

**Table 10.3 Number of Establishments with Capability to Switch Natural Gas to Alternative Energy Sources, 2014;**

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

NAICS Code(a)	Subsector and Industry	Natural Gas(b)			Alternative Energy Sources(c)						
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Distillate Fuel Oil	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)	Coal Coke and Breeze	Other(f)
<b>Total United States</b>											
311	Food	10,179	997	7,653	291	417	79	6	230	W	107
3112	Grain and Oilseed Milling	513	126	369	Q	54	11	W	53	0	Q
311221	Wet Corn Milling	44	9	39	W	W	0	W	W	0	0
31131	Sugar Manufacturing	60	7	50	0	W	7	0	0	0	0
3114	Fruit and Vegetable Preserving and Specialty Food	792	104	681	Q	37	21	W	W	W	W
3115	Dairy Product	795	147	639	11	90	Q	0	61	0	W
3116	Animal Slaughtering and Processing	1,347	189	1,048	Q	76	14	0	38	0	77
312	Beverage and Tobacco Products	1,157	97	933	W	26	17	0	59	0	W
3121	Beverages	1,098	76	889	0	14	6	0	Q	0	W
3122	Tobacco	60	20	44	W	12	11	0	5	0	0
313	Textile Mills	908	165	722	W	85	24	W	51	0	0
314	Textile Product Mills	2,512	Q	1,583	W	27	W	W	37	0	5
315	Apparel	1,174	Q	1,084	W	W	0	0	W	0	0
316	Leather and Allied Products	283	8	257	6	0	W	W	5	0	0
321	Wood Products	3,507	505	2,563	166	Q	W	0	217	0	Q
321113	Sawmills	252	27	208	W	8	W	0	W	0	6
3212	Veneer, Plywood, and Engineered Woods	480	91	405	Q	W	0	0	30	0	9
321219	Reconstituted Wood Products	129	13	121	W	W	0	0	3	0	W
3219	Other Wood Products	2,644	376	1,826	97	W	0	0	173	0	W
322	Paper	2,762	262	2,278	10	74	67	15	Q	W	11
322110	Pulp Mills	23	11	20	0	7	5	0	0	0	0
322121	Paper Mills, except Newsprint	159	50	137	W	17	25	6	6	W	6
322122	Newsprint Mills	14	W	14	0	0	W	0	0	0	0
322130	Paperboard Mills	139	58	108	W	26	28	10	W	0	5
323	Printing and Related Support	9,028	743	6,554	463	Q	W	W	302	0	0
324	Petroleum and Coal Products	1,407	364	1,048	64	185	124	0	134	0	48
324110	Petroleum Refineries	168	41	156	3	W	W	0	30	0	9
324121	Asphalt Paving Mixture and Block	863	291	565	56	171	119	0	92	0	33
324122	Asphalt Shingle and Coating Materials	144	23	127	W	7	0	0	W	0	W
324199	Other Petroleum and Coal Products	73	W	67	0	W	W	0	0	0	W
325	Chemicals	6,513	757	5,324	260	286	Q	12	151	0	39
325110	Petrochemicals	33	8	30	W	3	W	0	W	0	W
325120	Industrial Gases	203	0	193	0	0	0	0	0	0	0
325180	Other Basic Inorganic Chemicals	407	90	329	W	31	0	W	18	0	W
325193	Ethyl Alcohol	200	22	186	W	3	0	W	14	0	W
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	44	7	38	0	6	W	0	W	0	0
325199	Other Basic Organic Chemicals	420	61	377	0	48	W	W	Q	0	13
325211	Plastics Materials and Resins	686	75	603	34	29	13	W	26	0	7
325212	Synthetic Rubber	71	13	62	W	8	W	0	0	0	W
325220	Artificial and Synthetic Fibers and Filaments	72	20	59	6	11	W	W	W	0	0
325311	Nitrogenous Fertilizers	120	Q	79	0	0	0	0	W	0	W
325312	Phosphatic Fertilizers	34	0	34	0	0	0	0	0	0	0
3254	Pharmaceuticals and Medicines	931	121	789	Q	51	9	W	10	0	7
325412	Pharmaceutical Preparation	512	42	442	6	32	W	W	5	0	W
325992	Photographic Film, Paper, Plate, and Chemicals	105	9	95	W	W	W	0	6	0	0
326	Plastics and Rubber Products	6,267	792	4,925	490	227	W	W	Q	0	0
327	Nonmetallic Mineral Products	7,391	560	6,043	74	242	85	Q	225	W	Q
327120	Clay Building Material and Refractories	404	25	370	4	4	9	W	8	0	W
327211	Flat Glass	47	8	45	W	W	0	0	7	0	0
327212	Other Pressed and Blown Glass and Glassware	174	Q	169	4	W	W	0	Q	0	W
327213	Glass Containers	59	W	58	0	0	0	0	W	0	0
327215	Glass Products from Purchased Glass	511	76	366	57	Q	W	W	Q	W	W
327310	Cements	81	28	68	3	5	5	18	W	4	5
327410	Lime	45	W	42	0	W	0	0	0	0	0
327420	Gypsum	72	W	68	0	W	0	0	W	0	0
327993	Mineral Wool	139	10	123	W	W	0	0	6	0	0
331	Primary Metals	2,674	183	2,401	88	28	13	5	79	3	10
331110	Iron and Steel Mills and Ferroalloys	312	30	294	W	W	0	W	6	W	W
3312	Steel Products from Purchased Steel	339	15	274	W	0	0	0	7	0	0
3313	Alumina and Aluminum	338	38	303	17	10	W	W	14	W	W
331314	Secondary Smelting and Alloying of Aluminum	82	6	72	W	W	W	W	W	W	0
331315	Aluminum Sheet, Plate and Foils	55	W	55	0	W	W	0	W	0	0
331318	Other Aluminum Rolling, Drawing and Extruding	164	26	139	W	W	W	0	9	0	W
3314	Nonferrous Metals, except Aluminum	507	32	430	Q	9	0	0	6	0	0
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	96	6	90	4	W	0	0	0	0	0
3315	Foundries	1,177	68	1,101	24	W	W	W	46	W	5
331511	Iron Foundries	303	15	291	5	0	0	0	11	0	W
331523	Nonferrous Metal Die-Casting Foundries	230	15	186	W	W	0	0	Q	0	W
331524	Aluminum Foundries, except Die-Casting	238	13	230	W	0	0	W	9	0	0
332	Fabricated Metal Products	24,493	904	19,065	Q	W	W	W	Q	W	W
333	Machinery	11,481	917	9,867	532	Q	W	W	383	0	W
334	Computer and Electronic Products	4,582	608	3,928	399	Q	W	0	W	0	Q
334413	Semiconductors and Related Devices	293	17	275	W	11	W	0	4	0	W
335	Electrical Equip., Appliances, and Components	2,228	Q	1,977	W	0	W	0	Q	0	W
336	Transportation Equipment	5,108	550	4,396	255	27	W	W	355	0	W
336111	Automobiles	43	0	42	0	0	0	0	0	0	0
336112	Light Trucks and Utility Vehicles	33	W	32	0	W	0	0	0	0	0
3364	Aerospace Product and Parts	839	Q	684	Q	W	0	0	Q	0	0
336411	Aircraft	247	5	242	W	W	0	0	W	0	0
337	Furniture and Related Products	4,511	199	3,912	Q	0	W	0	45	0	W
339	Miscellaneous	7,853	341	6,605	Q	W	0	0	W	0	0
	Total	116,018	9,227	93,118	3,933	2,194	857	221	3,060	Q	872

(a) The Bureau of the Census classifies establishments using the 2012 North American Industry Classification System (NAICS).  
 (b) These counts include only those establishments that reported this activity in 2014. 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 natural gas during 2014. The quantities are expressed in billions of cubic feet, and therefore represent the quantity of natural gas that could have been displaced by the given alternative type of energy.  
 (d) 'Total Consumed' represents those quantities (Total Inputs) of natural gas 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 natural gas.

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

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey.'

Released: February 2018

Next MECS will be fielded in 2019

**RSE Table 10.3 Relative Standard Errors for Table 10.3;**

Unit: Percents.

NAICS Code(a)	Subsector and Industry	Natural Gas(b)				Alternative Energy Sources(c)					Coal Coke and Breeze	
		Total Consumed(d)	Switchable	Not Switchable	Electricity Receipts(e)	Distillate Fuel Oil	Residual Fuel Oil	Coal	HGL (excluding natural gasoline)	Other(f)		
<b>Total United States</b>												
311	Food	3.8	17.1	5.5	46.6	22.1	19.8	3.9	22.2		9.2	22.1
3112	Grain and Oilseed Milling	4.2	21.0	8.7	60.3	21.6	23.4	4.3	46.6	X		57.9
311221	Wet Corn Milling	0.0	0.0	0.0	0.0	0.0	X	0.0	0.0	X		X
31131	Sugar Manufacturing	0.1	0.1	0.1	X	0.1	0.1	X	X	X		X
3114	Fruit and Vegetable Preserving and Specialty Food	6.8	34.6	8.6	57.5	15.4	20.4	9.2	71.4		9.2	14.8
3115	Dairy Product	5.0	14.8	7.0	12.6	19.1	55.0	X	30.0	X		59.0
3116	Animal Slaughtering and Processing	4.0	14.7	6.8	58.5	14.2	33.8	X	32.5	X		25.0
312	Beverage and Tobacco Products	9.2	30.7	10.3	0.1	7.0	4.6	X	49.9	X		53.2
3121	Beverages	9.7	38.8	10.8	X	12.7	12.6	X	54.2	X		53.2
3122	Tobacco	0.1	0.1	0.1	0.1	0.1	0.1	X	0.1	X		X
313	Textile Mills	9.0	28.5	11.8	91.7	37.9	45.3	48.0	45.7	X		X
314	Textile Product Mills	17.7	59.6	27.0	98.9	38.5	16.9	40.5	34.3	X		20.8
315	Apparel	41.4	59.5	44.5	72.3	42.6	X	X	56.9	X		X
316	Leather and Allied Products	13.3	27.1	14.4	32.6	X	14.6	14.6	17.7	X		X
321	Wood Products	7.7	25.1	9.8	28.4	60.1	10.5	X	39.7	X		71.9
321113	Sawmills	10.2	28.5	10.7	49.4	10.2	5.5	X	59.0	X		5.5
3212	Veneer, Plywood, and Engineered Woods	11.0	33.7	12.2	54.5	17.7	X	X	37.1	X		29.8
321219	Reconstituted Wood Products	6.2	21.3	7.3	49.7	17.7	X	X	17.7	X		17.7
3219	Other Wood Products	9.9	32.7	13.3	37.9	74.5	X	X	49.1	X		86.2
322	Paper	5.5	31.3	8.4	0.1	15.7	0.8	0.1	68.7	0.1		0.1
322110	Pulp Mills	0.0	0.0	0.0	X	0.0	0.0	X	X	X		X
322121	Paper Mills, except Newsprint	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1
322122	Newsprint Mills	0.0	0.0	0.0	X	X	0.0	X	X	X		X
322130	Paperboard Mills	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	X		0.0
323	Printing and Related Support	5.7	30.5	8.1	39.8	78.9	96.9	99.1	49.4	X		X
324	Petroleum and Coal Products	2.4	7.2	4.0	12.2	8.1	10.1	X	14.4	X		12.3
324110	Petroleum Refineries	1.4	36.2	4.2	36.2	36.2	36.2	X	36.2	X		36.2
324121	Asphalt Paving Mixture and Block	3.3	7.3	5.7	13.6	8.7	10.5	X	17.1	X		13.2
324122	Asphalt Shingle and Coating Materials	3.6	12.7	4.1	4.0	4.0	X	X	13.3	X		55.8
324199	Other Petroleum and Coal Products	0.0	0.0	0.0	X	0.0	0.0	X	X	X		0.0
325	Chemicals	3.8	17.0	5.3	34.5	16.9	66.9	17.2	27.6	X		13.5
325110	Petrochemicals	26.6	26.6	26.6	26.6	26.6	26.6	X	26.6	X		26.6
325120	Industrial Gases	18.0	X	19.3	X	X	X	X	X	X		X
325180	Other Basic Inorganic Chemicals	8.8	32.8	12.9	75.3	35.5	X	12.7	43.9	X		12.7
325193	Ethyl Alcohol	1.0	11.5	1.6	48.5	7.3	X	14.3	13.4	X		31.1
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	0.0	0.0	0.0	X	0.0	0.0	X	0.0	X		X
325199	Other Basic Organic Chemicals	9.0	23.8	9.9	X	27.9	12.4	12.4	57.1	X		28.5
325211	Plastics Materials and Resins	5.6	24.1	7.0	43.7	38.4	45.9	8.1	46.9	X		46.7
325212	Synthetic Rubber	0.0	0.0	0.0	0.0	0.0	0.0	X	X	X		0.0
325220	Artificial and Synthetic Fibers and Filaments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	X		X
325311	Nitrogenous Fertilizers	2.6	94.0	45.9	X	X	X	X	96.7	X		22.9
325312	Phosphatic Fertilizers	0.0	X	0.0	X	X	X	X	X	X		X
3254	Pharmaceuticals and Medicines	6.9	26.9	9.2	56.0	12.9	20.6	13.9	24.5	X		11.5
325412	Pharmaceutical Preparation	5.7	15.1	10.3	30.6	15.9	13.9	13.9	34.9	X		15.4
325992	Photographic Film, Paper, Plate, and Chemicals	6.6	25.5	9.5	25.5	25.5	25.5	X	25.5	X		X
326	Plastics and Rubber Products	4.8	25.9	7.1	35.6	47.0	53.2	66.6	52.4	X		X
327	Nonmetallic Mineral Products	6.3	28.7	7.8	34.8	48.8	49.6	52.6	47.8	82.7		58.6
327120	Clay Building Material and Refractories	2.4	16.7	3.5	12.3	16.9	30.7	49.8	10.9	X		13.3
327211	Flat Glass	0.0	0.0	0.0	0.0	0.0	X	X	0.0	X		X
327212	Other Pressed and Blown Glass and Glassware	5.3	67.7	5.7	21.2	21.2	21.2	X	81.4	X		21.2
327213	Glass Containers	0.0	0.0	0.0	X	X	X	X	0.0	X		X
327215	Glass Products from Purchased Glass	8.0	34.8	12.4	45.1	86.7	91.8	96.5	55.5	96.5		96.5
327310	Cements	32.2	32.1	32.3	31.9	32.8	31.9	32.0	31.9	31.9		36.5
327410	Lime	0.0	0.0	0.0	X	0.0	X	X	X	X		X
327420	Gypsum	17.6	17.3	17.6	X	17.3	X	X	17.3	X		X
327993	Mineral Wool	14.6	34.3	19.0	24.9	24.9	X	X	42.1	X		X
331	Primary Metals	2.0	10.7	2.5	20.5	8.9	35.5	10.3	10.8	5.8		6.7
331110	Iron and Steel Mills and Ferroalloys	0.3	35.2	0.6	49.8	3.3	X	3.3	3.3	3.3		3.3
3312	Steel Products from Purchased Steel	10.9	44.3	12.7	78.5	X	X	X	12.1	X		X
3313	Alumina and Aluminum	3.0	18.8	4.1	44.1	14.2	30.3	0.1	18.7	0.1		10.0
331314	Secondary Smelting and Alloying of Aluminum	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		X
331315	Aluminum Sheet, Plate and Foils	0.7	21.4	0.7	X	21.4	21.4	X	21.4	X		X
331318	Other Aluminum Rolling, Drawing and Extruding	6.1	27.3	8.9	47.3	34.5	49.2	X	29.5	X		10.0
3314	Nonferrous Metals, except Aluminum	6.8	27.8	9.1	50.2	13.2	X	X	10.4	X		X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	4.8	37.4	7.3	37.4	37.4	X	X	X	X		X
3315	Foundries	1.4	14.6	2.3	25.7	46.0	85.4	18.4	17.5	17.6		11.0
331511	Iron Foundries	1.6	25.5	2.4	18.5	X	X	X	29.8	X		18.5
331523	Nonferrous Metal Die-Casting Foundries	2.3	33.5	10.2	57.8	9.6	X	X	53.8	X		21.5
331524	Aluminum Foundries, except Die-Casting	2.0	32.6	2.3	74.3	X	X	27.1	34.4	X		X
332	Fabricated Metal Products	4.6	40.2	6.3	68.5	92.2	92.2	92.2	57.3	92.2		99.6
333	Machinery	3.9	25.9	5.0	34.9	65.4	70.0	87.7	39.7	X		69.9
334	Computer and Electronic Products	7.1	31.5	8.7	40.6	61.2	66.1	X	63.3	X		69.4
334413	Semiconductors and Related Devices	10.9	20.1	12.4	20.1	20.1	20.1	X	20.1	X		20.1
335	Electrical Equip., Appliances, and Components	9.4	60.1	10.9	65.4	X	97.7	X	63.5	X		9.9
336	Transportation Equipment	5.8	32.8	7.4	46.4	40.9	98.7	92.0	42.3	X		9.3
336111	Automobiles	0.0	X	0.0	X	X	X	X	X	X		X
336112	Light Trucks and Utility Vehicles	0.0	0.0	0.0	X	0.0	X	X	X	X		X
3364	Aerospace Product and Parts	6.8	50.2	9.9	67.0	13.8	X	X	51.7	X		X
336411	Aircraft	13.6	25.8	13.9	25.8	25.8	X	X	25.8	X		X
337	Furniture and Related Products	8.6	47.8	9.9	68.5	X	68.9	X	45.0	X		97.5
339	Miscellaneous	6.7	44.9	8.0	69.6	60.8	X	X	58.4	X		X
	Total	1.6	7.6	2.1	12.8	11.8	19.5	41.0	13.2	57.7		27.4

(a) The Bureau of the Census classifies establishments using the 2012 North American Industry Classification System (NAICS).

(b) These counts include only those establishments that reported this activity in 2014. 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 natural gas during 2014. The quantities are expressed in billions of cubic feet, and therefore represent the quantity of natural gas that could have been displaced by the given alternative type of energy.

(d) 'Total Consumed' represents those quantities (Total Inputs) of natural gas 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 natural gas.

\* 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.

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

-- Estimation is not applicable.

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

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey.'