

Table 10.10 Capability to Switch Coal to Alternative Energy Sources, 2002;
Level: National Data and Regional Totals;
Row: NAICS Codes, Value of Shipments and Employment Sizes;
Column: Energy Sources;
Unit: Thousand Short Tons.

NAICS Code(a)	Subsector and Industry	Coal		Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other(e)	
Total United States											
	RSE Column Factors:	1.4	1.1	1.5	0.7	1.1	0.8	1.2	1.5	0.5	
311	Food	8,290	1,689	7,112	0	1,410	Q	212	313	7	8.5
311221	Wet Corn Milling	5,462	771	5,201	0	766	0	0	249	6	0.9
31131	Sugar	1,648	388	1,260	0	243	0	W	0	2	0.9
311421	Fruit and Vegetable Canning	0	0	0	0	0	0	0	0	0	0
312	Beverage and Tobacco Products	776	267	509	0	267	W	58	0	0	2.5
3121	Beverages	341	W	W	0	W	W	W	0	0	3.9
3122	Tobacco	435	W	W	0	W	0	W	0	0	0.8
313	Textile Mills	1,005	489	516	0	489	W	Q	W	0	28
314	Textile Product Mills	Q	Q	Q	0	W	Q	28	0	23	37.2
315	Apparel	0	0	0	0	0	0	0	0	0	0
316	Leather and Allied Products	0	0	0	0	0	0	0	0	0	0
321	Wood Products	W	W	W	0	W	0	0	W	0	0.8
321113	Sawmills	0	0	0	0	0	0	0	0	0	0
3212	Veneer, Plywood, and Engineered Woods	W	W	W	0	W	0	0	W	0	0.8
3219	Other Wood Products	0	0	0	0	0	0	0	0	0	0
322	Paper	17,411	4,038	6,404	422	2,287	1,124	1,533	W	423	2.2
322110	Pulp Mills	W	22	W	0	0	0	22	0	0	0.8
322121	Paper Mills, except Newsprint	13,090	2,045	4,078	W	1,297	399	554	W	387	2.3
322122	Newsprint Mills	W	W	183	0	W	0	0	0	0	0.8
322130	Paperboard Mills	3,759	1,789	1,970	W	807	720	953	0	W	1
323	Printing and Related Support	0	0	0	0	0	0	0	0	0	0
324	Petroleum and Coal Products	569	18	551	*	18	W	0	0	0	7.2
324110	Petroleum Refineries	W	W	W	0	W	W	0	0	0	27.9
324199	Other Petroleum and Coal Products	512	6	505	*	6	0	0	0	0	0.9
325	Chemicals	14,303	5,135	8,917	47	4,231	712	561	0	W	9.6
325110	Petrochemicals	W	0	W	0	0	0	0	0	0	0.7
325120	Industrial Gases	0	*	0	0	0	0	0	0	0	0.9
325181	Alkalies and Chlorine	907	164	743	18	146	0	0	0	0	6.1
325182	Carbon Black	0	0	0	0	0	0	0	0	0	0
325188	Other Basic Inorganic Chemicals	851	W	W	0	W	0	0	0	0	0.8
325192	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	0	0	0.7
325193	Ethyl Alcohol	845	72	634	0	72	0	0	0	0	3.1
325199	Other Basic Organic Chemicals	W	W	4,390	0	Q	183	0	0	0	6.7

Table 10.10 Capability to Switch Coal to Alternative Energy Sources, 2002;
Level: National Data and Regional Totals;
Row: NAICS Codes, Value of Shipments and Employment Sizes;
Column: Energy Sources;
Unit: Thousand Short Tons.

NAICS Code(a)	Subsector and Industry	Coal		Alternative Energy Sources(b)							RSE Row Factors	
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other(e)		
325211	Plastics Materials and Resins	1,198	Q	833	0	Q	0	0	0	0	W	12
325212	Synthetic Rubber	226	69	41	0	35	35	0	0	0	0	0.9
325222	Noncellulosic Organic Fibers	W	W	W	6	W	W	W	0	0	0	0.9
325311	Nitrogenous Fertilizers	0	0	0	0	0	0	0	0	0	0	0
325312	Phosphatic Fertilizers	33	0	33	0	0	0	0	0	0	0	0.7
3254	Pharmaceuticals and Medicines	396	190	206	0	184	55	63	0	0	0	0.9
325412	Pharmaceutical Preparation	396	190	206	0	184	55	63	0	0	0	0.9
325992	Photographic Film, Paper, Plate, and Chemicals	W	W	W	0	W	W	W	0	0	0	0.9
326	Plastics and Rubber Products	Q	W	W	0	W	0	*	0	0	0	0.9
327	Nonmetallic Mineral Products	13,927	5,978	7,529	W	5,424	885	668	214	W	W	2.9
3272	Glass and Glass Products	0	0	0	0	0	0	0	0	0	0	0
327211	Flat Glass	0	0	0	0	0	0	0	0	0	0	0
327213	Glass Containers	0	0	0	0	0	0	0	0	0	0	0
327310	Cements	10,633	5,433	4,831	W	4,947	W	W	214	453	W	3.1
327410	Lime	2,958	540	2,366	0	473	W	W	0	W	W	1
327993	Mineral Wool	0	0	0	0	0	0	0	0	0	0	0
331	Primary Metals	2,196	133	2,064	0	100	39	0	0	33	W	2
331111	Iron and Steel Mills	1,712	55	1,657	0	22	0	0	0	33	W	2.3
331112	Electrometallurgical Ferroalloy Products	112	0	112	0	0	0	0	0	0	0	0.7
3312	Steel Products from Purchased Steel	0	0	0	0	0	0	0	0	0	0	0
3313	Alumina and Aluminum	0	0	0	0	0	0	0	0	0	0	0
331312	Primary Aluminum	0	0	0	0	0	0	0	0	0	0	0
3314	Nonferrous Metals, except Aluminum	323	78	245	0	78	39	0	0	0	0	0.9
3315	Foundries	50	0	50	0	0	0	0	0	0	0	0.7
331511	Iron Foundries	49	0	49	0	0	0	0	0	0	0	0.7
331521	Aluminum Die-Casting Foundries	0	0	0	0	0	0	0	0	0	0	0
331524	Aluminum Foundries, except Die-Casting	0	0	0	0	0	0	0	0	0	0	0
332	Fabricated Metal Products	35	0	35	0	0	0	0	0	0	0	4.9
333	Machinery	51	41	11	0	41	0	0	0	0	0	1.7
334	Computer and Electronic Products	1	*	*	0	*	0	*	0	0	0	21.6
334413	Semiconductors and Related Devices	0	0	0	0	0	0	0	0	0	0	0
335	Electrical Equip., Appliances, and Components	19	2	17	0	2	0	0	0	0	0	4.4
336	Transportation Equipment	W	77	W	3	72	11	0	1	1	W	5
336112	Light Trucks and Utility Vehicles	W	W	W	0	W	0	0	1	0	W	0.8
337	Furniture and Related Products	56	W	W	W	28	0	0	0	4	W	3.2
339	Miscellaneous	0	0	0	0	0	0	0	0	0	0	0
	Total	60,310	18,185	34,999	540	14,544	3,273	3,123	667	1,095		6.2

Table 10.10 Capability to Switch Coal to Alternative Energy Sources, 2002;
Level: National Data and Regional Totals;
Row: NAICS Codes, Value of Shipments and Employment Sizes;
Column: Energy Sources;
Unit: Thousand Short Tons.

NAICS Code(a)	Subsector and Industry	Coal		Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other(e)	
Northeast Census Region											
	RSE Column Factors:	1.4	1.1	1.5	0.7	1.1	0.8	1.2	1.5	0.5	
	Total	4,130	1,264	2,551	*	533	W	W	0	1	2.4
Midwest Census Region											
	RSE Column Factors:	1.4	1.1	1.5	0.7	1.1	0.8	1.2	1.5	0.5	
	Total	26,946	4,878	15,368	34	4,322	793	301	358	504	8.7
South Census Region											
	RSE Column Factors:	1.4	1.1	1.5	0.7	1.1	0.8	1.2	1.5	0.5	
	Total	24,489	9,254	15,123	421	7,047	1,815	2,199	W	519	9.3
West Census Region											
	RSE Column Factors:	1.4	1.1	1.5	0.7	1.1	0.8	1.2	1.5	0.5	
	Total	4,745	2,788	1,957	85	2,642	W	W	W	70	1.3
Economic Characteristic (f)											
	RSE Column Factors:	1.5	1.8	1.6	0.5	1.9	0.8	0.9	1.1	0.3	
Value of Shipments and Receipts (million dollars)											
	Under 20	2,120	526	1,546	0	511	W	37	0	6	6.4
	20-49	5,012	1,616	3,133	W	1,534	W	236	258	271	5.5
	50-99	8,346	3,734	4,507	Q	3,274	644	465	Q	284	4.8
	100-249	18,230	4,546	6,974	70	3,739	860	451	144	80	12.8
	250-499	14,820	5,584	9,236	231	4,244	1,091	1,296	261	170	6

Table 10.10 Capability to Switch Coal to Alternative Energy Sources, 2002;
Level: National Data and Regional Totals;
Row: NAICS Codes, Value of Shipments and Employment Sizes;
Column: Energy Sources;
Unit: Thousand Short Tons.

NAICS Code(a)	Subsector and Industry	Coal		Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other(e)	
	500 and Over	11,783	2,180	9,604	W	1,243	396	638	1	283	1
	Total	60,310	18,185	34,999	540	14,544	3,273	3,123	667	1,095	6.2
	Employment Size										
	Under 50	1,654	313	1,343	0	311	0	W	0	2	9.4
	50-99	3,939	1,807	2,082	W	1,797	W	W	W	67	3.6
	100-249	13,180	5,386	7,288	18	4,689	1,031	610	240	511	5.6
	250-499	11,435	2,694	9,135	0	2,211	W	289	W	62	3.7
	500-999	19,160	4,740	7,452	W	Q	931	1,256	271	167	9.9
	1000 and Over	10,943	3,245	7,698	418	2,085	705	816	W	287	1.8
	Total	60,310	18,185	34,999	540	14,544	3,273	3,123	667	1,095	6.2

(a) The Bureau of the Census classifies establishments using the North American Industry Classification System (NAICS).

(b) 'Alternative Energy Sources' consist of those energy sources that could have been substituted for coal during 2002. The quantities are expressed in thousands of short tons, and therefore represent the quantity of coal that could have been displaced by the given alternative type of energy.

(c) 'Total Consumed' represents those quantities (Total Inputs) of coal that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

(d) 'Electricity Receipts' represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. 'Electricity Receipts' has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

(e) 'Other' includes all other types of energy not already identified that respondents indicated could have been consumed in place of coal.

(f) Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census.

NF=No applicable RSE row/column factor.

Table 10.10 Capability to Switch Coal to Alternative Energy Sources, 2002;
Level: National Data and Regional Totals;
Row: NAICS Codes, Value of Shipments and Employment Sizes;
Column: Energy Sources;
Unit: Thousand Short Tons.

NAICS Code(a)	Subsector and Industry	Coal		Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other(e)	

* Estimate less than 0.5.

W=Withheld to avoid disclosing data for individual establishments.

Q=Withheld because Relative Standard Error is greater than 50 percent.

NA=Not available.

Notes: To obtain the RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Consumption Division, Form EIA-846, '2002 Manufacturing Energy Consumption Survey,' and the Bureau of the Census, data files for the '2002 Economic Census, Manufacturing - Industry Series.'