## Table 10.14 Percent of Establishments by Levels of Price Difference that Would Cause Fuel Switching from Electricity to a Less Expensive Substitute, 2018;

Level: National Data; Row: NAICS Codes; Column: Levels of Price Difference; Unit: Establishment Counts.

Levels of Price Difference that Would Cause a Switch from Electricity(c)

NAICS Code(a)	Subsector and Industry	Establishments Able to Switch(b)	Would Not Switch Due to Price	1 to 10 Percent	11 to 25 Percent	26 to 50 Percent	Over 50 Percent	Estimate Cannot Be Provided	Would Switch to More Expensive Substitute
		Total United States							
311	Food	333	27	Q	90	9	Q	Q	Q
3112	Grain and Oilseed Milling	6	D	0	0	0	0	0	D
311221	Wet Corn Milling	D	D	0	0	0	0	0	0
31131	Sugar Manufacturing	0	0	0	0	0	0	0	0
3114	Fruit and Vegetable Preserving and Specialty Food	11	D	0	D	0	0	Q	D
3115	Dairy Product	74	D	0	D	3	4	Q	0
3116	Animal Slaughtering and Processing	87	4	Q	0	Q	0	Q	Q
312	Beverage and Tobacco Products	70	4	Q	Q	Q	Q	5	0
3121	Beverages	D	D	Q	Q	Q	Q	5	0
3122	Tobacco	D	D	0	0	0	0	0	0
313	Textile Mills	D	Q	0	Q	0	0	D	0
314	Textile Product Mills	Q	0	0	0	0	0	Q	0
315	Apparel	Q	0	0	0	0	0	Q	0
316	Leather and Allied Products	D	0	0	0	0	0	D	0
321	Wood Products	173	28	0	7	7	Q	Q	Q
321113	Sawmills	44	19	0	7	5	Q	D	D
3212	Veneer, Plywood, and Engineered Woods	Q	0	0	0	0	0	Q	0
321219	Reconstituted Wood Products	0	0	0	0	0	0	0	0
3219	Other Wood Products	D	Q	0	0	3	0	D	D
322	Paper	72	5	13	D	D	D	45	0
322110	Pulp Mills	D	0	D	D	0	0	0	0
322121	Paper Mills, except Newsprint	20	5	5	D	D	D	D	0
322122	Newsprint Mills	0	0	0	0	0	0	0	0
322130	Paperboard Mills	D	0	D	0	0	0	D	0
323	Printing and Related Support	Q	Q	0	0	0	0	Q	0
324	Petroleum and Coal Products	171	18	6	60	9	Q	73	0
324110	Petroleum Refineries	19	D	D	D	D	0	8	0
324121	Asphalt Paving Mixture and Block	141	12	D	55	D	Q	60	0
324122	Asphalt Shingle and Coating Materials	D	D	0	D	0	0	D	0
324191	Petroleum Lubricating Oil and Grease Products	5	D	0	0	0	0	D	0
324199	Other Petroleum and Coal Products	D	0	D	0	0	0	0	0
325	Chemicals	359	165	D	33	D	21	126	0
325110	Petrochemicals	5	D	D	D	0	0	0	0
325120	Industrial Gases	D	0	0	0	0	D	0	0
325180	Other Basic Inorganic Chemicals	10	3	0	D	0	0	D	0
325193	Ethyl Alcohol	0	0	0	0	0	0	0	0
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	D	0	0	0	0	0	D	0
325199	Other Basic Organic Chemicals	7	D	0	Q	0	D	D	0
325211	Plastics Materials and Resins	40	Q	0	Q	0	D	D	0
325212	Synthetic Rubber	D	D	0	0	0	0	D	0
325220	Artificial and Synthetic Fibers and Filaments	7	0	0	D	3	D	0	0

3277   Nonmetallic Mineral Products   471   115   Q   0   0   6   Q   0   327713   Flat Class   D   D   D   D   D   D   0   0   0   0	325311	Nitrogenous Fertilizers	D	0	D	0	0	0	0	0
Pharmaceutical Preparation   Q	325312	Phosphatic Fertilizers	D	D	D	0	0	0	0	0
Photographic Film, Paper, Plate, and Chemicals	3254	Pharmaceuticals and Medicines	84	Q	D	0	Q	Q	D	0
Plastics and Rubber Products	325412	Pharmaceutical Preparation	Q	8	D	0	Q	D	D	0
2277   Nonmetallic Mineral Products	325992	Photographic Film, Paper, Plate, and Chemicals	4	D	0	0	D	0	D	0
327/20	326	Plastics and Rubber Products	Q	3	0	Q	Q	0	0	Q
327211	327	Nonmetallic Mineral Products	471	115	Q	0	0	6	Q	0
327212	327120	Clay Building Material and Refractories	D	0	0	0	0	D	0	0
337213   Glass Containers	327211	Flat Glass	D	D	0	0	0	0	0	0
327215   Glass Products from Purchased Glass   5   5   0   0   0   0   0   0   0   0	327212	Other Pressed and Blown Glass and Glassware	D	D	0	0	0	0	0	0
327310   Cements	327213	Glass Containers	D	D	0	0	0	D	0	0
327420   Lime	327215	Glass Products from Purchased Glass	5	5	0	0	0	0	0	0
327420   Gypsum	327310	Cements	0	0	0	0	0	0	0	0
327993   Mineral Wool   5	327410	Lime	0	0	0	0	0	0	0	0
331	327420	Gypsum	0	0	0	0	0	0	0	0
331110   Iron and Steel Mills and Ferroalloys   D   D   C   O   D   O   O   O   O   O   O   O   O	327993	Mineral Wool	5	D	D	0	0	0	0	0
3312   Steel Products from Purchased Steel   Q   Q   Q   Q   Q   Q   Q   Q   Q	331	Primary Metals	107	Q	6	4	D	D	24	0
3313   Alumina and Aluminum	331110	Iron and Steel Mills and Ferroalloys	D	D	6	0	D	0	D	0
331314   Secondary Smelting and Alloying of Aluminum   D   O   O   O   O   O   O   D   O   O	3312	Steel Products from Purchased Steel	Q	0	0	0	0	0	Q	0
331315   Aluminum Sheet, Plate and Folis   0   0   0   0   0   0   0   0   0	3313	Alumina and Aluminum	4	0	0	0	0	0	4	0
331318   Other Aluminum Rolling, Drawing and Extruding   D   O   O   O   O   O   D   O   O   O	331314	Secondary Smelting and Alloying of Aluminum	D	0	0	0	0	0	D	0
3314   Nonferrous Metals, except Aluminum   10   D   0   0   D   0   D   0   0   0	331315	Aluminum Sheet, Plate and Foils	0	0	0	0	0	0	0	0
331410   Nonferrous Metal (except Aluminum) Smelting and Refining   3   D   0   0   D   0   0   0   0   0   3315   Foundries   D   D   D   0   0   4   4   D   7   0   0   331511   Iron Foundries   Q   D   D   0   D   D   0   0   3   0   0   331523   Nonferrous Metal Die-Casting Foundries   6   D   D   D   D   D   0   0   0   0   331524   Aluminum Foundries, except Die-Casting   3   0   0   0   D   D   D   0   0   0   0	331318	Other Aluminum Rolling, Drawing and Extruding	D	0	0	0	0	0	D	0
3315   Foundries   D D D O 4 4 4 D 7 7 O   331511   Iron Foundries   Q D D O D O D O O O O O O O O O O O O O	3314	Nonferrous Metals, except Aluminum	10	D	0	0	D	0	D	0
331511   Iron Foundries   Q	331410	Nonferrous Metal (except Aluminum) Smelting and Refining	3	D	0	0	D	0	0	0
331523   Nonferrous Metal Die-Casting Foundries   6	3315	Foundries	D	D	0	4	4	D	7	0
331524     Aluminum Foundries, except Die-Casting     3     0     0     D     D     D     0     0       332     Fabricated Metal Products     680     Q     0     Q     Q     0     0     0       333     Machinery     266     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     0     Q     0 </td <td>331511</td> <td>Iron Foundries</td> <td>Q</td> <td>D</td> <td>0</td> <td>D</td> <td>0</td> <td>0</td> <td>3</td> <td>0</td>	331511	Iron Foundries	Q	D	0	D	0	0	3	0
331524     Aluminum Foundries, except Die-Casting     3     0     0     D     D     D     0     0       332     Fabricated Metal Products     680     Q     0     Q     Q     0     0     0       333     Machinery     266     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     Q     0     0     0     Q     0 </td <td>331523</td> <td>Nonferrous Metal Die-Casting Foundries</td> <td>6</td> <td>D</td> <td>0</td> <td>D</td> <td>D</td> <td>0</td> <td>0</td> <td>0</td>	331523	Nonferrous Metal Die-Casting Foundries	6	D	0	D	D	0	0	0
333     Machinery     266     0     0     Q     0     Q     0     Q     0       334     Computer and Electronic Products     224     Q     0     D     D     D     D     D     0	331524		3	0	0	0	D	D	0	0
334     Computer and Electronic Products     224     Q     0     D     D     D     0     0       334413     Semiconductors and Related Devices     D     D     D     0	332	Fabricated Metal Products	680	Q	0	Q	Q	0	0	0
334413     Semiconductors and Related Devices     D     D     D     0	333	Machinery	266	0	0	Q	0	0	Q	0
334413     Semiconductors and Related Devices     D     D     D     0	334	Computer and Electronic Products	224	Q	0	D	D	D	0	0
336 Transportation Equipment 213 21 D Q D D 9 Q   336111 Automobiles D 0 0 0 0 0 D 0   336112 Light Trucks and Utility Vehicles D 0 0 0 0 D 0 0   3364 Aerospace Product and Parts D 11 D 0 D 0 0 0   336411 Aircraft D D 0 0 D 0 0 0   337 Furniture and Related Products Q Q Q 0 Q 0 Q 0   339 Miscellaneous Q Q Q Q 0 0 0 Q 0	334413	Semiconductors and Related Devices	D	D	0	0	0	0	0	0
336 Transportation Equipment 213 21 D Q D D 9 Q   336111 Automobiles D 0 0 0 0 0 0 D 0   336112 Light Trucks and Utility Vehicles D 0 0 0 0 D 0 0 0   3364 Aerospace Product and Parts D 11 D 0 D 0 0 0   336411 Aircraft D D 0 0 D 0 0 0   337 Furniture and Related Products Q Q Q 0 Q 0 Q 0   339 Miscellaneous Q Q Q 0 Q 0 0 Q 0	335	Electrical Equip., Appliances, and Components	Q	0	0	0	Q	0	0	0
336111     Automobiles     D     0     0     0     0     0     D     0       336112     Light Trucks and Utility Vehicles     D     0     0     0     0     D     0	336		213	21	D	Q	D	D	9	Q
3364     Aerospace Product and Parts     D     11     D     0     D     0     0     Q       336411     Aircraft     D     D     D     0     D     0 <td>336111</td> <td></td> <td>D</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>D</td> <td></td>	336111		D	0	0	0	0	0	D	
336411     Aircraft     D     D     0     0     D     0     0     0       337     Furniture and Related Products     Q     Q     0     Q     0     Q     Q     0       339     Miscellaneous     Q     Q     Q     0     Q     0     Q     0	336112	Light Trucks and Utility Vehicles	D	0	0	0	0	D	0	0
337     Furniture and Related Products     Q     D     Q     Q     D     Q     Q     D     Q     <	3364	Aerospace Product and Parts	D	11	D	0	D	0	0	Q
339 Miscellaneous Q Q 0 0 0 0 Q 0	336411	Aircraft	D	D	0	0	D	0	0	
		Furniture and Related Products	Q	Q	0	Q	0	Q	Q	0
					0	Q	0		Q	0
Total 4,003 1,011 173 897 390 204 1,225 104			4,003	1,011	173	897	390	204	1,225	104

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

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. Establishment percent may not equal 100 percent because of unknown and/or unreported fuel-switching guesstimate. 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).

<sup>(</sup>b) This count includes only those establishments that reported this activity in 2018.

<sup>(</sup>c) These levels of price difference were guesstimates at which establishments perceived that they would switch. These levels were not actual values at which switching occurred. The percentage of price difference is computed as the quantity of (current fuel price minus alternative fuel price) divided by the current fuel price, expressed as a percent.

<sup>\*</sup> Estimate less than 0.5.

## RSE Table 10.14 Relative Standard Errors for Table 10.14;

Unit: Percents.

## Levels of Price Difference that Would Cause a Switch from Electricity(c)

NAICS Code(a)	Subsector and Industry	Establishments Able to Switch(b)	Would Not Switch Due to Price	1 to 10 Percent	11 to 25 Percent	26 to 50 Percent	Over 50 Percent	Estimate Cannot Be Provided	Would Switch to More Expensive Substitute
		Total United States							
311	Food	22.2	20.8	95.5	39.8	39.6	63.6	53.9	68.6
3112	Grain and Oilseed Milling	22.0	D	Х	Х	Х	X	Х	D
311221	Wet Corn Milling	D	D	Х	Х	Х	X	Х	X
31131	Sugar Manufacturing	X	X	Х	Х	X	X	Х	X
3114	Fruit and Vegetable Preserving and Specialty Food	47.4	D	Х	D	Х	X	86.8	D
3115	Dairy Product	42.4	D	Х	D	19.6	44.3	81.2	X
3116	Animal Slaughtering and Processing	41.4	26.6	95.5	X	83.5	X	53.3	96.2
312	Beverage and Tobacco Products	26.8	3.3	93.8	95.2	76.8	68.7	0.0	X
3121	Beverages	D	D	93.8	95.2	76.8	68.7	0.0	X
3122	Tobacco	D	D	Х	Х	X	X	X	X
313	Textile Mills	D	87.9	Х	59.1	X	X	D	X
314	Textile Product Mills	97.8	X	Х	Х	X	X	97.8	X
315	Apparel	54.1	X	Х	Х	X	X	54.1	X
316	Leather and Allied Products	D	X	Х	X	X	X	D	X
321	Wood Products	37.4	36.4	X	30.9	18.7	51.9	55.2	53.3
321113	Sawmills	22.1	40.6	Х	30.9	21.6	51.9	D	D
3212	Veneer, Plywood, and Engineered Woods	84.1	X	X	X	X	X	84.1	X
321219	Reconstituted Wood Products	X	X	X	X	X	X	X	X
3219	Other Wood Products	D	64.2	Х	X	0.0	X	D	D
322	Paper	4.9	0.0	0.0	D	D	D	26.4	X
322110	Pulp Mills	D	X	D	D	X	X	X	X
322121	Paper Mills, except Newsprint	0.0	0.0	0.0	D	D	D	D	X
322122	Newsprint Mills	X	X	Х	X	X	X	X	X
322130	Paperboard Mills	D	X	D	X	X	X	D	X
323	Printing and Related Support	56.7	98.8	X	X	X	X	69.6	X
324	Petroleum and Coal Products	4.5	5.2	1.1	12.0	13.8	86.4	7.1	X
324110	Petroleum Refineries	0.0	D	D	D	D	Х	0.0	X
324121	Asphalt Paving Mixture and Block	12.3	14.7	D	21.6	D	86.4	19.2	X
324122	Asphalt Shingle and Coating Materials	D	D	X	D	X	X	D	X
324191	Petroleum Lubricating Oil and Grease Products	13.8	D	X	X	X	X	D	X
324199	Other Petroleum and Coal Products	D	X	D	X	X	X	X	X
325	Chemicals	11.2	15.8	D	26.9	D	42.6	31.8	X
325110	Petrochemicals	0.0	D	D	D	X	X	X	X
325120	Industrial Gases	D	X	X	X	X	<u>^</u> D	X	X
325120	Other Basic Inorganic Chemicals	43.9	9.4	X	^` D	X	X	^ D	X
325193	Ethyl Alcohol	X	X	X	X	X	X	X	X
325193	Cyclic Crudes, Intermediate and Gum and Wood Chemicals		X	X	X	X	X	^ D	X
325194	Other Basic Organic Chemicals	27.8	^_	X	69.7	^	^ D	D	<del>X</del>
325211	Plastics Materials and Resins	49.2	74.7	X	69.6	X	D	D	X
325211	Synthetic Rubber	D D		X	X	^	Х	D	<u>x</u>
325212	Artificial and Synthetic Fibers and Filaments	0.0	X	X	^- D	0.0	^_ D	X	<u>x</u>
325311	Nitrogenous Fertilizers		X	^ D	В Х	X	 Х	X	X
325311	Phosphatic Fertilizers	D	^_	D	<u>^</u>	^	<u>^</u>	X	<u>^</u>
3254	Pharmaceuticals and Medicines	37.8	54.2	D	<u>^</u>	87.6	82.2	^ D	X
325412				D	<u>^</u>	87.6	02.2 D	D	
525412	Pharmaceutical Preparation	50.7	20.5	U	X	87.6	U	b	X

325992	Photographic Film, Paper, Plate, and Chemicals	21.5	D	X	Х	D	Χ	D	X
326	Plastics and Rubber Products	62.1	0.0	Х	98.0	97.0	Х	X	98.7
327	Nonmetallic Mineral Products	13.2	13.4	60.1	Х	Х	1.5	51.6	Х
327120	Clay Building Material and Refractories	D	Х	Х	Х	Х	D	Х	Х
327211	Flat Glass	D	D	Х	Х	Х	Х	X	X
327212	Other Pressed and Blown Glass and Glassware	D	D	Х	Х	Х	Х	X	X
327213	Glass Containers	D	D	Х	Х	Х	D	Х	Х
327215	Glass Products from Purchased Glass	10.5	10.5	Х	Х	Х	Х	X	X
327310	Cements	X	X	Х	Х	Х	X	X	X
327410	Lime	Х	Х	Х	Х	Х	Х	X	Х
327420	Gypsum	X	Х	Х	Х	Х	Х	X	Х
327993	Mineral Wool	32.1	D	D	X	Х	Х	X	X
331	Primary Metals	36.2	61.0	0.0	5.2	D	D	12.7	X
331110	Iron and Steel Mills and Ferroalloys	D	D	0.0	Х	D	Х	D	X
3312	Steel Products from Purchased Steel	53.2	X	X	X	Х	X	53.2	X
3313	Alumina and Aluminum	12.7	X	X	X	Х	X	12.7	X
331314	Secondary Smelting and Alloying of Aluminum	D	Х	Х	X	Х	Х	D	X
331315	Aluminum Sheet, Plate and Foils	X	X	X	X	Х	X	X	X
331318	Other Aluminum Rolling, Drawing and Extruding	D	X	X	X	Х	X	D	X
3314	Nonferrous Metals, except Aluminum	16.3	D	X	X	D	X	D	X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	18.0	D	Х	Х	D	Х	X	X
3315	Foundries	D	D	X	5.2	11.1	D	20.7	X
331511	Iron Foundries	72.0	D	X	D	Х	X	17.5	X
331523	Nonferrous Metal Die-Casting Foundries	28.3	D	X	D	D	Х	X	X
331524	Aluminum Foundries, except Die-Casting	17.4	Х	Х	X	D	D	X	X
332	Fabricated Metal Products	44.8	70.2	X	99.4	72.4	X	X	X
333	Machinery	49.2	X	X	69.8	Х	Х	69.9	X
334	Computer and Electronic Products	47.4	64.3	Х	D	D	D	X	X
334413	Semiconductors and Related Devices	D	D	X	X	Х	X	X	X
335	Electrical Equip., Appliances, and Components	85.9	X	X	X	85.9	X	X	X
336	Transportation Equipment	20.8	17.8	D	58.8	D	D	7.8	81.2
336111	Automobiles	D	Х	Х	Х	Х	Х	D	X
336112	Light Trucks and Utility Vehicles	D	X	X	X	Х	D	X	X
3364	Aerospace Product and Parts	D	18.3	D	X	D	X	X	81.2
336411	Aircraft	D	D	Х	X	D	Х	X	Х
337	Furniture and Related Products	52.0	87.4	Х	92.6	Х	98.7	98.7	X
339	Miscellaneous	62.5	95.4	Х	98.8	Х	Х	94.7	X
	Total	6.8	18.4	7.2	10.1	11.6	17.3	11.3	45.9

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

(b) This count includes only those establishments that reported this activity in 2018.

(c) These levels of price difference were guesstimates at which establishments perceived that they would switch. These levels were not actual values at which switching occurred. The percentage of price difference is computed as the quantity of (current fuel price minus alternative fuel price) divided by the current fuel price, expressed as a percent.

\* 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. Establishment percent may not equal 100 percent because of unknown and/or unreported fuel-switching guesstimate. 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).