

Table C19. Natural Gas Consumption and Conditional Energy Intensity by Building Size, 1999

	Total Natural Gas Consumption (billion cubic feet)			Total Floorspace of Buildings Using Natural Gas (million square feet)			Natural Gas Energy Intensity (cubic feet/square foot)		
	1,001 to 10,000 Square Feet	10,001 to 100,000 Square Feet	Over 100,000 Square Feet	1,001 to 10,000 Square Feet	10,001 to 100,000 Square Feet	Over 100,000 Square Feet	1,001 to 10,000 Square Feet	10,001 to 100,000 Square Feet	Over 100,000 Square Feet
All Buildings	588	780	598	8,654	20,570	16,301	67.9	37.9	36.7
Principal Building Activity									
Education	22	122	76	566	3,620	2,385	38.7	33.8	31.9
Food Sales	Q	18	Q	Q	342	Q	Q	51.5	Q
Food Service	174	Q	Q	981	Q	Q	177.2	Q	Q
Health Care	Q	32	173	Q	453	1,624	Q	69.8	106.2
Inpatient	N	Q	169	N	Q	1,553	N	Q	109.0
Outpatient	Q	11	Q	Q	328	Q	Q	33.5	Q
Lodging	Q	93	59	Q	1,748	1,542	Q	53.1	38.5
Mercantile	60	88	32	1,315	3,395	3,178	45.5	26.0	10.1
Retail (Other Than Mall)	48	52	Q	1,070	1,886	Q	44.9	27.3	Q
Enclosed and Strip Malls	Q	37	25	Q	1,508	2,616	Q	24.4	9.6
Office	50	86	78	1,467	2,772	3,116	33.9	30.9	25.0
Public Assembly	31	47	16	638	1,622	728	47.9	29.1	21.7
Public Order and Safety	Q	20	Q	Q	423	Q	Q	46.8	Q
Religious Worship	21	38	Q	727	1,687	Q	28.8	22.8	Q
Service	132	Q	Q	1,081	714	Q	122.4	154.7	Q
Warehouse and Storage	Q	63	Q	643	2,810	2,758	60.4	22.4	44.1
Other	Q	Q	Q	Q	302	Q	Q	80.5	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year Constructed									
1919 or Before	56	42	Q	946	1,453	Q	59.6	28.9	Q
1920 to 1945	73	70	46	1,065	1,755	1,437	68.7	40.0	31.8
1946 to 1959	69	113	66	1,406	2,899	1,735	49.2	39.1	38.0
1960 to 1969	140	120	101	1,305	3,249	2,958	107.5	36.9	34.1
1970 to 1979	100	114	103	1,650	3,520	2,910	60.5	32.5	35.3
1980 to 1989	54	198	128	970	4,247	3,576	55.7	46.7	35.7
1990 to 1999	95	122	136	1,312	3,448	3,316	72.5	35.4	41.1
Census Region and Division									
Northeast	75	113	103	978	2,824	3,503	76.5	40.0	29.3
New England	Q	27	23	Q	863	674	Q	31.5	34.8
Middle Atlantic	69	86	79	925	1,961	2,829	74.2	43.7	28.0
Midwest	194	239	257	2,886	5,775	4,846	67.1	41.3	53.0
East North Central	151	155	178	2,120	3,907	3,356	71.3	39.6	52.9
West North Central	43	84	79	766	1,868	1,490	55.6	45.0	53.3
South	194	261	146	2,625	6,735	4,840	73.9	38.7	30.2
South Atlantic	Q	71	73	778	2,500	2,239	Q	28.3	32.7
East South Central	29	126	25	604	1,885	1,019	48.3	Q	25.0
West South Central	66	64	48	1,243	2,349	1,582	53.4	27.4	30.1
West	125	168	92	2,165	5,237	3,113	57.8	32.1	29.6
Mountain	52	62	27	739	1,703	740	69.9	36.3	36.3
Pacific	74	106	65	1,426	3,533	2,373	51.5	30.0	27.5
Climate Zone: 45-Year Average									
Under 2,000 CDD and --									
More than 7,000 HDD	74	88	59	979	1,943	1,142	76.0	45.2	52.1
5,500-7,000 HDD	147	224	253	1,956	5,609	5,008	75.3	39.9	50.5
4,000-5,499 HDD	178	199	128	2,039	3,876	4,539	87.3	51.5	28.1
Fewer than 4,000 HDD	99	198	115	2,240	6,061	3,849	44.4	32.7	30.0
2,000 CDD or More and --									
Fewer than 4,000 HDD	89	71	43	1,440	3,081	1,763	61.5	23.1	24.2

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Workers (main shift)									
Fewer than 5	205	65	Q	3,981	2,999	Q	51.5	21.5	Q
5 to 9	122	57	Q	2,038	2,275	Q	59.6	25.2	Q
10 to 19	124	142	Q	1,535	3,488	Q	81.0	40.6	Q
20 to 49	131	262	30	969	5,399	1,369	135.1	48.6	21.7
50 to 99	Q	151	61	Q	3,914	2,295	Q	38.5	26.8
100 to 249	Q	82	160	Q	1,879	4,205	Q	43.8	38.0
250 or More	N	22	327	N	616	7,419	N	35.2	44.1
Weekly Operating Hours									
39 or Fewer	40	30	Q	1,307	1,210	Q	30.8	24.5	Q
40 to 48	111	122	28	2,469	4,426	1,302	45.1	27.7	21.7
49 to 60	102	217	57	2,046	5,296	2,372	49.8	41.1	24.1
61 to 84	139	135	74	1,501	3,705	3,802	92.3	36.5	19.6
85 to 167	153	107	78	853	2,672	2,923	179.7	40.2	26.6
Open Continuously	43	168	350	479	3,261	5,594	88.8	51.6	62.6
Ownership and Occupancy									
Nongovernment Owned	539	595	478	7,886	16,446	12,694	68.3	36.2	37.7
Owner Occupied	363	432	373	5,429	10,741	9,427	66.9	40.2	39.6
Nonowner Occupied	174	156	Q	2,296	5,434	3,238	75.8	28.7	Q
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	49	185	119	768	4,124	3,607	63.8	44.8	33.1
Federal	Q	15	20	Q	379	555	Q	40.6	35.5
State	Q	62	36	Q	1,137	986	Q	54.8	36.3
Local	35	107	64	577	2,608	2,065	60.8	41.1	30.9
Vacancy Status									
Completely Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	45	123	130	1,263	3,938	5,524	35.5	31.1	23.5
Not At All Vacant	535	652	463	7,110	16,407	10,657	75.3	39.7	43.4
Number of Establishments									
One	480	588	430	6,630	14,200	8,887	72.4	41.4	48.4
2 to 5	92	99	74	1,651	3,436	2,352	55.9	28.9	31.6
6 to 10	Q	55	23	Q	1,480	845	Q	37.3	26.8
11 to 20	Q	18	30	Q	795	986	Q	22.8	30.6
More than 20	Q	Q	40	Q	Q	3,182	Q	Q	12.7
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Energy Sources (more than one may apply)									
Electricity	587	780	598	8,625	20,570	16,301	68.1	37.9	36.7
Natural Gas	588	780	598	8,654	20,570	16,301	67.9	37.9	36.7
Fuel Oil	Q	78	334	Q	1,594	6,386	Q	48.7	52.4
District Heat	Q	Q	46	Q	Q	1,758	Q	Q	Q
District Chilled Water	Q	17	33	Q	486	808	Q	35.8	41.4
Propane	Q	19	Q	Q	536	1,278	Q	35.4	Q
Other	Q	20	40	Q	603	814	Q	33.2	48.7
Space-Heating Energy Source									
Natural Gas	480	687	547	7,863	17,494	12,546	61.0	39.3	43.6
Natural Gas Main	462	596	499	7,373	14,997	10,360	62.6	39.7	48.2
Natural Gas Secondary	18	91	48	490	2,497	2,186	36.7	36.5	22.0
Other Excluding Natural Gas	Q	77	49	504	2,520	3,468	115.5	30.6	14.2
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q

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Primary Space-Heating									
Energy Source									
Electricity	74	138	63	862	4,030	3,545	85.6	34.2	17.7
Natural Gas	462	596	499	7,373	14,997	10,360	62.6	39.7	48.2
Fuel Oil	Q	Q	5	Q	355	500	Q	30.2	10.1
District Heat	Q	16	29	Q	502	1,520	Q	31.5	19.1
Propane	Q	Q	N	Q	Q	N	Q	Q	N
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Source									
Natural Gas	Q	29	33	Q	907	469	Q	31.4	71.2
Other Excluding Natural Gas	443	687	554	6,784	18,352	15,098	65.3	37.4	36.7
Buildings without Cooling	108	65	11	1,333	1,311	734	81.1	49.4	14.7
Water-Heating Energy Source									
Natural Gas	405	553	452	4,923	13,747	10,526	82.2	40.2	42.9
Other Excluding Natural Gas	104	163	134	2,035	5,177	4,958	51.2	31.6	27.1
Buildings without Water Heating	79	64	12	1,697	1,646	817	46.6	38.7	14.2
Cooking Energy Source									
Natural Gas	198	241	361	1,479	5,412	9,893	133.6	44.6	36.5
Other Excluding Natural Gas	Q	49	48	Q	1,461	1,375	Q	33.5	34.6
Buildings without Cooking	373	490	189	6,938	13,697	5,033	53.7	35.8	37.6
Energy End Uses (more than one may apply)									
Buildings with Space Heating	538	764	597	8,366	20,004	16,014	64.3	38.2	37.3
Buildings with Cooling	480	716	587	7,321	19,259	15,567	65.5	37.2	37.7
Buildings with Water Heating	509	717	586	6,957	18,924	15,484	73.1	37.9	37.9
Buildings with Cooking	215	290	409	1,716	6,873	11,268	125.4	42.3	36.3
Buildings with Manufacturing	Q	43	Q	Q	1,124	921	Q	38.6	62.5
Buildings with Electricity Generation	Q	104	315	Q	2,303	6,579	Q	45.2	47.9
Percent of Floorspace Heated									
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	37	Q	Q	1,140	2,376	1,357	32.5	Q	22.0
51 to 99	96	163	75	1,417	3,705	2,929	67.7	44.1	25.7
100	405	542	491	5,809	13,923	11,727	69.7	38.9	41.9
Percent of Floorspace Cooled									
Not Cooled	108	65	11	1,333	1,311	734	81.1	49.4	14.7
1 to 50	126	255	164	2,082	6,321	3,665	60.5	40.4	44.7
51 to 99	135	192	245	1,687	5,068	5,939	80.2	38.0	41.2
100	218	268	178	3,553	7,870	5,963	61.5	34.1	29.9
Heating Equipment (more than one may apply)									
Heat Pumps	Q	Q	114	530	2,511	2,587	Q	Q	44.1
Furnaces	207	208	135	3,852	5,430	2,678	53.8	38.3	50.5
Individual Space Heaters	116	196	203	1,603	5,888	6,070	72.3	33.3	33.4
District Heat	Q	31	45	Q	657	1,690	Q	47.7	26.4
Boilers	79	321	417	903	6,918	8,767	87.4	46.4	47.6
Packaged Heating Units	198	296	309	2,911	8,851	8,281	67.8	33.5	37.3
Other	Q	32	Q	Q	1,001	1,483	Q	32.2	Q

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Cooling Equipment (more than one may apply)									
Residential-Type Central									
Air Conditioners	84	91	112	1,770	2,840	2,195	47.3	31.9	51.2
Heat Pumps	Q	Q	116	525	2,510	2,735	Q	Q	42.2
Individual Air Conditioners	87	195	190	1,395	4,833	4,487	62.4	40.3	42.4
District Chilled Water	Q	17	33	Q	486	808	Q	35.8	41.4
Central Chillers	Q	118	374	Q	2,366	7,611	Q	49.9	49.2
Packaged Air Conditioning									
Units	297	424	439	4,059	12,884	11,045	73.1	32.9	39.7
Swamp Coolers	Q	32	33	Q	838	708	Q	38.6	47.0
Other	Q	13	Q	Q	329	Q	Q	38.3	Q
Main Equipment Replaced Since 1995 (more than one may apply)									
Heating	146	192	81	2,125	5,264	2,938	68.6	36.4	27.7
Cooling	144	223	174	1,877	6,176	4,810	77.0	36.1	36.2
Water Heating Equipment									
Centralized System	433	512	278	5,536	12,911	8,032	78.2	39.6	34.6
Distributed System	53	90	Q	1,221	3,114	3,251	43.2	28.9	39.3
Combination of Centralized and Distributed System	Q	115	181	Q	2,900	4,200	Q	39.6	43.1
Annual Consumption (hundred cubic feet)									
1,000 or Less	35	3	0	2,581	1,578	438	13.5	2.2	0.2
1,001 to 5,000	223	76	2	4,485	5,573	1,135	49.7	13.6	1.4
5,001 to 10,000	117	118	4	875	4,750	1,214	133.5	24.9	3.5
10,001 to 25,000	146	247	22	574	5,732	2,867	254.3	43.1	7.7
25,001 to 50,000	Q	129	52	Q	1,900	2,930	Q	67.7	17.7
50,001 to 100,000	Q	138	76	Q	849	2,573	Q	162.5	29.5
Over 100,000	N	Q	442	N	Q	5,144	N	Q	85.9
Provider of Natural Gas (more than one may apply)									
Local Utility	545	698	438	8,199	18,998	13,567	66.5	36.8	32.3
Some Other Provider	Q	70	179	Q	1,248	2,735	Q	55.9	65.3

Q=Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

N=No responding cases in sample.

Notes: * Statistics for the "energy end uses" represent consumption in buildings that have the end use, not consumption for a particular fuel for a particular end use. * Due to rounding, data may not sum to totals.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871A of the 1999 Commercial Buildings Energy Consumption Survey.