

Released: August 2021

Next MECS will be fielded in 2023.

Table 10.7 Number of Establishments with Capability to Switch Electricity to Alternative Energy Sources, 2018;

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

NAICS Code(a)	Subsector and Industry	Electricity Receipts(b)			Alternative Energy Sources(c)						
		Total Receipts(d)	Switchable	Not Switchable	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)	Coal Coke and Breeze	Other(e)
Total United States											
311	Food	15,796	333	15,496	203	187	Q	0	Q	0	Q
3112	Grain and Oilseed Milling	611	6	611	D	Q	0	0	0	0	0
311221	Wet Corn Milling	52	D	52	D	0	0	0	0	0	0
31131	Sugar Manufacturing	70	0	70	0	0	0	0	0	0	0
3114	Fruit and Vegetable Preserving and Specialty Food	1,045	11	1,038	3	Q	0	0	0	0	0
3115	Dairy Product	1,036	74	976	D	38	D	0	D	0	0
3116	Animal Slaughtering and Processing	1,842	87	1,763	Q	59	D	0	D	0	Q
312	Beverage and Tobacco Products	3,938	70	3,932	Q	8	0	0	9	0	0
3121	Beverages	3,853	D	3,847	Q	8	0	0	D	0	0
3122	Tobacco	85	D	85	0	0	0	0	D	0	0
313	Textile Mills	1,352	D	1,338	Q	Q	Q	Q	D	D	0
314	Textile Product Mills	4,116	Q	4,093	0	0	Q	0	0	0	0
315	Apparel	3,856	Q	3,852	D	0	0	0	0	0	Q
316	Leather and Allied Products	655	D	655	D	0	0	0	0	0	0
321	Wood Products	9,229	173	9,184	16	72	Q	Q	10	0	Q
321113	Sawmills	1,782	44	1,760	11	34	0	Q	3	0	6
3212	Veneer, Plywood, and Engineered Woods	1,079	Q	1,078	D	Q	0	0	0	0	0
321219	Reconstituted Wood Products	158	0	158	0	0	0	0	0	0	0
3219	Other Wood Products	6,089	D	6,071	D	D	Q	0	Q	0	Q
322	Paper	3,009	72	2,961	66	D	D	10	D	D	8
322110	Pulp Mills	28	D	28	D	D	D	0	0	0	D
322121	Paper Mills, except Newsprint	156	20	149	17	D	D	D	D	D	D
322122	Newsprint Mills	11	0	11	0	0	0	0	0	0	0
322130	Paperboard Mills	143	D	141	8	D	0	D	0	0	4
323	Printing and Related Support	12,534	Q	12,293	Q	0	0	Q	0	Q	0
324	Petroleum and Coal Products	1,879	171	1,744	45	139	11	4	D	0	4
324110	Petroleum Refineries	135	19	135	16	D	0	0	D	0	4
324121	Asphalt Paving Mixture and Block	1,288	141	1,158	21	135	11	D	0	0	0
324122	Asphalt Shingle and Coating Materials	168	D	168	5	D	0	0	0	0	0
324191	Petroleum Lubricating Oil and Grease Products	211	5	206	D	D	0	D	0	0	0
324199	Other Petroleum and Coal Products	78	D	78	D	0	0	0	0	0	0
325	Chemicals	8,869	359	8,630	74	291	4	0	14	0	Q
325110	Petrochemicals	66	5	66	3	D	0	0	D	0	0
325120	Industrial Gases	524	D	524	D	0	0	0	0	0	0
325180	Other Basic Inorganic Chemicals	501	10	501	D	Q	0	0	0	0	0
325193	Ethyl Alcohol	207	0	207	0	0	0	0	0	0	0
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	61	D	61	D	0	0	0	0	0	0
325199	Other Basic Organic Chemicals	524	7	523	3	6	D	0	0	0	0
325211	Plastics Materials and Resins	813	40	797	Q	Q	0	0	Q	0	0
325212	Synthetic Rubber	87	D	86	0	D	0	0	0	0	0
325220	Artificial and Synthetic Fibers and Filaments	99	7	97	D	7	D	0	0	0	0
325311	Nitrogenous Fertilizers	147	D	147	D	0	0	0	0	0	0
325312	Phosphatic Fertilizers	55	D	54	D	D	0	0	D	0	0
3254	Pharmaceuticals and Medicines	1,297	84	1,270	27	44	0	0	D	0	D
325412	Pharmaceutical Preparation	687	Q	667	Q	Q	0	0	0	0	D
325992	Photographic Film, Paper, Plate, and Chemicals	108	4	107	D	D	0	0	0	0	D
326	Plastics and Rubber Products	8,317	Q	8,249	Q	Q	0	0	0	0	0
327	Nonmetallic Mineral Products	12,035	471	11,818	255	299	Q	0	166	0	3
327120	Clay Building Material and Refractories	415	D	415	D	D	D	0	D	0	D

327211	Flat Glass	60	D	59	0	D	0	0	0	0	0
327212	Other Pressed and Blown Glass and Glassware	164	D	164	D	0	0	0	0	0	0
327213	Glass Containers	57	D	57	D	0	0	0	0	0	0
327215	Glass Products from Purchased Glass	686	5	685	5	0	0	0	0	0	0
327310	Cements	187	0	187	0	0	0	0	0	0	0
327410	Lime	86	0	86	0	0	0	0	0	0	0
327420	Gypsum	148	0	148	0	0	0	0	0	0	0
327993	Mineral Wool	191	5	188	D	4	0	0	D	0	D
331	Primary Metals	3,226	107	3,218	83	85	D	0	9	0	0
331110	Iron and Steel Mills and Ferroalloys	390	D	389	5	7	0	0	0	0	0
3312	Steel Products from Purchased Steel	498	Q	498	D	Q	0	0	0	0	0
3313	Alumina and Aluminum	399	4	399	3	3	0	0	0	0	0
331314	Secondary Smelting and Alloying of Aluminum	109	D	109	0	D	0	0	0	0	0
331315	Aluminum Sheet, Plate and Foils	65	0	65	0	0	0	0	0	0	0
331318	Other Aluminum Rolling, Drawing and Extruding	191	D	191	3	D	0	0	0	0	0
3314	Nonferrous Metals, except Aluminum	651	10	650	7	4	0	0	D	0	0
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	107	3	106	D	D	0	0	D	0	0
3315	Foundries	1,288	D	1,283	D	Q	D	0	D	0	0
331511	Iron Foundries	373	Q	373	Q	D	0	0	D	0	0
331523	Nonferrous Metal Die-Casting Foundries	257	6	255	D	4	D	0	D	0	0
331524	Aluminum Foundries, except Die-Casting	277	3	276	0	D	0	0	D	0	0
332	Fabricated Metal Products	37,949	680	37,713	Q	Q	Q	0	Q	0	0
333	Machinery	14,919	266	14,722	Q	Q	0	Q	Q	0	0
334	Computer and Electronic Products	6,646	224	6,498	Q	D	0	0	Q	0	0
334413	Semiconductors and Related Devices	344	D	344	0	D	0	0	0	0	0
335	Electrical Equip., Appliances, and Components	3,295	Q	3,295	0	0	0	Q	0	0	0
336	Transportation Equipment	7,032	213	6,849	125	96	D	0	Q	0	72
336111	Automobiles	71	D	71	0	0	0	0	0	0	D
336112	Light Trucks and Utility Vehicles	69	D	69	D	0	0	0	0	0	0
3364	Aerospace Product and Parts	1,199	D	1,193	4	15	D	0	0	0	0
336411	Aircraft	347	D	346	D	3	0	0	0	0	0
337	Furniture and Related Products	8,201	Q	8,045	Q	Q	0	Q	Q	Q	0
339	Miscellaneous	13,589	Q	13,389	Q	Q	Q	Q	Q	Q	Q
	Total	180,441	4,003	177,976	2,227	1,846	398	272	636	187	322

(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 electricity receipts during 2018. The quantities are expressed in millions of kilowatt-hours, and therefore represent the quantity of electricity that could have been displaced by the given alternative type of energy.

(d) *Total 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 electricity.

* 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 10.7 Relative Standard Errors for Table 10.7;

Unit: Percents.

NAICS Code(a)	Subsector and Industry	Electricity Receipts(b)			Alternative Energy Sources(c)					Coal Coke and Breeze	Other(e)
		Total Receipts(d)	Switchable	Not Switchable	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)		
Total United States											
311	Food	0.2	39.2	2.0	58.1	31.5	0.1	4.9	4.1	6.5	5.7
3112	Grain and Oilseed Milling	0.1	45.3	2.5	56.5	15.9	X	5.8	X	9.1	X
311221	Wet Corn Milling	0.0	0.0	0.0	0.0	0.0	X	0.0	X	X	X
31131	Sugar Manufacturing	0.1	0.1	0.1	0.1	0.1	0.1	X	0.1	X	X
3114	Fruit and Vegetable Preserving and Specialty Food	0.1	22.1	0.5	20.6	28.0	X	9.2	9.2	9.2	9.2
3115	Dairy Product	0.1	19.3	0.9	16.5	22.7	X	X	7.1	X	7.1
3116	Animal Slaughtering and Processing	0.1	70.0	4.3	97.5	70.0	X	X	X	X	X
312	Beverage and Tobacco Products	1.3	51.6	3.1	62.0	55.7	X	7.0	7.0	X	56.4
3121	Beverages	1.3	53.2	3.2	62.0	57.5	X	7.0	7.0	X	56.4
3122	Tobacco	0.1	0.1	0.1	X	0.1	X	X	X	X	X
313	Textile Mills	0.1	60.8	3.5	62.5	93.9	X	X	X	X	X
314	Textile Product Mills	0.1	48.8	6.3	X	48.8	X	X	X	X	X
315	Apparel	0.1	73.2	6.0	73.2	X	X	X	X	X	X
316	Leather and Allied Products	0.1	X	0.2	X	X	X	X	X	X	X
321	Wood Products	0.9	41.1	2.8	71.7	29.7	5.5	X	30.2	X	35.6
321113	Sawmills	0.4	28.2	2.2	51.2	36.5	5.5	X	36.7	X	35.6
3212	Veneer, Plywood, and Engineered Woods	0.1	53.8	5.2	53.8	X	X	X	X	X	X
321219	Reconstituted Wood Products	0.1	X	0.1	X	X	X	X	X	X	X
3219	Other Wood Products	1.3	72.7	4.0	90.0	60.6	X	X	45.5	X	X
322	Paper	0.1	34.9	2.7	39.8	0.1	0.1	0.1	X	X	0.1
322110	Pulp Mills	0.0	0.0	0.0	X	X	X	X	X	X	0.0
322121	Paper Mills, except Newsprint	0.1	0.1	0.1	0.1	0.1	0.1	0.1	X	X	0.1
322122	Newsprint Mills	0.0	X	0.0	X	X	X	X	X	X	X
322130	Paperboard Mills	0.0	0.0	0.0	0.0	0.0	0.0	0.0	X	X	0.0
323	Printing and Related Support	0.1	63.5	3.0	93.5	86.5	X	X	X	X	X
324	Petroleum and Coal Products	0.3	8.5	1.3	12.7	9.1	3.5	X	13.7	X	36.2
324110	Petroleum Refineries	0.1	36.2	0.5	36.2	36.2	X	X	36.2	X	36.2
324121	Asphalt Paving Mixture and Block	0.3	8.7	2.0	13.9	9.7	4.2	X	12.7	X	X
324122	Asphalt Shingle and Coating Materials	1.8	4.0	1.8	4.0	4.0	4.0	X	4.0	X	X
324191	Petroleum Lubricating Oil and Grease Products										
324199	Other Petroleum and Coal Products	0.0	X	0.0	X	X	X	X	X	X	X
325	Chemicals	0.1	31.8	2.0	40.7	42.9	8.1	0.0	20.8	X	37.7
325110	Petrochemicals	0.1	26.6	0.6	26.6	X	X	X	X	X	26.6
325120	Industrial Gases	0.1	X	0.1	X	X	X	X	X	X	X
325180	Other Basic Inorganic Chemicals	0.1	47.8	1.3	12.7	51.1	X	X	X	X	X
325193	Ethyl Alcohol	0.1	22.9	0.4	48.5	18.1	X	X	X	X	X
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	0.0	X	0.0	X	X	X	X	X	X	X
325199	Other Basic Organic Chemicals	0.1	35.7	1.1	39.2	49.8	X	X	X	X	12.4
325211	Plastics Materials and Resins	0.1	60.0	2.9	80.3	13.2	8.1	X	8.1	X	X
325212	Synthetic Rubber	0.0	0.0	0.0	0.0	0.0	X	X	X	X	X
325220	Artificial and Synthetic Fibers and Filaments	0.0	0.0	0.0	0.0	0.0	X	0.0	0.0	X	X
325311	Nitrogenous Fertilizers	0.1	22.9	0.2	22.9	X	X	X	22.9	X	X
325312	Phosphatic Fertilizers	0.0	X	0.0	X	X	X	X	X	X	X
3254	Pharmaceuticals and Medicines	0.1	37.6	4.5	69.2	21.0	X	X	35.0	X	34.9
325412	Pharmaceutical Preparation	0.1	15.5	4.8	25.0	16.5	X	X	70.0	X	34.9
325992	Photographic Film, Paper, Plate, and Chemicals	0.1	63.3	5.3	25.5	25.5	X	X	X	X	80.5
326	Plastics and Rubber Products	0.1	48.6	2.7	67.4	99.2	X	X	99.2	X	X
327	Nonmetallic Mineral Products	0.1	38.5	1.9	42.6	46.6	96.5	96.5	61.2	96.5	73.4
327120	Clay Building Material and Refractories	0.1	8.3	1.6	8.3	8.3	X	X	X	X	X
327211	Flat Glass	0.0	0.0	0.0	X	0.0	X	X	X	X	X
327212	Other Pressed and Blown Glass and Glassware	0.1	44.2	5.8	71.9	21.2	X	X	21.2	X	X
327213	Glass Containers	0.0	0.0	0.0	X	0.0	X	X	X	X	X

327215	Glass Products from Purchased Glass	0.1	62.9	5.0	65.0	91.9	96.5	96.5	96.5	96.5	96.5
327310	Cements	0.1	X	0.1	X	X	X	X	X	X	X
327410	Lime	0.0	0.0	0.0	0.0	X	X	X	X	X	X
327420	Gypsum	0.1	17.3	0.2	17.3	X	X	X	X	X	X
327993	Mineral Wool	0.1	50.9	1.7	24.9	50.9	X	X	24.9	X	X
331	Primary Metals	0.2	16.4	1.0	19.6	18.1	X	X	38.6	X	3.8
331110	Iron and Steel Mills and Ferroalloys	0.1	45.6	0.1	49.0	3.3	X	X	3.3	X	3.3
3312	Steel Products from Purchased Steel	0.1	54.6	7.0	77.7	X	X	X	X	X	12.1
3313	Alumina and Aluminum	2.0	14.6	2.1	22.2	21.0	X	X	68.5	X	0.0
331314	Secondary Smelting and Alloying of Aluminum	0.1	0.1	0.1	0.1	0.1	X	X	X	X	X
331315	Aluminum Sheet, Plate and Foils	0.1	21.4	0.1	X	21.4	X	X	X	X	X
331318	Other Aluminum Rolling, Drawing and Extruding	4.1	25.0	4.3	30.9	36.0	X	X	68.5	X	X
3314	Nonferrous Metals, except Aluminum	0.1	51.8	0.5	59.9	47.3	X	X	68.3	X	X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	0.1	37.4	1.5	37.4	X	X	X	X	X	X
3315	Foundries	0.1	20.8	0.3	24.3	33.3	X	X	54.0	X	6.1
331511	Iron Foundries	0.1	18.5	0.1	18.5	18.5	X	X	X	X	X
331523	Nonferrous Metal Die-Casting Foundries	0.1	9.6	1.6	9.6	X	X	X	X	X	9.6
331524	Aluminum Foundries, except Die-Casting	0.1	27.5	0.7	30.0	7.9	X	X	54.0	X	7.9
332	Fabricated Metal Products	0.1	52.8	2.0	57.2	78.1	X	X	X	X	97.6
333	Machinery	0.1	43.2	1.6	50.7	57.5	X	X	X	X	X
334	Computer and Electronic Products	0.1	42.4	2.7	53.1	60.3	X	X	79.6	X	X
334413	Semiconductors and Related Devices	0.1	20.7	4.7	20.1	20.8	X	X	20.1	X	X
335	Electrical Equip., Appliances, and Components	0.1	63.9	0.8	93.6	62.0	X	X	X	X	X
336	Transportation Equipment	0.1	35.0	3.1	37.6	48.9	X	X	55.9	X	25.8
336111	Automobiles	0.0	X	0.0	X	X	X	X	X	X	X
336112	Light Trucks and Utility Vehicles	0.0	X	0.0	X	X	X	X	X	X	X
3364	Aerospace Product and Parts	0.1	38.3	3.2	59.2	43.3	X	X	64.1	X	25.8
336411	Aircraft	0.1	32.6	1.4	25.8	35.2	X	X	25.8	X	25.8
337	Furniture and Related Products	0.1	83.1	3.6	57.0	X	X	X	X	X	99.3
339	Miscellaneous	0.7	51.7	2.5	64.6	73.9	X	X	83.5	X	X
	Total	0.1	12.4	0.7	16.2	16.9	54.9	63.3	34.5	88.7	44.4

(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 electricity receipts during 2018. The quantities are expressed in millions of kilowatt-hours, and therefore represent the quantity of electricity that could have been displaced by the given alternative type of energy.

(d) *Total 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 electricity.

* 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.

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*.

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).