

**Table 10.21 Reasons that Made Natural Gas Unswitchable, 2006;**  
**Level: National Data;**  
**Row: NAICS Codes;**  
**Column: Reasons that Made Quantity Unswitchable;**  
**Unit: Billion cubic feet.**

Reasons that Made Natural Gas Unswitchable												
NAICS Code(a)	Subsector and Industry	Total Amount of Natural Gas Consumed as a Fuel	Total Amount of Unswitchable Natural Gas Used	Equipment is Not Capable of Using Another Fuel	Switching Adversely Affects the Products	Unavailable Fuel Supply	Unavailable Alternative Environments	Long-Term Contract in Place(c)	Unavailable Storage for Alternative Fuels(d)	Another Reason	Combinations of Columns F, G, H, I, J, and K	Don't Know
<b>Total United States</b>												
311	Food	618	379	275	Q	4	50	3	1	0	12	28
3112	Grain and Oilseed Milling	115	81	67	*	0	4	*	*	0	1	8
311221	Wet Corn Milling	51	44	37	*	0	1	0	0	0	*	6
31131	Sugar Manufacturing	17	10	6	0	0	0	0	0	0	2	1
3114	Fruit and Vegetable Preserving and Specialty Foo	123	58	50	*	*	3	*	0	0	1	2
3115	Dairy Products	80	58	48	Q	*	*	*	1	0	1	2
3116	Animal Slaughtering and Processing	141	92	48	*	1	30	1	*	0	4	6
312	Beverage and Tobacco Products	40	16	11	0	*	1	0	*	0	3	Q
3121	Beverages	37	16	10	0	0	1	0	*	0	3	Q
3122	Tobacco	3	1	*	0	*	*	0	0	0	0	*
313	Textile Mills	63	32	Q	0	*	0	0	0	0	2	Q
314	Textile Product Mills	45	7	5	0	Q	*	0	0	0	*	*
315	Apparel	7	2	2	0	0	0	*	0	0	0	*
316	Leather and Allied Products	1	1	1	0	0	0	0	0	0	0	*
321	Wood Products	84	47	39	1	Q	1	0	*	0	1	4
321113	Sawmills	12	5	4	*	*	1	0	*	0	*	*
3212	Veneer, Plywood, and Engineered Woods	44	35	30	*	Q	*	0	0	0	1	Q
3219	Other Wood Products	27	6	5	*	*	*	0	0	0	*	1
322	Paper	461	324	246	1	8	21	1	*	0	31	17
322110	Pulp Mills	13	7	4	0	0	2	0	0	0	1	*
322121	Paper Mills, except Newsprint	169	120	84	*	7	5	0	*	0	17	6
322122	Newsprint Mills	8	3	3	0	0	0	0	0	0	0	0
322130	Paperboard Mills	138	91	64	1	1	10	1	*	0	9	6
323	Printing and Related Support	38	24	18	Q	*	0	0	0	0	Q	2
324	Petroleum and Coal Products	825	632	558	*	4	16	*	4	0	32	18
324110	Petroleum Refineries	766	595	528	*	4	16	0	2	0	31	15
324199	Other Petroleum and Coal Products	3	2	1	*	*	*	0	0	0	*	*
325	Chemicals	1,355	1,121	954	2	3	31	13	2	0	68	49
325110	Petrochemicals	107	98	61	0	*	0	0	0	0	W	W
325120	Industrial Gases	13	12	9	0	0	1	1	0	0	0	1
325181	Alkalies and Chlorine	103	76	76	0	*	0	0	0	0	0	*
325182	Carbon Black	10	8	4	1	0	2	0	0	0	2	0
325188	Other Basic Inorganic Chemicals	52	40	30	*	*	1	Q	*	0	3	4
325192	Cyclic Crudes and Intermediates	15	8	5	0	0	0	0	0	0	2	*
325193	Ethyl Alcohol	80	60	53	1	0	1	0	0	0	3	2
325199	Other Basic Organic Chemicals	298	251	211	0	1	7	8	*	0	8	15
325211	Plastics Materials and Resins	324	289	277	*	*	3	1	1	0	2	6
325212	Synthetic Rubber	25	21	18	0	0	*	0	*	0	2	*
325222	Noncellulosic Organic Fibers	33	10	3	0	0	*	*	*	0	6	0
325311	Nitrogenous Fertilizers	113	112	100	0	0	0	0	0	0	5	7
325312	Phosphatic Fertilizers	11	10	10	0	*	0	0	*	0	1	*
3254	Pharmaceuticals and Medicines	45	21	15	0	*	2	2	*	0	1	1
325412	Pharmaceutical Preparation	30	15	11	0	*	1	2	*	0	*	*
325992	Photographic Film, Paper, Plate, and Chemicals	7	5	3	0	0	2	*	0	0	0	*
326	Plastics and Rubber Products	124	50	39	1	*	Q	*	Q	0	Q	4
327	Nonmetallic Mineral Products	446	271	231	5	1	3	*	*	0	14	16
327211	Flat Glass	50	21	17	0	0	3	0	0	0	1	*
327212	Other Pressed and Blown Glass and Glassware	Q	Q	Q	1	1	0	0	*	0	*	2
327213	Glass Containers	49	34	31	0	0	0	0	0	0	1	1
327215	Glass Products from Purchased Glass	50	13	12	*	*	*	*	0	0	*	*
327310	Cements	19	11	10	0	0	*	*	0	0	*	1
327410	Lime	5	5	4	*	*	0	0	0	0	*	*
327420	Gypsum	74	62	61	0	0	*	0	0	0	1	*
327993	Mineral Wool	33	22	17	*	*	0	*	0	0	1	3
331	Primary Metals	568	444	369	1	34	10	2	3	0	9	17

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Reasons that Made Natural Gas Unswitchable

NAICS Code(a)	Subsector and Industry	Total Amount of	Total Amount of	Equipment is Not	Switching	Unavailable	Long-Term	Unavailable	Combinations of			
		Natural Gas Consumed as a Fuel	Natural Gas Fuel Unswitchable	Capable of Using Another Fuel	the Products Adversely Affects Fuel Supply	Alternative Environmental Restrictions in Place	Contract Alternative Fuels	Storage for Alternative Fuels	Another Reason	H, I, J, and K	Don't Know	
331111	Iron and Steel Mills	317	258	210	0	33	3	0	1	0	3	7
331112	Electrometallurgical Ferroalloy Products	1	1	1	0	0	0	*	0	0	0	0
3312	Steel Products from Purchased Steel	25	20	18	*	*	*	*	0	0	*	1
3313	Alumina and Aluminum	113	89	81	0	*	*	*	0	0	2	4
331314	Secondary Smelting and Alloying of Aluminum	17	13	10	0	*	*	0	0	0	1	2
331315	Aluminum Sheet, Plate and Foils	36	28	26	0	*	0	0	0	0	*	2
331316	Aluminum Extruded Products	17	9	8	0	*	*	*	0	0	1	*
3314	Nonferrous Metals, except Aluminum	42	28	18	*	0	6	0	1	0	2	1
3315	Foundries	70	48	41	1	1	*	1	1	0	*	3
331511	Iron Foundries	23	16	15	*	*	*	*	*	0	*	*
331521	Aluminum Die-Casting Foundries	15	10	7	*	*	0	1	*	0	*	1
331524	Aluminum Foundries, except Die-Casting	13	6	5	0	0	0	0	*	0	*	1
332	Fabricated Metal Products	234	167	145	*	Q	*	*	Q	0	Q	2
333	Machinery	82	46	33	Q	Q	0	0	0	0	Q	Q
334	Computer and Electronic Products	44	25	16	*	*	1	*	0	0	2	Q
334413	Semiconductors and Related Devices	18	12	7	0	*	1	*	0	0	2	Q
335	Electrical Equip., Appliances, and Components	40	26	21	*	Q	0	0	Q	0	Q	2
336	Transportation Equipment	242	188	167	*	Q	3	Q	*	0	10	5
336111	Automobiles	21	15	13	0	*	0	0	0	0	0	2
336112	Light Trucks and Utility Vehicles	24	19	17	0	0	0	0	0	0	2	*
3364	Aerospace Product and Parts	30	20	16	0	*	3	*	*	0	*	1
336411	Aircraft	8	5	2	0	*	2	0	0	0	0	*
337	Furniture and Related Products	16	10	8	0	0	0	0	Q	0	*	1
339	Miscellaneous	24	18	14	*	*	0	*	0	0	0	4
	Total	5,357	3,828	3,178	23	68	141	19	14	0	205	180

(a) The Bureau of the Census classifies establishments using the 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.

NF=No applicable RSE row/column factor.

\* Estimate less than 0.5.

W=Withheld because disclosing data for individual establishments.

Q=Withheld because Relative Standard Error is greater than 50 percent.

NA=Not available.

Notes: To obtain the RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. Totals may not equal sum of components because of independent rounding. Establishment percents may not equal 100 percent because of unknown and/or unreported fuel-switching guesstimate.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Consumption Division, Form EIA-846, '2006 Manufacturing Energy Consumption Survey.'