

Wisconsin Coal Use, in Btu, by Economic Sector

**TOTAL
COAL
CONSUMPTION**
15.7%

Wisconsin's 2012 total coal consumption decreased 15.7 percent from 2011.

This is the second year of decrease; in 2011, coal use decreased 6.2 percent from 2010.

2012 also saw the second year during which coal use declined in all sectors because of decreased economic activity and increased use of natural gas.

Residential coal use dropped off almost entirely in 2008 and that trend continues. Commercial sector use of coal is limited primarily to state facilities and large institutions, and dropped by 15.2 percent.

The Industrial sector declined by 14.8 percent, and the utility sector saw a drop of 15.8 percent.

Despite recent declines in coal consumption, the Wisconsin total coal use has increased by 57.8 percent since 1975.

1970-2012 TRILLIONS OF BTU AND PERCENT OF TOTAL

This table represents a conversion from tons to trillions of Btus. The conversion factor from tons to Btus of coal depends on the type of coal used in the sector. For example, the industrial and commercial sectors use bituminous coal with a high energy content (21.0 to 23.6 MMBtu/ton), where the utility sector uses sub-bituminous coal with a lower energy and sulfur content (19.6 MMBtu/ton). Utilities mainly use low-sulfur coal to conform to regulations addressing sulfur emissions from utilities.

Year	Residential		Commercial		Industrial		Electric Utility ^a		Total	Total End Use
1970	9.5	2.7%	17.7	5.0%	97.1	27.3%	231.1	65.0%	355.4	124.3
1975	3.8	1.4%	7.1	2.7%	40.9	15.6%	210.5	80.3%	262.3	51.8
1980	2.3	0.7%	4.4	1.4%	47.2	14.5%	270.7	83.4%	324.6	53.9
1985	0.9	0.2%	4.4	1.2%	51.4	13.7%	317.7	84.9%	374.4	56.7
1990	0.4	0.1%	4.5	1.1%	51.9	12.6%	354.5	86.2%	411.4	56.9
1995	0.3	0.1%	3.8	0.8%	47.2	10.2%	412.4	88.9%	463.7	51.3
1996	0.3	0.1%	4.6	0.9%	43.1	8.9%	438.8	90.1%	486.9	48.1
1997	0.3	0.1%	4.6	0.9%	43.2	8.5%	462.0	90.6%	510.1	48.1
1998	0.3	0.1%	4.8	1.0%	41.9	8.4%	448.9	90.5%	495.8	46.9
1999	0.2	0.0%	5.0	1.0%	40.7	8.1%	459.6	90.9%	505.5	45.9
2000	0.2	0.0%	4.8	0.9%	43.0	8.3%	471.4	90.8%	519.4	48.0
2001	0.2	0.0%	4.8	0.9%	45.3	8.7%	471.6	90.4%	521.9	50.3
2002	0.2	0.0%	4.5	0.9%	46.7	9.2%	457.1	89.9%	508.5	51.3
2003	0.2	0.0%	4.7	0.9%	45.6	8.7%	476.6	90.4%	527.0	50.5
2004	0.1	0.0%	4.8	0.9%	47.0	8.7%	485.4	90.4%	537.2	51.9
2005	0.1	0.0%	4.8	0.9%	45.1	8.5%	481.7	90.6%	531.7	50.0
2006	0.1	0.0%	4.8	0.9%	46.7	9.0%	464.1	90.0%	515.7	51.6
2007	0.1	0.0%	3.9	0.8%	46.6	9.0%	465.4	90.2%	515.9	50.5
2008	0.0	0.0%	2.7	0.5%	45.5	8.4%	492.6	91.1%	540.8	48.2
2009	0.0	0.0%	2.0	0.4%	41.1	8.5%	441.4	91.1%	484.5	43.1
2010	0.0	0.0%	2.2	0.4%	42.1	8.1%	478.7	91.5%	523.0	44.3
2011	0.0	0.0%	1.8	0.4%	41.0	8.4%	448.0	91.3%	490.8	42.8
2012 ^p	0.0	0.0%	1.5	0.4%	34.9	8.4%	377.5	91.2%	413.9	36.5

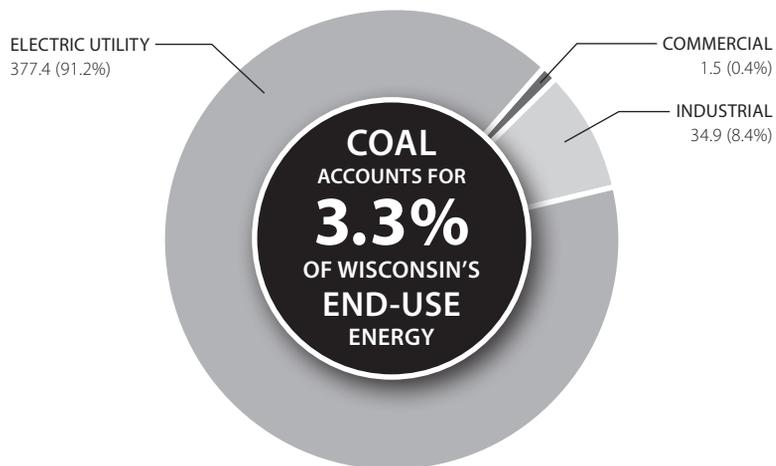
^a Includes petroleum coke co-fired with coal.

^p Preliminary estimates.

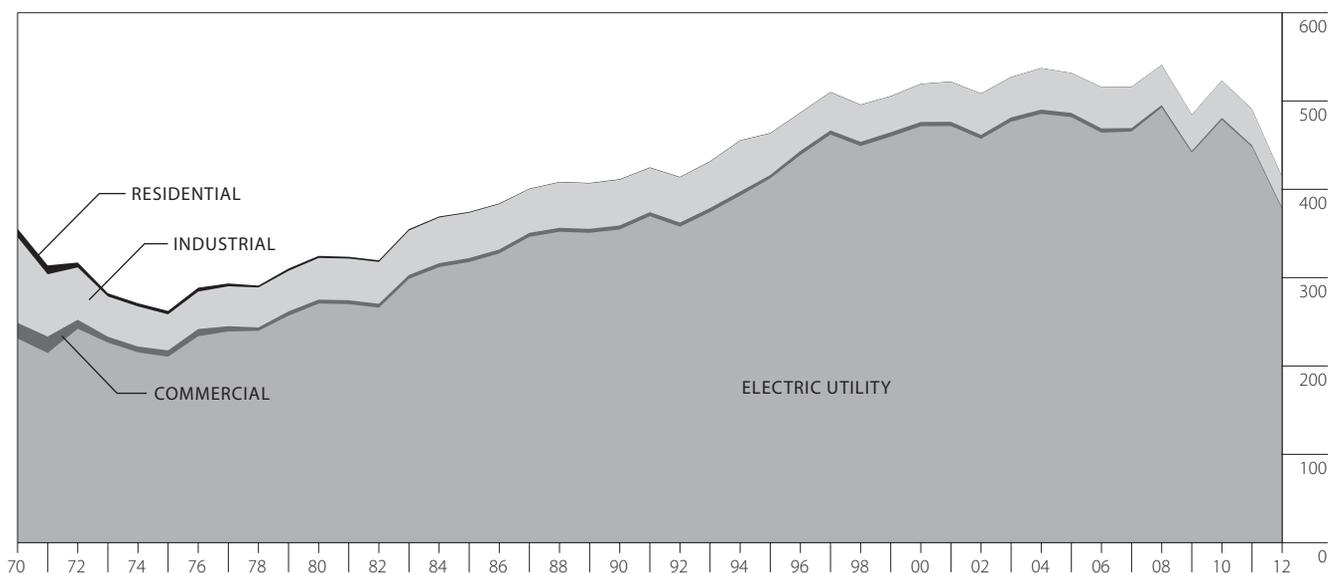
Source: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report*, [DOE/EIA-0214(94)] (October 1996); *Coal Distribution* [DOE/EIA-0125 (95/4Q)] (1980-1995); Wisconsin Department of Natural Resources, Annual Survey of Point Source Emissions, unpublished (1971-2012); annual reports of various Wisconsin electric generating utilities (1995-2012); U.S. Department of Commerce, Bureau of the Census of Housing (1970, 1980, 1990 and 2000).

Wisconsin Coal Use, by Economic Sector

2012 TRILLIONS OF BTU AND PERCENT OF TOTAL



1970-2012 TRILLIONS OF BTU



Source: Wisconsin State Energy Office.

Wisconsin Coal Use, in Tons, by Economic Sector

COAL
USE DECREASED
3,871
THOUSAND
TONS

The total weight
of coal used in
Wisconsin decreased
3,871 thousand tons
(15.7 percent) in 2012.

1970-2012 THOUSANDS OF TONS AND PERCENT OF TOTAL

Year	Residential		Commercial		Industrial		Electric Utility ^a		Total
1970	453	2.9%	840	5.4%	3,870	25.0%	10,294	66.6%	15,457
1975	202	1.7%	375	3.1%	1,716	14.2%	9,776	81.0%	12,069
1980	113	0.7%	210	1.3%	2,001	12.5%	13,715	85.5%	16,039
1985	40	0.2%	211	1.1%	2,176	11.7%	16,208	87.0%	18,635
1990	20	0.1%	216	1.1%	2,200	10.7%	18,087	88.1%	20,523
1995	15	0.1%	179	0.8%	1,998	8.6%	21,042	90.6%	23,234
1996	14	0.1%	220	0.9%	1,827	7.5%	22,386	91.6%	24,447
1997	13	0.1%	220	0.9%	1,830	7.1%	23,571	92.0%	25,634
1998	12	0.0%	228	0.9%	1,773	7.1%	22,904	91.9%	24,917
1999	11	0.0%	237	0.9%	1,724	6.8%	23,450	92.2%	25,422
2000	10	0.0%	230	0.9%	1,820	7.0%	24,050	92.1%	26,110
2001	9	0.0%	229	0.9%	1,919	7.3%	24,062	91.8%	26,219
2002	8	0.0%	213	0.8%	1,978	7.8%	23,323	91.4%	25,522
2003	7	0.0%	226	0.9%	1,931	7.3%	24,314	91.9%	26,478
2004	6	0.0%	227	0.8%	1,989	7.4%	24,765	91.8%	26,987
2005	5	0.0%	228	0.9%	1,911	7.2%	24,577	92.0%	26,721
2006	4	0.0%	230	0.9%	1,976	7.6%	23,679	91.5%	25,889
2007	3	0.0%	185	0.7%	1,972	7.6%	23,745	91.7%	25,905
2008	0	0.0%	131	0.5%	1,927	7.1%	25,132	92.4%	27,190
2009	0	0.0%	94	0.4%	1,742	7.2%	22,518	92.5%	24,354
2010	0	0.0%	105	0.4%	1,785	6.8%	24,423	92.8%	26,313
2011	0	0.0%	87	0.4%	1,736	7.0%	22,858	92.6%	24,681
2012 ^p	0	0.0%	74	0.4%	1,479	7.1%	19,257	92.5%	20,811

^a Includes petroleum coke co-fired with coal.

^p Preliminary estimates.

Source: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report* [DOE/EIA-0214(94)] (October 1996); U.S. Department of Commerce, Bureau of Census, *Census of Manufacturers and Annual Survey of Manufacturers, Fuels and Electric Energy Consumed* (1971-1982); Wisconsin Department of Natural Resources, *Annual Survey of Point Source Emissions*, unpublished (1971-2012); annual reports of various Wisconsin electric generating utilities (1995-2012); U.S. Department of Commerce, Bureau of the Census of Housing (1970, 1980, 1990 and 2000); http://www.eia.doe.gov/cneaf/electricity/epa/epa_sprdshts.html

Wisconsin Electric Utility Coal Use, by Plant

1975-2012 THOUSANDS OF TONS

Utility/Plant Name	1975	1980	1985	1990	1995	2000	2005	2009	2010	2011	2012 ^p
Dairyland Power Cooperative											
Alma	502	1,188	1,268	1,506	1,231	1,754	2,031	1,732	1,441	1,314	1,251
Genoa	801	915	914	680	788	928	1,172	985	940	543	596
Stoneman	111	74	44	30	0	0	38	13	0	0	0
Madison Gas and Electric Co.											
Blount Street	77	144	61	95	137	215	228	15	12	0	0
Northern States Power Co.											
Bay Front	52	100	36	45	30	115	152	100	60	51	3
Wisconsin Electric Power Co.											
Oak Creek	2,873	2,542	2,528	1,522	2,093	3,410	3,255	2,687	3,670	4,642	3,051
Pleasant Prairie	0	581	2,564	4,703	5,073	5,295	5,373	4,762	4,730	4,096	3,574
Port Washington	691	683	348	126	430	641	0	0	0	0	0
Valley	536	774	528	463	458	690	780	612	566	484	412
Wisconsin Power and Light Co.											
Blackhawk	24	30	8	0	0	0	0	0	0	0	0
Columbia	1,025	3,603	2,991	3,665	4,238	4,355	4,274	4,053	4,589	4,396	4,528
Edgewater	976	1,056	2,112	2,180	2,702	2,531	2,533	2,473	2,624	2,674	2,191
Nelson Dewey	512	552	541	497	615	580	729	569	632	575	488
Rock River	293	245	317	198	253	2	0	0	0	0	0
Wisconsin Public Services Corp.											
Pulliam	753	744	489	674	1,130	1,444	1,627	958	1,161	584	378
Weston	239	329	1,275	1,555	1,702	1,972	2,143	3,363	3,864	3,404	2,746
Municipal Utilities											
Manitowoc ^a	142	67	91	116	160	108	140	144	134	95	40
Marshfield	90	40	48	7	0	0	0	0	0	0	0
Menasha	58	28	25	25	2	10	6	52	0	0	0
Richland Center	21	20	20	0	0	0	0	0	0	0	0
Total^b	9,776	13,715	16,208	18,087	21,042	24,050	24,577	22,518	24,423	22,858	19,257

^a Includes petroleum coke co-fired with coal.

^b The totals do not always match the sum of the individual plants in this table. The totals are drawn from the federal Energy Information Administration, while the plant-specific data comes from the Wisconsin Department of Natural Resources emissions data. Starting in 2008, the totals reflect the WI DNR data.

^p Preliminary estimates.

Source: Wisconsin Department of Natural Resources, Annual Survey of Point Source Emissions, unpublished (1975-2012); annual reports of various Wisconsin electric generating utilities (1995-2012); U.S. Department of Energy, *Electric Power Monthly* [DOE/EIA-0226 (2012/03)](March 2012).

COAL
USE BY
ELECTRIC
UTILITIES

15.8%

Coal use by Wisconsin's electric utilities decreased 15.8 percent in 2012. Increased use of natural gas for generating accounted for much of the decrease.

The three largest power plants, Pleasant Prairie, Columbia and Oak Creek, used 57.9 percent of the utility coal burned in Wisconsin, while Wisconsin's newest coal plant Weston 4 (Wisconsin Public Service) uses 9.0 percent of Wisconsin's utility coal.

A map of Wisconsin's coal transportation routes and major coal plants can be found in the Map Appendix at the back of the book.

Wisconsin Manufacturing Industry Coal Use, by Industry Group

PAPER & ALLIED PRODUCTS
91.8%

Wisconsin's industrial coal use continues to be dominated by paper and allied products, which consumed 91.8 percent of the industrial coal used in 2012.

Entries in the table without figures indicate coal tons of less than 500 tons.

1971-2012 THOUSANDS OF TONS

SIC Industry Group	1971	1975	1980	1985	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012 ^p
20 Food and Kindred	213	56	64	72	43	10	15	21	22	14	12	9	10	9
26 Paper and Allied	1,940	1,469	1,737	1,878	1,863	1,825	1,700	1,765	1,838	1,835	1,648	1,661	1,584	1,357
32 Stone, Clay and Glass	79	13	8	49	116	120	80	121	108	51	61	64	70	57
33 Primary Metals	114	50	80	66	95	—	—	—	—	27	21	51	72	56
37 Transport Equipment	107	35	30	37	32	22	12	4	4	—	—	—	—	—
Total Manufacturing	2,810	1,716	2,001	2,176	2,200	1,998	1,820	1,911	1,972	1,927	1,742	1,785	1,736	1,479

^p Preliminary.

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Manufacturers*, and *Annual Survey of Manufacturers* (1972-1981); U.S. Department of Energy, Energy Information Administration, *Coal Distribution* [DOE/EIA-0125 (95/4Q)] (1980-1995); Wisconsin Department of Natural Resources, *Annual Survey of Point Source Emissions*, unpublished (1972-2012).

Coal Deliveries to Wisconsin Industries, by Region of Origin

COAL FROM WESTERN U.S.
38.4%

Coal currently used by Wisconsin industry comes primarily from the western part of the country (38.4 percent). There has been a gradual decline in industrial coal use. Industrial coal from Illinois has declined 63.3 percent since 1985.

1975-2012 THOUSANDS OF TONS

Origin ^a	1975	1980	1985	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012 ^p
Eastern PA	39	136	24	4	5	8	137	148	141	48	18	45	109
Western PA	11	125	192	38	33	11	0	0	0	0	0	0	0
Northern WV	93	339	150	230	384	75	175	98	78	99	93	93	144
Ohio	91	129	43	0	10	0	36	19	0	0	0	0	0
Southern No. 1 (WV and VA)	35	88	2	1	15	190	13	0	0	0	2	0	8
Southern No. 2 (WV and KY)	1,210	497	757	628	529	326	243	261	259	125	173	150	74
Western KY	111	127	147	98	196	179	192	197	195	97	91	99	72
Illinois	515	520	624	300	228	147	101	106	135	307	310	295	229
Indiana	55	114	89	43	67	52	207	215	217	214	194	194	204
Western U.S.	11	3	0	0	0	0	0	0	0	0	0	0	0
CO and NM	0	0	0	0	0	0	190	322	203	104	207	218	147
Wyoming	24	16	0	346	250	521	368	423	446	421	405	372	334
Utah	1	0	0	0	0	0	71	0	7	12	18	19	27
MO and WA	281	220	158	0	15	0	0	0	0	0	5	7	15
Total	2,477	2,314	2,186	1,688	1,733	1,509	1,733	1,789	1,681	1,427	1,516	1,493	1,362

^a Includes shipments to Wisconsin end users and dealers. Does not include deliveries to Superior Midwest Energy Terminal for trans-shipment from Wisconsin.

^p Preliminary.

Source: U.S. Bureau of Mines, "Bituminous Coal and Lignite Distribution", *Mineral Industry Surveys* (1973-1976); U.S. Department of Energy, Energy Information Administration, *Bituminous and Subbituminous Coal and Lignite Distribution* (1977-1979), *Coal Industry Annual* [DOE/EIA-0584](2000), *Coal Distribution* [DOE/EIA-0125 (99/4Q)] (1980-1999), *Quarterly Coal Report* [DOE/EIA - 0121(2012/4Q)] (March 2013), www.eia.gov/coal/distribution/quarterly and www.eia.gov/coal/distribution/annual

Coal Deliveries to Wisconsin, by Transportation Mode and Type of Receiving Facility

1975-2012 THOUSANDS OF TONS

Transportation Mode and Type of Receiving Facility	1975	1980	1985	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012 ^a
Rail													
Electric Utilities	7,631	11,140	13,194	17,237	18,815	25,072	21,722	24,063	24,996	22,761	23,027	22,782	19,624
Coke Plants	29	11	0	0	0	0	0	0	0	0	0	0	0
Other Industrial	850	1,047	846	811	772	1,169	1,177	1,377	1,469	1,299	1,321	1,164	1,036
Residential/Commercial	170	3	5	1	3	33	417	56	96	75	59	39	0
Subtotal	8,680	12,201	14,045	18,049	19,590	26,274	23,316	25,496	26,561	24,135	24,407	23,985	20,660
Great Lakes Shipping													
Electric Utilities	2,211	1,713	1,118	429	1,005	753	1,572	518	69	0	0	0	0
Coke Plants	224	167	0	0	0	0	0	0	0	0	0	0	0
Other Industrial	992	981	1,024	822	788	331	46	39	0	0	0	155	177
Residential/Commercial	212	46	11	1	0	0	0	0	40	14	30	44	23
Subtotal	3,639	2,907	2,153	1,252	1,793	1,084	1,618	557	109	14	30	199	200
River Barge													
Electric Utilities	1,756	1,487	1,042	855	1,083	32	1,508	454	12	103	176	0	8
Other Industrial	0	62	246	55	120	4	22	18	11	9	12	11	12
Residential/Commercial	0	1	10	2	126	129	0	0	32	24	19	10	6
Subtotal	1,756	1,550	1,298	912	1,329	165	1,530	472	55	136	207	21	26
Truck													
Electric Utilities	0	0	2	31	0	0	0	50	0	60	59	59	35
Other Industrial	0	1	45	1	53	5	488	355	200	119	184	162	137
Residential/Commercial	0	0	0	0	0	0	1	0	1	0	0	0	0
Subtotal	0	1	47	32	53	5	489	405	201	179	243	221	172
Total^a	14,075	16,659	17,543	20,245	22,765	27,528	26,953	26,930	26,926	24,464	24,887	24,427	21,059

^a Total data reported in this table may differ from other tables because of different sources. Subtotals may not add due to rounding.

^p Preliminary.

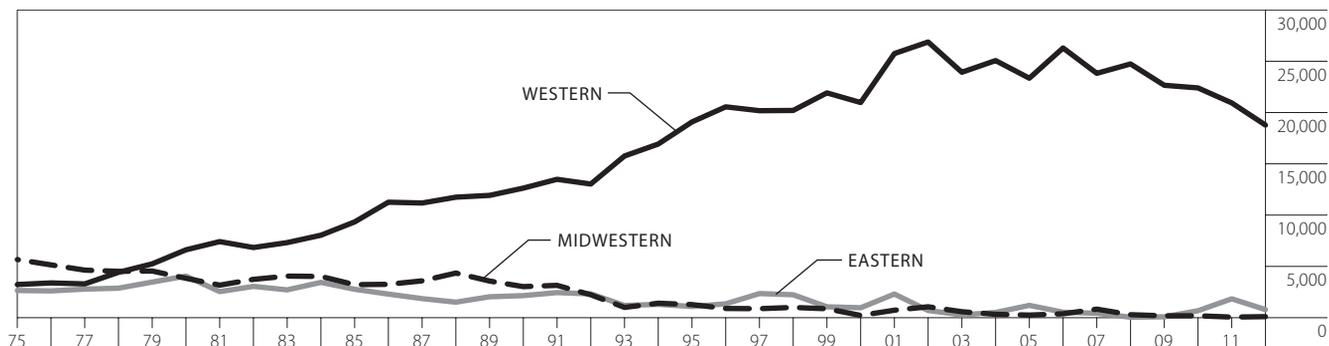
Source: U.S. Bureau of Mines, "Bituminous Coal and Lignite Distribution", *Mineral Industry Surveys* (1973-1976); U.S. Department of Energy, Energy Information Administration, *Bituminous and Subbituminous Coal and Lignite Distribution* (1977-1979), *Coal Industry Annual* [DOE/EIA - 0584] (2000), *Coal Distribution* [DOE/EIA-0125 (99/4Q)] (1980-1999) and *Quarterly Coal Report* [DOA/EIA-0121 (2012/4Q)] (March 2013), www.eia.gov/coal/distribution/quarterly and www.eia.gov/coal/distribution/annual

COAL
SHIPPED BY RAIL
13.9%

Coal shipped by rail decreased 13.9 percent in 2012. Total coal deliveries decreased by 13.8 percent. Ninety-eight percent of coal is delivered to Wisconsin by rail. The long term increase in coal tonnage shipped by rail reflects the increased use of low sulfur western coal. Use of low sulfur eastern coal shipped by the Great Lakes, and Midwest coal shipped by river barge, is expected to continue at near current levels. Changes in Wisconsin coal deliveries will be concentrated in rail deliveries of western coal for electric utilities.

Coal Deliveries to Wisconsin Power Plants, by Region of Origin

1975-2012 THOUSANDS OF TONS



Coal Deliveries to Wisconsin Power Plants, by State of Origin

**COAL
DELIVERIES**
13.9%

Coal deliveries to Wisconsin power plants decreased 13.9 percent. This resulted in a decrease of coal stockpiled at Wisconsin utilities for future use.

1975-2012 THOUSANDS OF TONS

State	1975	1980	1985	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012 ^p
Eastern													
Kentucky	2,073	2,816	2,122	196	95	47	758	179	0	10	10	10	0
Pennsylvania	572	1,007	639	1,760	941	826	0	12	0	76	650	1,764	788
West Virginia	5	233	0	136	57	34	252	240	12	0	18	67	0
Other States	1	0	9	59	0	62	191	0	37	0	0	0	0
Subtotal	2,651	4,056	2,770	2,151	1,093	969	1,201	431	49	86	678	1,842	788
Midwestern													
Illinois	4,857	3,364	1,478	1,136	1,232	0	97	686	236	86	183	59	57
Indiana	785	205	1,731	1,893	46	221	159	146	56	96	3	0	1
Ohio	27	272	0	0	0	0	0	0	0	0	0	0	43
Other States	0	1	9	0	0	0	0	0	0	0	0	0	0
Subtotal	5,669	3,842	3,218	3,029	1,278	221	256	832	292	182	186	59	102
Western													
Montana	2,161	2,575	2,235	1,983	2,102	463	591	1,961	562	548	535	482	871
Wyoming	1,053	4,042	7,101	10,605	15,223	19,192	20,581	19,811	22,569	21,438	21,383	19,841	17,739
Other States ^a	20	0	0	43	1,758	1,320	2,174	2,050	1,605	670	482	617	166
Subtotal	3,234	6,617	9,336	12,631	19,083	20,975	23,346	23,822	24,736	22,656	22,400	20,940	18,777
Total	11,554	14,515	15,324	17,811	21,454	22,165	24,803	25,085	25,077	22,924	23,263	22,841	19,667

^a Colorado.

^p Preliminary

Source: U.S. Department of Energy, *Cost and Quality of Fuels for Electric Utility Plants 2000* [DOE/EIA-0191(2001)] (May 2001), and *Quarterly Coal Report* [DOE/EIA-0121 (2012/4Q)] (March 2013), www.eia.gov/coal/distribution/quarterly and www.eia.gov/coal/distribution/annual