

Table 10.21 Reasons that Made Natural Gas Unswitchable, 2014;

Level: National Data;
 Row: NAICS Codes;
 Column: Reasons that Made Quantity Unswitchable;
 Unit: Billion Cubic Feet.

		Non Switchable Amount Attributed to:											
NAICS Code(a)	Subsector and Industry	Total Amount of Natural Gas Consumed as Fuel	Total Amount of Unswitchable Natural Gas Fuel Use	Equipment is Not Capable of Using Another Fuel	Switching Adversely Affects the Products	Unavailable Alternative Fuel Supply	Environmental Restrictions(b)	Long-Term Contract in Place(c)	Unavailable Storage for Alternative Fuels(d)	Another Reason	Combinations of Cols. F, G, H, I, J, and K	Don't Know/ Didn't Answer	
Total United States													
311	Food	554	428	311	6	4	32	3	7	22	11	33	
3112	Grain and Oilseed Milling	129	90	71	*	*	9	*	*	6	1	Q	
311221	Wet Corn Milling	46	41	32	0	0	4	0	*	5	0	0	
31131	Sugar Manufacturing	15	12	9	0	0	*	0	0	1	1	2	
3114	Fruit and Vegetable Preserving and Specialty Food	102	90	55	1	1	17	1	6	Q	1	8	
3115	Dairy Product	66	49	41	2	*	*	*	*	2	1	2	
3116	Animal Slaughtering and Processing	122	95	63	*	2	3	1	1	11	1	13	
312	Beverage and Tobacco Products	47	41	31	0	*	2	*	*	Q	1	5	
3121	Beverages	42	38	29	0	*	1	0	*	Q	1	5	
3122	Tobacco	5	3	2	0	*	*	*	*	*	*	*	
313	Textile Mills	35	24	20	0	*	0	*	*	*	Q	1	
314	Textile Product Mills	16	10	7	0	*	0	0	*	2	0	*	
315	Apparel	2	1	1	*	*	0	0	0	*	*	*	
316	Leather and Allied Products	1	1	1	*	*	0	*	*	*	0	*	
321	Wood Products	48	42	37	*	1	*	*	1	*	1	2	
321113	Sawmills	6	5	4	0	*	*	0	1	*	*	*	
3212	Veneer, Plywood, and Engineered Woods	28	25	22	0	1	0	0	1	*	1	*	
321219	Reconstituted Wood Products	20	19	17	0	1	0	0	*	0	0	*	
3219	Other Wood Products	12	10	9	*	*	0	*	*	*	*	1	
322	Paper	424	338	274	2	19	15	1	2	6	12	7	
322110	Pulp Mills	29	19	18	0	0	*	0	0	0	0	0	
322121	Paper Mills, except Newsprint	156	132	113	0	3	5	*	0	*	8	2	
322122	Newsprint Mills	8	8	5	*	0	*	0	0	*	0	2	
322130	Paperboard Mills	183	141	104	1	16	9	1	1	4	4	1	
323	Printing and Related Support	38	30	24	*	Q	Q	*	*	Q	*	*	
324	Petroleum and Coal Products	1,041	852	667	4	25	3	2	1	41	48	62	
324110	Petroleum Refineries	972	801	627	3	25	1	0	0	40	44	60	
324121	Asphalt Paving Mixture and Block	41	26	17	*	*	2	2	*	*	Q	1	
324122	Asphalt Shingle and Coating Materials	10	9	8	*	0	0	0	*	*	1	*	
324199	Other Petroleum and Coal Products	7	6	6	0	0	0	0	*	0	0	*	
325	Chemicals	1,946	1,800	1,449	5	99	35	23	4	7	85	93	
325110	Petrochemicals	300	291	W	*	0	W	0	0	*	W	0	
325120	Industrial Gases	37	33	9	0	0	0	0	0	*	1	22	
325180	Other Basic Inorganic Chemicals	147	140	121	Q	4	*	2	*	*	9	1	
325193	Ethyl Alcohol	353	318	283	0	3	10	6	0	0	10	7	
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	23	18	15	0	*	*	1	0	0	2	*	
325199	Other Basic Organic Chemicals	353	324	248	0	Q	W	14	*	W	37	19	
325211	Plastics Materials and Resins	365	352	253	0	89	4	*	*	W	1	W	
325212	Synthetic Rubber	18	17	6	*	0	*	0	2	*	*	10	
325220	Artificial and Synthetic Fibers and Filaments	13	10	7	0	*	2	*	0	0	*	*	
325311	Nitrogenous Fertilizers	154	148	W	3	0	W	1	0	0	*	7	
325312	Phosphatic Fertilizers	24	24	4	0	*	0	0	*	0	0	20	
3254	Pharmaceuticals and Medicines	49	35	27	*	*	4	0	*	1	1	1	
325412	Pharmaceutical Preparation	21	15	13	*	*	1	0	*	*	1	*	
325992	Photographic Film, Paper, Plate, and Chemicals	4	2	2	0	0	*	*	0	*	0	*	
326	Plastics and Rubber Products	87	60	48	Q	Q	*	*	*	Q	Q	Q	
327	Nonmetallic Mineral Products	324	297	235	12	*	2	4	Q	5	19	19	
327120	Clay Building Material and Refractories	34	31	26	1	0	0	*	*	2	1	1	
327211	Flat Glass	45	41	29	3	0	0	2	0	*	7	*	
327212	Other Pressed and Blown Glass and Glassware	24	20	15	1	0	1	0	0	1	2	*	
327213	Glass Containers	45	43	37	0	0	0	1	0	0	5	*	
327215	Glass Products from Purchased Glass	11	10	9	*	*	0	0	*	*	*	1	
327310	Cements	20	16	11	Q	*	*	0	0	*	2	1	
327410	Lime	6	6	3	0	0	0	0	0	1	0	3	
327420	Gypsum	46	43	36	5	0	0	0	0	*	0	1	
327993	Mineral Wool	20	19	17	*	0	*	0	0	1	1	*	
331	Primary Metals	625	590	414	Q	71	9	2	*	30	45	16	
331110	Iron and Steel Mills and Ferroalloys	390	373	232	*	67	7	*	0	15	43	8	
3312	Steel Products from Purchased Steel	26	23	19	Q	1	0	*	0	1	*	*	
3313	Alumina and Aluminum	114	108	90	*	1	*	*	*	10	*	5	
331314	Secondary Smelting and Alloying of Aluminum	16	14	9	*	1	*	*	*	*	0	4	
331315	Aluminum Sheet, Plate and Foils	44	42	34	0	0	0	0	0	8	0	*	
331318	Other Aluminum Rolling, Drawing and Extruding	13	10	7	*	*	*	*	0	1	*	1	
3314	Nonferrous Metals, except Aluminum	41	37	33	*	1	1	*	*	*	1	1	
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	16	15	15	0	0	0	0	*	*	*	*	
3315	Foundries	54	49	40	*	1	*	1	*	Q	1	2	
331511	Iron Foundries	15	14	12	*	1	0	0	0	*	*	1	
331523	Nonferrous Metal Die-Casting Foundries	16	15	12	*	0	0	1	*	1	*	*	
331524	Aluminum Foundries, except Die-Casting	8	8	6	0	0	*	*	0	*	*	1	
332	Fabricated Metal Products	186	169	140	Q	Q	0	Q	Q	Q	Q	Q	
333	Machinery	70	56	44	Q	Q	0	*	*	5	Q	Q	
334	Computer and Electronic Products	45	38	29	*	0	1	*	*	*	2	7	
334413	Semiconductors and Related Devices	24	20	13	0	0	*	0	*	*	0	6	
335	Electrical Equip., Appliances, and Components	26	23	15	0	*	1	*	*	1	4	Q	
336	Transportation Equipment	141	127	97	*	1	1	*	Q	12	9	3	
336111	Automobiles	18	18	18	0	0	0	0	0	1	0	0	
336112	Light Trucks and Utility Vehicles	24	24	17	0	0	0	0	*	5	2	*	
3364	Aerospace Product and Parts	28	24	17	*	*	1	*	*	2	3	1	
336411	Aircraft	10	7	6	0	0	1	0	*	1	0	*	
337	Furniture and Related Products	14	12	9	*	*	*	*	*	1	*	*	
339	Miscellaneous	25	14	10	*	0	*	*	0	*	Q	1	
	Total	5,693	4,953	3,865	35	231	100	38	29	136	250	269	

(a) The Bureau of the Census classifies establishments using the 2012 North American Industry Classification System (NAICS).
 (b) The environmental restrictions related to air quality that limit the amount of the usable alternative fuel that could be used instead.
 (c) Long-term contracts are typically with a utility or third-party supplier such as an energy broker and requires the purchase of a fuel for an extended amount of time.
 (d) The storage of usable alternative fuels is not available due to the potential environmental impact of storage tanks.
 * 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.'

RSE Table 10.21 Relative Standard Errors for Table 10.21;

Unit: Percents.

Non Switchable Amount Attributed to:

NAICS Code(a)	Subsector and Industry	Total Amount of Natural Gas Used as Fuel	Total Amount of Unswitchable Natural Gas Fuel Use	Equipment is Not Capable of Using Another Fuel	Switching Adversely Affects the Products	Unavailable Alternative Fuel Supply	Environmental Restrictions(b)	Long-Term Contract in Place(c)	Unavailable Storage for Alternative Fuels(d)	Another Reason	Combinations of Cols. F, G, H, I, J, and K	Don't Know/ Didn't Answer
Total United States												
311	Food	3.1	3.8	4.8	35.9	10.2	4.1	38.6	19.6	7.9	42.8	11.0
3112	Grain and Oilseed Milling	2.3	2.7	2.3	48.7	0.1	2.6	0.1	0.1	1.4	33.2	77.2
311221	Wet Corn Milling	0.0	0.0	0.0	X	X	0.0	X	0.0	0.0	X	X
31131	Sugar Manufacturing	0.1	0.1	0.1	X	X	0.1	X	X	0.1	0.1	0.1
3114	Fruit and Vegetable Preserving and Specialty Food	2.0	2.3	2.9	18.8	6.3	0.9	43.6	22.3	59.2	20.6	8.8
3115	Dairy Product	2.3	2.5	2.7	20.4	4.5	64.7	0.1	18.8	10.6	17.4	22.2
3116	Animal Slaughtering and Processing	2.8	3.1	3.8	54.6	15.1	2.1	33.3	39.9	11.7	10.6	14.4
312	Beverage and Tobacco Products	4.4	5.0	6.3	X	62.4	3.9	0.1	30.3	58.7	3.3	11.4
3121	Beverages	5.0	5.4	6.7	X	62.6	4.2	X	42.7	71.8	3.3	11.4
3122	Tobacco	0.1	0.1	0.1	X	0.1	0.1	0.1	0.1	0.1	0.1	0.1
313	Textile Mills	17.1	22.5	26.0	X	92.7	X	86.0	76.7	11.2	63.3	18.3
314	Textile Product Mills	16.6	26.5	34.8	X	49.7	X	X	45.6	14.1	X	65.8
315	Apparel	12.8	16.4	20.5	92.7	X	X	X	X	96.0	53.7	27.5
316	Leather and Allied Products	5.4	6.3	6.9	30.3	74.4	X	55.0	87.7	70.4	X	28.9
321	Wood Products	3.9	4.1	4.5	68.4	7.9	0.1	11.2	1.6	10.9	26.6	23.6
321113	Sawmills	3.0	2.7	3.2	X	0.1	0.1	X	0.1	0.1	0.1	7.0
3212	Veneer, Plywood, and Engineered Woods	4.1	3.9	4.2	X	1.1	X	X	2.2	0.9	31.8	2.8
321219	Reconstituted Wood Products	4.6	4.9	5.3	X	0.5	X	X	0.1	X	X	0.1
3219	Other Wood Products	11.5	13.4	15.4	68.4	75.4	X	11.2	62.5	76.3	19.6	36.9
322	Paper	1.1	1.3	1.6	39.4	1.5	0.1	2.9	23.9	24.1	0.8	10.3
322110	Pulp Mills	0.0	0.0	0.0	X	X	0.0	X	X	X	X	X
322121	Paper Mills, except Newsprint	0.1	0.1	0.1	X	0.1	0.1	0.1	X	0.1	0.1	0.1
322122	Newsprint Mills	0.0	0.0	0.0	0.0	X	0.0	X	X	0.0	X	0.0
322130	Paperboard Mills	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
323	Printing and Related Support	20.0	24.7	30.0	96.2	78.3	80.5	51.8	63.3	58.9	80.2	49.4
324	Petroleum and Coal Products	0.3	0.3	0.3	0.1	0.1	25.3	20.9	19.9	0.2	3.2	0.2
324110	Petroleum Refineries	0.1	0.1	0.2	0.1	0.1	0.1	X	X	0.1	0.1	0.1
324121	Asphalt Paving Mixture and Block	5.6	8.4	7.8	0.1	6.8	34.2	22.1	28.6	23.1	52.1	6.8
324122	Asphalt Shingle and Coating Materials	1.3	1.5	1.7	0.1	X	X	X	0.1	0.1	0.1	13.0
324199	Other Petroleum and Coal Products	0.0	0.0	0.0	X	X	X	0.0	0.0	X	X	0.0
325	Chemicals	1.0	1.0	1.2	22.7	1.4	5.5	8.7	30.0	26.5	5.4	3.2
325110	Petrochemicals	0.1	0.1	0.1	0.1	X	0.1	X	X	0.1	0.1	X
325120	Industrial Gases	1.4	1.5	5.0	X	X	X	X	X	0.1	0.1	0.9
325180	Other Basic Inorganic Chemicals	3.2	3.4	3.9	63.6	2.5	35.9	0.1	0.1	0.1	12.3	36.1
325193	Ethyl Alcohol	3.8	4.3	5.0	X	1.7	16.2	33.6	X	X	19.9	0.1
325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	0.0	0.0	0.0	X	0.0	0.0	0.0	X	X	0.0	0.0
325199	Other Basic Organic Chemicals	1.4	1.5	1.3	X	64.4	6.8	4.8	0.1	55.6	8.4	8.0
325211	Plastics Materials and Resins	0.8	0.7	0.9	X	0.1	23.6	63.3	0.1	0.2	2.6	2.5
325212	Synthetic Rubber	0.0	0.0	0.0	0.0	X	0.0	X	0.0	0.0	0.0	0.0
325220	Artificial and Synthetic Fibers and Filaments	0.0	0.0	0.0	X	0.0	0.0	0.0	X	X	0.0	0.0
325311	Nitrogenous Fertilizers	3.3	0.1	0.2	0.0	X	0.1	0.1	X	X	0.1	0.1
325312	Phosphatic Fertilizers	0.0	0.0	0.0	X	0.0	X	X	0.0	X	X	0.0
3254	Pharmaceuticals and Medicines	2.5	3.2	3.5	26.1	12.7	14.9	X	0.1	7.9	0.2	12.2
325412	Pharmaceutical Preparation	1.5	1.9	2.3	49.1	0.1	0.1	X	0.1	7.5	0.2	6.0
325992	Photographic Film, Paper, Plate, and Chemicals	3.2	5.8	6.9	X	X	0.1	0.0	X	0.0	X	0.0
326	Plastics and Rubber Products	12.4	15.5	18.1	87.0	65.9	79.8	99.0	91.8	68.3	64.3	57.7
327	Nonmetallic Mineral Products	4.1	4.5	5.3	4.8	25.2	17.8	0.1	73.7	10.1	0.6	23.7
327120	Clay Building Material and Refractories	3.3	3.6	4.3	10.5	X	X	0.1	0.1	0.1	5.3	23.5
327211	Flat Glass	0.0	0.0	0.0	0.0	X	X	0.0	X	0.0	0.0	0.0
327212	Other Pressed and Blown Glass and Glassware	0.9	1.0	0.3	13.3	X	0.1	X	X	2.8	1.5	37.9
327213	Glass Containers	0.0	0.0	0.0	X	X	X	0.0	X	X	0.0	0.0
327215	Glass Products from Purchased Glass	13.7	15.0	16.8	0.9	38.3	X	X	5.4	0.7	0.8	13.6
327310	Cements	2.1	2.4	0.5	56.6	0.1	0.1	X	X	0.1	0.1	0.1
327410	Lime	0.0	0.0	0.0	X	X	X	X	X	0.0	X	0.0
327420	Gypsum	0.1	0.1	0.1	0.1	X	X	X	X	0.1	X	0.1
327993	Mineral Wool	0.8	0.3	0.3	0.0	X	0.1	X	X	0.1	0.1	0.1
331	Primary Metals	0.6	0.6	0.6	62.7	0.1	0.4	13.4	0.1	7.2	0.3	0.8
331110	Iron and Steel Mills and Ferroalloys	0.3	0.3	0.5	0.1	0.1	0.1	0.1	X	0.1	0.1	0.1
3312	Steel Products from Purchased Steel	5.8	6.6	2.9	84.9	0.1	X	91.2	X	0.1	36.2	5.2
3313	Alumina and Aluminum	0.4	0.4	0.5	0.1	0.1	0.1	0.1	0.1	0.1	13.3	0.1
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	0.1
331315	Aluminum Sheet, Plate and Foils	1.0	1.0	1.3	X	X	X	X	X	0.1	X	0.1
331318	Other Aluminum Rolling, Drawing and Extruding	1.2	1.0	1.3	0.1	0.1	0.1	0.1	X	0.1	13.3	0.7
3314	Nonferrous Metals, except Aluminum	3.8	4.1	4.7	0.1	0.1	4.8	14.8	0.1	21.9	0.5	6.3
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	0.9	0.9	0.9	X	X	X	X	0.1	0.0	0.0	0.0
3315	Foundries	4.4	4.8	2.6	45.0	0.1	0.1	11.4	0.1	65.6	12.7	5.2
331511	Iron Foundries	1.4	1.5	1.6	61.8	0.0	X	X	X	22.5	4.9	9.7
331523	Nonferrous Metal Die-Casting Foundries	1.4	1.3	1.4	65.1	0.1	X	12.6	0.1	6.7	42.4	0.1
331524	Aluminum Foundries, except Die-Casting	11.7	11.9	15.1	X	X	0.1	47.1	X	1.3	0.1	0.1
332	Fabricated Metal Products	12.0	13.1	14.7	88.7	72.3	X	99.5	71.8	51.3	71.5	56.3
333	Machinery	12.3	13.6	15.8	58.3	67.1	X	99.0	65.9	47.8	57.0	61.2
334	Computer and Electronic Products	12.5	14.6	19.5	86.8	X	22.0	89.0	81.1	44.1	20.6	4.7
334413	Semiconductors and Related Devices	1.5	1.8	2.6	X	X	0.1	X	84.2	26.1	X	0.1
335	Electrical Equip., Appliances, and Components	9.7	10.8	14.2	X	97.5	0.1	97.5	64.0	46.6	27.1	53.9
336	Transportation Equipment	5.5	5.8	7.1	65.9	47.3	0.1	38.7	67.1	16.0	20.2	32.9
336111	Automobiles	0.0	0.0	0.0	X	X	X	X	X	0.0	X	X
336112	Light Trucks and Utility Vehicles	0.0	0.0	0.0	X	X	X	X	0.0	0.0	0.0	0.0
3364	Aerospace Product and Parts	6.4	7.5	9.2	93.7	16.9	0.1	0.1	2.3	2.2	33.1	29.9
336411	Aircraft	14.0	19.2	25.3	X	X	0.1	X	2.3	6.5	X	44.6
337	Furniture and Related Products	13.2	15.2	18.5	96.2	57.0	92.4	95.6	97.6	34.2	82.6	63.1
339	Miscellaneous	27.2	18.0	19.4	97.4	X	83.8	70.3	X	47.2	91.7	34.9
	Total	0.8	0.8	1.0	9.8	1.8	2.5	6.7	22.9	3.6	3.2	3.5

(a) The Bureau of the Census classifies establishments using the 2012 North American Industry Classification System (NAICS).
 (b) The environmental restrictions related to air quality that limit the amount of the usable alternative fuel that could be used instead.
 (c) Long-term contracts are typically with a utility or third-party supplier such as an energy broker and requires the purchase of a fuel for an extended amount of time.
 (d) The storage of usable alternative fuels is not available due to the potential environmental impact of storage tanks.

* 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. Energy source is not included in series.

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.'