

**Table 10.2 Capability to Switch Natural Gas to Alternative Energy Sources, 2002;**  
**Level: National Data and Regional Totals;**  
**Row: NAICS Codes, Value of Shipments and Employment Sizes;**  
**Column: Energy Sources;**  
**Unit: Billion Cubic Feet.**

NAICS Code(a)	Subsector and Industry	Natural Gas			Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other(e)	
<b>Total United States</b>												
	<b>RSE Column Factors:</b>	0.8	1	0.9	1.6	1	1	1.1	1.1	0.5	1.3	
311	Food	560	155	298	20	70	40	2	63	*	Q	12
311221	Wet Corn Milling	59	11	41	3	3	3	*	4	0	*	2
31131	Sugar	22	7	10	*	2	5	*	0	*	0	1
311421	Fruit and Vegetable Canning	35	10	19	2	6	2	*	1	*	*	5.5
312	Beverage and Tobacco Products	45	18	21	1	8	7	1	2	*	0	3
3121	Beverages	41	15	20	1	7	6	1	2	0	0	4
3122	Tobacco	4	3	1	*	2	1	*	*	*	0	1
313	Textile Mills	72	26	30	1	15	8	1	5	0	0	20.2
314	Textile Product Mills	28	12	11	*	7	1	1	6	1	1	22
315	Apparel	16	3	9	*	2	1	*	Q	*	*	27
316	Leather and Allied Products	4	*	3	*	*	*	*	*	*	*	26.3
321	Wood Products	56	11	38	1	3	1	*	4	*	3	8.8
321113	Sawmills	10	3	6	*	2	*	*	*	0	*	14.7
3212	Veneer, Plywood, and Engineered Woods	32	5	23	*	*	*	0	2	0	3	5.2
3219	Other Wood Products	11	2	7	1	*	*	0	2	0	*	19.4
322	Paper	490	158	285	26	71	56	8	15	*	7	3.3
322110	Pulp Mills	23	8	15	0	3	5	0	2	0	*	1
322121	Paper Mills, except Newsprint	201	71	114	18	26	22	5	5	0	6	4
322122	Newsprint Mills	15	4	7	0	4	1	0	0	0	0	1
322130	Paperboard Mills	183	61	106	6	32	26	2	1	*	1	2.9
323	Printing and Related Support	45	14	24	Q	5	*	*	6	*	*	13
324	Petroleum and Coal Products	854	154	549	11	35	10	*	86	*	39	5.5
324110	Petroleum Refineries	799	142	515	11	27	7	*	83	*	39	4.1
324199	Other Petroleum and Coal Products	4	1	3	0	1	0	0	0	0	*	1
325	Chemicals	1,634	164	1,052	15	73	52	Q	21	0	11	5.2
325110	Petrochemicals	167	6	128	W	*	*	0	*	0	0	1
325120	Industrial Gases	51	1	49	*	1	0	0	*	0	*	2.6
325181	Alkalies and Chlorine	92	5	86	2	2	1	2	1	0	*	1.5
325182	Carbon Black	9	2	8	0	0	1	0	0	0	*	1
325188	Other Basic Inorganic Chemicals	67	7	44	*	3	1	*	3	0	1	9.4
325192	Cyclic Crudes and Intermediates	36	4	28	0	1	3	0	*	0	*	1
325193	Ethyl Alcohol	29	5	16	0	*	0	*	3	0	1	1.4
325199	Other Basic Organic Chemicals	414	39	299	1	18	15	Q	6	0	1	13.3
325211	Plastics Materials and Resins	339	22	124	1	9	3	Q	3	0	6	6.2
325212	Synthetic Rubber	27	3	13	*	1	Q	1	*	0	0	10.7

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NAICS Code(a)	Subsector and Industry	Natural Gas			Alternative Energy Sources(b)							RSE Row Factors
		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other(e)	
325222	Noncellulosic Organic Fibers	29	14	15	*	8	6	0	*	0	0	1
325311	Nitrogenous Fertilizers	184	2	138	0	1	*	0	*	0	*	1
325312	Phosphatic Fertilizers	18	0	18	0	0	0	0	0	0	0	1.2
3254	Pharmaceuticals and Medicines	60	28	27	5	18	6	1	1	0	*	2.8
325412	Pharmaceutical Preparation	39	16	18	*	10	5	1	*	0	*	3.2
325992	Photographic Film, Paper, Plate, and Chemicals	7	4	2	*	2	1	1	*	0	0	2.7
326	Plastics and Rubber Products	125	37	67	4	24	9	*	5	*	*	12.6
327	Nonmetallic Mineral Products	410	95	263	4	41	3	6	44	1	4	4.9
3272	Glass and Glass Products	148	39	87	1	18	1	*	21	0	2	4
327211	Flat Glass	51	18	19	*	13	0	0	3	0	2	0.9
327213	Glass Containers	51	14	35	*	4	1	0	10	0	0	1
327310	Cements	21	6	13	1	1	2	4	1	1	1	1.6
327410	Lime	7	2	5	*	*	1	1	*	*	*	1
327993	Mineral Wool	34	6	28	*	*	*	*	6	*	*	3.5
331	Primary Metals	652	83	495	3	12	30	6	31	2	5	2.8
331111	Iron and Steel Mills	377	45	293	*	5	28	6	Q	2	4	2.2
331112	Electrometallurgical Ferroalloy Products	7	*	2	0	*	*	0	*	0	0	1
3312	Steel Products from Purchased Steel	23	3	20	1	*	*	0	1	0	*	6.8
3313	Alumina and Aluminum	127	11	98	*	3	1	0	7	0	*	9.3
331312	Primary Aluminum	19	3	6	0	*	*	0	3	0	*	1.1
3314	Nonferrous Metals, except Aluminum	42	9	31	*	2	1	0	7	0	0	5.8
3315	Foundries	75	15	51	2	2	*	*	11	*	*	4.8
331511	Iron Foundries	27	8	17	*	2	*	*	6	0	*	2.7
331521	Aluminum Die-Casting Foundries	16	2	11	1	*	*	0	2	0	0	2.5
331524	Aluminum Foundries, except Die-Casting	14	2	10	*	*	*	0	2	0	*	1.9
332	Fabricated Metal Products	204	Q	116	6	3	1	Q	Q	*	Q	21.4
333	Machinery	80	13	53	3	4	2	*	7	*	*	15.2
334	Computer and Electronic Products	63	13	40	2	7	5	*	2	*	*	13.2
334413	Semiconductors and Related Devices	21	6	13	*	5	2	*	*	*	*	2.1
335	Electrical Equip., Appliances, and Components	51	12	28	2	2	1	*	8	*	*	16.5
336	Transportation Equipment	197	36	126	4	12	6	4	15	*	*	9.5
336112	Light Trucks and Utility Vehicles	35	5	24	0	0	*	W	W	0	*	1
337	Furniture and Related Products	24	4	13	2	1	*	*	3	*	*	22.2
339	Miscellaneous	31	8	16	1	5	*	*	1	*	*	12.9
	Total	5,641	1,063	3,536	110	400	233	47	365	5	77	6.1
<b>Northeast Census Region</b>												
<b>RSE Column Factors:</b>		0.8	1	0.9	1.6	1	1	1.1	1.1	0.5	1.3	

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		Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other(e)	
	Total	523	155	292	29	78	62	5	33	2	6	8.5
<b>Midwest Census Region</b>												
	<b>RSE Column Factors:</b>	0.8	1	0.9	1.6	1	1	1.1	1.1	0.5	1.3	
	Total	1,455	339	935	27	100	66	21	146	*	14	8.9
<b>South Census Region</b>												
	<b>RSE Column Factors:</b>	0.8	1	0.9	1.6	1	1	1.1	1.1	0.5	1.3	
	Total	3,005	449	1,905	36	174	84	19	145	1	51	7.8
<b>West Census Region</b>												
	<b>RSE Column Factors:</b>	0.8	1	0.9	1.6	1	1	1.1	1.1	0.5	1.3	
	Total	658	120	403	18	48	20	3	42	1	6	7.7
	<b>Economic Characteristic (f)</b>											
	<b>RSE Column Factors:</b>	0.4	0.9	0.4	1.4	0.9	1.2	1.7	1.3	1.6	1.6	
	<b>Value of Shipments and Receipts (million dollars)</b>											
	Under 20	582	111	348	19	28	13	4	71	1	4	18.9
	20-49	575	142	342	19	51	35	4	61	1	10	13.9
	50-99	712	166	439	10	72	23	5	44	0	Q	9.7
	100-249	947	191	585	11	99	32	8	59	*	6	7.9
	250-499	804	172	537	17	66	68	Q	31	1	3	9.6
	500 and Over	2,022	279	1,284	35	85	61	14	99	2	25	2.2
	Total	5,641	1,063	3,536	110	400	233	47	365	5	77	6.2
	<b>Employment Size</b>											
	Under 50	408	66	262	10	26	11	2	23	*	Q	18.9
	50-99	532	88	359	7	34	15	3	22	1	Q	15.3

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	100-249	1,022	200	642	22	86	33	9	71	*	9	9.8
	250-499	1,197	255	755	30	89	45	3	113	1	13	12
	500-999	1,061	238	628	20	79	62	Q	89	1	9	7.5
	1000 and Over	1,422	216	889	22	87	67	16	46	2	10	2
	Total	5,641	1,063	3,536	110	400	233	47	365	5	77	6.3

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

(b) 'Alternative Energy Sources' consist of those energy sources that could have been substituted for natural gas during 2002. 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.

(c) '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.

(d) '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.

(e) 'Other' includes all other types of energy not already identified that respondents indicated could have been consumed in place of natural gas.

(f) Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census.

NF=No applicable RSE row/column factor.

\* 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: 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.

Source: Energy Information Administration, Office of Energy Markets

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		Natural Gas		Alternative Energy Sources(b)								
NAICS Code(a)	Subsector and Industry	Total Consumed(c)	Switchable	Not Switchable	Electricity Receipts(d)	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other(e)	RSE Row Factors

and End Use, Energy Consumption Division, Form EIA-846, '2002 Manufacturing Energy Consumption Survey,' and the Bureau of the Census, data files for the '2002 Economic Census, Manufacturing - Industry Series.'