

Table C20. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed, 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)		
	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999
All Buildings	555	1,058	354	13,063	24,386	8,076	42.5	43.4	43.8
Building Floorspace (Square Feet)									
1,001 to 5,000	101	147	Q	1,535	1,609	Q	65.5	91.1	Q
5,001 to 10,000	98	147	39	1,882	2,316	891	52.1	63.6	43.6
10,001 to 25,000	107	177	25	2,505	3,746	750	42.8	47.3	33.9
25,001 to 50,000	71	111	46	1,814	3,308	1,282	38.9	33.6	35.5
50,001 to 100,000	48	144	51	1,787	3,962	1,416	26.8	36.4	36.0
100,001 to 200,000	48	133	42	1,291	3,406	1,219	37.2	39.0	34.9
200,001 to 500,000	43	114	Q	1,280	2,896	1,106	33.8	39.5	Q
Over 500,000	39	84	21	970	3,143	991	40.2	26.8	21.3
Principal Building Activity									
Education	105	85	30	2,609	3,100	861	40.1	27.5	35.2
Food Sales	Q	Q	14	Q	Q	315	Q	Q	43.5
Food Service	Q	95	Q	Q	727	Q	Q	130.2	Q
Health Care	49	144	Q	479	1,460	Q	101.9	98.5	Q
Inpatient	Q	134	Q	Q	1,142	Q	Q	117.0	Q
Outpatient	Q	10	Q	Q	318	Q	Q	32.0	Q
Lodging	27	121	28	581	2,308	660	47.2	52.5	42.0
Mercantile	74	78	28	2,095	4,207	1,585	35.2	18.6	18.0
Retail (Other Than Mall)	55	37	15	1,491	1,218	809	36.7	30.6	18.3
Enclosed and Strip Malls	Q	41	14	Q	2,989	777	Q	13.7	17.7
Office	59	128	25	1,841	4,403	1,113	32.2	29.2	22.9
Public Assembly	30	45	19	980	1,380	628	30.4	32.4	30.4
Public Order and Safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious Worship	27	29	Q	929	1,335	Q	28.6	22.0	Q
Service	53	191	Q	743	1,156	Q	70.9	164.9	Q
Warehouse and Storage	27	100	Q	1,417	3,409	1,385	19.3	29.4	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Census Region and Division									
Northeast	133	126	32	2,860	3,389	1,056	46.4	37.2	30.2
New England	25	25	Q	535	818	Q	47.2	30.3	Q
Middle Atlantic	107	101	25	2,325	2,570	819	46.2	39.4	30.6
Midwest	245	309	136	4,876	6,261	2,369	50.2	49.3	57.3
East North Central	192	182	Q	3,811	3,954	1,618	50.4	46.1	67.4
West North Central	53	126	27	1,065	2,307	752	49.6	54.8	35.5
South	94	400	106	3,034	8,381	2,785	31.1	47.7	38.2
South Atlantic	39	149	Q	1,002	3,248	1,267	39.3	45.8	Q
East South Central	28	138	15	729	2,035	744	37.8	67.9	19.5
West South Central	27	113	Q	1,303	3,098	773	21.1	36.5	48.8
West	83	223	79	2,294	6,356	1,865	36.1	35.1	42.6
Mountain	44	78	19	903	1,698	582	48.4	46.0	32.1
Pacific	39	145	61	1,391	4,658	1,283	28.2	31.1	47.3
Climate Zone: 45-Year Average									
Under 2,000 CDD and --									
More than 7,000 HDD	69	108	44	1,191	2,150	723	58.3	50.3	61.2
5,500-7,000 HDD	234	274	Q	4,442	5,919	2,211	52.8	46.3	52.2
4,000-5,499 HDD	145	285	74	3,614	5,087	1,754	40.2	56.1	42.4
Fewer than 4,000 HDD	65	266	82	2,250	7,377	2,522	28.8	36.0	32.7
2,000 CDD or More and --									
Fewer than 4,000 HDD	40	125	Q	1,566	3,853	866	25.8	32.4	Q

Table C20. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed, 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)		
	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999
Workers (main shift)									
Fewer than 5	119	124	28	3,293	3,012	803	36.2	41.3	35.5
5 to 9	64	97	Q	1,575	2,479	579	40.6	39.3	47.9
10 to 19	103	128	Q	2,119	2,647	822	48.5	48.2	52.4
20 to 49	94	255	73	2,039	4,040	1,658	46.3	63.2	44.0
50 to 99	53	126	36	1,193	3,865	1,219	44.3	32.7	29.5
100 to 249	51	137	57	1,234	3,452	1,461	41.0	39.6	39.1
250 or More	71	190	Q	1,610	4,890	1,534	43.9	38.8	Q
Weekly Operating Hours									
39 or Fewer	33	43	Q	1,088	1,534	Q	30.8	28.0	Q
40 to 48	112	117	33	3,182	3,973	1,042	35.2	29.6	31.2
49 to 60	116	200	61	3,366	4,848	1,500	34.3	41.3	40.5
61 to 84	115	199	35	2,217	5,133	1,658	51.7	38.7	20.9
85 to 167	73	173	93	1,379	3,406	1,664	53.2	50.7	55.6
Open Continuously	106	325	130	1,832	5,493	2,009	57.7	59.2	64.5
Ownership and Occupancy									
Nongovernment Owned	435	886	292	10,227	20,216	6,582	42.5	43.8	44.3
Owner Occupied	331	658	179	7,365	13,759	4,473	44.9	47.8	40.1
Nonowner Occupied	102	221	Q	2,673	6,191	2,104	38.2	35.6	53.3
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	120	172	62	2,836	4,170	1,494	42.2	41.2	41.5
Federal	15	15	Q	462	345	Q	Q	42.9	Q
State	29	61	21	658	1,192	403	43.7	51.0	53.0
Local	76	96	34	1,716	2,634	901	44.2	36.5	37.9
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	102	146	49	2,948	5,749	2,029	34.5	25.5	24.4
Not At All Vacant	441	905	304	9,706	18,438	6,030	45.4	49.1	50.4
Number of Establishments									
One	399	805	295	8,812	15,253	5,652	45.2	52.8	52.2
2 to 5	95	140	31	2,476	3,698	1,265	38.5	37.8	24.2
6 to 10	31	44	Q	577	1,627	Q	54.5	27.3	Q
11 to 20	Q	27	Q	Q	1,112	Q	Q	24.6	Q
More than 20	18	32	Q	631	2,400	Q	27.9	13.4	Q
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Energy Sources (more than one may apply)									
Electricity	554	1,058	354	13,034	24,386	8,076	42.5	43.4	43.8
Natural Gas	555	1,058	354	13,063	24,386	8,076	42.5	43.4	43.8
Fuel Oil	74	250	Q	1,788	4,771	1,529	41.3	52.4	Q
District Heat	Q	Q	Q	Q	1,163	Q	Q	Q	Q
District Chilled Water	Q	33	Q	Q	725	Q	Q	46.2	Q
Propane	Q	41	Q	Q	1,107	Q	Q	37.4	Q
Other	35	28	Q	557	768	Q	62.2	36.8	Q
Space-Heating Energy Source									
Natural Gas	500	911	303	11,297	19,947	6,658	44.3	45.7	45.5
Natural Gas Main	470	817	270	10,205	16,847	5,677	46.0	48.5	47.6
Natural Gas Secondary	31	94	32	1,092	3,100	981	28.0	30.4	33.1
Other Excluding Natural Gas	49	85	Q	1,671	3,503	1,318	29.3	24.3	Q
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q

Table C20. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed, 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)		
	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999
Primary Space-Heating									
Energy Source									
Electricity	59	138	77	1,334	5,109	1,993	43.9	27.1	38.8
Natural Gas	470	817	270	10,205	16,847	5,677	46.0	48.5	47.6
Fuel Oil	9	6	Q	418	429	Q	21.2	14.7	Q
District Heat	11	31	Q	885	967	Q	12.4	32.1	Q
Propane	N	Q	N	N	Q	N	N	Q	N
Other	Q	Q	N	Q	Q	N	Q	Q	N
Cooling Energy Source									
Natural Gas	25	57	Q	470	1,028	Q	53.6	55.4	Q
Other Excluding Natural Gas	459	903	321	10,651	22,169	7,413	43.1	40.7	43.3
Buildings without Cooling	70	Q	Q	1,943	1,188	Q	36.1	82.3	Q
Water-Heating Energy Source									
Natural Gas	382	790	238	8,411	15,573	5,211	45.4	50.7	45.7
Other Excluding Natural Gas	105	206	Q	2,986	7,094	2,090	35.1	29.0	Q
Buildings without Water Heating	68	62	Q	1,666	1,719	775	41.0	36.1	31.1
Cooking Energy Source									
Natural Gas	246	419	135	4,690	9,030	3,065	52.4	46.4	44.0
Other Excluding Natural Gas	45	54	15	841	1,605	627	53.7	33.9	23.5
Buildings without Cooking	264	584	204	7,533	13,751	4,384	35.0	42.5	46.5
Energy End Uses (more than one may apply)									
Buildings with Space Heating	549	996	353	12,968	23,450	7,966	42.3	42.5	44.3
Buildings with Cooling	484	960	338	11,120	23,198	7,829	43.6	41.4	43.1
Buildings with Water Heating	486	996	329	11,398	22,667	7,301	42.7	43.9	45.1
Buildings with Cooking	291	474	150	5,530	10,635	3,692	52.6	44.5	40.6
Buildings with Manufacturing	31	Q	19	773	1,167	382	40.2	51.4	50.6
Buildings with Electricity Generation	78	261	Q	1,412	5,390	2,317	55.5	48.4	Q
Percent of Floorspace Heated									
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	39	67	21	1,889	2,230	754	20.5	30.0	27.3
51 to 99	91	185	59	2,540	4,024	1,487	35.8	45.9	39.7
100	420	745	274	8,539	17,196	5,725	49.1	43.3	47.8
Percent of Floorspace Cooled									
Not Cooled	70	Q	Q	1,943	1,188	Q	36.1	82.3	Q
1 to 50	174	260	Q	4,434	5,705	1,929	39.3	45.6	Q
51 to 99	181	295	96	3,321	6,839	2,534	54.6	43.1	38.0
100	129	405	131	3,366	10,653	3,366	38.3	38.0	38.8
Heating Equipment (more than one may apply)									
Heat Pumps	46	189	Q	1,239	3,131	1,256	37.2	60.4	Q
Furnaces	150	290	Q	4,114	5,887	1,959	36.5	49.2	Q
Individual Space Heaters	154	284	77	4,216	7,172	2,173	36.5	39.6	35.5
District Heat	29	43	Q	1,005	1,119	Q	28.7	38.6	Q
Boilers	275	430	113	5,438	8,936	2,214	50.5	48.1	51.0
Packaged Heating Units	150	460	193	3,778	11,828	4,437	39.8	38.9	43.4
Other	25	47	Q	768	1,378	534	33.1	34.2	Q

Table C20. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed, 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)		
	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999	1959 or Before	1960 to 1989	1990 to 1999
Cooling Equipment (more than one may apply)									
Residential-Type Central									
Air Conditioners	83	161	43	2,046	3,786	973	40.7	42.4	44.0
Heat Pumps	48	185	Q	1,318	3,242	1,211	36.6	57.2	Q
Individual Air Conditioners	216	218	38	4,707	4,873	1,136	45.9	44.8	33.4
District Chilled Water	Q	33	Q	Q	725	Q	Q	46.2	Q
Central Chillers	96	280	132	2,025	6,209	1,911	47.4	45.0	69.1
Packaged Air Conditioning									
Units	291	644	225	6,589	16,086	5,312	44.1	40.0	42.3
Swamp Coolers	Q	67	Q	Q	1,188	Q	Q	56.4	Q
Other	Q	Q	Q	Q	535	Q	Q	45.3	Q
Main Equipment Replaced Since 1995 (more than one may apply)									
Heating	151	239	Q	3,491	6,260	576	43.1	38.1	Q
Cooling	194	311	36	4,248	7,907	708	45.7	39.3	51.4
Water Heating Equipment									
Centralized System	335	696	192	7,725	14,543	4,211	43.3	47.8	45.5
Distributed System	60	125	Q	1,719	4,265	1,602	35.0	29.2	Q
Combination of Centralized and Distributed System	91	175	52	1,954	3,859	1,488	46.7	45.4	35.0
Annual Consumption (hundred cubic feet)									
1,000 or Less	16	20	2	1,748	2,404	444	9.4	8.1	5.1
1,001 to 5,000	116	141	43	3,847	5,519	1,827	30.2	25.6	23.7
5,001 to 10,000	86	110	43	2,055	3,418	1,366	42.0	32.1	31.7
10,001 to 25,000	131	228	57	2,435	5,130	1,608	53.7	44.4	35.4
25,001 to 50,000	60	98	58	1,249	2,566	1,099	48.4	38.2	52.6
50,001 to 100,000	37	173	36	687	1,976	814	53.9	87.5	43.8
Over 100,000	107	289	Q	1,042	3,373	918	103.1	85.7	124.6
Provider of Natural Gas (more than one may apply)									
Local Utility	462	935	284	11,629	21,888	7,248	39.8	42.7	39.2
Some Other Provider	94	137	Q	1,233	2,357	676	76.6	58.2	70.0

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.