

Released: August 2021
 Next MECS will be fielded in 2023.

Table 10.11 Number of Establishments with Capability to Switch Coal to Alternative Energy Sources, 2018;

Level: National Data;
Row: NAICS Codes;
Column: Energy Sources;
Unit: Establishment Counts.

NAICS Code(a)	Subsector and Industry	Coal(b)			Alternative Energy Sources(c)					
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	HGL (excluding natural gasoline)	Other(f)
Total United States										
311	Food	27	9	21	0	8	3	0	0	D
3112	Grain and Oilseed Milling	11	D	6	0	D	3	0	0	D
311221	Wet Corn Milling	4	D	D	0	D	0	0	0	0
31131	Sugar Manufacturing	17	D	14	0	D	0	0	0	D
3114	Fruit and Vegetable Preserving and Specialty Food	0	0	0	0	0	0	0	0	0
3115	Dairy Product	0	0	0	0	0	0	0	0	0
3116	Animal Slaughtering and Processing	0	0	0	0	0	0	0	0	0
312	Beverage and Tobacco Products	3	0	3	0	0	0	0	0	0
3121	Beverages	3	0	3	0	0	0	0	0	0
3122	Tobacco	0	0	0	0	0	0	0	0	0
313	Textile Mills	10	9	Q	0	Q	Q	Q	0	0
314	Textile Product Mills	D	0	D	0	0	0	0	0	0
315	Apparel	Q	0	Q	0	0	0	0	0	0
316	Leather and Allied Products	0	0	0	0	0	0	0	0	0
321	Wood Products	Q	0	Q	0	0	0	0	0	0
321113	Sawmills	0	0	0	0	0	0	0	0	0
3212	Veneer, Plywood, and Engineered Woods	Q	0	Q	0	0	0	0	0	0
321219	Reconstituted Wood Products	0	0	0	0	0	0	0	0	0
3219	Other Wood Products	Q	0	Q	0	0	0	0	0	0
322	Paper	37	14	32	D	13	D	D	0	D
322110	Pulp Mills	D	0	D	0	0	0	0	0	0
322121	Paper Mills, except Newsprint	23	D	21	D	D	0	0	0	D
322122	Newsprint Mills	0	0	0	0	0	0	0	0	0
322130	Paperboard Mills	10	7	8	D	6	D	D	0	D
323	Printing and Related Support	0	0	0	0	0	0	0	0	0
324	Petroleum and Coal Products	D	D	0	0	D	0	0	0	0
324110	Petroleum Refineries	0	0	0	0	0	0	0	0	0
324121	Asphalt Paving Mixture and Block	D	D	0	0	D	0	0	0	0
324122	Asphalt Shingle and Coating Materials	0	0	0	0	0	0	0	0	0
324191	Petroleum Lubricating Oil and Grease Products	0	0	0	0	0	0	0	0	0
324199	Other Petroleum and Coal Products	0	0	0	0	0	0	0	0	0
325	Chemicals	26	4	25	0	3	D	D	D	0
325110	Petrochemicals	0	0	0	0	0	0	0	0	0
325120	Industrial Gases	0	0	0	0	0	0	0	0	0
325180	Other Basic Inorganic Chemicals	4	0	4	0	0	0	0	0	0
325193	Ethyl Alcohol	3	D	3	0	D	0	0	0	0
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	0	0	0	0	0	0	0	0	0
325199	Other Basic Organic Chemicals	Q	D	Q	0	D	0	0	0	0
325211	Plastics Materials and Resins	D	0	D	0	0	0	0	0	0
325212	Synthetic Rubber	D	0	D	0	0	0	0	0	0
325220	Artificial and Synthetic Fibers and Filaments	D	D	0	0	0	D	D	D	0
325311	Nitrogenous Fertilizers	0	0	0	0	0	0	0	0	0
325312	Phosphatic Fertilizers	D	0	D	0	0	0	0	0	0
3254	Pharmaceuticals and Medicines	D	0	D	0	0	0	0	0	0

325412	Pharmaceutical Preparation	D	0	D	0	0	0	0	0	0
325992	Photographic Film, Paper, Plate, and Chemicals	0	0	0	0	0	0	0	0	0
326	Plastics and Rubber Products	0	0	0	0	0	0	0	0	0
327	Nonmetallic Mineral Products	139	35	119	0	32	D	D	0	6
327120	Clay Building Material and Refractories	4	0	4	0	0	0	0	0	0
327211	Flat Glass	0	0	0	0	0	0	0	0	0
327212	Other Pressed and Blown Glass and Glassware	0	0	0	0	0	0	0	0	0
327213	Glass Containers	0	0	0	0	0	0	0	0	0
327215	Glass Products from Purchased Glass	0	0	0	0	0	0	0	0	0
327310	Cements	82	28	68	0	27	D	D	0	D
327410	Lime	48	7	42	0	5	0	0	0	D
327420	Gypsum	0	0	0	0	0	0	0	0	0
327993	Mineral Wool	D	0	D	0	0	0	0	0	0
331	Primary Metals	22	D	20	0	D	0	0	0	0
331110	Iron and Steel Mills and Ferroalloys	17	D	15	0	D	0	0	0	0
3312	Steel Products from Purchased Steel	D	0	D	0	0	0	0	0	0
3313	Alumina and Aluminum	0	0	0	0	0	0	0	0	0
331314	Secondary Smelting and Alloying of Aluminum	0	0	0	0	0	0	0	0	0
331315	Aluminum Sheet, Plate and Foils	0	0	0	0	0	0	0	0	0
331318	Other Aluminum Rolling, Drawing and Extruding	0	0	0	0	0	0	0	0	0
3314	Nonferrous Metals, except Aluminum	0	0	0	0	0	0	0	0	0
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	0	0	0	0	0	0	0	0	0
3315	Foundries	D	0	D	0	0	0	0	0	0
331511	Iron Foundries	D	0	D	0	0	0	0	0	0
331523	Nonferrous Metal Die-Casting Foundries	0	0	0	0	0	0	0	0	0
331524	Aluminum Foundries, except Die-Casting	0	0	0	0	0	0	0	0	0
332	Fabricated Metal Products	Q	0	D	0	0	0	0	0	0
333	Machinery	Q	0	Q	0	0	0	0	0	0
334	Computer and Electronic Products	0	0	0	0	0	0	0	0	0
334413	Semiconductors and Related Devices	0	0	0	0	0	0	0	0	0
335	Electrical Equip., Appliances, and Components	0	0	0	0	0	0	0	0	0
336	Transportation Equipment	0	0	0	0	0	0	0	0	0
336111	Automobiles	0	0	0	0	0	0	0	0	0
336112	Light Trucks and Utility Vehicles	0	0	0	0	0	0	0	0	0
3364	Aerospace Product and Parts	0	0	0	0	0	0	0	0	0
336411	Aircraft	0	0	0	0	0	0	0	0	0
337	Furniture and Related Products	D	3	3	0	0	0	0	0	3
339	Miscellaneous	Q	Q	0	0	0	0	0	0	Q
	Total	983	168	854	D	63	15	12	D	105

(a) The Bureau of the Census classifies establishments using the 2017 North American Industry Classification System (NAICS).

(b) These counts include only those establishments that reported this activity in 2018. Establishments for which only a portion of the total consumed fuel was reported as switchable contribute to the establishment counts in both the *Switchable* and *Not Switchable* columns. Therefore, the sum of these establishment counts may be greater than the corresponding establishment count of the total number of establishments consuming the fuel.

(c) *Alternative Energy Sources* consist of those energy sources that could have been substituted for coal during 2018. 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.

(d) *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.

(e) *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.

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

* Estimate less than 0.5.

D=Withheld to avoid disclosing data for individual establishments.

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

NA=Not available.

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

Source: U.S. Energy Information Administration, Office of Energy Demand and Integrated Statistics, Form EIA-846, *2018 Manufacturing Energy Consumption Survey*.

The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied (Approval ID: CBDRB-FY20-260).

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RSE Table 10.11 Relative Standard Errors for Table 10.11;

Unit: Percents.

NAICS Code(a)	Subsector and Industry	Coal(b)			Alternative Energy Sources(c)					
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	HGL (excluding natural gasoline)	Other(f)
Total United States										
311	Food	0.3	0.7	0.1	X	0.8	8.5	X	X	D
3112	Grain and Oilseed Milling	1.0	D	0.4	X	D	8.5	X	X	D
311221	Wet Corn Milling	0.0	D	D	X	D	X	X	X	X
31131	Sugar Manufacturing	0.0	D	0.0	X	D	X	X	X	D
3114	Fruit and Vegetable Preserving and Specialty Food	X	X	X	X	X	X	X	X	X
3115	Dairy Product	X	X	X	X	X	X	X	X	X
3116	Animal Slaughtering and Processing	X	X	X	X	X	X	X	X	X
312	Beverage and Tobacco Products	0.0	X	0.0	X	X	X	X	X	X
3121	Beverages	0.0	X	0.0	X	X	X	X	X	X
3122	Tobacco	X	X	X	X	X	X	X	X	X
313	Textile Mills	42.4	47.7	50.4	X	52.7	58.0	58.0	X	X
314	Textile Product Mills	D	X	D	X	X	X	X	X	X
315	Apparel	96.7	X	96.7	X	X	X	X	X	X
316	Leather and Allied Products	X	X	X	X	X	X	X	X	X
321	Wood Products	53.8	X	53.8	X	X	X	X	X	X
321113	Sawmills	X	X	X	X	X	X	X	X	X
3212	Veneer, Plywood, and Engineered Woods	80.8	X	80.8	X	X	X	X	X	X
321219	Reconstituted Wood Products	X	X	X	X	X	X	X	X	X
3219	Other Wood Products	70.6	X	70.6	X	X	X	X	X	X
322	Paper	0.0	0.0	0.0	D	0.0	D	D	X	D
322110	Pulp Mills	D	X	D	X	X	X	X	X	X
322121	Paper Mills, except Newsprint	0.0	D	0.0	D	D	X	X	X	D
322122	Newsprint Mills	X	X	X	X	X	X	X	X	X
322130	Paperboard Mills	0.0	0.0	0.0	D	0.0	D	D	X	D
323	Printing and Related Support	X	X	X	X	X	X	X	X	X
324	Petroleum and Coal Products	D	D	X	X	D	X	X	X	X
324110	Petroleum Refineries	X	X	X	X	X	X	X	X	X
324121	Asphalt Paving Mixture and Block	D	D	X	X	D	X	X	X	X
324122	Asphalt Shingle and Coating Materials	X	X	X	X	X	X	X	X	X
324191	Petroleum Lubricating Oil and Grease Products	X	X	X	X	X	X	X	X	X
324199	Other Petroleum and Coal Products	X	X	X	X	X	X	X	X	X
325	Chemicals	12.7	0.0	14.6	X	0.0	D	D	D	X
325110	Petrochemicals	X	X	X	X	X	X	X	X	X
325120	Industrial Gases	X	X	X	X	X	X	X	X	X
325180	Other Basic Inorganic Chemicals	9.4	X	9.4	X	X	X	X	X	X
325193	Ethyl Alcohol	4.1	D	4.1	X	D	X	X	X	X
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	X	X	X	X	X	X	X	X	X
325199	Other Basic Organic Chemicals	53.2	D	53.2	X	D	X	X	X	X
325211	Plastics Materials and Resins	D	X	D	X	X	X	X	X	X
325212	Synthetic Rubber	D	X	D	X	X	X	X	X	X
325220	Artificial and Synthetic Fibers and Filaments	D	D	X	X	X	D	D	D	X
325311	Nitrogenous Fertilizers	X	X	X	X	X	X	X	X	X
325312	Phosphatic Fertilizers	D	X	D	X	X	X	X	X	X
3254	Pharmaceuticals and Medicines	D	X	D	X	X	X	X	X	X
325412	Pharmaceutical Preparation	D	X	D	X	X	X	X	X	X
325992	Photographic Film, Paper, Plate, and Chemicals	X	X	X	X	X	X	X	X	X
326	Plastics and Rubber Products	X	X	X	X	X	X	X	X	X
327	Nonmetallic Mineral Products	6.9	10.3	6.6	X	11.0	D	D	X	8.5
327120	Clay Building Material and Refractories	8.6	X	8.6	X	X	X	X	X	X

327211	Flat Glass	X	X	X	X	X	X	X	X	X
327212	Other Pressed and Blown Glass and Glassware	X	X	X	X	X	X	X	X	X
327213	Glass Containers	X	X	X	X	X	X	X	X	X
327215	Glass Products from Purchased Glass	X	X	X	X	X	X	X	X	X
327310	Cements	15.8	15.4	15.9	X	15.4	D	D	X	D
327410	Lime	0.0	0.0	0.0	X	0.0	X	X	X	D
327420	Gypsum	X	X	X	X	X	X	X	X	X
327993	Mineral Wool	D	X	D	X	X	X	X	X	X
331	Primary Metals	4.3	D	4.5	X	D	X	X	X	X
331110	Iron and Steel Mills and Ferroalloys	0.0	D	0.0	X	D	X	X	X	X
3312	Steel Products from Purchased Steel	D	X	D	X	X	X	X	X	X
3313	Alumina and Aluminum	X	X	X	X	X	X	X	X	X
331314	Secondary Smelting and Alloying of Aluminum	X	X	X	X	X	X	X	X	X
331315	Aluminum Sheet, Plate and Foils	X	X	X	X	X	X	X	X	X
331318	Other Aluminum Rolling, Drawing and Extruding	X	X	X	X	X	X	X	X	X
3314	Nonferrous Metals, except Aluminum	X	X	X	X	X	X	X	X	X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	X	X	X	X	X	X	X	X	X
3315	Foundries	D	X	D	X	X	X	X	X	X
331511	Iron Foundries	D	X	D	X	X	X	X	X	X
331523	Nonferrous Metal Die-Casting Foundries	X	X	X	X	X	X	X	X	X
331524	Aluminum Foundries, except Die-Casting	X	X	X	X	X	X	X	X	X
332	Fabricated Metal Products	70.2	X	D	X	X	X	X	X	X
333	Machinery	98.9	X	98.9	X	X	X	X	X	X
334	Computer and Electronic Products	X	X	X	X	X	X	X	X	X
334413	Semiconductors and Related Devices	X	X	X	X	X	X	X	X	X
335	Electrical Equip., Appliances, and Components	X	X	X	X	X	X	X	X	X
336	Transportation Equipment	X	X	X	X	X	X	X	X	X
336111	Automobiles	X	X	X	X	X	X	X	X	X
336112	Light Trucks and Utility Vehicles	X	X	X	X	X	X	X	X	X
3364	Aerospace Product and Parts	X	X	X	X	X	X	X	X	X
336411	Aircraft	X	X	X	X	X	X	X	X	X
337	Furniture and Related Products	D	0.0	0.0	X	X	X	X	X	0.0
339	Miscellaneous	98.8	98.8	X	X	X	X	X	X	98.8
	Total	4.8	5.5	5.0	D	5.9	6.8	7.6	D	8.5

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(b) These counts include only those establishments that reported this activity in 2018. Establishments for which only a portion of the total consumed fuel was reported as switchable contribute to the establishment counts in both the *Switchable* and *Not Switchable* columns. Therefore, the sum of these establishment counts may be greater than the corresponding establishment count of the total number of establishments consuming the fuel.

(c) *Alternative Energy Sources* consist of those energy sources that could have been substituted for coal during 2018. 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.

(d) *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.

(e) *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.

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

* Estimate less than 0.5.

D=Withheld to avoid disclosing data for individual establishments.

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X=Not defined because RSE corresponds to a data table value of zero.

NA=Not available.

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

Source: U.S. Energy Information Administration, Office of Energy Demand and Integrated Statistics, Form EIA-846, 2018 Manufacturing Energy Consumption Survey.

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