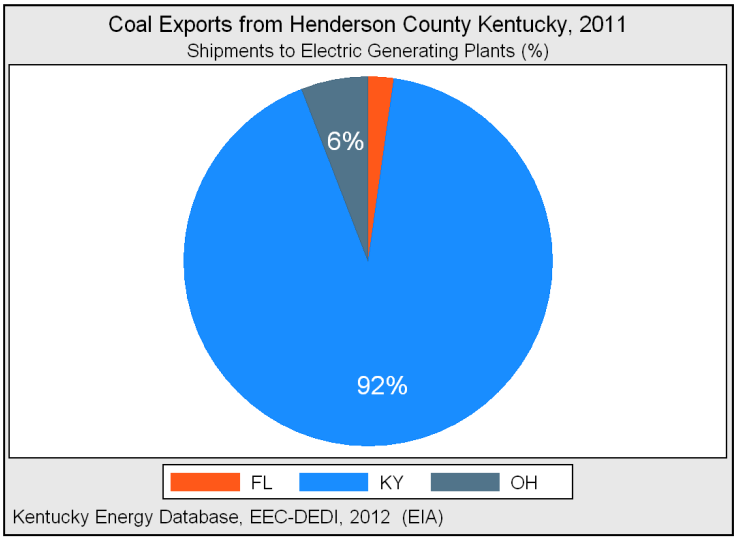


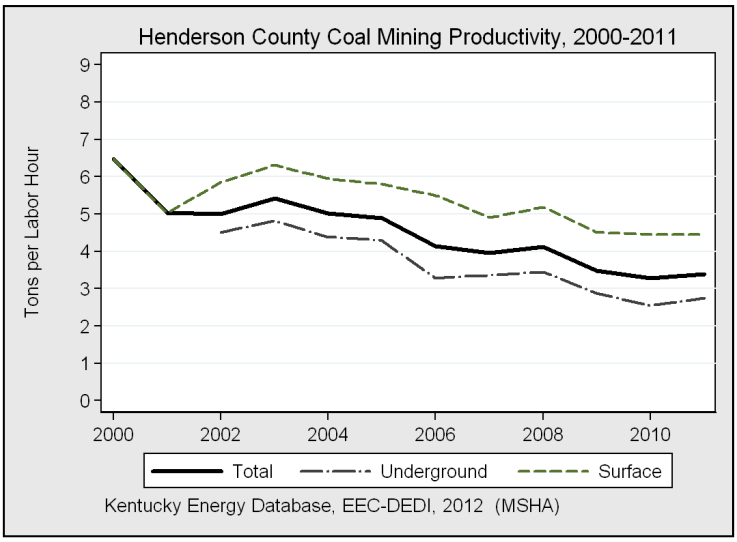


Three coal mines and one preparation plant in Henderson County produced 2.47million tons of coal in 2011, which was 2.3% of total production across the Commonwealth. Henderson County production increased by 5.6% from 2010, but was still slightly lower than the 20 year average production of 2.6 million tons annually. Since 2002, production has been fairly split between surface and underground mining operations.

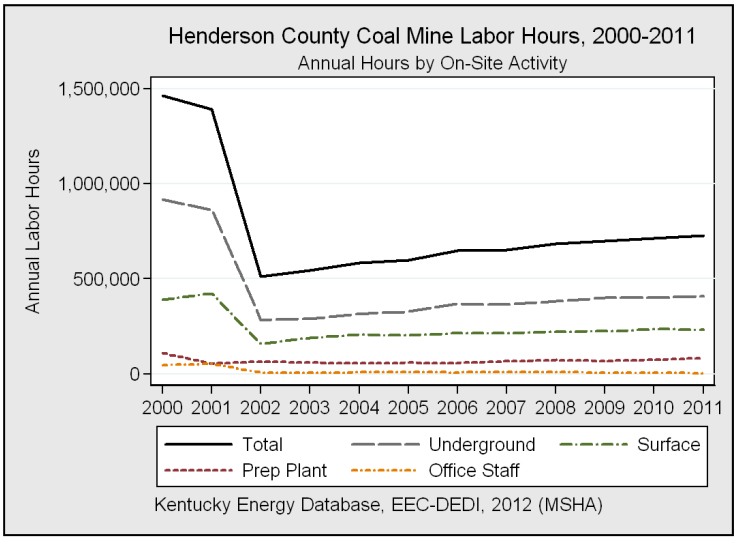
Coal mines in Henderson County employed a total of 278 persons full-time in 2011. Although unchanged from 2010, employment has risen by 248% since 2000. Relatively labor-intense underground operations employed 157 coal miners for 407,610 hours, while surface mines produced virtually the same amount of coal with only 87 miners working 232,945 hours. The 32 persons employed in preparation plants and 2 in administrative offices worked a total of 86,169 hours.

Henderson County





State & Plant	Deliveries (Tons)	Percentage
Total	**2,227,648**	**100%**
Kentucky	**2,047,140**	**91.9%**
Coleman	683,626	30.7%
Ghent	492,902	22.1%
R.D. Green	383,771	17.2%
Elmer Smith	380,342	17.1%
Spurlock	71,211	3.2%
Trimble County	31,971	1.4%
D.B. Wilson	3,317	<1%
Ohio	**130,564**	**5.9%**
Beckjord	51,965	2.3%
Zimmer	40,460	1.8%
Miami Fort	38,139	1.7%
Florida	**49,944**	**2.2%**
Davant Transfer	49,944	2.2%



Henderson County Coal Market

Kentucky was by far the single largest market for Henderson County coal during 2011. Though substantial tonnage was delivered to generating stations in Ohio and Florida, more than 2 million of the 2.2 millions tons shipped from Henderson County remained in the Commonwealth.

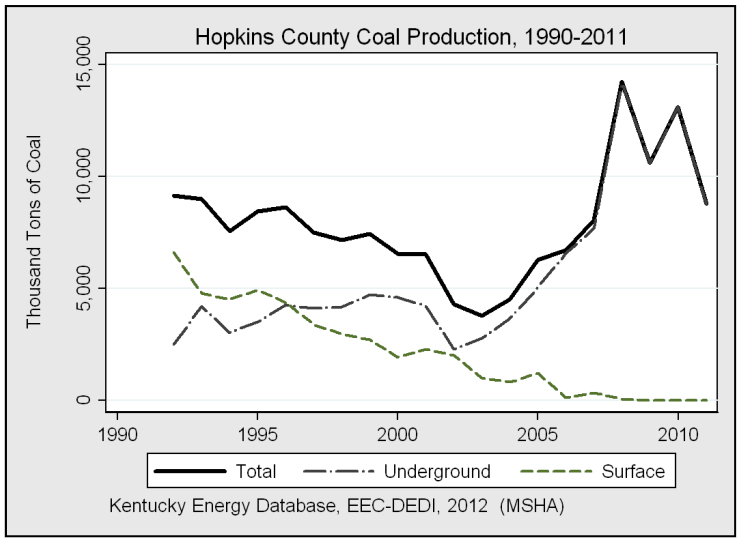
Henderson County Coal Mining Productivity

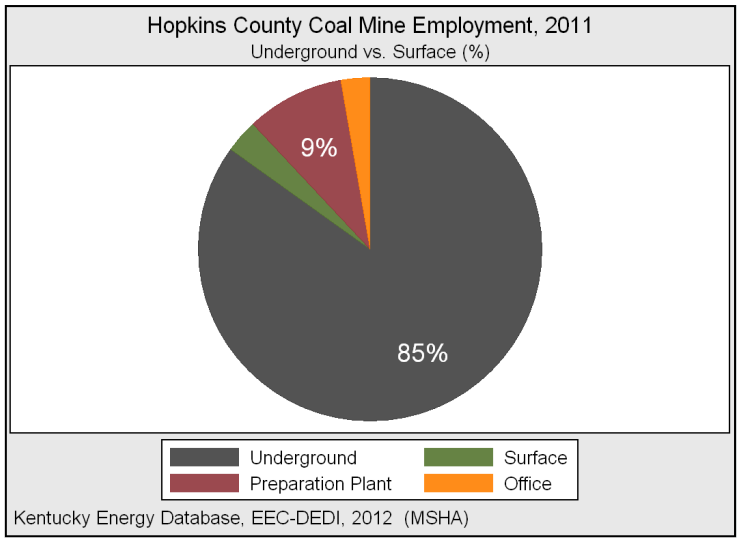
Mining productivity in Henderson County averaged 3.39 tons per labor hour in 2011, a decrease of almost 48% from the year 2000. Surface mines in Henderson County were, as expected, generally more productive than underground mines, yielding 2.96 tons per miner hour, and 2.62 tons per labor hour. Underground mines yielded instead 2.16 tons per miner hour, and 1.904 tons per labor hour.

Chemical Composition and Cost

The average delivery price of coal from Henderson County was the third lowest in Kentucky at $46.79 in 2011, and ranged in price from $34.94 to $68.33 a ton. Additionally, a typical ton of coal from Henderson County had an ash content of 9.64%, sulfur content of 3.08%, and a heat content of 22.09 MMBtu.

Hopkins County

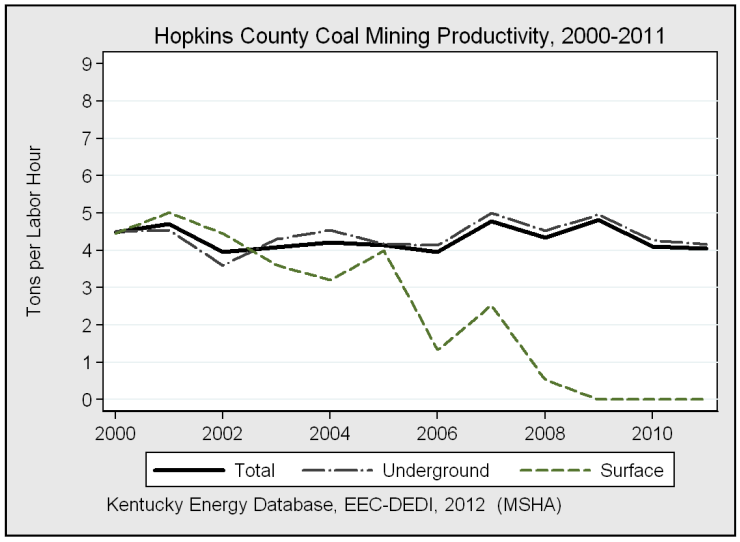


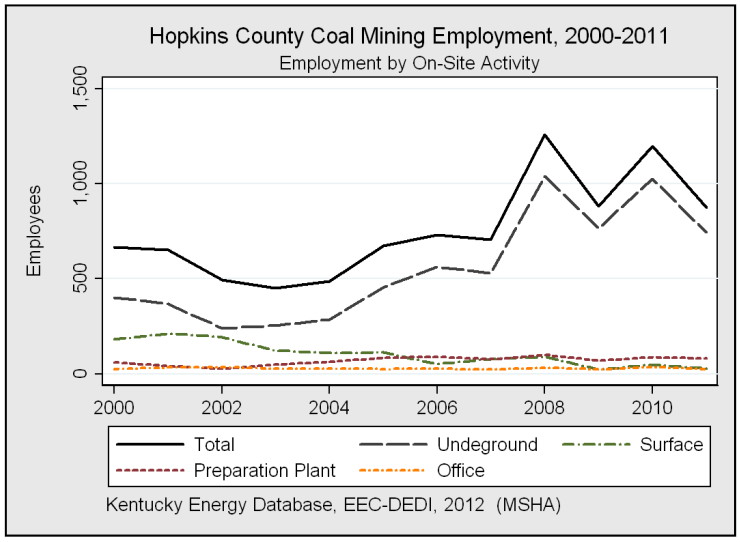


Production Method	Mines	Production	Percentage
Total	3	8,785,647	100%
Underground	3	8,785,647	71%

On-Site Activity	Employment	Percentage
Total	876	100%
Underground	744	85%
Preparation Plant	81	9%
Surface	27	3%
Office	24	3%

Since the year 2002, underground operations have been the primary source of coal mine employment in Hopkins County, located in western Kentucky.

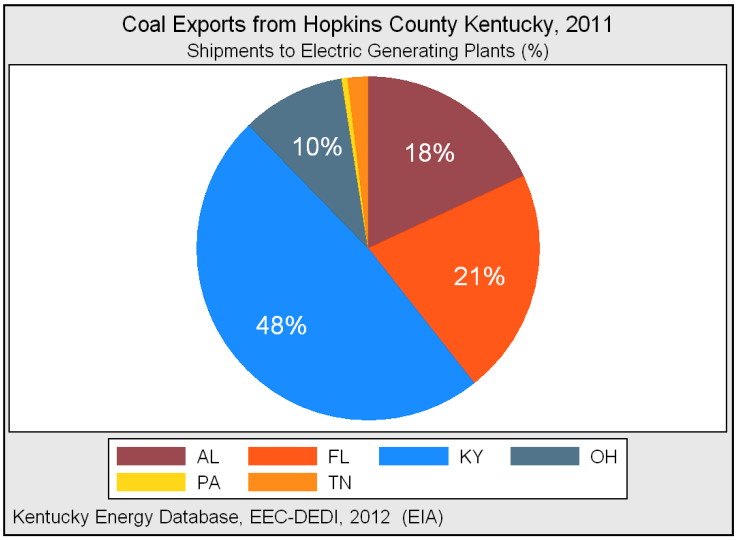


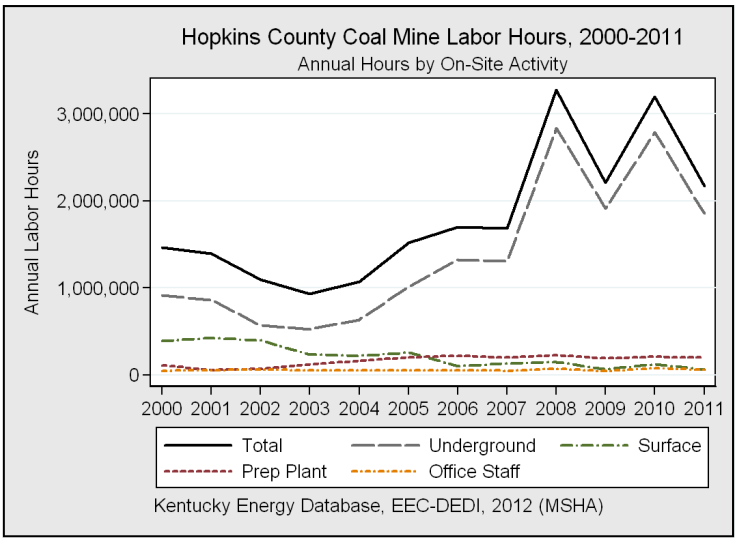


The three active underground coal mines and one preparation plant in Hopkins County produced almost 8.8 million tons of coal in 2011, which was 8.2% of total production across the Commonwealth. Even though production decreased by 33% from 2010, 2011 production was 10% higher than the 20-year average production of 7.8 million tons. The one strip and auger mine in Hopkins County has not registered coal production since 2007.

Around 876 people were employed full-time in the 3 coal mines and 1 preparation plant of Hopkins County in 2011. While employment decreased by 11.69% from 2010, the overall employment trend in the county's large underground coal mines is positive. During the past ten years, underground mines have been the largest source of coal mining employment in Hopkins County.

Hopkins County





State & Plant	Deliveries (Tons)	Percentage
Total	**8,122,006**	**100%**
Kentucky	**3,929,351**	**48.4%**
Mill Creek	2,835,471	34.9%
HMP&L Station 2	717,054	8.8%
Paradise	250,020	3.1%
R.D. Green	70,174	<1%
Cane Run	39,380	<1%
Ghent	17,252	<1%
Florida	**1,729,630**	**21.3%**
Big Bend	1,083,244	13.3%
Seminole	594,661	7.3%
Davant Transfer	51,725	<1%
Alabama	**1,466,708**	**18.1%**
Widows Creek	1,466,708	18.1%
Ohio	**796,980**	**9.8%**
Miami Fort	340,139	4.2%
Zimmer	284,452	3.5%
Beckjord	148,690	1.8%
J.M. Stuart	23,699	<1%
Pennsylvania	**44,210**	**<1%**
Armstrong	44,210	<1%
Tennessee	**154,978**	**1.9%**
Kingston	154,978	1.9%
Illinois	**149**	**<1%**
A.D.M. Decatur	149	<1%

Hopkins County Coal Market

The largest market for Hopkins County coal in 2011 was Kentucky, accounting for 48% of the 8.1 million tons delivered in during the year. Electric utilities in Florida and Alabama were the next largest consumers of Hopkins County coal, followed by Ohio, Tennessee, and Pennsylvania.

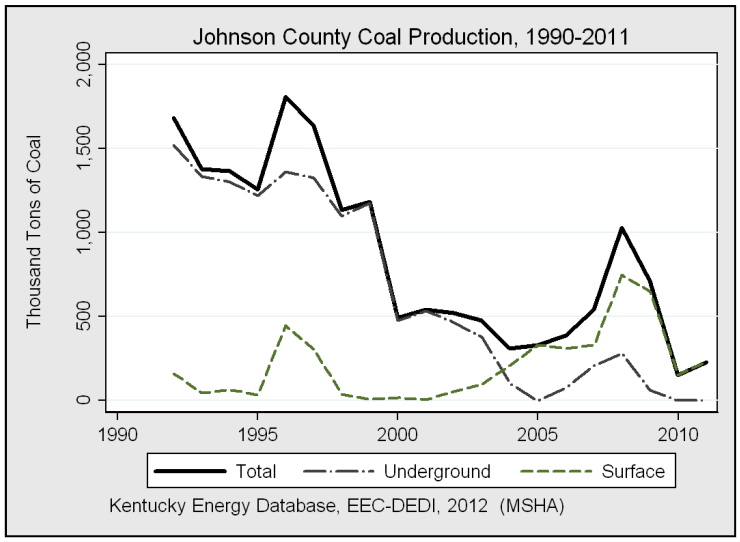
Hopkins County Coal Mining Productivity

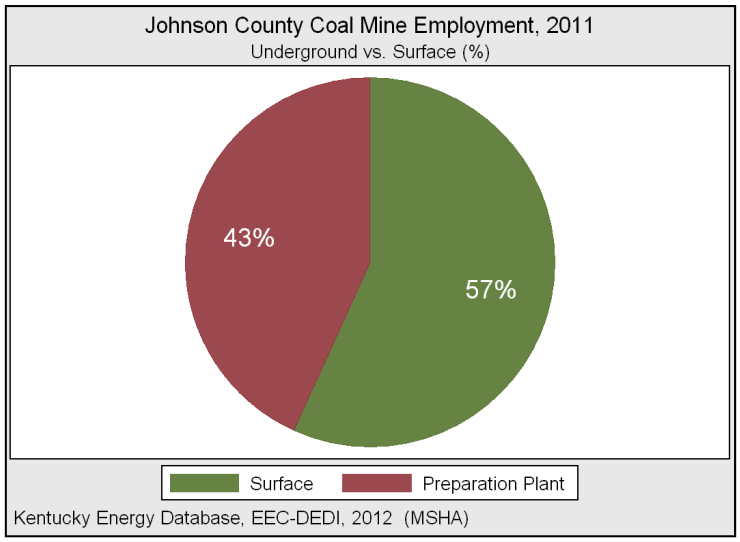
At 4.05 tons per labor hour, Hopkins County in western Kentucky had the second highest average mine productivity in the Commonwealth in 2011. Over the past eleven years productivity in the county has remained fairly stable, and is down only 10% compared with the year 2000.

Chemical Composition and Cost

On average, coal mined in Hopkins County in 2011 had a mean sulfur content of 3.26%, a mean ash content of 10.7%, and a mean heat content of 23.67 MMBTU per ton. The average delivered price per ton for Hopkins County coal in 2011 was $59.11, and ranged from $34.46 to $83.64.

Johnson County

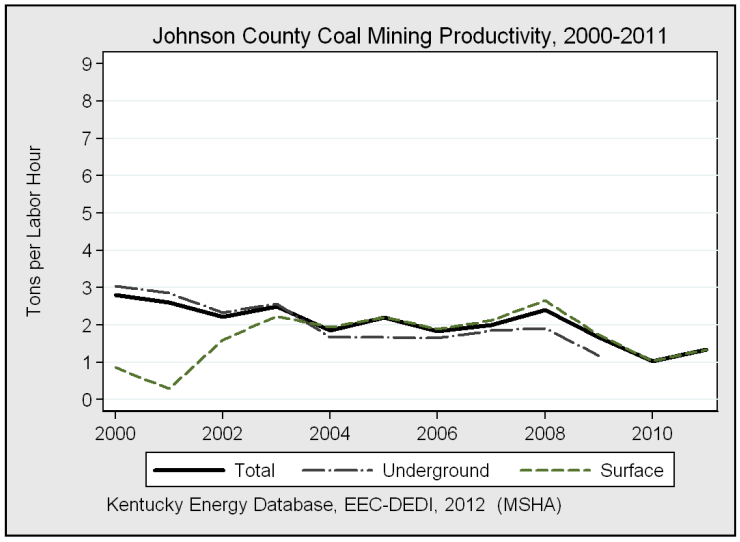


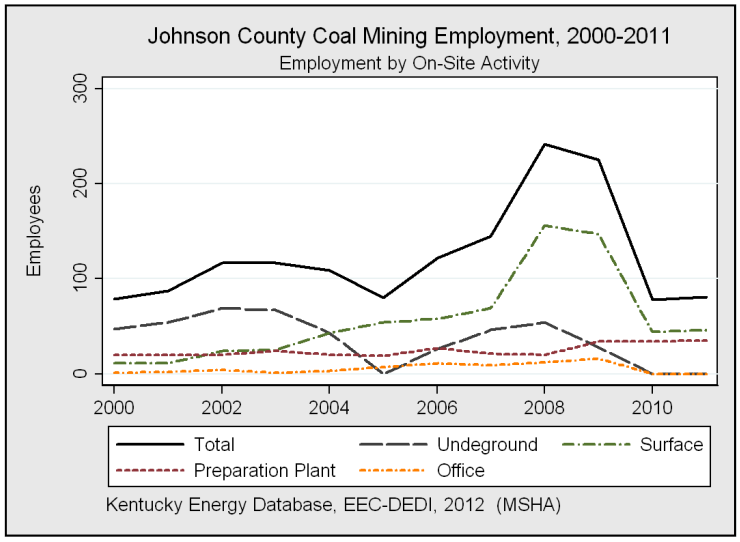


Production Method	Mines	Production	Percentage
Total	5	231,357	100%
Surface	5	231,357	100%

On-Site Activity	Employment	Percentage
Total	81	100%
Surface	46	57%
Preparation Plant	35	43%

In 2011, all coal shipments from Johnson County were delivered to the Big Sandy Power Plant in Louisa, KY. Recently, coal mining employment in Johnson County has been most influenced by surface mine activity year-to-year.

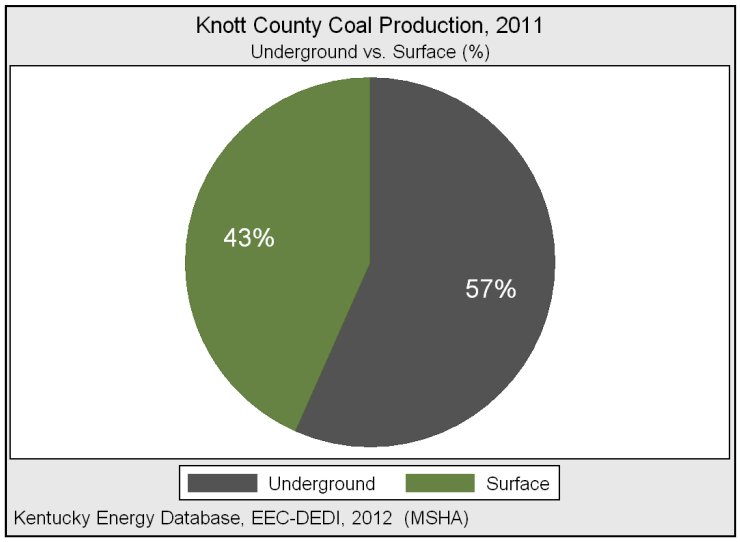


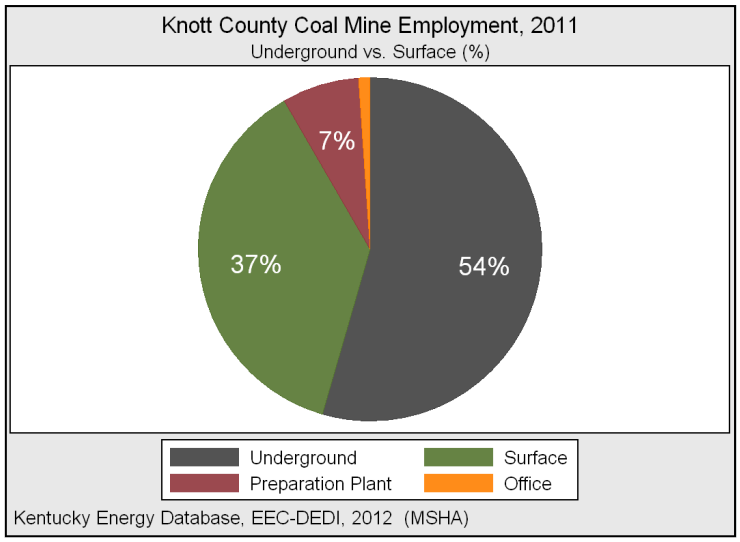


The 5 active surface mines in Johnson County produced more than 231 thousand tons of coal in 2011. Although this reflected an increase of 53% from 2010, production was only a quarter of the county's 19-year average. Gradually, production from underground mines has been replaced by surface mining operations, which accounted for 100% of production in 2011.

Johnson County's 5 coal mines and 1 preparation plant added 3 jobs in 2011 and employed 81 people full-time. Forty-six coal miners were employed in surface operations a total of 76,665 hours and 35 employees worked in preparation plants a total of 96,071 hours. Employment at Johnson County coal mines has fallen by 66% from a 2008 peak of 161 jobs.

Knott County

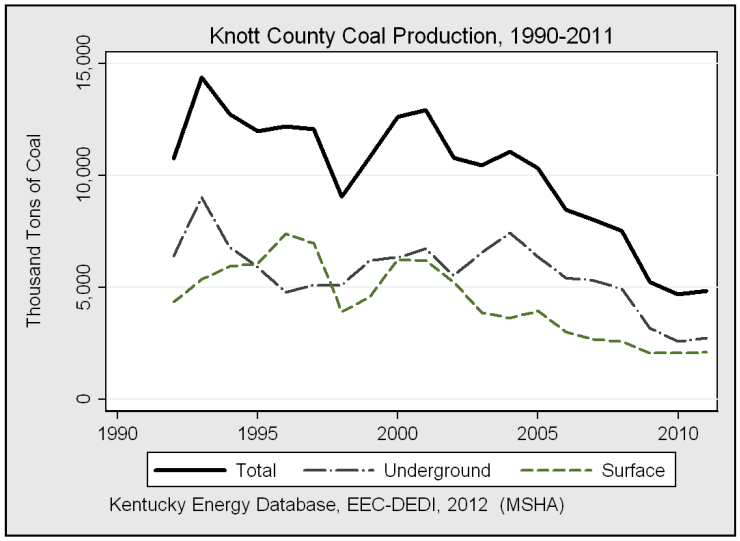


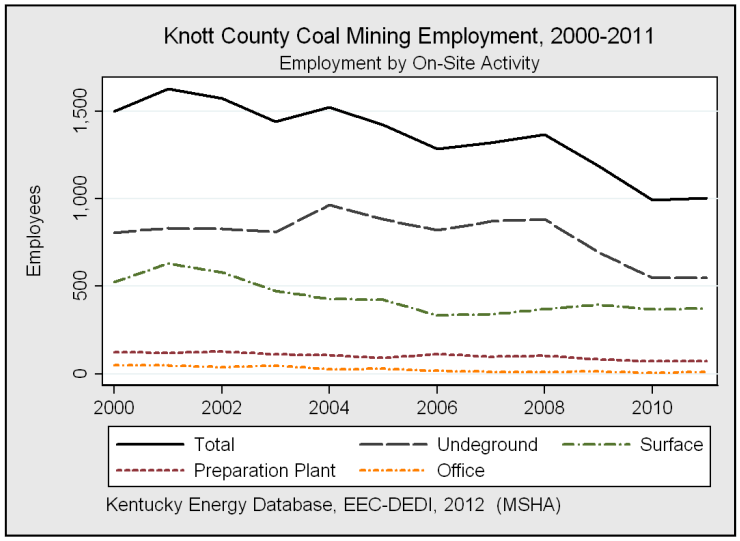


Production Method	Mines	Production	Percentage
Total	30	4,853,069	100%
Underground	15	2,748,736	57%
Surface	15	2,104,333	43%

On-Site Activity	Employment	Percentage
Total	1,004	100%
Underground	547	54%
Surface	373	37%
Preparation Plant	73	7%
Office	11	1%

Between 1992 and 2011, coal production in Knott County was highest at 14.4 million tons, achieved in 1993.

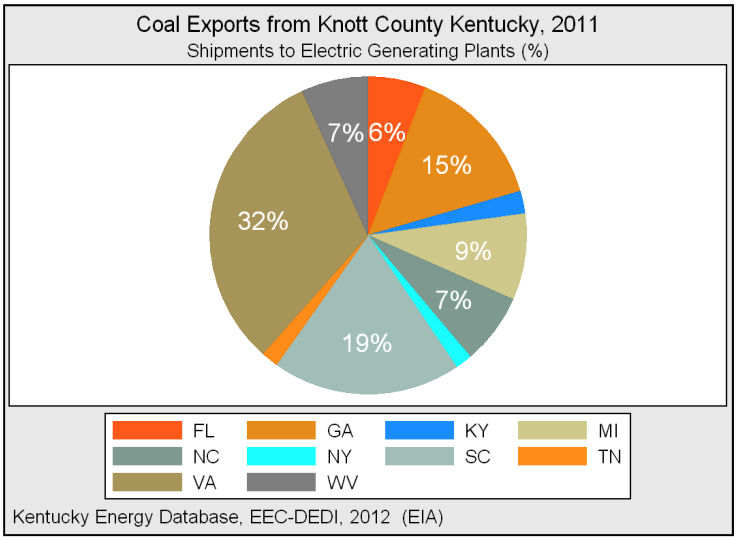


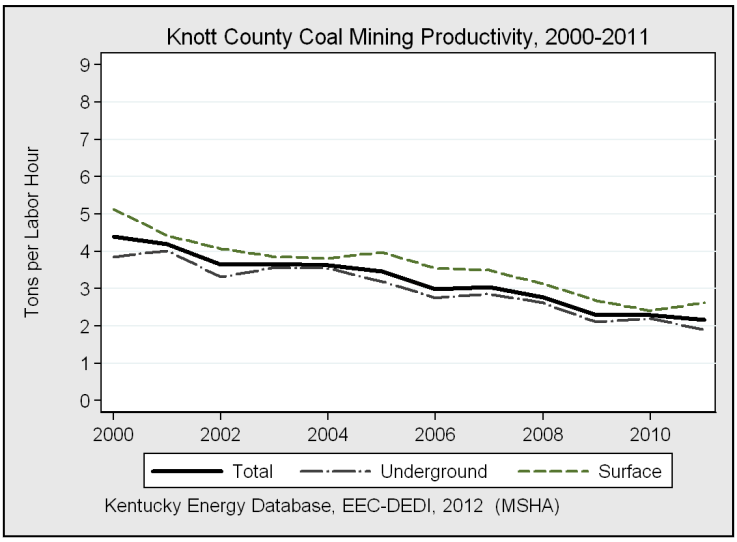


The 30 active coal mines and 5 preparation plants in Knott County produced more than 4.8 million tons of coal in 2011, which was 4.6% of total production in Kentucky. All but three Knott County coal mines today are relatively small, averaging under 140 thousand tons annually. Although production increased by 3.2% from 2010, it remained only a third of historical peaks and less than half the 20-year average of 10 million tons annually.

The 30 coal mines and 5 preparation plants operating in Knott County employed a total of 1,004 persons full-time in 2011. Although unchanged from 2010, total employment has fallen by 38% from 2001. 547 coal miners worked primarily underground for a total of 1,325,393 hours, while 373 miners worked above ground for 711,322 labor hours. Preparation plants employed 73 for 198,346 hours and 11 administrative staff worked in on-site offices for 10,387 hours.

Knott County





State & Plant	Deliveries (Tons)	Percentage
Total	**3,145,502**	**100%**
Virginia	**993,289**	**31.6%**
Chesterfield	594,688	18.9%
Spruance Genco	309,975	9.9%
Yorktown	69,704	2.2%
Bremo Bluff	10,367	<1%
Covington	8,555	<1%
South Carolina	**606,574**	**19.3%**
Cope	229,013	7.3%
Cross	212,522	6.8%
Wateree	77,860	2.5%
Canadys Steam	64,177	2%
Robinson	23,002	<1%
Georgia	**460,812**	**14.6%**
Bowen	310,983	9.9%
I.P. Augusta Mill	111,521	3.5%
Harllee Branch	38,398	1.2%
Michigan	**278,052**	**8.8%**
Monroe	245,388	7.8%
Whiting	22,328	<1%
Weadock	10,336	<1%
North Carolina	**226,840**	**7.2%**
Marshall	138,242	4.4%
Cliffside	66,205	2.1%
Riverbend	22,393	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**3,145,502**	**100%**
West Virginia	**216,018**	**6.9%**
John E. Amos	199,931	6.4%
Kammer	16,087	<1%
Florida	**184,151**	**5.9%**
Crystal River	99,818	3.2%
Stanton	84,333	2.7%
Kentucky	**71,674**	**2.3%**
Big Sandy	51,663	1.6%
Dale	20,011	<1%
Tennessee	**54,258**	**1.7%**
Eastman Chemical	54,258	1.7%
New York	**53,834**	**1.7%**
Kodak Park	53,834	1.7%

Chemical Composition and Cost

Coal from Knott County on average contained 1.32% sulfur, 9.75% ash, and 25.04 MMBtu per ton in 2011. The combination of these factors resulted in an average delivery price of $77.13 per ton, though actual shipment prices ranged from $65.41 to $144.72 during the calendar year.

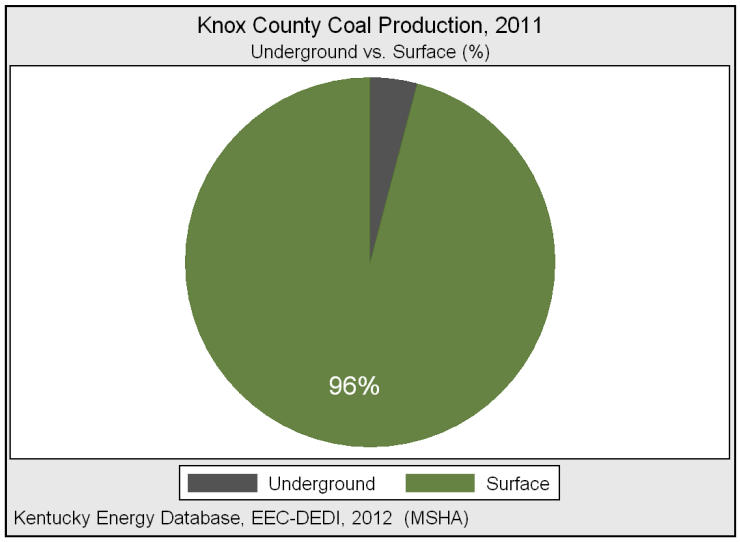
Knott County Coal Market

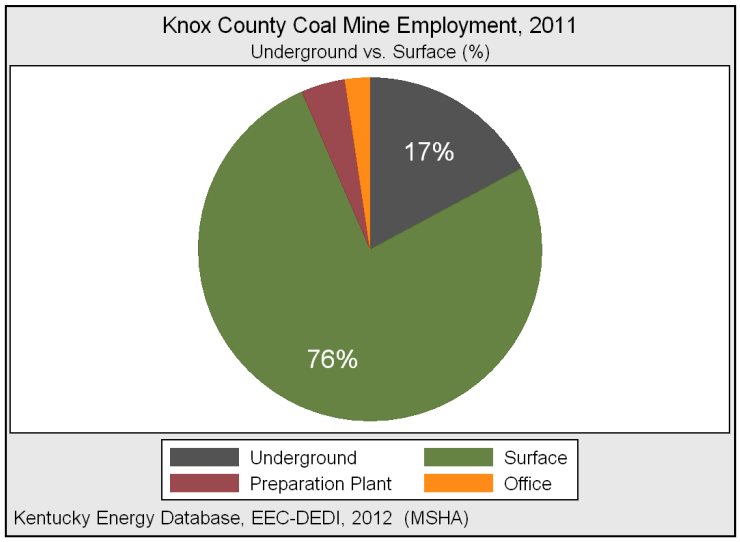
Coal mined in Knott County was delivered to power plants in ten different states in 2011. The Commonwealth of Virginia was the largest market for Knott County coal, wherein the Chesterfield Power Plant alone accounted for 18.9% of all steam coal shipments from the county during the year. Power plants in South Carolina represented the second largest market for Knott County coal.

Knott County Coal Mining Productivity

Knott County's productivity in 2011 was 2.16 tons per labor hour, a decrease of more than 50% from the year 2000. Surface mines in Knott County were, as expected, generally more productive than underground mines, yielding 2.96 tons per miner hour, and 2.62 tons per labor hour. Underground mines yielded only 2.16 tons per miner hour, and 1.904 tons per labor hour.

Knox County

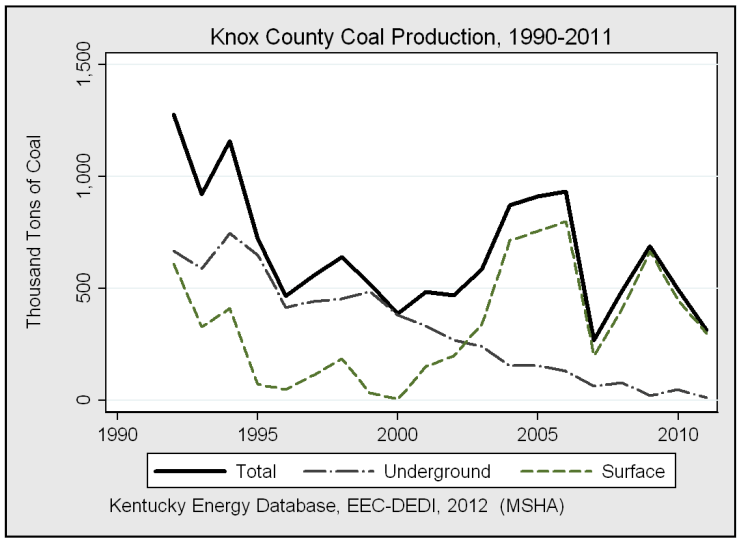


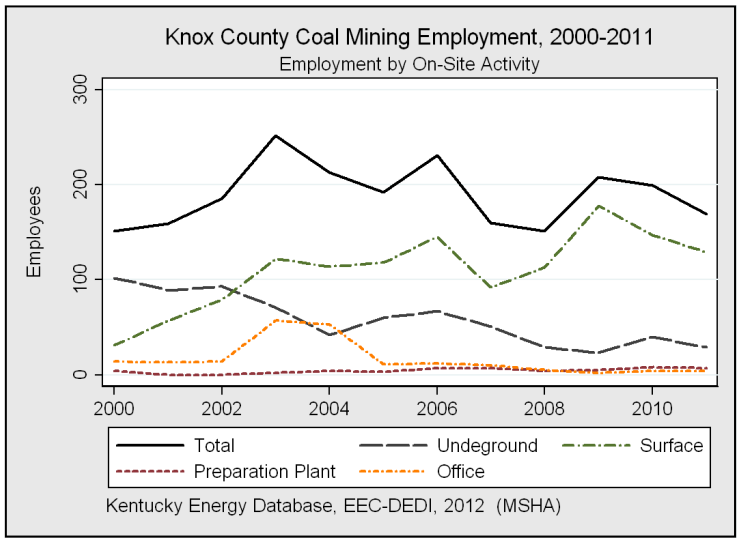


Production Method	Mines	Production	Percentage
Total	15	314,463	100%
Surface	9	301,550	96%
Underground	6	12,913	4%

All coal originating and shipped from Knox County in 2011 was delivered to power plants located in Kentucky.

On-Site Activity	Employment	Percentage
Total	169	100%
Surface	129	76%
Underground	29	17%
Preparation Plant	7	4%
Office	4	2%

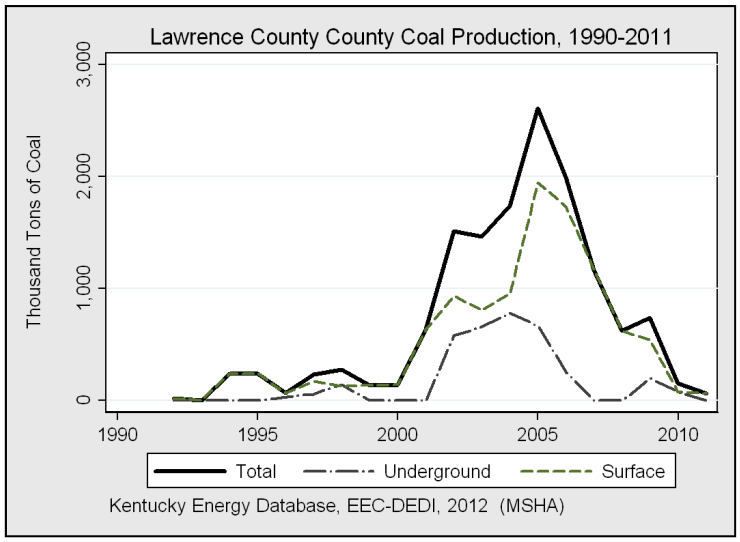


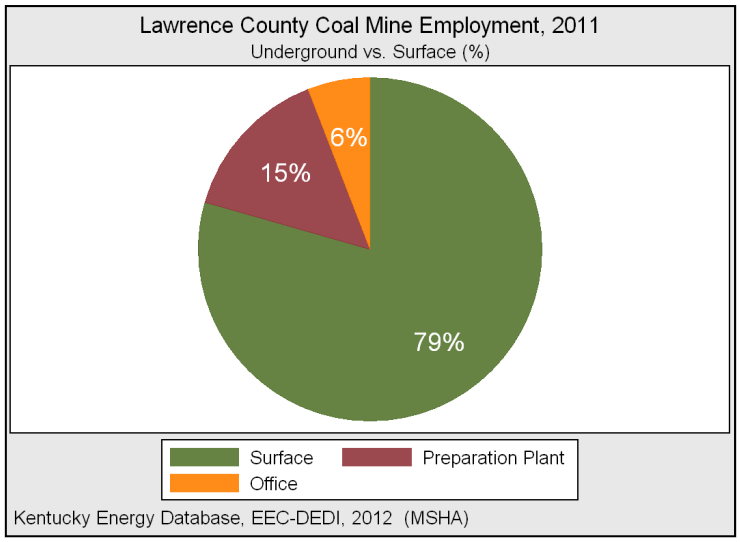


Only 15 small coal mines and 1 preparation plant remain in Knox County, which produced a total of 314 thousand tons in 2011, or 0.3% of the Commonwealth's total production. Coal production in Knox County decreasedl by 37% from 2010 and by 75% since 1992. In 1992, the county's 30 underground mines, 4 surface mines, and 3 preparation plants produced more than a million tons. Additionally, surface mining techniques have become the predominant extraction method since 2003.

Knox County coal mines employed 169 people in 2011, a decrease of 15% from 2010, and only 14% below the 10-year average. 129 miners worked on the surface for 178,562 hours, and 29 underground miners worked for 32,888 hours. Seven employees worked in preparation plants for 10,370 hours, and four administrative staff worked in on-site offices for 6,081 hours. At least temporarily, workforce reductions have been mitigated by declining productivity.

Lawrence County

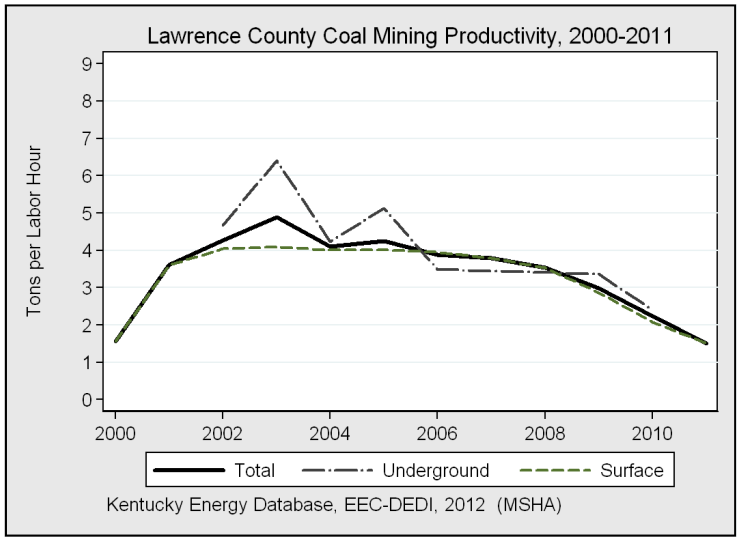


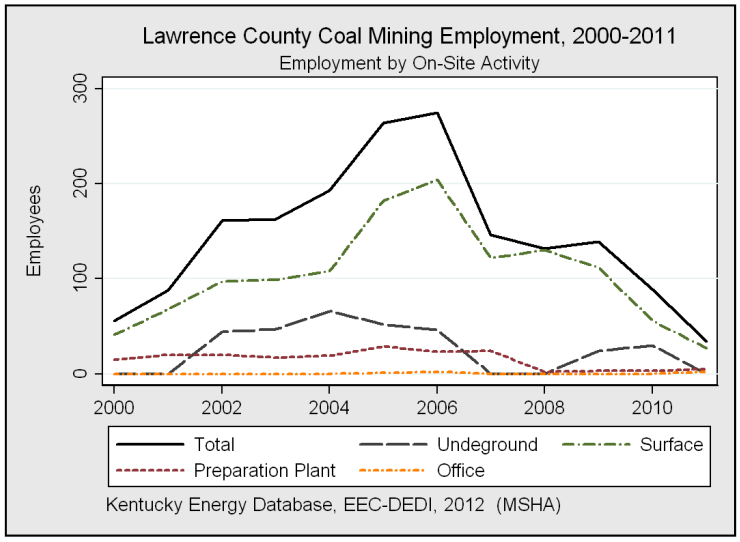


Production Method	Mines	Production	Percentage
Total	5	65,391	100%
Surface	5	65,391	100%

On-Site Activity	Employment	Percentage
Total	34	100%
Surface	27	79%
Preparation Plant	5	15%
Office	2	6%

Between 1992 and 2011, coal production in Lawrence County peaked in 2004 at 4.4 million tons. Since 2004, coal production in the county has declined rapidly.

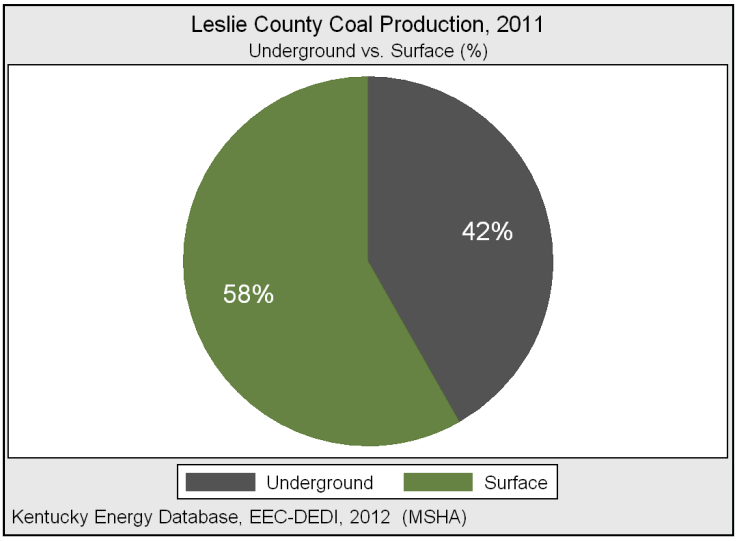


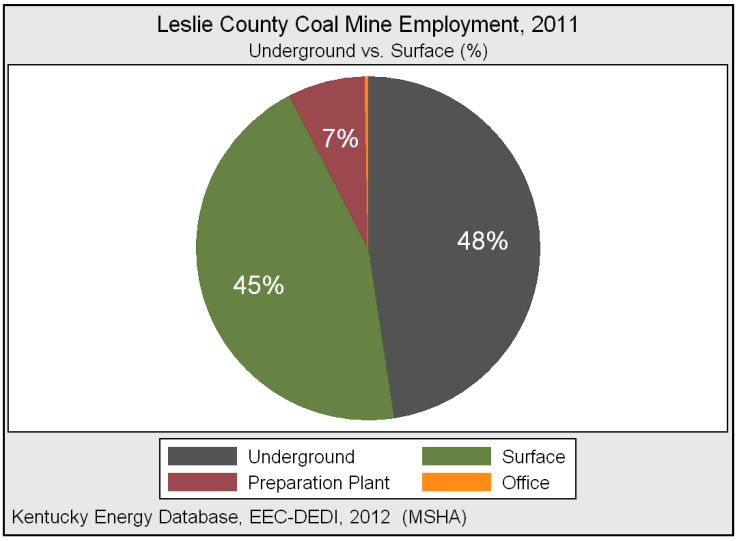


In 2011, the 5 small coal mines and 1 preparation plant located in Lawrence County produced a total of 65 thousand tons. Coal production in Lawrence County increased more than 2 million tons between 2000 and 2005, but production has decreased since 2005. Most of the mines operating in 2005 have now closed. In 2010, the last underground mine in Lawrence County closed, leaving only 5 surface mines, one refuse recovery mine, and one preparation plant in operation.

Coal mines in Lawrence County employed a total of 34 persons full-time in 2011, a reduction of 62% from 2010, and a reduction of 88% from 2006. All 27 of the coal miners in Lawrence worked above ground a total of 31,421 hours. Five employees staffed the preparation plant a total of 10,440 hours. Two administrative staff worked at on-site offices for a total of 1,368 hours.

Leslie County

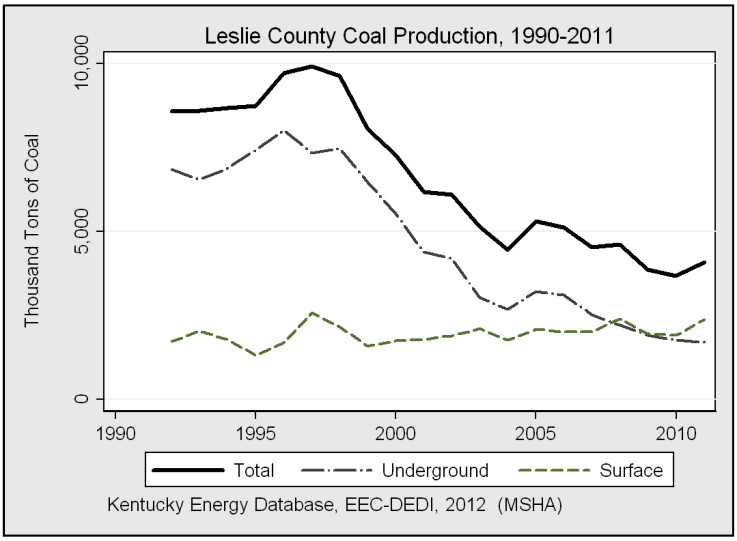


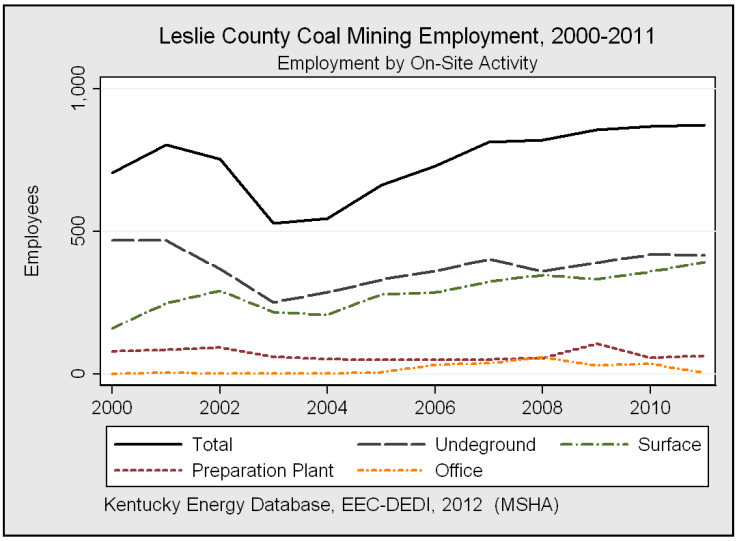


Production Method	Mines	Production	Percentage
Total	18	4,093,772	100%
Surface	12	2,383,474	58%
Underground	6	1,710,298	42%

Underground coal production began to decline in Leslie County during 1996.

On-Site Activity	Employment	Percentage
Total	872	100%
Underground	415	48%
Surface	391	45%
Preparation Plant	63	7%
Office	3	0.3%

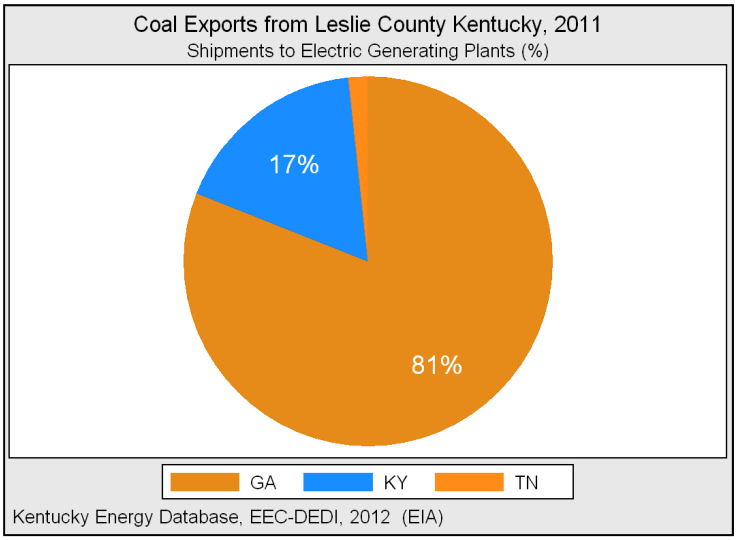


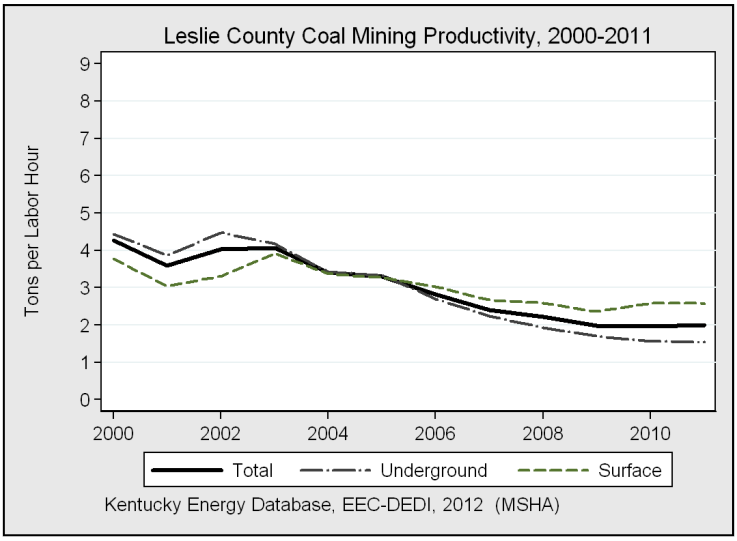


During 2011, Leslie County had 18 active mine sites which produced more than four million tons of coal. Production in the county was led by surface mine operations which accounted for 2.3 million tons on the year. Overall, Leslie County represented 4% of statewide coal production in 2011, and increased production by 11% compared to 2010.

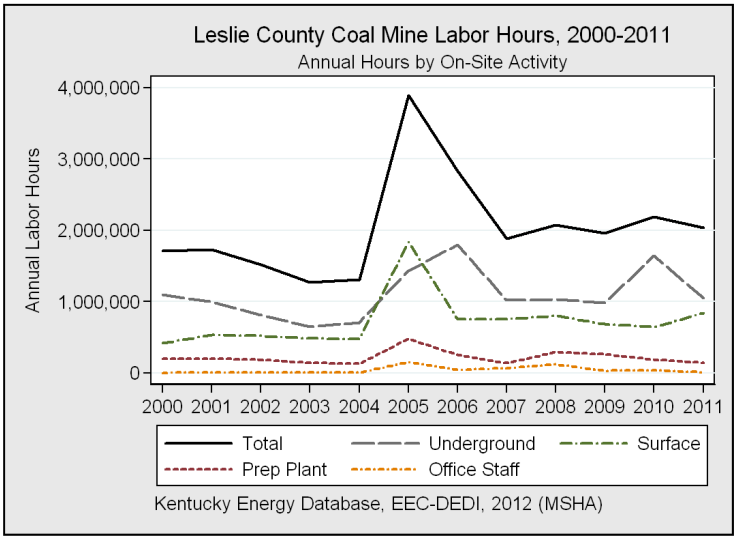
Direct coal mining employment in Leslie County has risen by 38% since 2004, in part due to decreasing productivity at active surface and underground mines. In 2011, coal mining companies in Leslie County maintained around 872 full-time employees with the majority of workers stationed at surface and underground operations.

Leslie County





State & Plant	Deliveries (Tons)	Percentage
Total	**1,347,046**	**100%**
Georgia	**1,091,640**	**81%**
Harllee Branch	624,464	46.4%
Bowen	407,635	30.3%
Jack McDonough	35,827	2.7%
G.P. Cedar Springs	23,714	1.8%
Kentucky	**232,205**	**17.2%**
Cooper	157,063	11.7%
Spurlock	75,142	5.6%
Tennessee	**23,201**	**1.7%**
Bull Run	23,201	1.7%



Leslie County Coal Market

Receiving 46.4% of steam coal exported from Leslie County in 2011, the Harllee Branch Power Plant in Milledgeville, Georgia, was the largest customer of Leslie County coal. The Bowen Power Plant, also of Georgia, accounted for another 30.3% of Leslie County coal shipments during the year. By state, Kentucky was the second largest consumer of Leslie County coal, while Tennessee also received a small portion of total shipments.

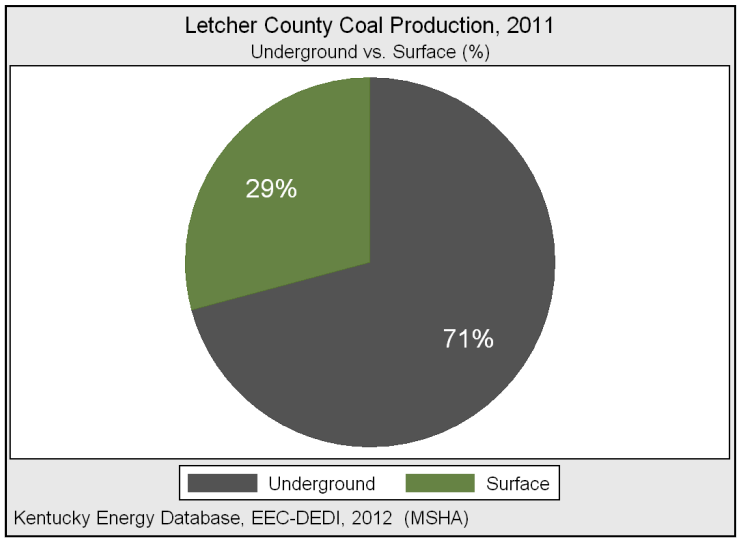
Leslie County Coal Mining Productivity

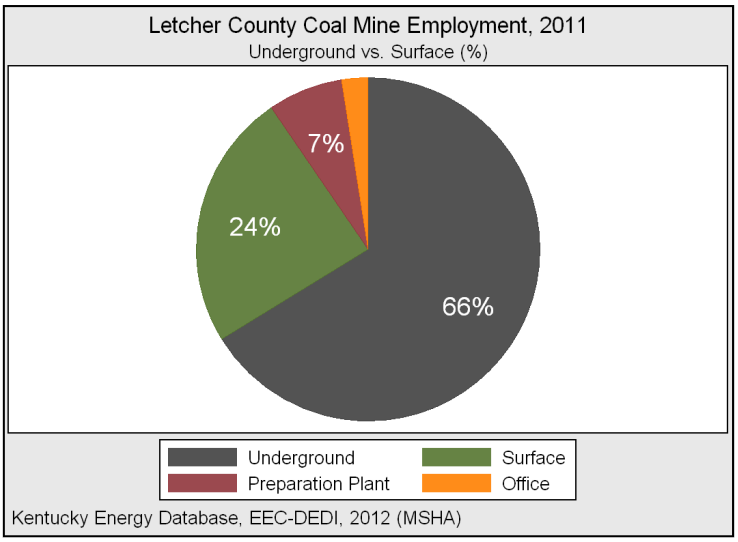
Average mine productivity in Leslie County was 2.01 tons per labor hour in 2011. Overall, county-level productivity was buffeted by surface operations, which accounted for 58% of annual production. In 2011, surface coal mines were typically 68% more productive than underground mines.

Chemical Composition and Cost

The average delivery price of coal from Leslie County was the highest in Kentucky at $134.38 in 2011, and ranged in price from $56.14 to $172.50 a ton. Additionally, a typical ton of coal from Leslie County had an ash content of 9.64%, sulfur content of 3.08%, and a heat content of 22.09 MMBtu.

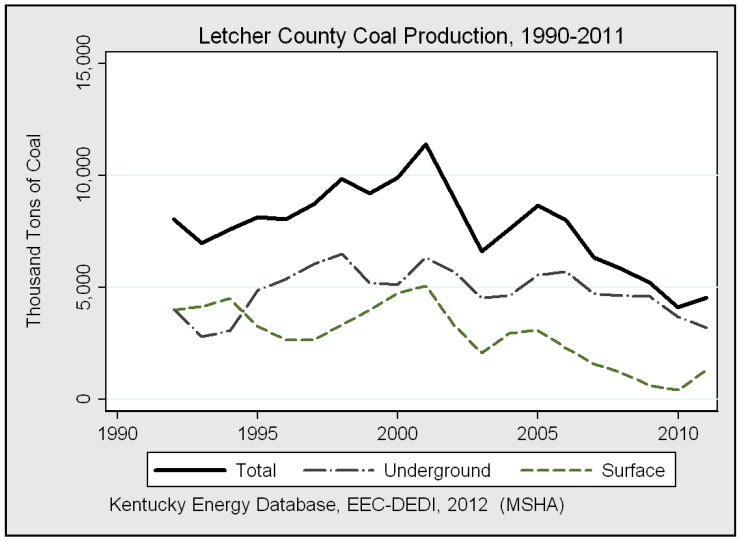
Letcher County

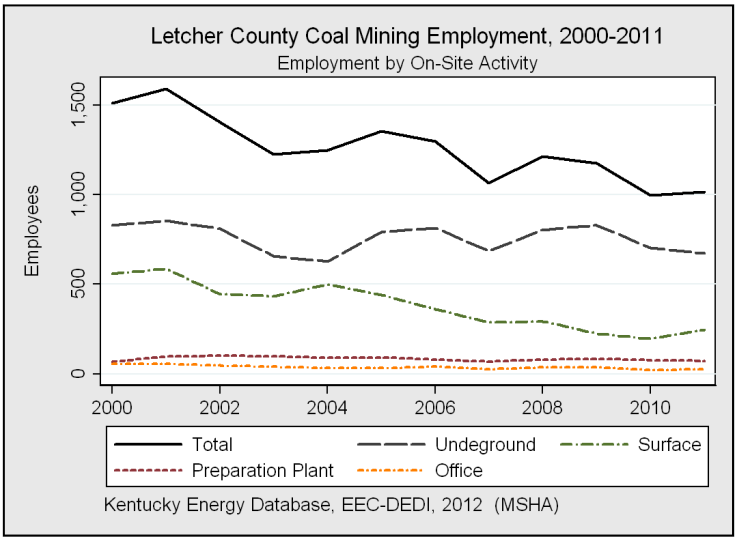




Production Method	Mines	Production	Percentage
Total	40	4,543,905	100%
Underground	23	3,217,731	71%
Surface	17	1,326,174	29%

On-Site Activity	Employment	Percentage
Total	1,016	100%
Underground	673	66%
Surface	246	24%
Preparation Plant	72	7%
Office	25	3%

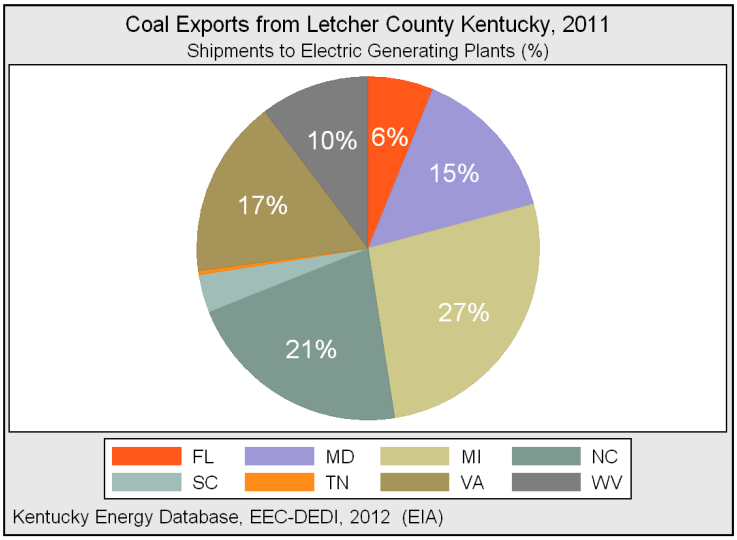


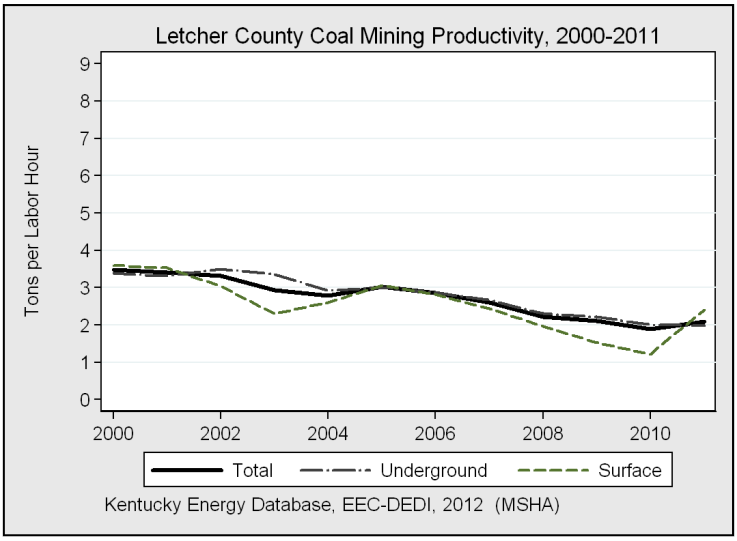


With 40 active mine sites in 2011, Letcher County produced 4.5 million tons of coal (or 4% of statewide production). Interestingly, Letcher County was home to many small mines, with 26 sites producing less than 100,000 tons during the year. Overall, coal production was led by underground operations which accounted for 71% of annual production.

Coal mine operations in Letcher County employed more than 1,000 people full-time during 2011. Greater than two thirds of coal mining employment involved underground labor hours, followed by surface sites which represented a quarter of full-time jobs. In addition, 72 individuals operated preparation plants within the county, while 25 people worked in offices directly supporting mine operations.

Letcher County





State & Plant	Deliveries (Tons)	Percentage
Total	**2,531,413**	**100%**
Michigan	**675,434**	**26.7%**
Trenton Channel	300,046	11.9%
Monroe	163,100	6.4%
Cobb	80,961	3.2%
Weadock	68,302	2.7%
Whiting	23,981	<1%
St. Clair	12,000	<1%
River Rouge	11,000	<1%
Campbell	10,891	<1%
Simon	5,153	<1%
North Carolina	**542,813**	**21.4%**
Marshall	485,818	19.2%
Cliffside	34,135	1.3%
Riverbend	22,860	<1%
Virginia	**426,330**	**16.8%**
Chesterfield	232,661	9.2%
Yorktown	185,343	7.3%
Covington	8,326	<1%
Maryland	**372,320**	**14.7%**
Morgantown	372,209	14.7%
Chalk Point	111	<1%
West Virginia	**259,923**	**10.3%**
Kammer	239,220	9.5%
John E. Amos	20,703	<1%
Florida	**155,341**	**6.1%**
Crystal River	155,341	6.1%

State & Plant	Deliveries (Tons)	Percentage
Total	**2,531,413**	**100%**
South Carolina	**90,372**	**3.6%**
Cogen South	55,236	2.2%
W.S. Lee	23,002	<1%
Cope	12,134	<1%
Tennessee	**8,880**	**<1%**
Eastman Chemicals	8,880	<1%

Letcher County Coal Market

Combined, electric power plants in Michigan and North Carolina represented 51.4% of the market for Letcher County coal in 2011. Other major importers of Letcher County coal were Virginia and Maryland during the same time period.

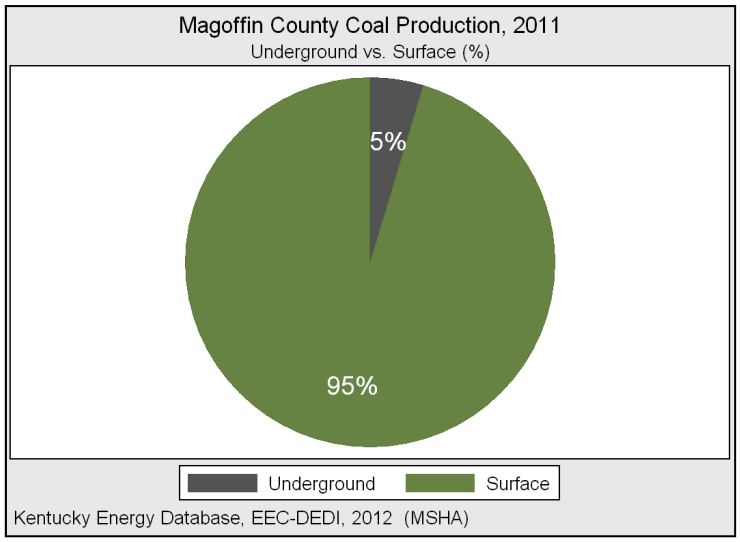
Letcher County Coal Mining Productivity

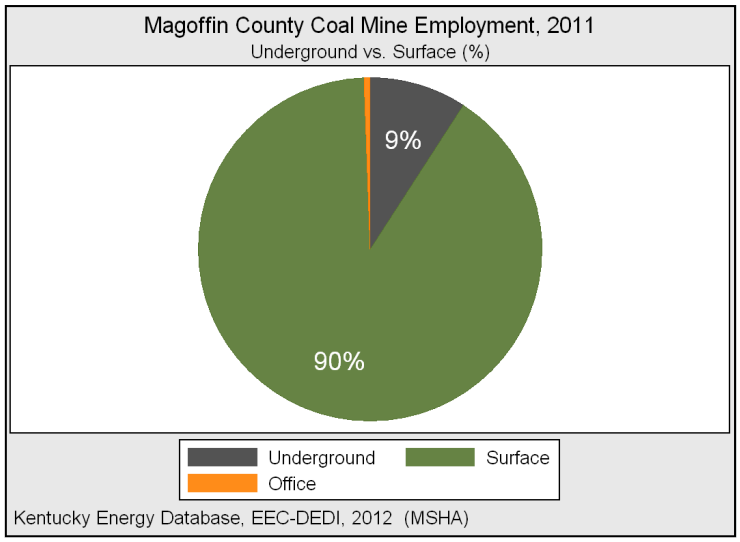
Average coal mine productivity in Letcher County was 2.09 tons per hour in 2011. While underground operations had productivity of 1.98 tons per hour and represented 71% of county production, surface operations were 22% more efficient at 2.41 tons per hour. Since 2000, Letcher County productivity has fallen by 40%.

Chemical Composition and Cost

On average, coal mined in Letcher County in 2011 had a mean sulfur content of 1.6%, a mean ash content of 8.84%, and a mean heat content of 25.45 MMBTU per ton. The average delivered price per ton for Letcher County coal in 2011 was $72.66, and ranged from $69.75 to $141.78.

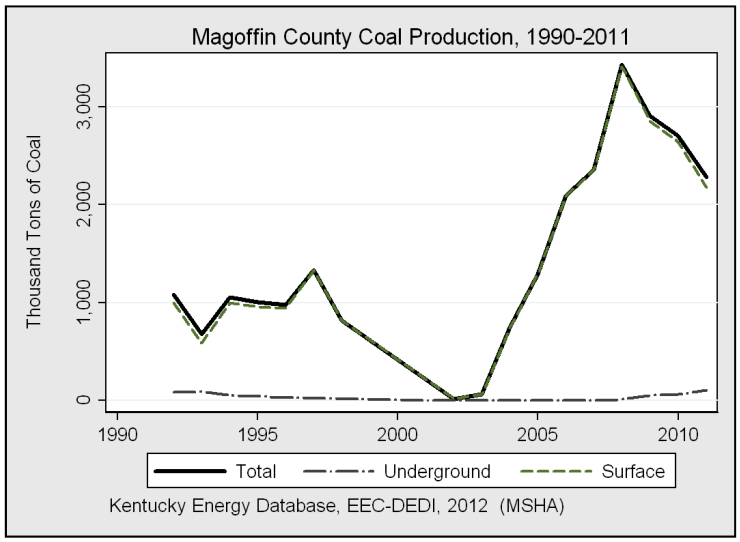
Magoffin County

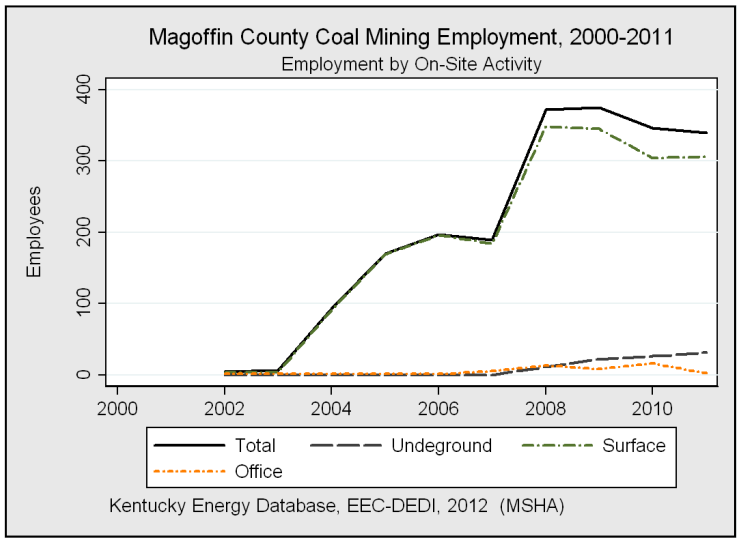




Production Method	Mines	Production	Percentage
Total	8	2,278,498	100%
Surface	7	2,173,285	95%
Underground	1	105,213	5%

On-Site Activity	Employment	Percentage
Total	339	100%
Surface	306	90%
Underground	31	9%
Office	2	<1%

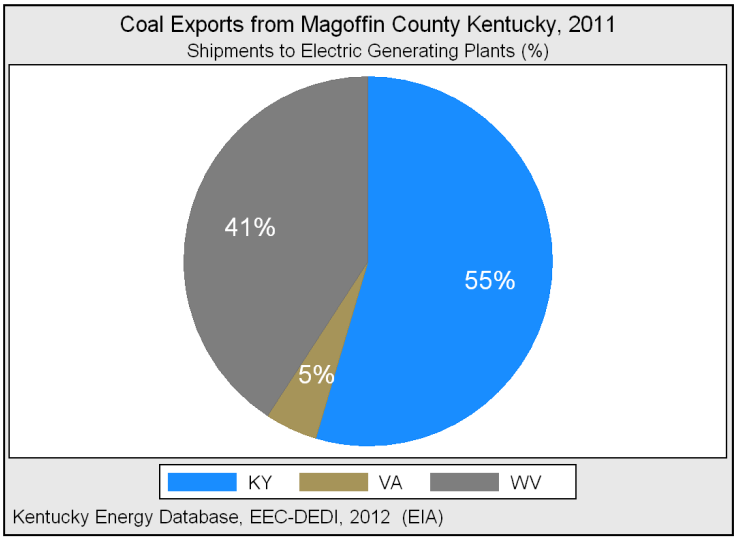


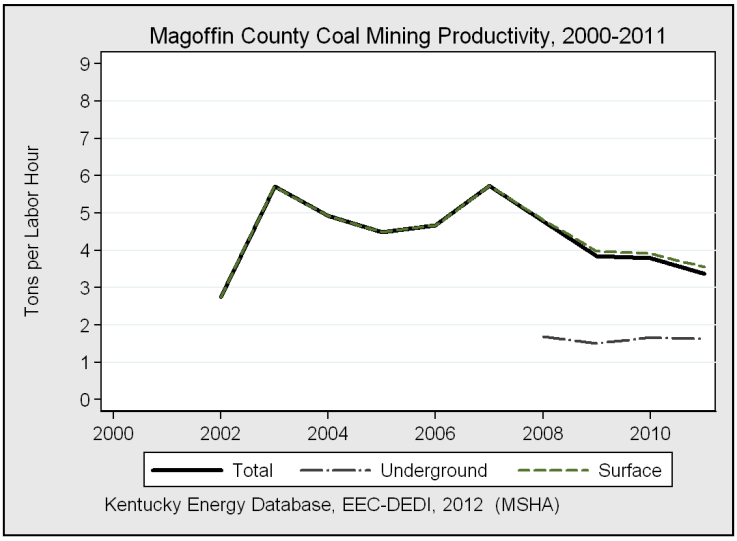


Since 1992, coal production in Magoffin County has fluctuated substantially and has been driven almost entirely by surface mine operations. From 1992 to 2002, coal production decreased from more than one million tons to nearly zero. However, between 2003 and 2008, coal production rebounded and peaked at 3.4 million tons. In 2011, Magoffin County's production decreased to 2.2 million tons, with nearly 95% of this tonnage delivered by surface mines.

Recently, many areas of Magoffin County were considered mined-out, and no longer supported productive mine operations. However, with a substantial increase in the market price of coal starting in 2002 the economics of mining in Magoffin County changed, and new surface and underground mine sites were developed. As of 2011, coal mining in the county supported around 339 full-time employees, with the majority of these miners stationed at surface mine operations.

Magoffin County





State & Plant	Deliveries (Tons)	Percentage
Total	**505,763**	**100%**
Kentucky	**276,036**	**54.6%**
Big Sandy	214,787	42.5%
Dale	22,058	4.4%
E.W. Brown	20,295	4%
Ghent	18,896	3.7%
West Virginia	**206,465**	**40.8%**
Mitchell	206,465	40.8%
Virginia	**23,262**	**4.6%**
Chesterfield	23,262	4.6%

Magoffin County Coal Market

Customers for Magoffin County coal were concentrated in Kentucky, West Virginia, and Virginia in 2011. Big Sandy, located in Louisa, Kentucky, was the largest consumer of Magoffin County coal, followed by the Mitchell Power Station of Moundsville, West Virginia.

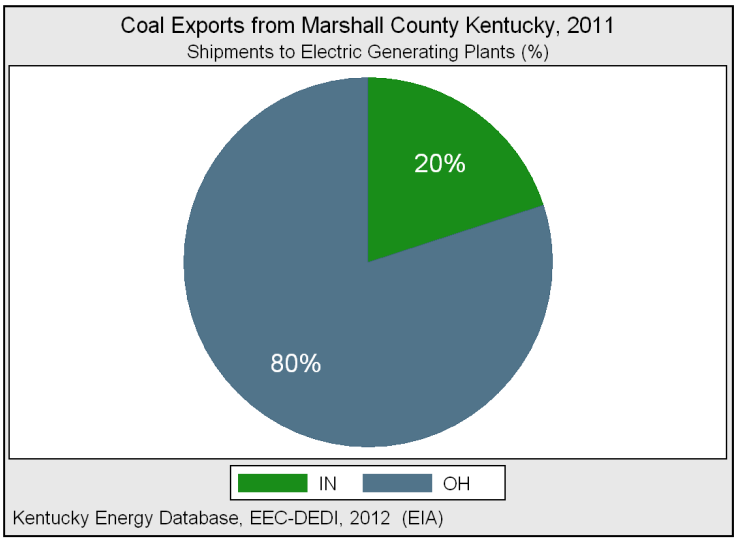
Magoffin County Coal Mining Productivity

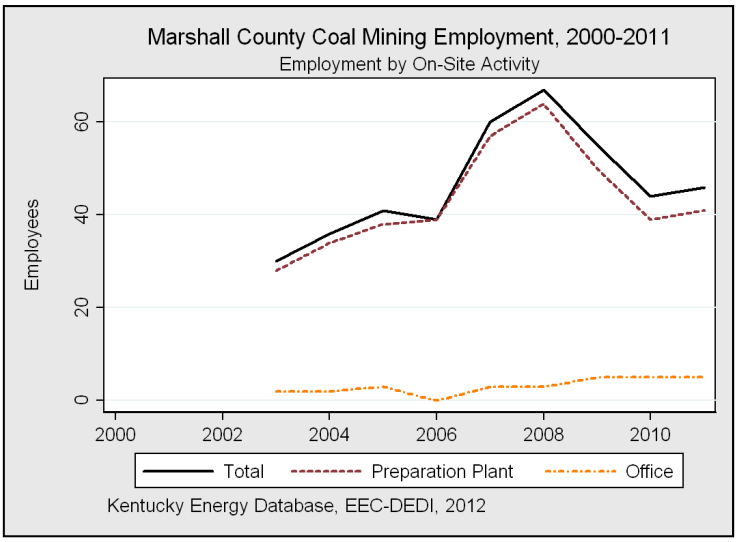
At 3.37 tons per labor hour, average coal mine productivity in Magoffin County was the seventh highest in Kentucky and the highest of any county in the Eastern Coal Field in 2011. This level of productivity was influenced almost entirely by surface mine operations, which represented 95% of coal production in Magoffin County in 2011.

Chemical Composition and Cost

Coal from Magoffin County on average contained 1.03% sulfur, 10.04% ash, and 24.08 MMBtu per ton in 2011. The combination of these factors resulted in an average delivery price of $64.85 per ton, though actual shipment prices ranged from $35.82 to $85.89 during the calendar year.

Marshall County





State & Plant		Deliveries (Tons)	Percentage
Total		**163,504**	**100%**
Ohio		**130,810**	**80%**
	Stuart	114,591	70.1%
	Miami Fort	16,219	9.9%
Indiana		**32,694**	**20%**
	Gallagher	32,694	20%

On-Site Activity	Employment	Percentage
Total	46	100%
Preparation Plant	41	89%
Office	5	11%

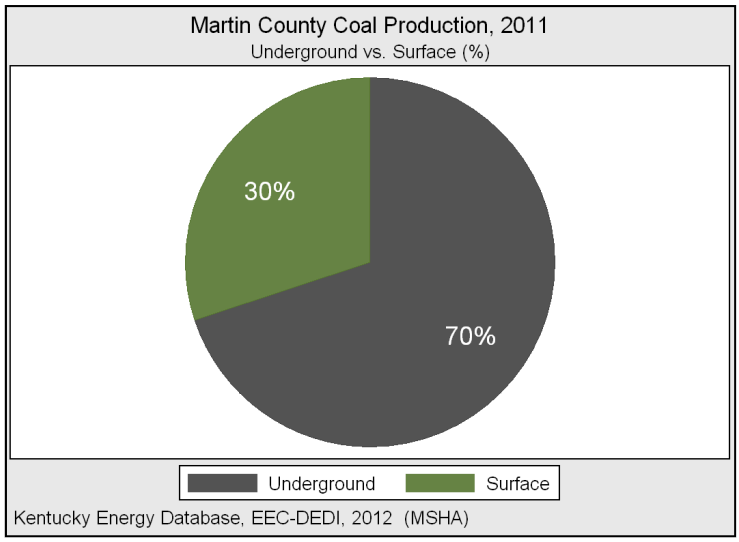
Marshall County Coal Shipments

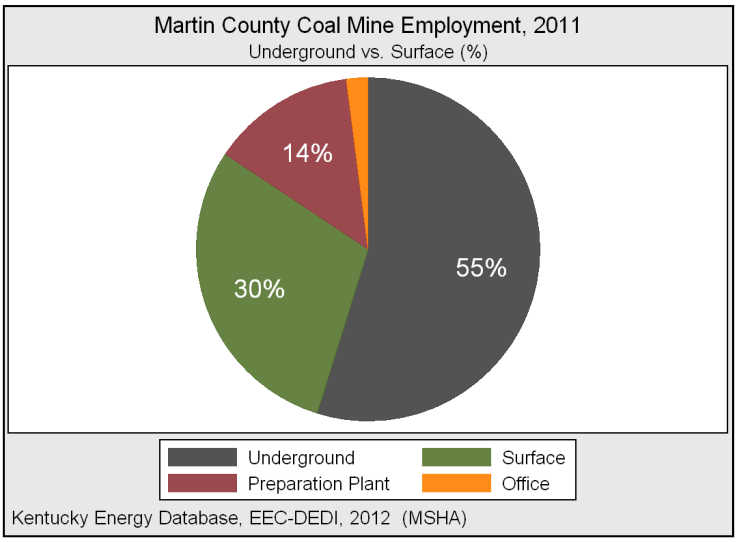
Marshall County in western Kentucky registered no coal production in 2011, and geologic surveys reaching back to 1978 do not list any coal resources within the county. However, coal mining operations in Marshall County did prepare and ship coal from neighboring coal-producing counties. In 2011, more than 163 thousand tons of coal were shipped from Marshall County facilities and delivered to three different power plants in Ohio and Indiana.

Marshall County Coal Mining Employment

During 2011, coal preparation and transportation facilities in Marshall County supported 46 full-time employees. Forty-one of these individuals operated coal preparation plants, cleaning and loading coal for delivery to electric utilities. Around five people were employed in office capacities, in direct support of preparation plants.

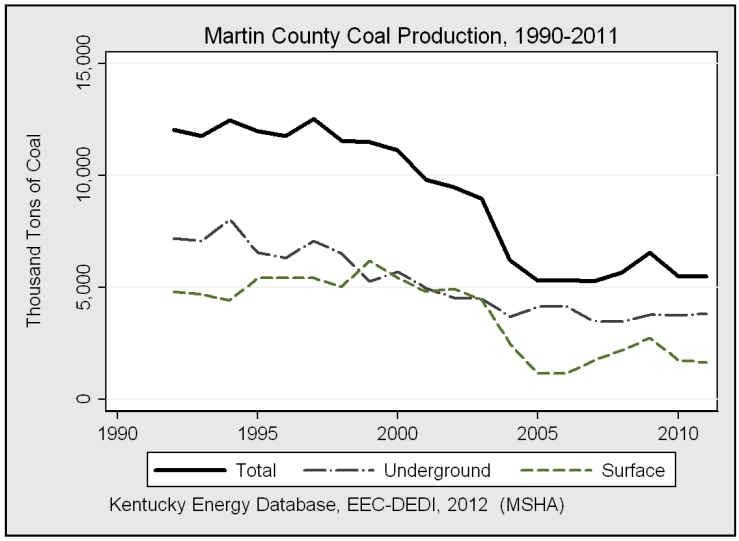
Martin County

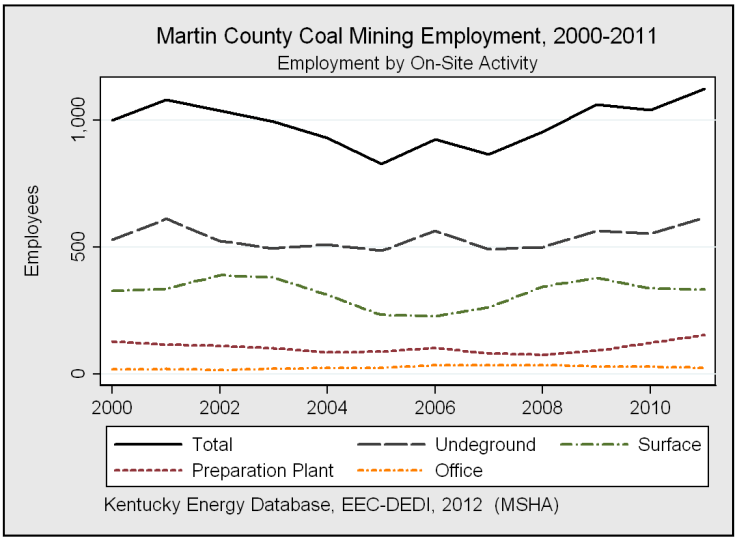




Production Method	Mines	Production	Percentage
Total	22	5,485,556	100%
Underground	12	3,836,712	70%
Surface	10	1,648,844	30%

On-Site Activity	Employment	Percentage
Total	1,124	100%
Underground	616	55%
Surface	332	30%
Preparation Plant	153	14%
Office	23	2%

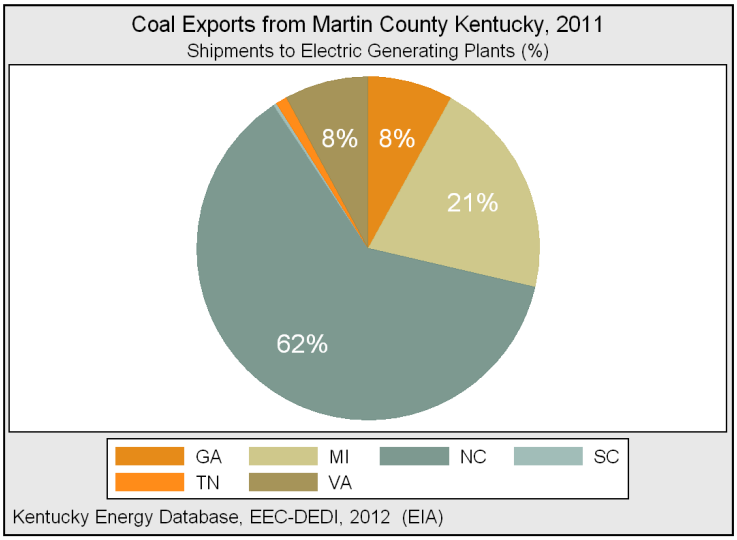


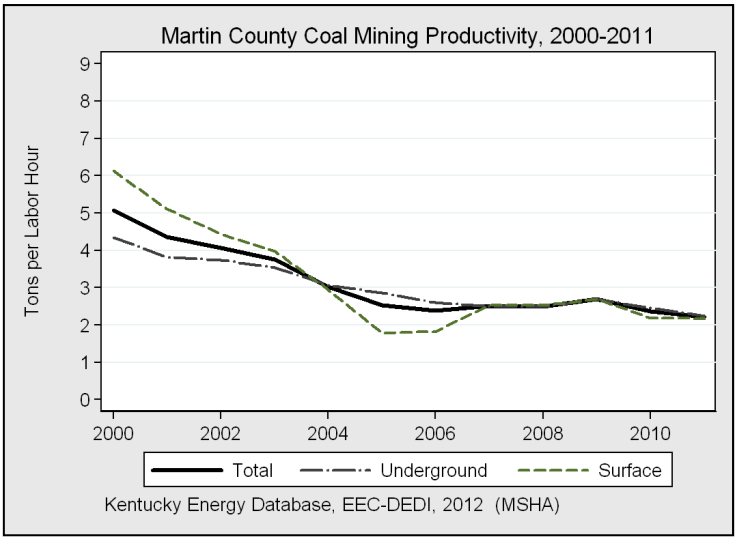


Twelve underground mines and ten surface mines produced 5.4 million tons of coal in Martin County in 2011. Annual production from Martin County represented 5% of statewide coal production. Yet, coal production in the county has been on a steady decline since a high of 11.7 million tons in 1996.

Coal companies in Martin County directly employed approximately 1,100 people full-time during 2011. The majority of coal miners in Martin County were employed in underground operations, followed by surface mine sites. Additionally, 153 people worked in coal preparation plants while 23 individuals supported mine operations in office capacities.

Martin County





State & Plant	Deliveries (Tons)	Percentage
Total	**4,195,492**	**100%**
North Carolina	**2,604,118**	**62.1%**
Roxboro	1,289,498	30.7%
Belews Creek	612,475	14.6%
Mayo	242,281	5.8%
Cape Fear	198,656	4.7%
G.G. Allen	144,759	3.5%
Lee	116,449	2.8%
Michigan	**864,314**	**20.6%**
Monroe	658,679	15.7%
Trenton Channel	205,635	4.9%
Virginia	**332,770**	**7.9%**
Clover	274,080	6.5%
Chesterfield	58,690	1.4%
Georgia	**337,145**	**8%**
Yates	145,090	3.5%
Hammond	141,196	3.4%
Wansley	50,859	1.2%
Tennessee	**44,751**	**1.1%**
John Sevier	44,751	1.1%
South Carolina	**12,394**	**<1%**
Wateree	12,394	<1%

Martin County Coal Market

North Carolina represented the largest market for coal mined in Martin County in 2011. On its own, the Roxboro Power Plant of Semora, North Carolina, accounted for greater than 30% of the demand for Martin County coal in 2011. Michigan was the second most common destination for Martin County coal, with a 21% share of delivered tons from the county. The states of Virginia, Georgia, Tennessee, and South Carolina also received coal from Martin County during the year.

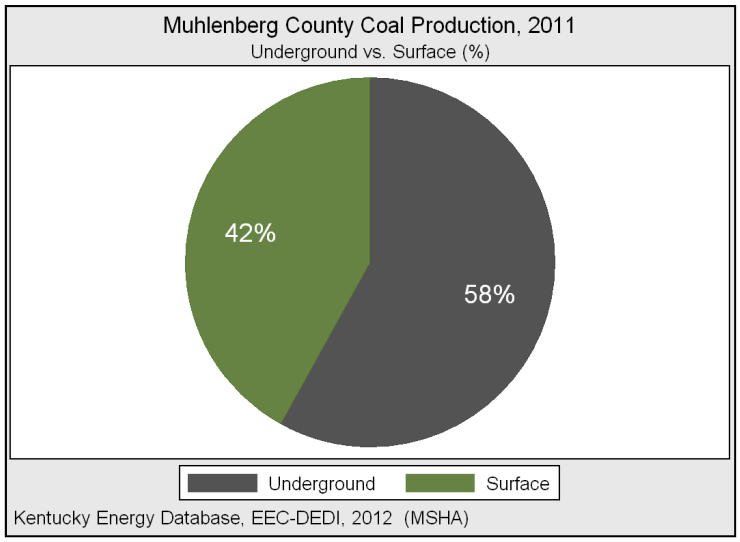
Martin County Coal Mining Productivity

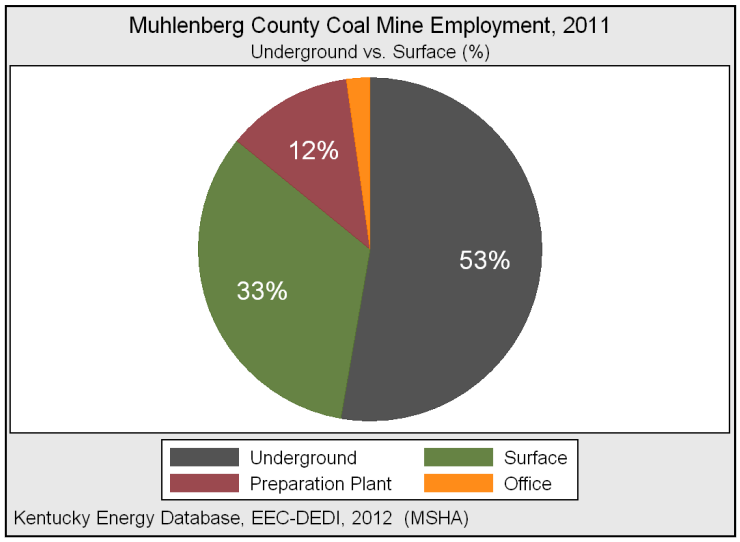
Martin County's productivity in 2011 was 2.22 tons per labor hour, a decrease of greater than 56% from the year 2000. Interestingly, in 2011 underground mines in Martin County were actually more productive than surface mines: 2.25 tons per hour compared to 2.17 tons per hour. However, the productivity of surface mines in Martin County has fluctuated substantially, compared to the relative stability of underground operations over time.

Chemical Composition and Cost

With an average sulfur content of 1.19% and average heat content of 24.83 MMBtu, the mean delivery price for coal from Martin County in 2011 was $89.19 per ton. The average ash content for coal shipped from Martin County was 9.16% during the year.

Muhlenberg County

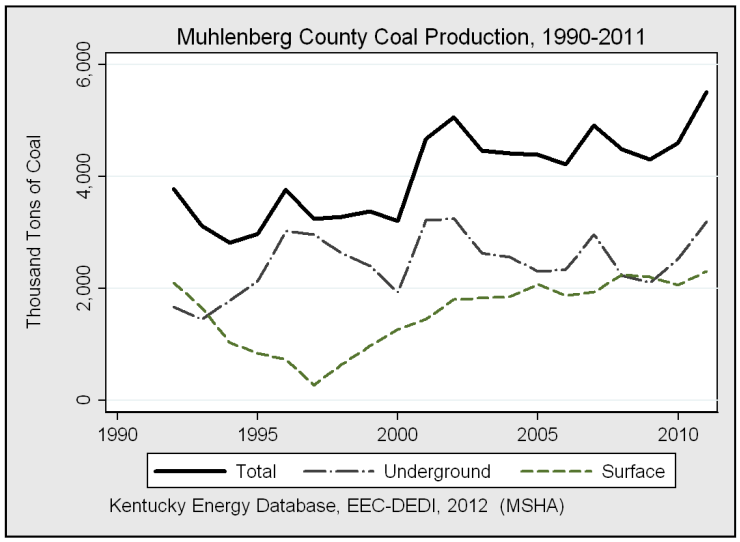


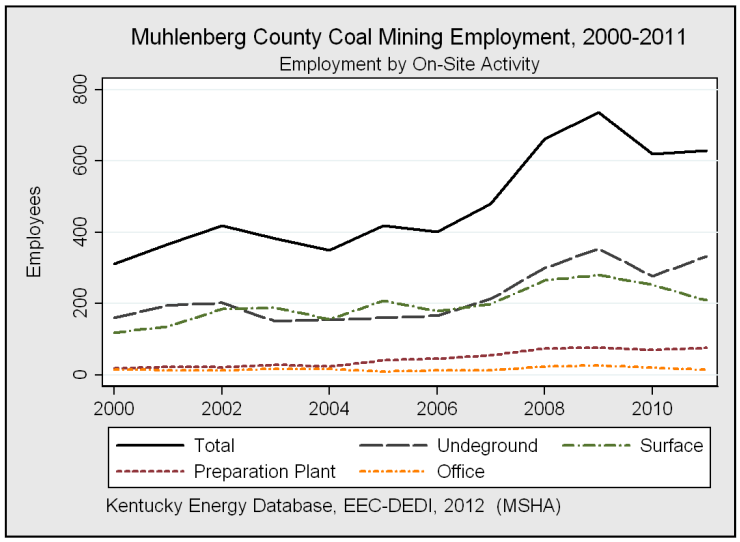


Production Method	Mines	Production	Percentage
Total	12	5,518,283	100%
Underground	6	3,203,677	58%
Surface	6	2,314,606	42%

Fifty-eight percent of coal mined in Muhlenberg County in 2011 came from underground operations compared to 42% from surface mines.

On-Site Activity	Employment	Percentage
Total	630	100%
Underground	332	53%
Surface	209	33%
Preparation Plant	75	12%
Office	14	2%

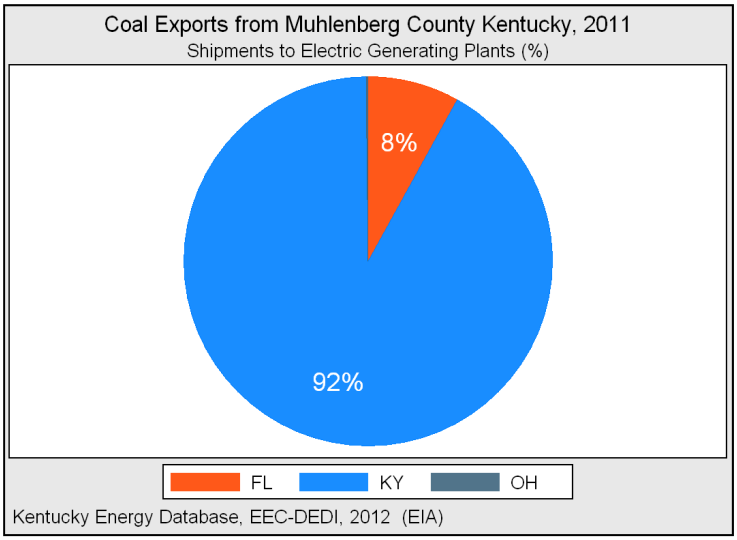


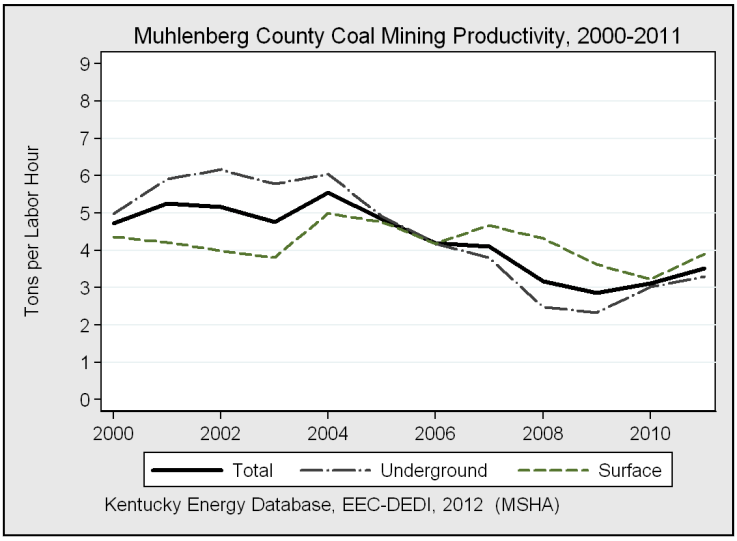


There were 12 active mines sites that produced a total of 5.5 million tons of coal in Muhlenberg County in 2011. County production was led by the six underground operations, which produced 3.2 million tons of coal; surface mining accounted for 2.3 million tons. Overall, coal production from Muhlenberg County represented 5% of statewide production in 2011.

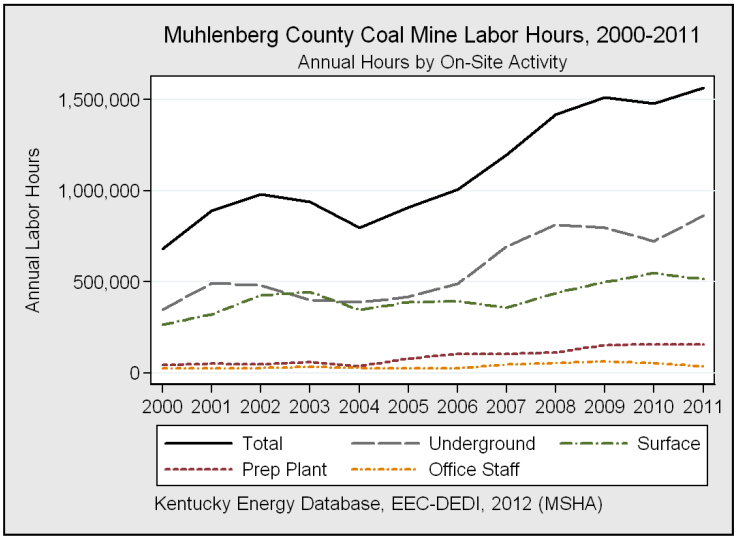
Approximately 630 people were employed full-time at coal mine sites in Muhlenberg County in 2011. During the year, 53% of direct coal mining employment was tied to underground sites, while a third of employees worked surface mine sites. Coal preparations plants and office positions also provided around 90 full-time jobs in Muhlenberg County through 2011.

Muhlenberg County





State & Plant	Deliveries (Tons)	Percentage
Total	**5,516,571**	**100%**
Kentucky	**5,065,742**	**91.8%**
Paradise	2,544,054	46.1%
D.B. Wilson	758,191	13.7%
R.D. Green	574,115	10.4%
East Bend	429,898	7.8%
Spurlock	305,221	5.5%
Ghent	220,168	4%
Trimble County	168,757	3.1%
Mill Creek	65,338	1.2%
Florida	**441,279**	**8%**
Davant Transfer	441,279	8%
Ohio	**9,550**	**<1%**
Miami Fort	9,550	<1%



Muhlenberg County Coal Market

The vast majority of coal mined in Muhlenberg County was delivered to power plants within Kentucky in 2011. More than 46% of all the coal shipped from Muhlenberg County during the year was delivered to TVA's Paradise Fossil Plant located in western Kentucky. Paradise is the largest power plant by capacity in the Commonwealth of Kentucky.

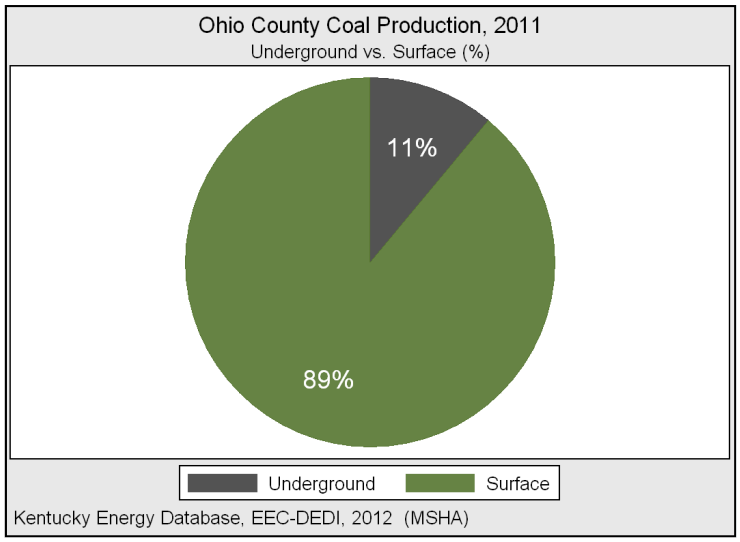
Muhlenberg County Coal Mining Productivity

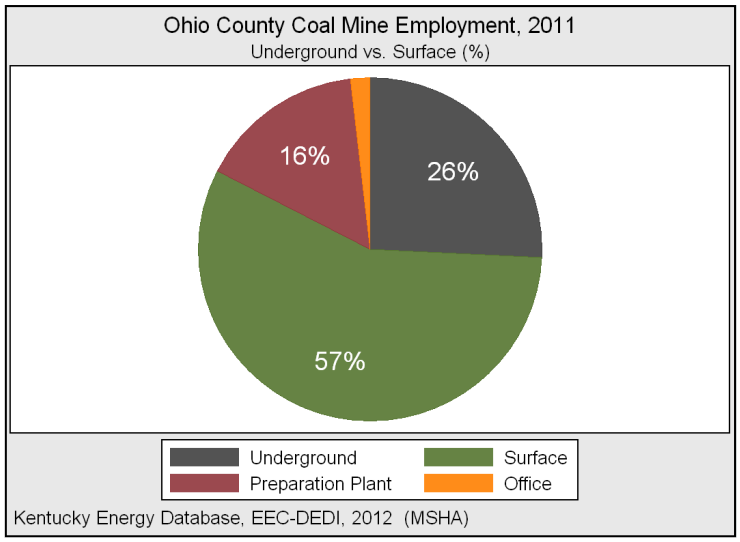
While average productivity at underground mines in Muhlenberg County was 3.29 tons per hour in 2011, productivity at surface mines was closer to 3.90 tons per hour (or 19% higher). Overall productivity for coal mine operations in Muhlenberg County during 2011 was 3.52 tons per labor hour.

Chemical Composition and Cost

On average, coal mined in Muhlenberg County in 2011 had a mean sulfur content of 3.1%, a mean ash content of 11.6%, and a mean heat content of 22.52 MMBTU per ton. The average delivered price per ton for Muhlenberg County coal in 2011 was $49.18, and ranged from $34.64 to $72.36.

Ohio County

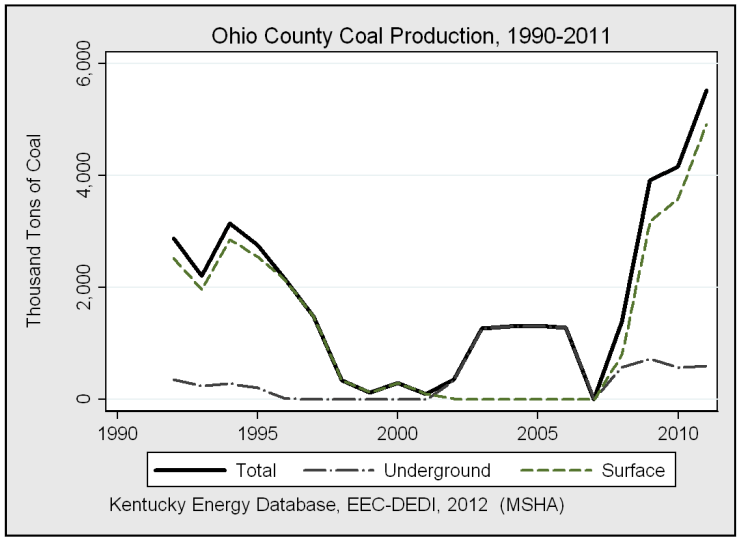


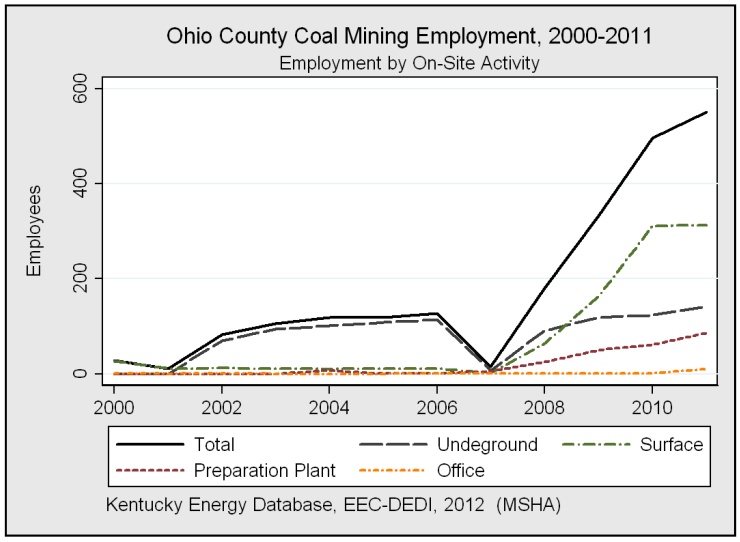


Production Method	Mines	Production	Percentage
Total	9	5,528,053	100%
Surface	5	4,918,357	89%
Underground	4	609,696	11%

On-Site Activity	Employment	Percentage
Total	551	100%
Surface	313	57%
Underground	142	26%
Preparation Plant	86	16%
Office	10	<1%

Since a temporary stoppage in 2007, coal production in Ohio County has increased during the past four years, led by the development of surface mine sites.

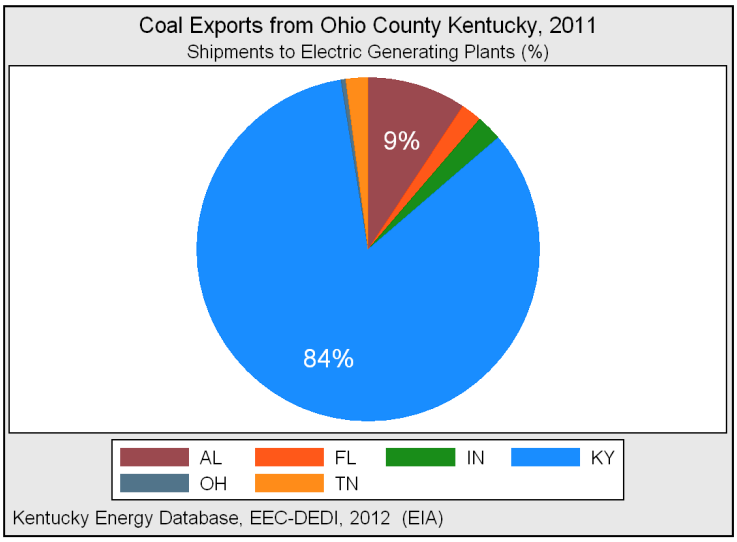


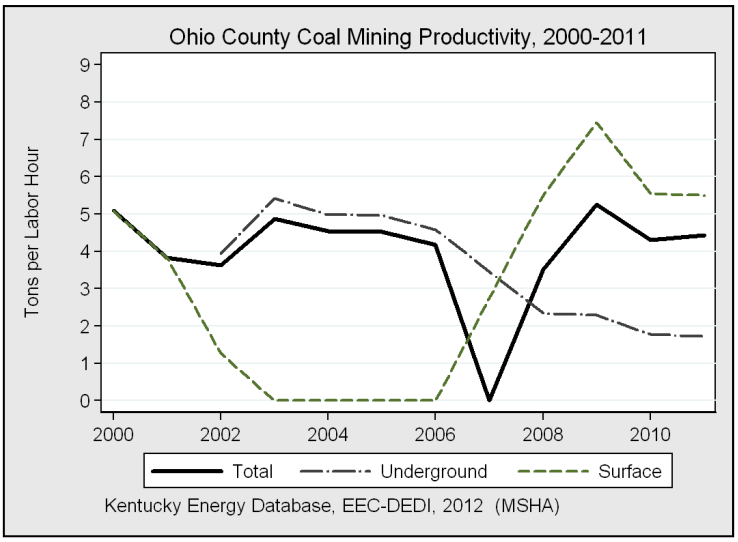


Between 2008 and 2011, coal production in Ohio County increased by 297%. Bolstered by production from five active surface mines (and four smaller underground sites), Ohio County produced more than 5.5 million tons of coal during 2011. Overall, Ohio County accounted for approximately 5% of statewide production during the year.

Since 2007, direct employment by coal companies in Ohio County has been steadily increasing. In 2011, coal companies operating in Ohio County directly employed 551 people in a variety of capacities. Surface mine sites employed around 313 miners full-time during the year, while underground mines employed 142 miners. Coal preparation plants and mine offices in Ohio County were staffed by just under one hundred employees.

Ohio County





State & Plant	Deliveries (Tons)	Percentage
Total	**5,269,186**	**100**
Kentucky	**4,413,408**	**83.8%**
Ghent	1,462,239	27.8%
Cane Run	850,460	16.1%
Spurlock	651,204	12.4%
Trimble County	438,966	8.3%
Elmer Smith	394,655	7.5%
D.B. Wilson	256,011	4.9%
Mill Creek	252,001	4.8%
R.D. Green	101,456	1.9%
Coleman	6,416	<1%
Alabama	**491,021**	**9.3%**
Widows Creek	447,673	8.5%
Lowman	43,348	<1%
Indiana	**127,587**	**2.4%**
Warrick	127,587	2.4%
Tennessee	**110,043**	**2.1%**
Kingston	110,043	2.1%
Florida	**102,688**	**1.9%**
Davant Transfer	46,597	<1%
Stanton	22,345	<1%
Northside	20,968	<1%
McIntosh	12,778	<1%
Ohio	**24,439**	**<1%**
Killen Station	24,439	<1%

Ohio County Coal Market

Kentucky represented 84% of the market for Ohio County coal in 2011, and coal from the county was delivered to nine different power plants across the state. Other markets for Ohio County coal in 2011 were Alabama, Indiana, Tennessee, Florida, and Ohio.

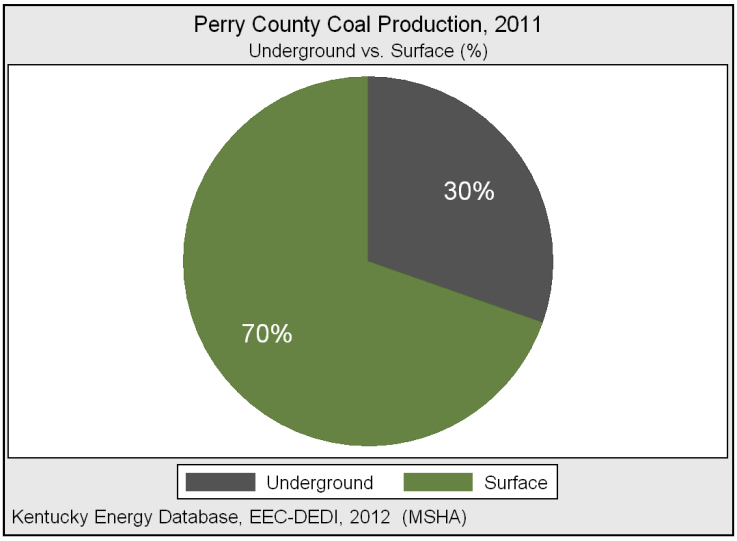
Ohio County Coal Mining Productivity

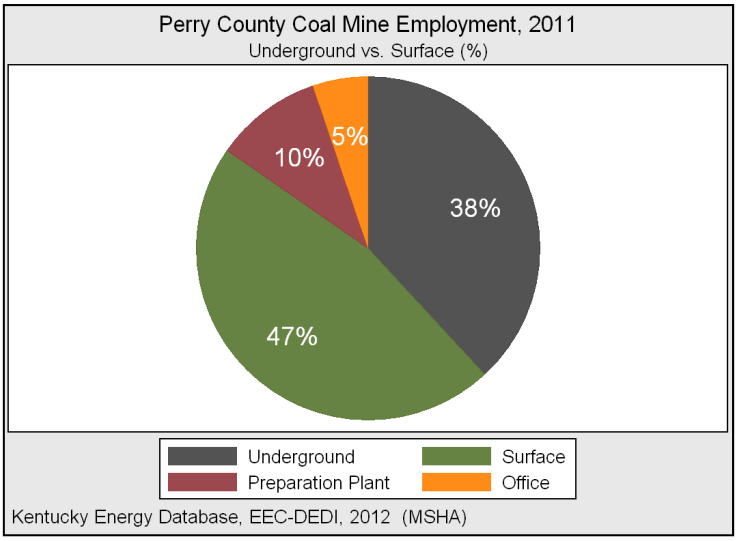
Of all coal mining counties in Kentucky in 2011, Ohio County in western Kentucky had the highest average productivity at 4.43 tons per labor hour. Surface operations, which represented 89% of annual production, achieved a statewide high of 5.5 tons per hour. Underground operations had a much lower average productivity of 1.72 tons per hour, but accounted for only 11% of county production in 2011.

Chemical Composition and Cost

The average delivery price of coal from Ohio County was the lowest in Kentucky at $43.79 in 2011, and ranged in price from $33.23 to $87.78 a ton. Additionally, a typical ton of coal from Ohio County had an ash content of 9.36%, sulfur content of 2.89%, and a heat content of 22.51 MMBtu.

Perry County

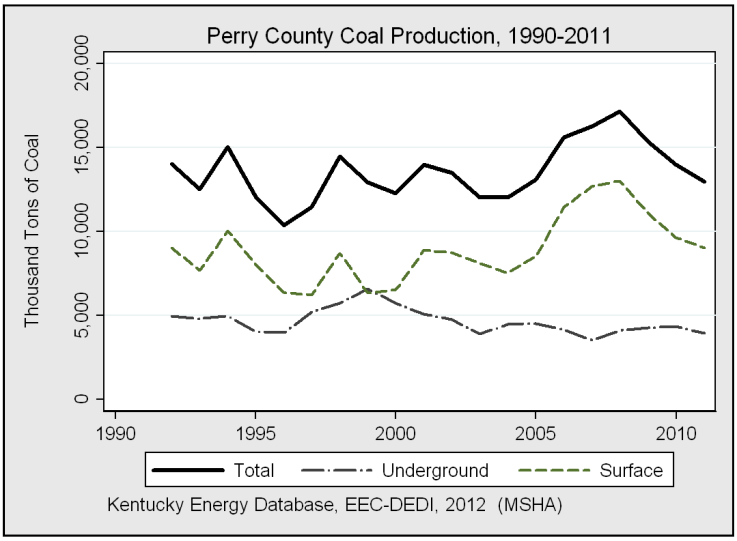


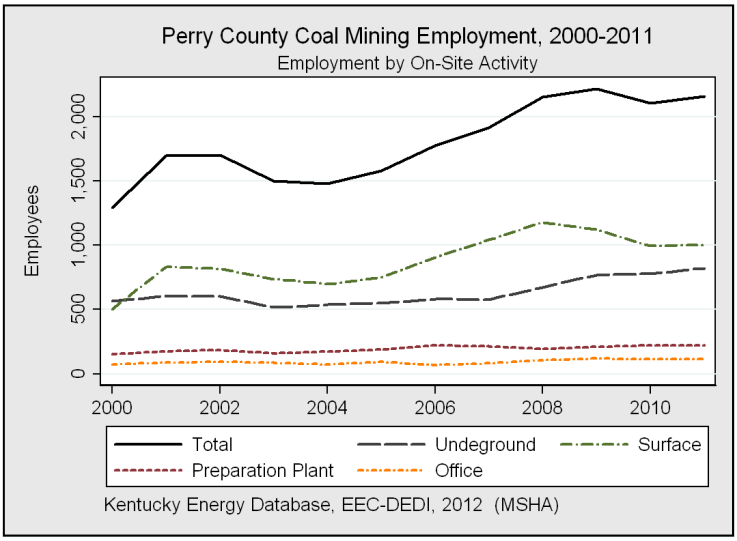


Production Method	Mines	Production	Percentage
Total	26	12,974,709	100%
Surface	19	9,030,866	70%
Underground	7	3,943,843	30%

On-Site Activity	Employment	Percentage
Total	2,158	100%
Surface	1,004	47%
Underground	823	38%
Preparation Plant	219	10%
Office	112	5%

With the exception of 1999, surface mining has been the largest source of coal production in Perry county over the past 19 years.

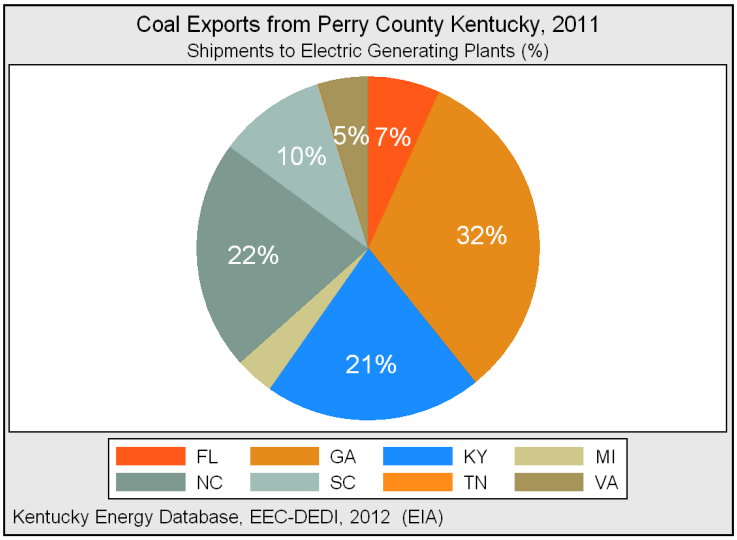


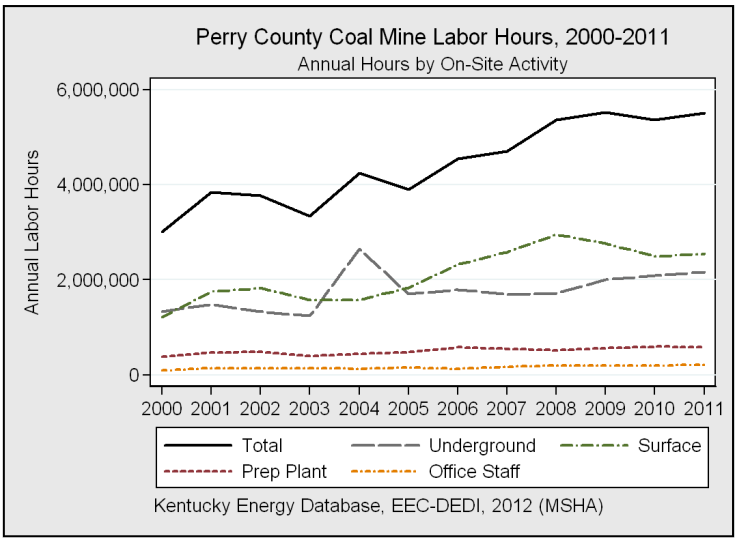


Perry County, located in eastern Kentucky, was the second largest coal producing county in Kentucky with more than 12.9 million tons in 2011. Surface mine sites accounted for 70% of this total, and have consistently led coal production in the county. Overall, Perry County represented 12% of statewide production in 2011, though production remains down from a 2008 high of more than 17 million tons.

Direct coal mining employment in Perry County in 2011 was the third highest in the state, with 2,158 individuals employed full-time during the year. Through 2011, surface mine sites provided approximately 1,000 jobs while underground mines supplied work for 823 people. Coal preparation plants and mine offices were also a substantial concentration of employment, accounting for nearly 400 jobs.

Perry County





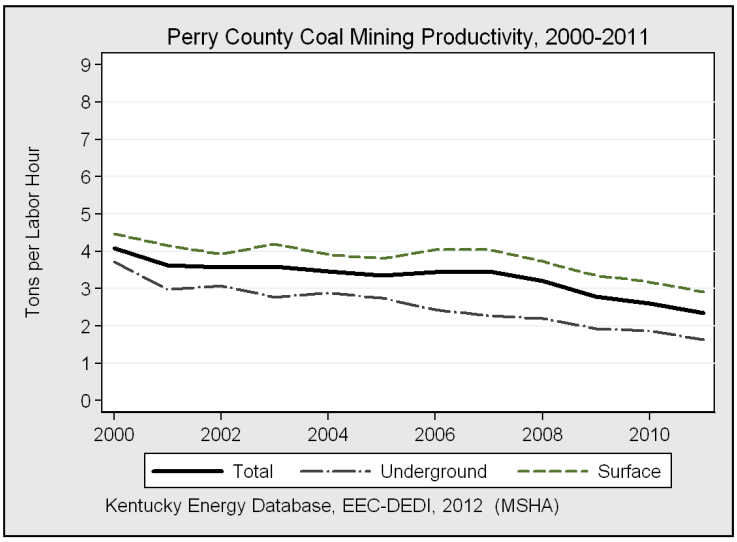
State & Plant	Deliveries (Tons)	Percentage
Total	**8,350,985**	**100%**
Georgia	**2,710,039**	**32.5%**
Bowen	2,678,884	32.1%
Dublin Mill	15,807	<1%
McDonough	12,686	<1%
Savannah River Mill	2,662	<1%
North Carolina	**1,807,604**	**21.6%**
Marshall	521,842	6.2%
Cliffside	486,071	5.8%
Sutton	482,971	5.8%
Riverbend	272,622	3.3%
Weatherspoon	44,098	<1%
Kentucky	**1,715,483**	**20.5%**
E.W. Brown	1,080,411	12.9%
Dale	279,663	3.3%
Cooper	255,932	3.1%
East Bend	81,558	1%
Ghent	17,919	<1%
South Carolina	**847,266**	**10.1%**
Williams	316,228	3.8%
W.S. Lee	230,666	2.8%
McMeekin	146,732	1.8%
Robinson	91,372	1.1%
Cope	36,071	<1%
Wateree	13,242	<1%
Canadys Steam	12,955	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**8,350,985**	**100%**
Florida	**566,411**	**6.8%**
Crystal River	543,436	6.5%
Cedar Bay	11,724	<1%
Deerhaven	11,251	<1%
Virginia	**388,485**	**4.7%**
Chesterfield	166,917	2%
Birchwood	141,085	1.7%
Southampton	32,409	<1%
Yorktown	23,788	<1%
Hopewell	12,288	<1%
Bremo Bluff	11,998	<1%
Michigan	**306,601**	**3.7%**
Monroe	176,461	2.1%
Weadock	71,499	<1%
River Rouge	34,934	<1%
Whiting	23,707	<1%
Tennessee	**9,096**	**<1%**
Eastman Chemicals	9,096	<1%

Perry County Coal Market

The Bowen Power Plant near Euharlee, Georgia, consumed nearly one third of all coal shipped from Perry County in 2011, and helped make Georgia the largest market for Perry County coal. Additionally, power plants in North Carolina and Kentucky consumed 22% and 21% of Perry County coal, respectively. In total, more than 8.35 million tons of coal were shipped from Perry County in 2011 to eight different states.

Perry County



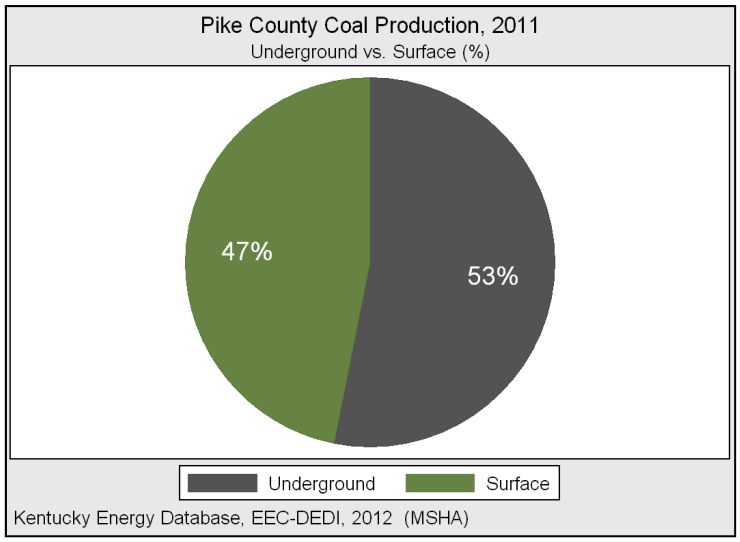
Perry County Coal Mining Productivity

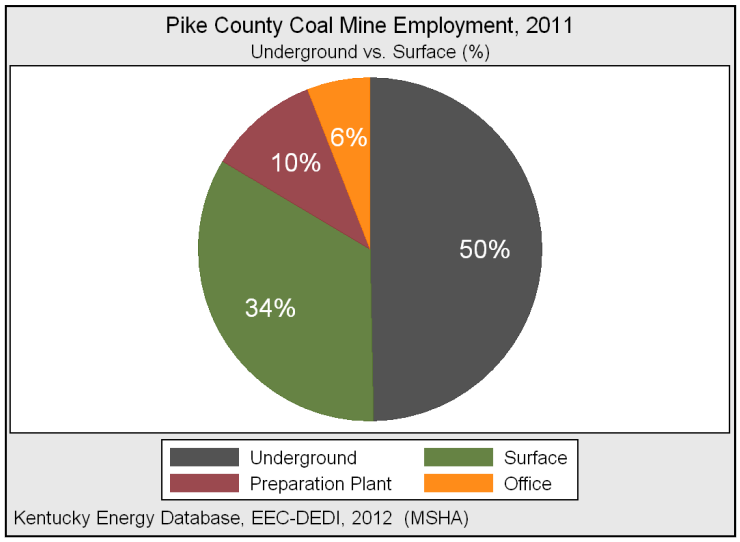
With an average productivity of 2.36 tons per labor hour, Perry County had the third highest productivity for counties of the Eastern Coal Field in 2011. In continuing with trends since 2000, surface coal mines in Perry County were more productive than underground coal mines (2.91 compared to 1.64). However, average coal mine productivity in Perry County has decreased by 42% during the last 11 years.

Chemical Composition and Cost

The average delivery price of coal from Perry County was the third highest in Kentucky at $98.32 in 2011, and ranged in price from $46.71 to $145.42 a ton. Additionally, a typical ton of coal from Perry County had an ash content of 10.61%, sulfur content of 1.14%, and a heat content of 24.50 MMBtu.

Pike County

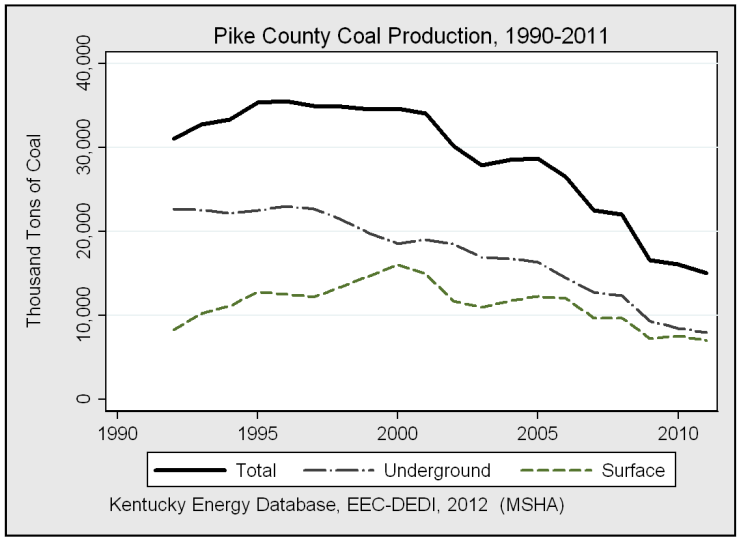


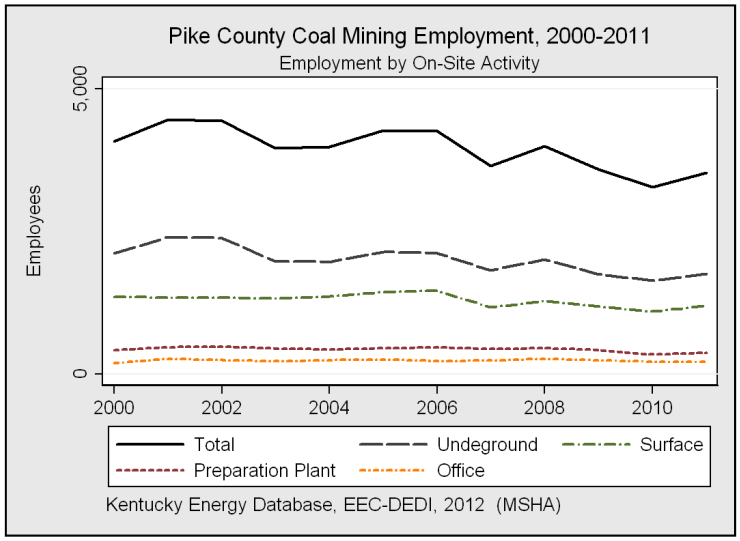


Production Method	Mines	Production	Percentage
Total	95	15,065,449	100%
Underground	49	8,008,621	53%
Surface	46	7,056,828	47%

On-Site Activity	Employment	Percentage
Total	3,527	100%
Underground	1,752	50%
Surface	1,196	34%
Preparation Plant	370	10%
Office	209	6%

Since the mid 1990s, coal production in Pike County has been in decline. Production is down 57% compared with a 20-year peak in 1996.

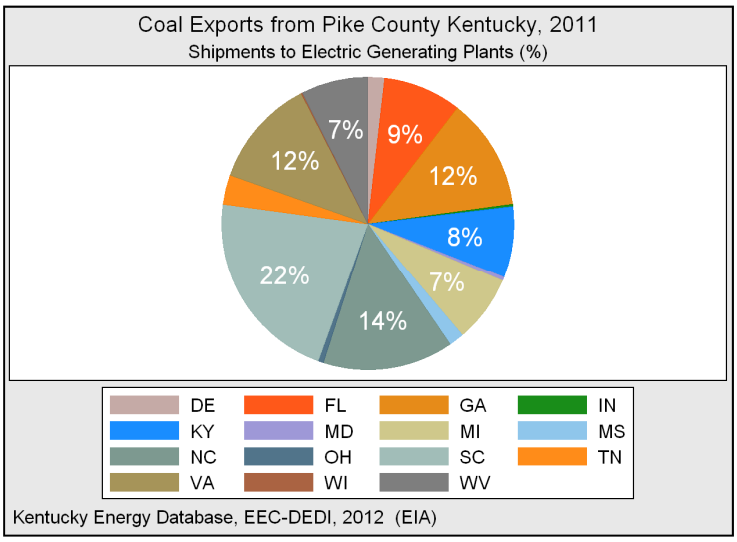


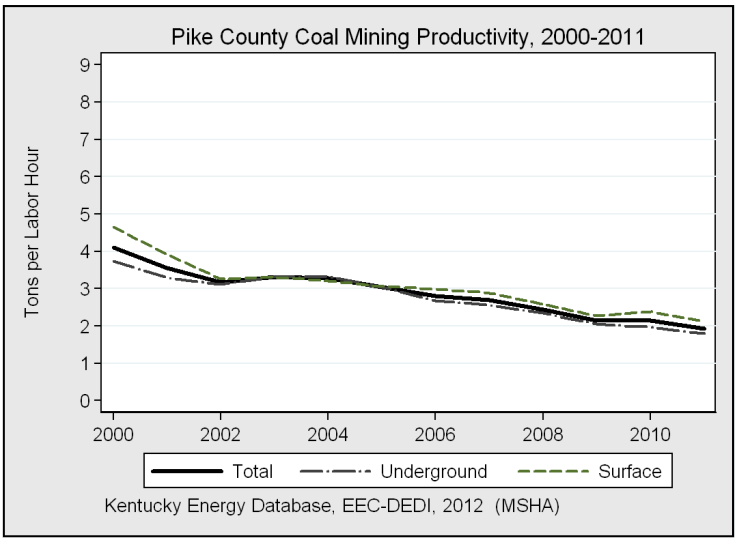


During the past 20 years Pike County in eastern Kentucky has consistently been the largest coal producing county in the state, and retained this position in 2011. Mining more than 15 million tons during the year, Pike County represented 14% of all coal produced in Kentucky. Additionally, coal production was led just slightly by underground mines which accounted for 53% of annual production. Also, with 95 producing mine sites, Pike County had the most coal mining operations of any county in Kentucky in 2011.

As the largest coal producer in 2011, Pike County also had the highest level of direct coal mining employment in Kentucky. With more than 3,500 miners employed full-time during the year, Pike County accounted for 18% of all coal mining employment in Kentucky and 24% of coal mining employment in the Eastern Coal Field. Fifty percent of these miners worked underground in 2011, while 34% worked surface mine sites. Coal preparation plants and mine offices also provided significant employment.

Pike County

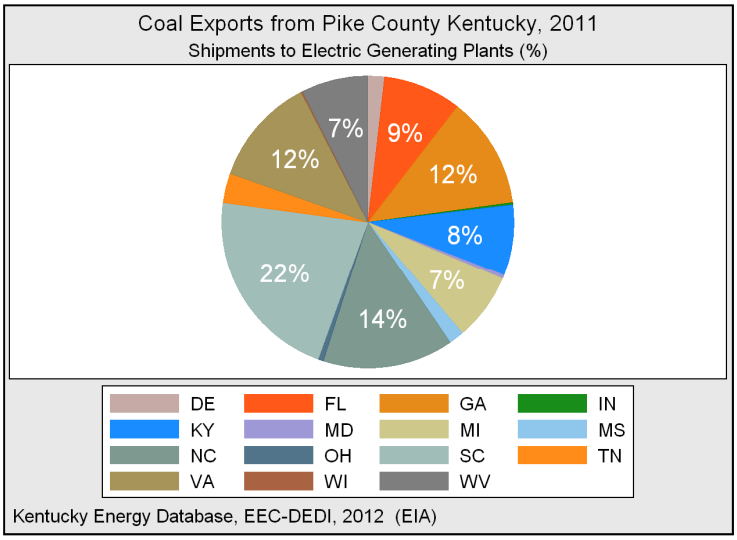




State & Plant	Deliveries (Tons)	Percentage
Total	**11,626,760**	**100%**
South Carolina	**2,509,441**	**21.6%**
Winyah	1,177,956	10.1%
Cross	1,174,354	10.1%
Cope	38,309	<1%
I.P. Georgetown Mill	27,625	<1%
Robinson	22,377	<1%
Jefferies	22,247	<1%
Williams	13,025	<1%
Wateree	12,772	<1%
W.S. Lee	11,455	<1%
McMeekin	9,321	<1%
North Carolina	**1,681,901**	**14.5%**
Roxboro	564,555	4.9%
Belews Creek	398,815	3.4%
Allen	340,795	2.9%
Ashville	249,905	2.1%
Mayo	37,429	<1%
Cliffside	34,461	<1%
Riverbend	34,380	<1%
Marshall	21,561	<1%
Georgia	**1,432,903**	**12.3%**
Harllee Branch	470,678	4%
Wansley	283,658	2.4%
Hammond	285,555	2.5%
I.P. Savannah Mill	186,538	1.6%
Yates	98,878	<1%
G.P. Cedar Springs	69,999	<1%
Bowen	37,597	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**11,626,760**	**100%**
Virginia	**1,404,607**	**12.1%**
Clover	630,625	5.4%
Chesterfield	274,004	2.4%
Yorktown	211,434	1.8%
Potomac River	129,421	1.1%
Mecklenburg Station	86,793	<1%
Birchwood	61,918	<1%
Chesapeake	10,412	<1%
Florida	**1,004,007**	**8.6%**
Stanton	547,828	4.7%
Deerhaven	275,327	2.4%
Crystal River	170,456	1.5%
Cedar Bay	10,396	<1%
Kentucky	**909,375**	**7.8%**
Big Sandy	819,878	7.1%
Ghent	76,606	<1%
D.B. Wilson	11,625	<1%
Elmer Smith	1,266	<1%
Michigan	**866,094**	**7.4%**
Monroe	664,090	5.7%
Trenton Channel	62,000	<1%
River Rouge	46,368	<1%
T.E.S. Filer City	42,543	<1%
Escanaba Paper	27,411	<1%
Weadock	23,682	<1%
Tennessee	**381,503**	**3.3%**
Kingston	174,460	1.5%
John Sevier	97,619	<1%
Bull Run	91,011	<1%
Eastman Chemicals	18,413	<1%

Pike County



State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**11,626,760**	**100%**
Delaware	**215,817**	**1.9%**
Indian River	215,817	1.9%
Mississippi	**193,787**	**1.7%**
R.D. Murrow	193,787	1.7%
West Virginia	**863,325**	**7.4%**
John E. Amos	465,497	4%
Mountaineer	303,835	2.6%
Philip Sporn	55,565	<1%
Kanawha River	26,241	<1%
Mitchell	12,187	<1%
Ohio	**72,030**	**<1%**
Cardinal	61,965	<1%
Hutchings	10,065	<1%
Maryland	**49,344**	**<1%**
Brandon Shores	30,799	<1%
Wagner	18,545	<1%
Indiana	**32,433**	**<1%**
Tanners Creek	16,340	<1%
Rockport	16,009	<1%
Wisconsin	**10,189**	**<1%**
Manitowoc	10,189	<1%

McCoy Elkhorn Coal Corporation, Mine #15, Pike County, KY.

(Photo provided courtesy of the James River Coal Company).

Pike County Coal Market

Pike County was the largest coal producer in 2011, and also shipped the largest amount of coal to the greatest number of states and power plants of any coal mining county in Kentucky. During 2011, greater than 11.6 million tons of coal were shipped from Pike County and were received by 61 different generating facilities in 15 different states. Overall, the largest markets for Pike County coal were South Carolina, North Carolina, Georgia, and Virginia. Kentucky accounted for approximately 8% of Pike County coal shipments in 2011.

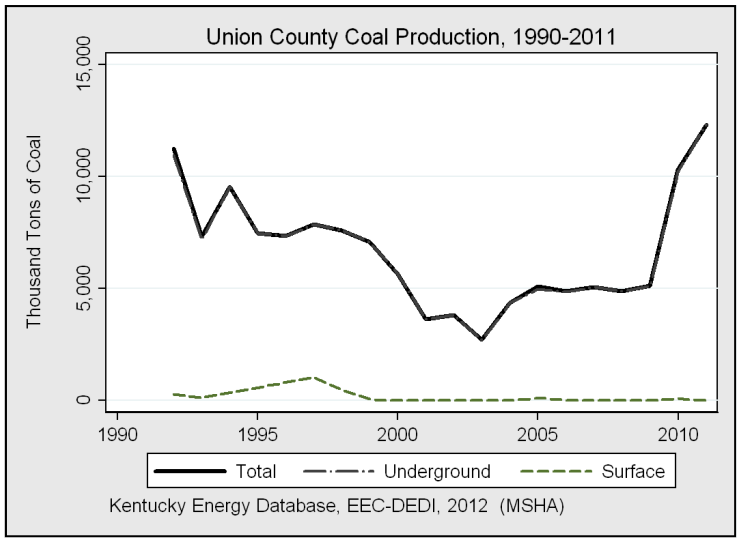
Pike County Coal Mining Productivity

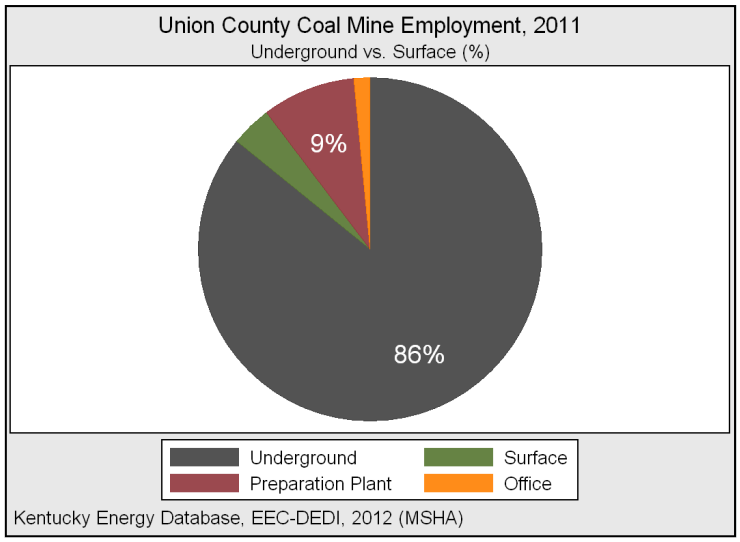
In 2011, average coal mine productivity in Pike County was 1.93 tons per labor hour, down approximately 53% since the year 2000. Surface mines in the county were slightly more productive at 2.41 tons per hour, while underground operations averaged 1.80 tons per hour.

Chemical Composition and Cost

On average, coal mined in Pike County in 2011 had a mean sulfur content of 1.2 %, a mean ash content of 10.2%, and a mean heat content of 24.89 MMBTU per ton. The average delivered price per ton for Pike County coal in 2011 was $85.21, and ranged from $38.72 to $149.64.

Union County

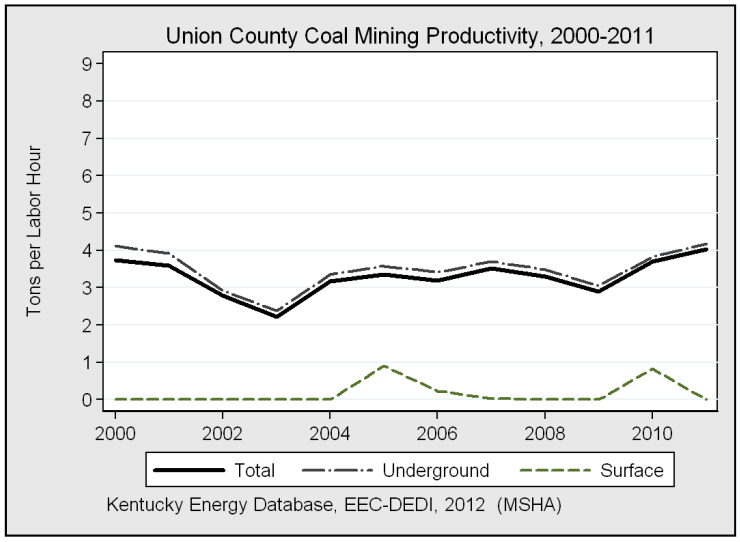


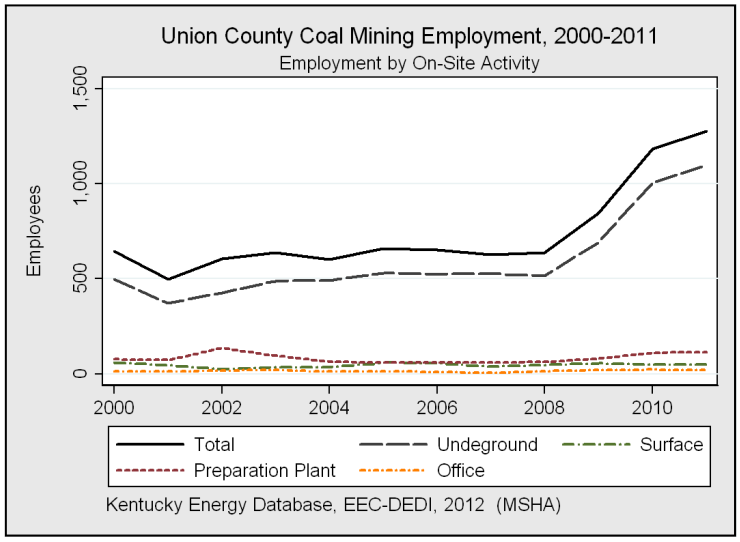


Production Method	Mines	Production	Percentage
Total	3	12,333,160	100%
Underground	3	12,333,160	100%

Unlike most coal-producing counties in Kentucky, mine productivity in Union County has been stable since 2004 and has actually increased over the past three years.

On-Site Activity	Employment	Percentage
Total	1,278	100%
Underground	1,097	86%
Preparation Plant	113	9%
Surface	49	4%
Office	19	1%

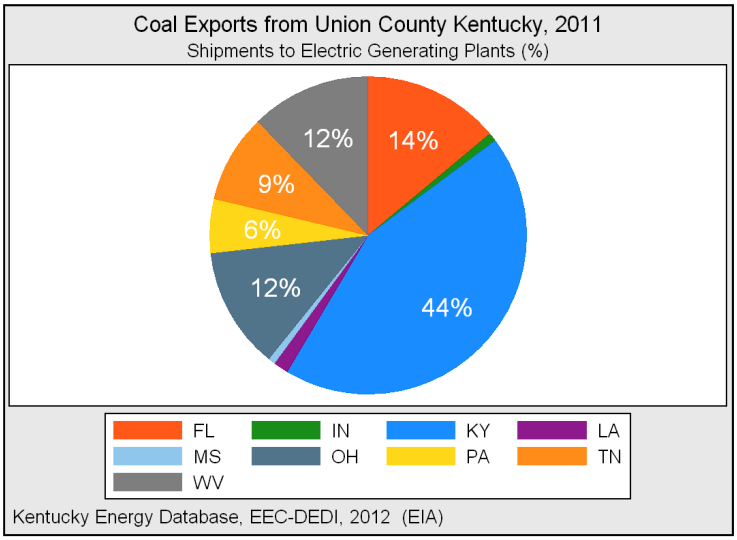




The 3 large underground coal mines and 1 preparation plant operating in Union County produced 12.3 million tons of coal in 2011, which was 12% of the Commonwealth's production. Union County not only broke its single-year coal production mark during 2011, but has also increased production by 153% since 2006. A major factor in the direction of Union County's coal production has been the development of the River View Mine, which now holds the record in Kentucky for the most production by one mine in a year.

Union County's coal mines employed 1,278 persons in 2011, an increase of 7.8% from 2010 and an increase of 98% from 2000. Just under 1,100 coal miners worked primarily underground for a total of 2,623,928 labor hours. Coal preparation plants employed 113 persons for 283,172 labor hours. Surface mine sites provided 49 jobs for miners and 19 administrative staff worked in on-site offices supporting direct mining operations.

Union County



River View Coal Mine, Union County, 2012.
Photo courtesy of River View Coal, LLC.

State & Plant	Deliveries (Tons)	Percentage
Total	**10,492,424**	**100%**
Kentucky	**4,586,605**	**43.7%**
Trimble County	1,682,511	16%
Ghent	785,998	7.5%
East Bend	613,147	5.8%
Spurlock	570,943	5.4%
Paradise	483,424	4.6%
Mill Creek	383,771	3.7%
Coleman	66,811	<1%
Louisiana	**164,953**	**1.6%**
Brame	164,953	1.6%
Florida	**1,463,271**	**13.9%**
IMT Transfer	676,434	6.4%
United Bulk Terminal	435,857	4.2%
Davant Transfer	284,537	2.7%
Northside	66,389	<1%
Ohio	**1,301,152**	**12.4%**
Stuart	693,272	6.6%
Killen Station	505,491	4.8%
Beckjord	43,714	<1%
Miami Fort	29,690	<1%
W.H. Sammis	28,985	<1%
West Virginia	**1,287,035**	**12.3%**
Pleasants	683,043	6.5%
Ceredo	536,155	5.1%
Martin	67,837	<1%

State & Plant	Deliveries (Tons)	Percentage
Total (cont.)	**10,492,424**	**100%**
Tennessee	**942,580**	**9%**
Cumberland	942,580	9%
Pennsylvania	**581,101**	**5.5%**
Mitchell	302,256	2.9%
Hatfields Ferry	220,492	2.1%
Bruce Mansfield	58,158	<1%
Montour	195	<1%
Indiana	**90,919**	**<1%**
Clifty Creek	58,226	<1%
Warrick	32,693	<1%
Mississippi	**74,808**	**<1%**
Associated Terminals	74,808	<1%

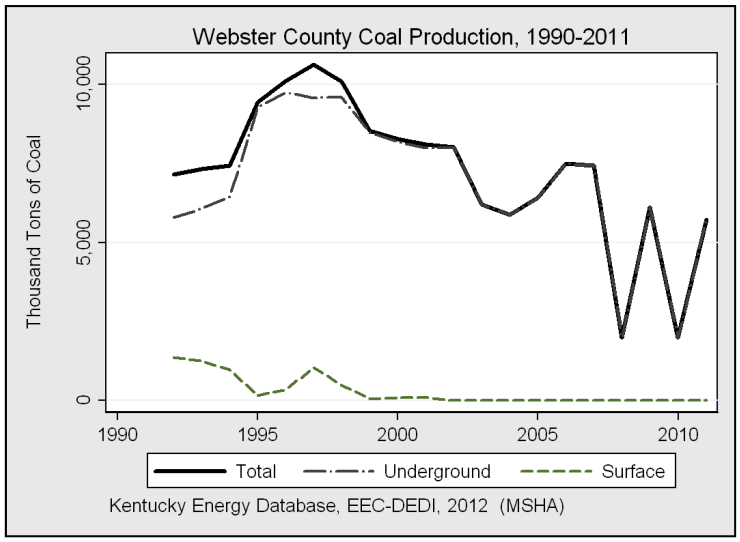
Union County Coal Market

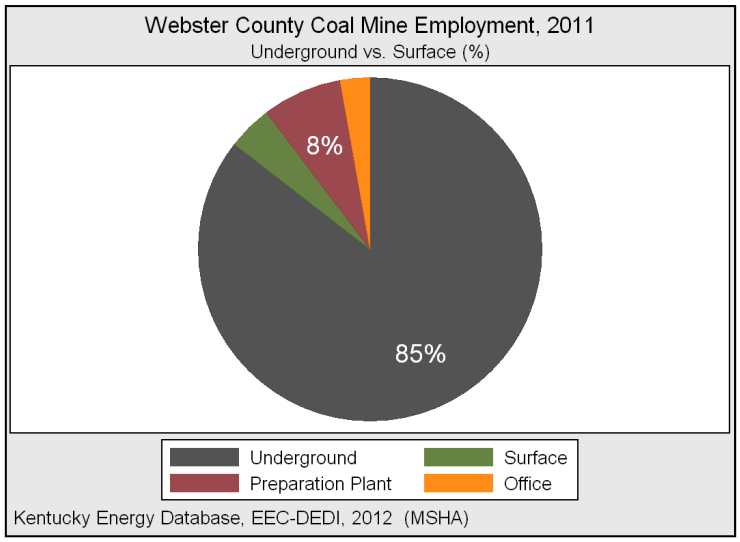
Almost 44% of the 10.4 million tons of coal shipped from Union County in 2011 was consumed at seven different power plants in Kentucky. Florida was the next largest market for Union County coal during the year, representing 14% of all delivered tons. Both Ohio and West Virginia each accounted for a 12% share of coal deliveries. Overall, Union County coal was received by power plants in nine different states in 2011.

Chemical Composition and Cost

The average delivery price of coal from Union County was the second lowest in Kentucky at $44.46 in 2011, and ranged in price from $41.75 to $91.90 a ton. Additionally, a typical ton of coal from Union County had an ash content of 8.36%, sulfur content of 2.96%, and a heat content of 23.02 MMBtu.

Webster County

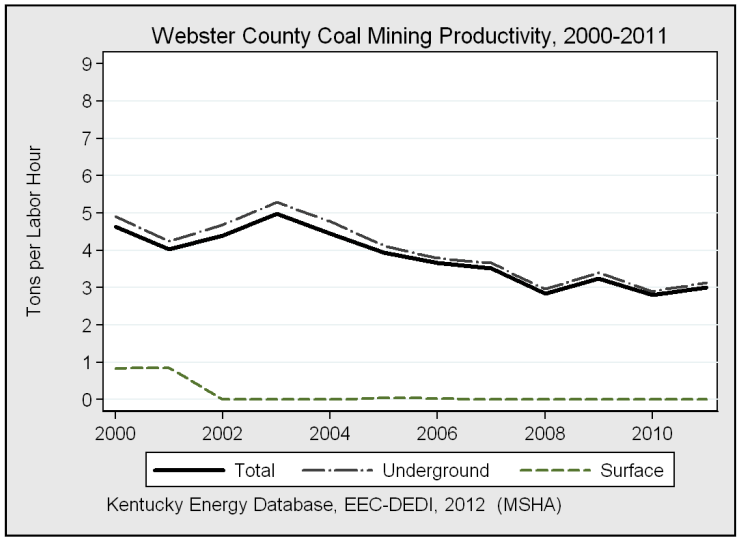


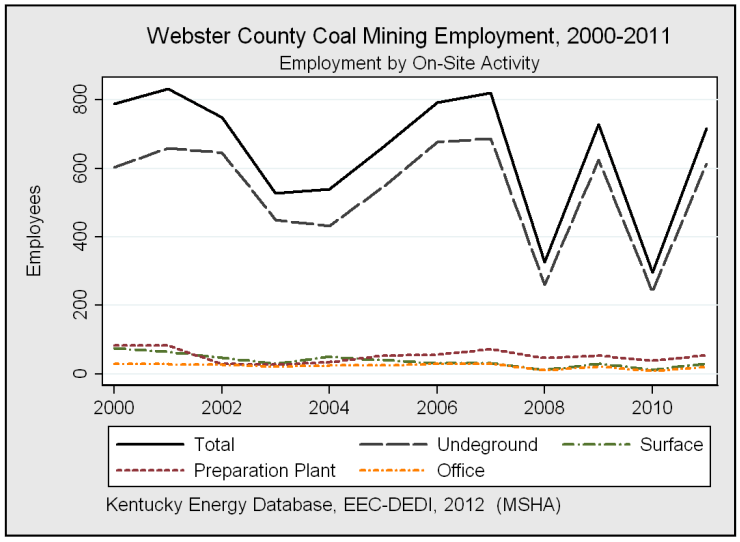


Production Method	Mines	Production	Percentage
Total	2	5,730,589	100%
Underground	2	5,730,589	100%

Relative to many other coal-producing counties in Kentucky, mine productivity in Webster County has been stable since 2005.

On-Site Activity	Employment	Percentage
Total	717	100%
Underground	613	85%
Preparation Plant	54	8%
Surface	30	4%
Office	20	3%

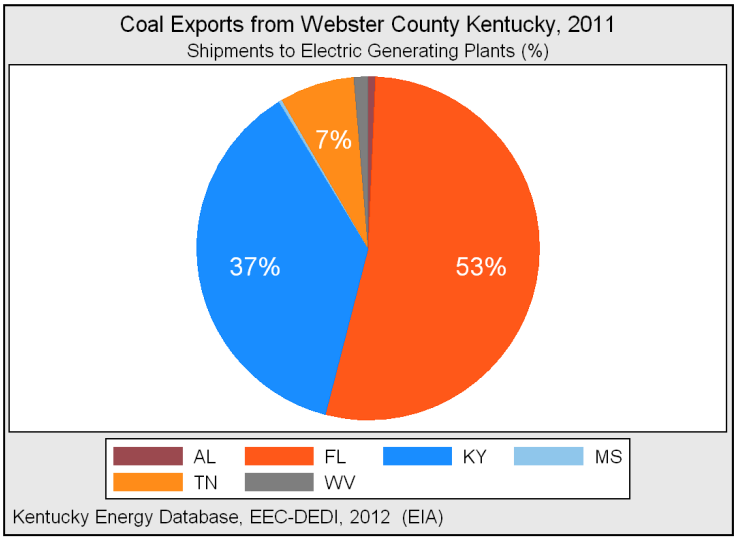




Coal production in Webster County came entirely from underground operations during 2011. Webster County produced more than 5.7 million tons of coal which represented 5% of the Commonwealth's total annual production. Interestingly, since 2006 coal production levels in the county have fluctuated dramatically depending on the year. However, Webster County annual production remains notably down from a recent peak of 10.6 million tons in 1997.

Coal mines in Webster County directly employed 717 people full-time during 2011. Underground mine sites by far represented the largest concentration of direct coal mining jobs, employing 613 miners through the year. Coal preparation plants provided 54 full-time jobs, surface operations employed 30 miners, and mine offices were staffed by 20 individuals. Unsurprisingly, underground mine employment has fluctuated directly with underground coal production during the last five years.

Webster County



State & Plant	Deliveries (Tons)	Percentage
Total	**5,701,544**	**100%**
Florida	**3,040,419**	**53.3%**
Seminole	1,879,761	33%
Big Bend	744,465	13.1%
Davant Transfer	346,265	6.1%
IMT Transfer	63,260	1.1%
United Bulk Terminal	6,668	<1%
Kentucky	**2,121,967**	**37.2%**
Paradise	1,020,121	17.9%
Coleman	749,686	13.1%
East Bend	332,786	5.8%
Mill Creek	19,374	<1%
Tennessee	**403,994**	**7.1%**
Cumberland	402,586	7.1%
Johnsonville	1,408	<1%
West Virginia	**76,019**	**1.3%**
Ceredo	76,019	1.3%
Alabama	**41,114**	**<1%**
Widows Creek	41,114	<1%
Mississippi	**18,031**	**<1%**
Associated Terminals	18,031	<1%

Webster County Coal Market

The Seminole Power Plant, located near Palatka, FL, by itself consumed 33% of the coal shipped from Webster County in 2011, and helped make Florida the largest market for Webster County coal. Kentucky represented the second largest market for Webster County coal in 2011, with coal delivered to four different power plants across the state. Tennessee, West Virginia, Alabama, and Mississippi also received shipments of Webster County coal during 2011.

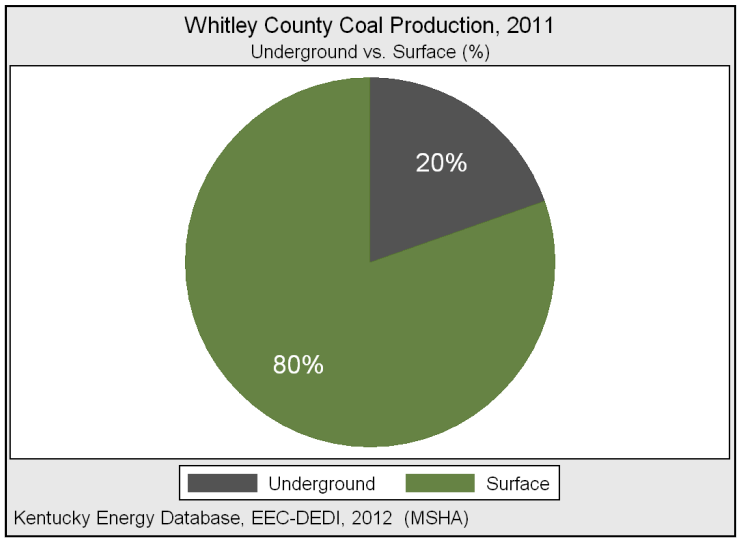
Webster County Coal Mining Productivity

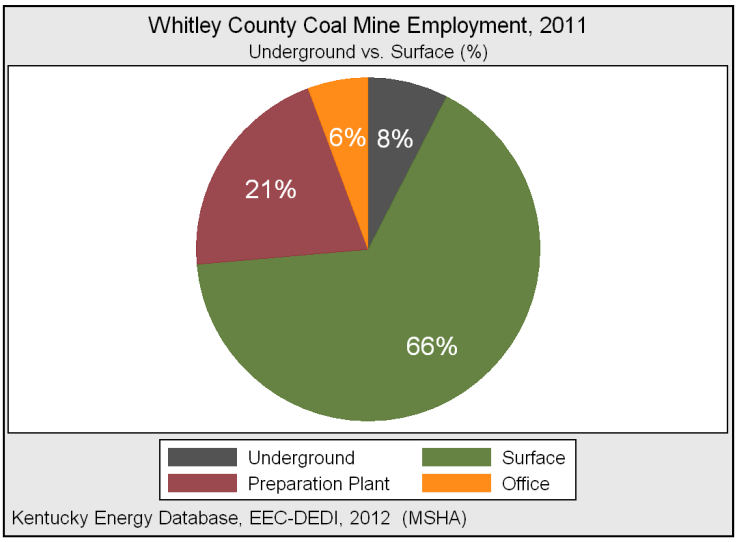
Coal mine productivity in Webster County was 3.13 tons per labor hour during 2011. As all coal production in the county came from underground operations in 2011, this level of productivity including miner hours and office hours was the fourth highest in Kentucky.

Chemical Composition and Cost

Coal from Webster County on average contained 2.89% sulfur, 8.91% ash, and 24.18 MMBtu per ton in 2011. The combination of these factors resulted in an average delivery price of $65.67 per ton, though actual shipment prices ranged from $40.87 to $83.45 during the calendar year.

Whitley County

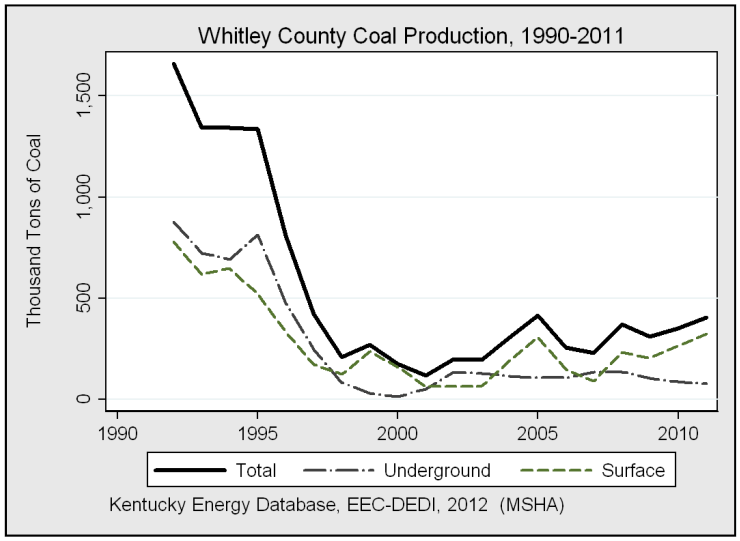


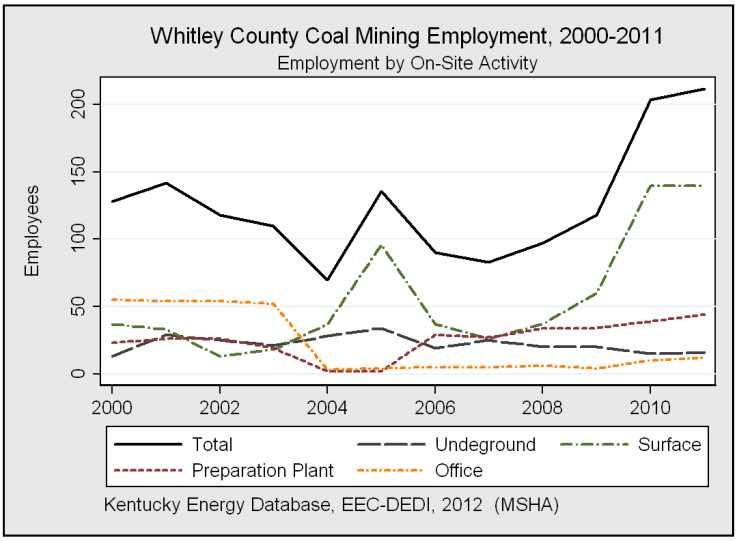


Production Method	Mines	Production	Percentage
Total	8	404,752	100%
Surface	7	325,374	80%
Underground	1	79,378	20%

Production in Whitley County remains down substantially from a high of 1.6 million tons achieved in 1992.

On-Site Activity	Employment	Percentage
Total	212	100%
Surface	140	66%
Preparation Plant	44	21%
Underground	16	8%
Office	12	6%

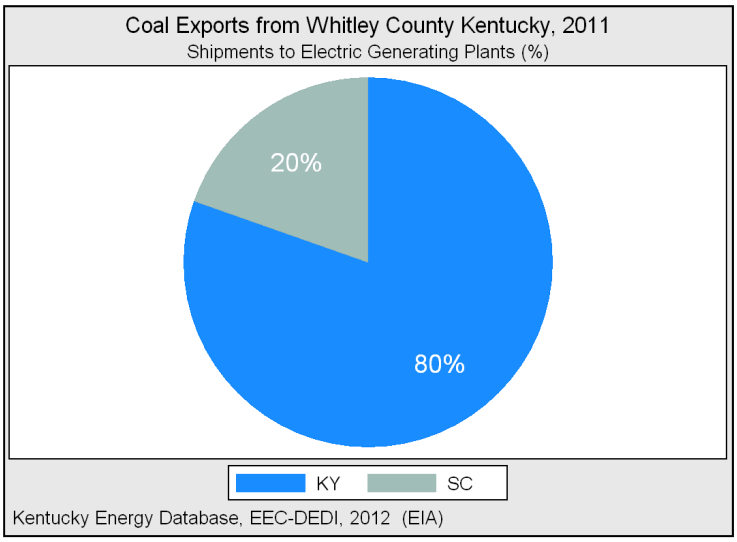


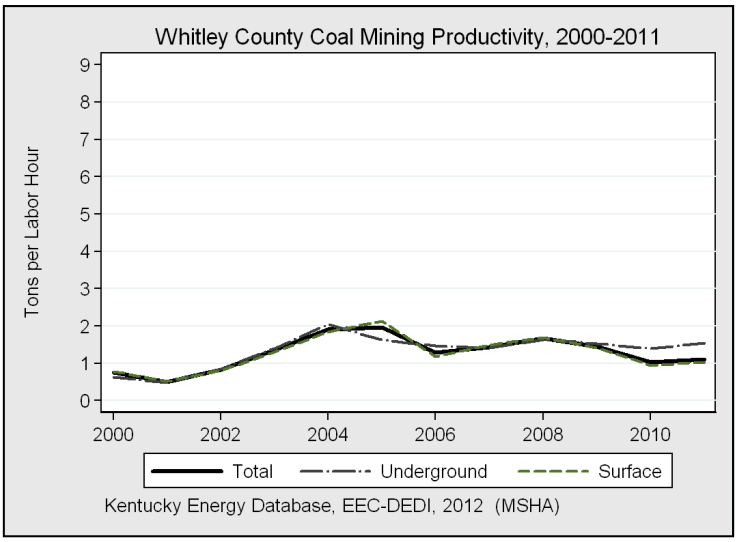


The eight producing mines in Whitley County in 2011 together produced 404,752 tons of coal. Slightly more than 80% of this total came from surface mine operations, which provided 325,374 tons for the year. A small underground mine in Whitley County supplied 20% of the county's production, with approximately 79 thousand tons. Since 2008, surface mines have represented a larger share of county coal production each year.

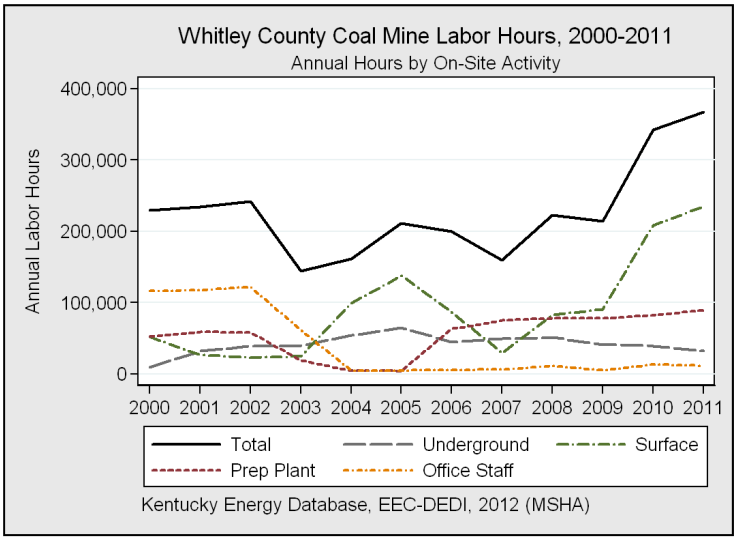
Direct coal mining employment in Whitley County was led by surface mine sites in 2011, which provided 140 full-time jobs. Coal preparation plants, underground mining, and office positions combined employed 72 people during the year. Overall, coal companies in Whitley County employed 212 workers full-time in 2011.

Whitley County





State & Plant	Deliveries (Tons)	Percentage
Total	**58,730**	**100%**
Kentucky	**47,194**	**80.4%**
Cooper	47,194	80.4%
South Carolina	**11,536**	**19.6%**
Cope	11,536	19.6%



Whitley County Coal Market

Two power plants represented the market for Whitley County coal in 2011. The Cooper Power Station, in neighboring Pulaski County, represented 80% of Whitley County coal shipments during the year. The Cope Station of Cope, South Carolina, received 20% of coal shipped from Whitley County. Overall, 58,730 tons of coal mined in Whitley County were shipped to electric power plants in 2011.

Whitley County Coal Mining Productivity

Average coal mine productivity in Whitley County was 1.1 tons per labor hour in 2011. Surface mines were approximately 48% more productive per labor hour than underground mining in the county. During 2011, Whitley County's productivity was in the middle of the pack compared with all other coal mining counties in Kentucky.

Chemical Composition and Cost

With an average sulfur content of 1.27% and average heat content of 25.04 MMBtu, the mean delivery price for coal from Whitley County in 2011 was $94.44 per ton. The average ash content for coal shipped from Whitley County was 8.73% during the year.

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Division for Air Quality	**Phone:**	**502-564-3999**
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Independent Commissions		
Mine Safety Review Commission	**Phone:**	**502-573-0316**
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Department of Revenue	**Phone:**	**502-564-6993**
Division of Minerals Taxation and GIS Services,	FAX:	502-564-5977
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Kentucky Geological Survey	**Phone:**	**859-257-5500**
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Data Sources

Kentucky Energy and Environment Cabinet
Department for Energy Development and Independence (DEDI)
Department for Natural Resources (DNR)
Department for Environmental Protection (DEP)

Kentucky Geological Survey

United States Department of Energy (DOE)

Energy Information Administration (EIA)

Federal Energy Regulatory Commission (FERC)

United State Department of Commerce (DOC)
Bureau of Economic Analysis
U.S. Census Bureau

United States Department of the Interior (DOI)
Environmental Protection Agency (EPA)

United States Department of Labor (DOL)
Mine Safety Health Administration (MSHA)
Bureau of Labor Statistics (BLS)

Additional Reference and Educational Materials (Not Used in this Document)

U. S. Department of Energy
(www.fossil.energy.gov/education/)

American Coal Foundation
(www.teachcoal.org)

UK Center for Applied Energy Research
(www.caer.uky.edu)

Coal In Kentucky
University of Kentucky, documentary (2010)
(www.coalinkentucky.com)