

Released: August 2021

Next MECS will be fielded in 2023.

Table 10.9 Number of Establishments with Capability to Switch Distillate Fuel Oil to Alternative Energy Sources, 2018;

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

NAICS Code(a)	Subsector and Industry	Distillate Fuel Oil(b)			Alternative Energy Sources(c)						
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Natural Gas	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)	Coal Coke and Breeze	Other(f)
Total United States											
311	Food	1,760	128	1,654	88	105	0	0	Q	0	14
3112	Grain and Oilseed Milling	132	4	131	0	3	0	0	0	0	D
311221	Wet Corn Milling	22	D	22	0	0	0	0	0	0	D
31131	Sugar Manufacturing	23	D	23	D	D	0	0	0	0	0
3114	Fruit and Vegetable Preserving and Specialty Food	163	D	161	D	0	0	0	0	0	Q
3115	Dairy Product	166	23	150	5	16	0	0	4	0	D
3116	Animal Slaughtering and Processing	282	10	274	D	6	0	0	D	0	0
312	Beverage and Tobacco Products	374	Q	360	D	Q	0	0	Q	0	0
3121	Beverages	354	Q	340	D	Q	0	0	Q	0	0
3122	Tobacco	20	0	20	0	0	0	0	0	0	0
313	Textile Mills	181	10	170	0	Q	Q	D	0	0	Q
314	Textile Product Mills	Q	Q	Q	0	Q	0	0	D	0	0
315	Apparel	D	0	D	0	0	0	0	0	0	0
316	Leather and Allied Products	D	D	D	0	D	0	0	0	0	0
321	Wood Products	2,167	D	2,154	7	6	0	0	Q	0	D
321113	Sawmills	850	10	847	7	D	0	0	0	0	D
3212	Veneer, Plywood, and Engineered Woods	269	Q	261	0	0	0	0	Q	0	0
321219	Reconstituted Wood Products	77	0	77	0	0	0	0	0	0	0
3219	Other Wood Products	948	D	947	0	D	0	0	0	0	0
322	Paper	246	19	231	D	17	D	0	0	0	D
322110	Pulp Mills	18	D	16	0	D	0	0	0	0	D
322121	Paper Mills, except Newsprint	71	5	66	D	3	0	0	0	0	0
322122	Newsprint Mills	9	0	9	0	0	0	0	0	0	0
322130	Paperboard Mills	77	D	77	0	D	D	0	0	0	0
323	Printing and Related Support	402	0	402	0	0	0	0	0	0	0
324	Petroleum and Coal Products	775	43	737	20	26	4	0	Q	0	D
324110	Petroleum Refineries	72	4	71	D	D	0	0	0	0	0
324121	Asphalt Paving Mixture and Block	568	34	535	16	21	4	0	Q	0	0
324122	Asphalt Shingle and Coating Materials	35	D	32	D	D	0	0	0	0	0
324191	Petroleum Lubricating Oil and Grease Products	61	0	61	0	0	0	0	0	0	0
324199	Other Petroleum and Coal Products	39	D	38	0	0	0	0	0	0	D
325	Chemicals	1,369	273	1,138	Q	235	D	0	48	0	9
325110	Petrochemicals	31	D	30	0	D	D	0	0	0	0
325120	Industrial Gases	3	0	3	0	0	0	0	0	0	0
325180	Other Basic Inorganic Chemicals	117	5	114	D	D	0	0	0	0	3
325193	Ethyl Alcohol	103	0	103	0	0	0	0	0	0	0
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	18	0	18	0	0	0	0	0	0	0
325199	Other Basic Organic Chemicals	159	6	157	D	4	0	0	0	0	D
325211	Plastics Materials and Resins	173	Q	168	D	7	0	0	D	0	D
325212	Synthetic Rubber	17	4	14	0	D	0	0	0	0	D
325220	Artificial and Synthetic Fibers and Filaments	12	D	12	0	D	0	0	0	0	0
325311	Nitrogenous Fertilizers	100	72	28	0	72	0	0	0	0	0

325312	Phosphatic Fertilizers	18	0	18	0	0	0	0	0	0	0
3254	Pharmaceuticals and Medicines	198	11	190	3	10	0	0	0	0	0
325412	Pharmaceutical Preparation	99	9	92	3	7	0	0	0	0	0
325992	Photographic Film, Paper, Plate, and Chemicals	14	D	13	0	D	0	0	D	0	0
326	Plastics and Rubber Products	763	Q	756	Q	Q	Q	0	D	0	0
327	Nonmetallic Mineral Products	4,014	18	3,999	D	3	7	D	4	0	D
327120	Clay Building Material and Refractories	132	Q	126	0	0	D	0	0	0	0
327211	Flat Glass	14	0	14	0	0	0	0	0	0	0
327212	Other Pressed and Blown Glass and Glassware	32	0	32	0	0	0	0	0	0	0
327213	Glass Containers	19	0	19	0	0	0	0	0	0	0
327215	Glass Products from Purchased Glass	62	D	61	D	D	0	0	D	0	0
327310	Cements	70	4	67	0	D	0	D	0	0	D
327410	Lime	47	D	46	0	0	D	0	0	0	0
327420	Gypsum	87	0	87	0	0	0	0	0	0	0
327993	Mineral Wool	24	D	23	D	0	0	0	0	0	0
331	Primary Metals	625	22	613	17	D	0	0	14	0	0
331110	Iron and Steel Mills and Ferroalloys	158	D	156	7	0	0	0	D	0	0
3312	Steel Products from Purchased Steel	113	5	111	D	0	0	0	D	0	0
3313	Alumina and Aluminum	102	4	98	D	0	0	0	4	0	0
331314	Secondary Smelting and Alloying of Aluminum	37	0	37	0	0	0	0	0	0	0
331315	Aluminum Sheet, Plate and Foils	30	D	28	D	0	0	0	D	0	0
331318	Other Aluminum Rolling, Drawing and Extruding	27	D	25	0	0	0	0	D	0	0
3314	Nonferrous Metals, except Aluminum	55	D	55	D	0	0	0	0	0	0
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	14	0	14	0	0	0	0	0	0	0
3315	Foundries	196	5	193	4	D	0	0	5	0	0
331511	Iron Foundries	83	5	80	4	D	0	0	5	0	0
331523	Nonferrous Metal Die-Casting Foundries	34	0	34	0	0	0	0	0	0	0
331524	Aluminum Foundries, except Die-Casting	18	0	18	0	0	0	0	0	0	0
332	Fabricated Metal Products	2,095	Q	1,859	Q	Q	Q	0	Q	0	0
333	Machinery	1,411	D	1,411	0	D	0	0	0	0	0
334	Computer and Electronic Products	152	5	149	4	3	D	0	D	0	0
334413	Semiconductors and Related Devices	65	5	63	4	3	D	0	D	0	0
335	Electrical Equip., Appliances, and Components	275	Q	246	Q	Q	0	0	Q	0	Q
336	Transportation Equipment	986	Q	897	D	12	0	0	Q	0	Q
336111	Automobiles	21	0	21	0	0	0	0	0	0	0
336112	Light Trucks and Utility Vehicles	21	0	21	0	0	0	0	0	0	0
3364	Aerospace Product and Parts	150	D	147	0	5	0	0	0	0	0
336411	Aircraft	38	0	38	0	0	0	0	0	0	0
337	Furniture and Related Products	359	3	356	0	0	0	0	3	0	3
339	Miscellaneous	583	0	583	0	0	0	0	0	0	0
	Total	18,705	951	17,868	345	720	114	5	437	0	109

(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 distillate fuel oil during 2018. The quantities are expressed in thousands of barrels, and therefore represent the quantity of distillate fuel oil that could have been displaced by the given alternative type of energy.

(d) *Total Consumed* represents those quantities (Total Inputs) of distillate fuel oil 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 distillate fuel oil.

* 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-946, 2018 Manufacturing Energy Consumption Survey

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).

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

RSE Table 10.9 Relative Standard Errors for Table 10.9;

Unit: Percents

NAICS Code(a)	Subsector and Industry	Distillate Fuel Oil(b)			Alternative Energy Sources(c)				Coal Coke and Breeze		Other(f)
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Natural Gas	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)		
Total United States											
311	Food	3.9	13.4	3.9	19.5	18.0	X	X	60.4	X	22.7
3112	Grain and Oilseed Milling	4.7	1.4	4.7	X	8.5	X	X	X	X	D
311221	Wet Corn Milling	0.0	D	0.0	X	X	X	X	X	X	D
31131	Sugar Manufacturing	0.0	D	0.0	D	D	X	X	X	X	X
3114	Fruit and Vegetable Preserving and Specialty Food	14.9	D	15.0	D	X	X	X	X	X	90.4
3115	Dairy Product	19.9	28.7	22.0	22.7	40.2	X	X	31.0	X	D
3116	Animal Slaughtering and Processing	14.9	38.4	15.2	D	40.7	X	X	D	X	X
312	Beverage and Tobacco Products	6.7	52.0	6.7	D	70.5	X	X	75.7	X	X
3121	Beverages	23.9	52.0	24.8	D	70.5	X	X	75.7	X	X
3122	Tobacco	0.0	X	0.0	X	X	X	X	X	X	X
313	Textile Mills	28.4	47.8	30.0	X	57.2	83.0	D	X	X	83.0
314	Textile Product Mills	71.0	65.4	80.2	X	65.4	X	X	D	X	X
315	Apparel	D	X	D	X	X	X	X	X	X	X
316	Leather and Allied Products	D	D	D	X	D	X	X	X	X	X
321	Wood Products	8.5	D	8.5	27.4	0.0	X	X	92.0	X	D
321113	Sawmills	7.3	19.9	7.4	27.4	D	X	X	X	X	D
3212	Veneer, Plywood, and Engineered Woods	16.5	92.0	16.7	X	X	X	X	92.0	X	X
321219	Reconstituted Wood Products	22.1	X	22.1	X	X	X	X	X	X	X
3219	Other Wood Products	17.9	D	17.9	X	D	X	X	X	X	X
322	Paper	0.5	1.7	0.5	D	1.9	D	X	X	X	D
322110	Pulp Mills	0.0	D	0.0	X	D	X	X	X	X	D
322121	Paper Mills, except Newsprint	0.0	0.0	0.0	D	0.0	X	X	X	X	X
322122	Newsprint Mills	0.0	X	0.0	X	X	X	X	X	X	X
322130	Paperboard Mills	0.0	D	0.0	X	D	D	X	X	X	X
323	Printing and Related Support	39.8	X	39.8	X	X	X	X	X	X	X
324	Petroleum and Coal Products	4.2	7.0	4.3	13.9	9.6	0.0	X	76.4	X	D
324110	Petroleum Refineries	0.0	0.0	0.0	D	D	X	X	X	X	X
324121	Asphalt Paving Mixture and Block	6.4	23.9	6.6	41.1	25.7	0.0	X	76.4	X	X
324122	Asphalt Shingle and Coating Materials	12.3	D	12.3	D	D	X	X	X	X	X
324191	Petroleum Lubricating Oil and Grease Products	25.3	X	25.3	X	X	X	X	X	X	X
324199	Other Petroleum and Coal Products	0.0	D	0.0	X	X	X	X	X	X	D
325	Chemicals	4.6	32.5	3.9	60.2	35.3	D	X	34.1	X	12.9
325110	Petrochemicals	0.0	D	0.0	X	D	D	X	X	X	X
325120	Industrial Gases	12.1	X	12.1	X	X	X	X	X	X	X
325180	Other Basic Inorganic Chemicals	17.1	9.4	17.4	D	D	X	X	X	X	9.4
325193	Ethyl Alcohol	6.0	X	6.0	X	X	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	12.5	17.5	12.6	D	27.2	X	X	X	X	D
325211	Plastics Materials and Resins	18.2	76.9	18.7	D	41.2	X	X	D	X	D
325212	Synthetic Rubber	0.0	0.0	0.0	X	D	X	X	X	X	D
325220	Artificial and Synthetic Fibers and Filaments	0.0	D	0.0	X	D	X	X	X	X	X
325311	Nitrogenous Fertilizers	22.6	46.0	46.1	X	46.0	X	X	X	X	X
325312	Phosphatic Fertilizers	0.0	X	0.0	X	X	X	X	X	X	X
3254	Pharmaceuticals and Medicines	15.0	8.4	15.5	10.8	8.2	X	X	X	X	X
325412	Pharmaceutical Preparation	16.8	10.8	17.5	10.8	10.8	X	X	X	X	X
325992	Photographic Film, Paper, Plate, and Chemicals	22.3	D	23.0	X	D	X	X	D	X	X
326	Plastics and Rubber Products	24.9	90.4	25.1	90.4	90.4	90.4	X	D	X	X
327	Nonmetallic Mineral Products	5.1	20.4	5.1	D	13.0	41.1	D	0.0	X	D

327120	Clay Building Material and Refractories	15.0	83.7	15.4	X	X	D	X	X	X	X
327211	Flat Glass	0.0	X	0.0	X	X	X	X	X	X	X
327212	Other Pressed and Blown Glass and Glassware	29.4	X	29.4	X	X	X	X	X	X	X
327213	Glass Containers	0.0	X	0.0	X	X	X	X	X	X	X
327215	Glass Products from Purchased Glass	25.9	D	26.4	D	D	X	X	D	X	X
327310	Cements	25.4	15.1	26.4	X	D	X	D	X	X	D
327410	Lime	0.0	D	0.0	X	X	D	X	X	X	X
327420	Gypsum	15.3	X	15.3	X	X	X	X	X	X	X
327993	Mineral Wool	18.9	D	19.0	D	X	X	X	X	X	X
331	Primary Metals	4.0	8.2	4.1	4.7	D	X	X	10.4	X	X
331110	Iron and Steel Mills and Ferroalloys	0.0	D	0.0	0.0	X	X	X	D	X	X
3312	Steel Products from Purchased Steel	24.0	10.0	24.6	D	X	X	X	D	X	X
3313	Alumina and Aluminum	4.5	13.5	4.6	D	X	X	X	13.5	X	X
331314	Secondary Smelting and Alloying of Aluminum	14.8	X	14.8	X	X	X	X	X	X	X
331315	Aluminum Sheet, Plate and Foils	0.0	D	0.0	D	X	X	X	D	X	X
331318	Other Aluminum Rolling, Drawing and Extruding	10.2	D	9.0	X	X	X	X	D	X	X
3314	Nonferrous Metals, except Aluminum	14.8	D	14.8	D	X	X	X	X	X	X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	21.6	X	21.6	X	X	X	X	X	X	X
3315	Foundries	11.4	28.8	11.4	29.8	D	X	X	28.8	X	X
331511	Iron Foundries	20.4	28.8	20.5	29.8	D	X	X	28.8	X	X
331523	Nonferrous Metal Die-Casting Foundries	28.9	X	28.9	X	X	X	X	X	X	X
331524	Aluminum Foundries, except Die-Casting	15.9	X	15.9	X	X	X	X	X	X	X
332	Fabricated Metal Products	24.8	72.4	26.6	99.2	72.4	99.2	X	72.4	X	X
333	Machinery	19.5	D	19.5	X	D	X	X	X	X	X
334	Computer and Electronic Products	17.7	36.3	17.9	46.2	28.3	D	X	D	X	X
334413	Semiconductors and Related Devices	18.9	36.3	19.1	46.2	28.3	D	X	D	X	X
335	Electrical Equip., Appliances, and Components	37.2	89.3	40.0	97.4	89.3	X	X	65.8	X	65.8
336	Transportation Equipment	5.2	57.7	5.1	D	40.9	X	X	95.7	X	98.6
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	15.8	D	16.0	X	45.8	X	X	X	X	X
336411	Aircraft	23.3	X	23.3	X	X	X	X	X	X	X
337	Furniture and Related Products	40.1	0.0	40.4	X	X	X	X	0.0	X	0.0
339	Miscellaneous	34.5	X	34.5	X	X	X	X	X	X	X
	Total	1.7	18.3	1.7	15.7	24.6	17.8	29.7	12.4	X	10.8

(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 distillate fuel oil during 2018. The quantities are expressed in thousands of barrels, and therefore represent the quantity of distillate fuel oil that could have been displaced by the given alternative type of energy.

(d) *Total Consumed* represents those quantities (Total Inputs) of distillate fuel oil 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 distillate fuel oil.

* 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).