

**Table C1.1. Number of Establishments by First Use of Energy for All Purposes (Fuel and Nonfuel), 1998;  
Level: National Data;  
Row: NAICS Codes; Column: Energy Sources and Shipments;  
Unit: Establishment Counts.**

NAICS Code <sup>a</sup>	Subsector and Industry	Any Energy Source <sup>b</sup>	Net <sup>c</sup> Electricity	Residual Fuel Oil	Distillate Fuel Oil <sup>d</sup>	Natural Gas <sup>e</sup>	LPG and NGL <sup>f</sup>	Coal	Coke and Breeze	Other <sup>g</sup>	Shipments <sup>h</sup>	RSE Row Factors
Total United States												
<b>RSE Column Factors:</b>		0.2	0.2	1.8	1.7	0.8	1.4	1.4	1.9	1.5	1.9	
311	Food . . . . .	16,553	16,526	178	2,120	13,536	3,586	105	20	2,730	0	1.9
311221	Wet Corn Milling . . . . .	50	50	4	19	45	18	18	0	23	0	1.2
312	Beverage and Tobacco Products . . . . .	1,547	1,547	39	181	942	540	22	0	333	0	11.2
313	Textile Mills . . . . .	2,935	2,935	224	576	1,863	963	51	0	431	0	6.8
313210	Broadwoven Fabric Mills . . . . .	473	473	50	88	371	183	19	0	121	0	8.9
314	Textile Product Mills . . . . .	4,216	4,216	21	198	2,365	723	6	0	335	0	12.7
315	Apparel . . . . .	12,566	12,537	101	843	5,802	547	13	0	264	0	12.9
316	Leather and Allied Products . . . . .	995	995	4	112	593	344	0	0	100	0	13.5
321	Wood Products . . . . .	11,663	11,663	52	4,285	4,213	4,916	Q	0	3,856	0	6.7
321113	Sawmills . . . . .	3,065	3,065	12	1,806	579	1,092	0	0	1,468	0	8.6
321114	Wood Preservation . . . . .	306	306	W	183	155	86	0	0	123	0	7.6
3212	Veneer, Plywood, and Engineered Woods . . . . .	1,445	1,445	9	508	562	976	W	0	632	0	10.6
3219	Other Wood Products . . . . .	6,847	6,847	W	1,788	2,919	2,762	W	0	1,632	0	7.3
322	Paper . . . . .	4,676	4,676	278	696	3,865	2,622	124	0	770	0	5.4
322110	Pulp Mills . . . . .	35	35	10	22	30	26	W	0	25	0	1.2
322121	Paper Mills, except Newsprint . . . . .	257	257	108	170	190	193	66	0	157	0	5.2
322122	Newsprint Mills . . . . .	29	29	11	21	22	26	8	0	24	0	1.2
322130	Paperboard Mills . . . . .	216	216	91	110	173	148	44	0	129	0	7.5
323	Printing and Related Support . . . . .	25,706	25,684	Q	600	16,761	2,646	W	0	611	0	7.3
323110	Commercial Lithographic Printing . . . . .	13,000	12,979	Q	167	8,848	1,152	W	0	287	0	8.7
324	Petroleum and Coal Products . . . . .	1,756	1,755	92	730	1,193	561	Q	0	400	3	8.8
324110	Petroleum Refineries <sup>1</sup> . . . . .	240	239	52	111	173	84	W	0	168	0	10.2
325	Chemicals . . . . .	8,962	8,890	268	1,828	6,713	2,872	116	10	1,843	41	5.9
325110	Petrochemicals . . . . .	44	43	0	9	39	22	W	0	18	W	1.2
325120	Industrial Gases . . . . .	583	583	0	54	211	84	W	W	73	0	10.0
325181	Alkalies and Chlorine . . . . .	32	32	W	18	24	10	3	0	21	0	1.2
325188	Other Basic Inorganic Chemicals . . . . .	514	514	24	154	389	138	12	3	170	0	14.2
325192	Cyclic Crudes and Intermediates . . . . .	54	54	5	29	51	26	7	0	34	W	1.1
325199	Other Basic Organic Chemicals . . . . .	585	585	32	227	527	256	18	0	289	22	7.5
325211	Plastics Materials and Resins . . . . .	567	567	26	154	503	261	7	W	196	7	7.1
325212	Synthetic Rubber . . . . .	79	79	4	32	69	41	W	0	34	4	1.1
325222	Noncellulosic Organic Fibers . . . . .	87	87	14	33	58	50	8	0	30	0	1.2
325311	Nitrogenous Fertilizers . . . . .	92	91	0	46	65	20	0	0	37	0	1.5
325312	Phosphatic Fertilizers . . . . .	38	38	3	30	29	16	W	0	21	0	1.2
326	Plastics and Rubber Products . . . . .	11,944	11,867	131	514	8,491	4,722	6	0	2,157	0	6.1
326199	Other Plastics Products . . . . .	6,608	6,531	Q	161	4,601	2,670	0	0	1,124	0	7.0
327	Nonmetallic Mineral Products . . . . .	11,333	11,333	Q	4,324	6,316	3,163	210	34	3,395	0	6.8
3272	Glass and Glass Products . . . . .	1,026	1,026	W	187	694	434	W	0	254	0	12.3
327310	Cements . . . . .	194	194	W	87	86	94	75	8	74	0	16.4
331	Primary Metals . . . . .	3,830	3,830	43	1,162	3,477	1,956	102	293	1,838	20	6.6
331111	Iron and Steel Mills . . . . .	272	272	20	164	195	74	57	60	149	20	13.8
331112	Electrometallurgical Ferroalloy Products . . . . .	24	24	0	17	20	13	8	W	15	0	1.2
3312	Steel Products from Purchased Steel . . . . .	558	558	Q	103	472	230	W	W	221	0	10.3
3313	Alumina and Aluminum . . . . .	443	443	W	127	415	217	11	Q	140	0	6.5
331312	Primary Aluminum . . . . .	33	33	W	21	31	18	6	0	25	0	1.2
3315	Foundries . . . . .	1,122	1,122	W	387	999	682	13	179	618	0	7.5
331511	Iron Foundries . . . . .	493	493	W	301	451	378	W	172	359	0	7.4
331521	Aluminum Die-Casting Foundries . . . . .	230	230	0	27	227	125	0	0	105	0	6.8
331524	Aluminum Foundries, except Die-Casting . . . . .	399	399	0	60	321	179	0	W	153	0	11.9
332	Fabricated Metal Products . . . . .	40,743	40,743	221	3,902	29,600	15,436	20	13	12,408	0	1.4
333	Machinery . . . . .	19,577	19,568	166	1,482	14,490	7,429	Q	0	5,992	0	5.4
334	Computer and Electronic Products . . . . .	9,925	9,925	33	802	6,388	1,328	W	0	1,107	0	7.3
334413	Semiconductors and Related Devices . . . . .	562	562	11	83	427	106	0	0	144	0	12.1
335	Electrical Equip., Appliances, Components . . . . .	4,526	4,526	Q	513	3,406	1,163	4	13	905	0	9.5
336	Transportation Equipment . . . . .	8,380	8,380	Q	1,293	5,477	3,565	34	6	2,773	0	6.6
337	Furniture and Related Products . . . . .	11,274	11,274	Q	956	6,395	3,260	60	0	1,487	0	9.0
339	Miscellaneous . . . . .	13,630	13,630	Q	701	9,048	2,035	W	0	1,448	0	8.2
<b>Total</b>		<b>226,737</b>	<b>226,500</b>	<b>2,595</b>	<b>27,817</b>	<b>150,937</b>	<b>64,379</b>	<b>1,169</b>	<b>389</b>	<b>45,186</b>	<b>64</b>	<b>3.4</b>

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NAICS Code <sup>a</sup>	Subsector and Industry	Any Energy Source <sup>b</sup>	Net <sup>c</sup> Electricity	Residual Fuel Oil	Distillate Fuel Oil <sup>d</sup>	Natural Gas <sup>e</sup>	LPG and NGL <sup>f</sup>	Coal	Coke and Breeze	Other <sup>g</sup>	Shipments <sup>h</sup>	RSE Row Factors
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See footnotes at end of table.

## Footnotes

<sup>a</sup> The Standard Industrial Classification (SIC) system has been replaced by the North American Industry Classification System (NAICS). Since the Bureau of the Census has collected the information necessary to classify establishments on both an NAICS and an SIC basis, the same 1998 data can be shown on both the old and the new basis in bridge tables that allow comparisons between the two systems. These data are hereby produced for the last time on an SIC basis for 1998 at the national level only.

<sup>b</sup> "Any Energy Source" represents the non-duplicative total of establishments identified with any of the listed energy sources. This count includes only those establishments that reported this activity in 1998.

<sup>c</sup> "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

<sup>d</sup> "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

<sup>e</sup> "Natural Gas" includes natural gas obtained from utilities, local distribution companies, and any other supplier(s), such as independent gas producers, gas brokers, marketers, and any marketing subsidiaries of utilities.

<sup>f</sup> Examples of Liquefied Petroleum Gases ("LPG") are ethane, ethylene, propane, propylene, normal butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw Natural Gas Liquids ("NGL").

<sup>g</sup> "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote "i".

<sup>h</sup> "Shipments" are shipments of energy sources produced onsite, which are those shipments produced or transformed onsite from the nonfuel use of other energy sources. For example, at an establishment that processes coal to make coke for later use, the entire quantity of coal is counted as first use. Any onsite consumption of coke is not counted as first use because it would duplicate the coal use. If some of the coke is then sold to another establishment, then that second establishment will consider this coke to be a shipment of an offsite-produced energy source. Hence, the second establishment will count this coke as its first use, thereby resulting in double counting. In order to eliminate the double counting, the energy equivalent of the coke shipment must be subtracted from first use.

<sup>i</sup> For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Other" column, regardless of type of energy. The remaining columns for the petroleum refining industry include only energy that was consumed for the production of heat and power. The "Other" column also includes net steam and other energy that respondents indicated was used in the production of heat and power. Those inputs and feedstocks that were converted to other energy products (e.g., crude oil converted to residual and distillate fuel oils) are excluded.

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: C To obtain the RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. C Totals may not equal sum of components because of independent rounding. C The derived estimates presented in this table are for the first use (formerly primary consumption) of energy for heat and power and as feedstocks or raw material inputs. First use is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials, such as wastepaper and packing materials. First use excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Consumption Division, Form EIA-846, "1998 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1998.