Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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*	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Principal Building Activity									
Education	Q	137	101	419	3,629	2,997	53.9	37.6	33.7
Food Sales	16	Q	Q	339	Q	Q	46.6	Q	Q
Food Service	149	48	N	774	622	N	192.5	77.2	N
Health Care	12	37	187	233	520	1,792	49.5	70.8	104.4
Inpatient	N	Q	181	N	Q	1,662	N	Q	109.0
Outpatient	12	20	Q	233	377	Q	49.5	52.3	Q
Lodging	Q	83	113	Q	1,750	2,374	Q	47.6	47.4
Retail (Other Than Mall)	38	39	12	726	1,406	734	52.7	27.7	15.7
Office	59	115	87	1,400	3,138	3,670	42.4	36.7	23.7
Public Assembly	19	54	26	464	1,259	1,000	41.5	42.9	Q
Public Order and Safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious Worship	28	49	Q	663	1,785	Q	42.7	27.7	Q
Service	55	71	Q	783	1,394	Q	69.8	50.7	Q
Warehouse and Storage	18	66	45	522	2,538	2,434	34.2	26.0	18.4
Other	Q	42	38	Q	458	681	Q	91.1	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year Constructed									
Before 1920	32	76	31	569	1,532	658	56.6	49.4	47.1
1920 to 1945	61	90	71	987	1,917	1,776	62.1	47.2	39.9
1946 to 1959	48	94	68	797	2,407	1,455	60.0	39.1	46.7
1960 to 1969	47	123	78	867	2,894	1,873	53.8	42.5	41.7
1970 to 1979	82	117	142	1,225	3,166	3,268	66.7	37.0	43.5
1980 to 1989	60	114	108	855	2,727	2,887	70.2	41.9	37.5
1990 to 1999	97	123	85	1,189	3,634	3,353	81.2	33.9	25.2
2000 to 2003	19	48	55	287	1,484	1,660	65.7	32.6	33.4
Census Region and Division									
Northeast	84	155	176	1,134	3,795	4,251	74.4	40.7	41.5
New England	Q	28	Q	Q	772	Q	Q	35.7	Q
Middle Atlantic	73	127	143	899	3,024	3,793	80.9	42.0	37.7
Midwest	148	327	208	2,033	6,628	4,501	72.7	49.4	46.2
East North Central	111	234	167	1,382	4,656	3,531	80.6	50.2	47.3
West North Central	36	94	41	651	1,972	970	56.0	47.4	42.4
South	129	175	156	2,218	5,808	5,285	58.2	30.2	29.5
South Atlantic	59	72	79	946	2,508	2,873	61.9	28.9	27.6
East South Central	18	53	27	418	1,387	476	43.7	38.3	57.5
West South Central	52	50	49	854	1,914	1,936	61.3	26.0	25.4
West	84	129	98	1,391	3,529	2,893	60.1	36.6	33.9
Mountain	35	69	58	532	1,318	947	66.4	52.1	61.3
Pacific	48	60	40	859	2,211	1,947	56.3	27.3	20.6
Climate Zone: 30-Year Average									
Under 2,000 CDD and --									
More than 7,000 HDD	103	202	114	1,304	3,972	2,369	78.8	50.8	48.1
5,500-7,000 HDD	134	278	247	1,923	6,102	4,824	69.9	45.5	51.1
4,000-5,499 HDD	62	143	121	948	3,289	3,877	65.1	43.6	31.3
Fewer than 4,000 HDD	114	122	111	2,001	4,792	3,717	57.2	25.4	29.8
2,000 CDD or More and --									
Fewer than 4,000 HDD	32	41	46	601	1,606	2,144	52.8	25.8	21.2

Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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*	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Number of Floors									
One	301	287	56	4,443	7,865	2,632	67.7	36.5	21.3
Two	100	268	109	1,638	6,281	3,522	60.8	42.7	30.8
Three	39	116	78	614	3,190	1,864	64.3	36.3	41.9
Four to Nine	Q	110	252	Q	2,339	5,250	Q	46.9	48.0
Ten or More	N	Q	143	N	Q	3,663	N	Q	39.1
Number of Workers (main shift)									
Fewer than 5	175	77	Q	3,395	3,081	Q	51.6	25.2	Q
5 to 9	108	80	Q	1,575	2,330	Q	68.6	34.2	Q
10 to 19	96	120	Q	1,110	3,353	Q	86.8	35.8	Q
20 to 49	59	279	45	635	5,694	1,883	92.4	49.1	23.8
50 to 99	Q	140	87	Q	3,265	2,834	Q	42.8	30.8
100 to 249	Q	75	153	Q	1,709	3,414	Q	43.6	44.8
250 or More	N	15	319	N	329	7,220	N	45.8	44.2
Weekly Operating Hours									
Fewer than 40	55	37	Q	1,239	1,460	Q	44.5	25.4	Q
40 to 48	74	132	36	1,787	3,605	1,521	41.5	36.6	23.4
49 to 60	88	209	66	1,636	5,552	3,003	53.8	37.7	21.9
61 to 84	90	153	62	945	3,915	2,607	95.3	39.1	23.6
85 to 167	94	104	52	691	2,141	2,393	135.5	48.5	21.6
Open Continuously	44	151	412	477	3,088	6,846	92.1	48.9	60.2
Ownership and Occupancy									
Nongovernment Owned	403	601	453	6,048	15,230	12,039	66.7	39.5	37.7
Owner Occupied	166	272	248	3,099	7,592	5,856	53.7	35.8	42.4
Nonowner Occupied	234	323	198	2,881	7,222	5,783	81.4	44.8	34.2
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	42	185	185	728	4,531	4,891	57.4	40.9	37.8
Federal	Q	Q	23	Q	Q	765	Q	Q	30.3
State	Q	39	44	Q	1,036	1,295	Q	37.3	34.0
Local	27	138	118	583	3,215	2,831	46.3	42.9	41.6
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	29	130	150	618	2,912	4,916	46.3	44.5	30.5
Not At All Vacant	413	641	480	6,071	16,209	11,565	68.1	39.5	41.5
Number of Establishments									
One	384	604	430	5,549	14,298	10,672	69.2	42.2	40.3
2 to 5	54	139	105	1,065	3,911	2,617	50.6	35.5	40.1
6 to 10	Q	25	18	Q	625	664	Q	39.3	27.4
11 to 20	N	8	25	N	386	885	N	21.3	28.3
More than 20	Q	Q	51	Q	Q	1,655	Q	Q	31.1
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q

Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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*	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Predominant Exterior Wall Material									
Brick, Stone or Stucco	270	454	370	3,722	11,431	8,398	72.5	39.7	44.0
Concrete (Block or Poured)	75	165	100	1,102	3,702	2,520	67.9	44.6	39.7
Concrete Panels	Q	59	101	Q	1,217	3,292	Q	48.1	30.7
Siding or Shingles	42	33	Q	720	996	Q	58.0	33.5	Q
Metal Panels	38	62	26	903	1,991	1,129	41.5	31.4	23.4
Window Glass	Q	Q	9	Q	Q	549	Q	Q	17.1
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant Roof Material									
Built-Up	149	297	275	1,736	6,828	6,644	85.8	43.4	41.4
Shingles (Not Wood)	108	133	59	2,009	3,345	1,165	54.0	39.7	50.9
Metal Surfacing	64	100	25	1,350	3,225	1,206	47.1	30.9	20.7
Synthetic or Rubber	80	189	257	922	4,482	6,434	86.7	42.1	40.0
Slate or Tile	28	33	Q	418	935	Q	67.2	35.8	Q
Wooden Materials	Q	Q	Q	Q	Q	Q	Q	Q	Q
Concrete	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q
Renovations in Buildings Constructed Before 1980 (more than one may apply)									
Any Type of Renovation Since 1980	118	273	271	1,767	5,857	5,646	67.0	46.7	48.0
Addition or Annex	28	110	157	391	2,028	2,618	72.9	54.3	59.8
Reduction In Floorspace	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cosmetic Improvements	85	195	202	1,296	4,379	4,398	65.5	44.5	46.0
Wall or Roof Replacement	40	91	139	736	2,253	3,338	54.1	40.3	41.7
Interior Wall Re-Configuration	46	108	178	770	2,479	3,769	59.7	43.5	47.1
HVAC Equipment Upgrade	51	181	220	769	3,566	4,148	66.8	50.8	53.1
Lighting Upgrade	46	153	187	793	3,286	4,025	58.0	46.5	46.4
Window Replacement	34	99	102	539	2,206	2,255	63.9	44.9	45.1
Plumbing System Upgrade	44	91	142	570	2,049	3,095	77.8	44.6	46.0
Insulation Upgrade	18	49	60	341	1,285	1,334	54.2	38.4	44.9
Other Renovation	Q	Q	Q	Q	Q	Q	Q	Q	Q
No Renovations Since 1980	151	227	119	2,678	6,058	3,384	56.5	37.4	35.1
Building Newer than 1980	175	286	248	2,331	7,845	7,900	75.3	36.4	31.4
Energy Sources (more than one may apply)									
Electricity	445	786	638	6,775	19,761	16,926	65.7	39.8	37.7
Natural Gas	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Fuel Oil	Q	97	385	Q	2,030	8,102	Q	47.5	47.5
District Heat	Q	Q	40	Q	Q	1,955	Q	Q	20.3
District Chilled Water	Q	Q	21	Q	Q	1,375	Q	Q	15.5
Propane	Q	26	67	Q	696	1,672	Q	37.1	40.2
Other	Q	17	24	Q	437	334	Q	39.4	72.3

Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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*	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Space-Heating Energy Sources									
Natural Gas	401	740	608	6,187	17,733	13,038	64.8	41.7	46.6
Natural Gas Main	376	689	572	5,741	15,927	11,302	65.4	43.2	50.6
Natural Gas Secondary	25	51	36	446	1,807	1,736	56.2	28.5	20.9
Other Excluding Natural Gas	30	43	29	454	1,878	3,683	66.9	23.1	7.9
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q
Primary Space-Heating Energy Source									
Electricity	52	85	35	749	2,816	2,597	69.4	30.0	13.3
Natural Gas	376	689	572	5,741	15,927	11,302	65.4	43.2	50.6
Fuel Oil	Q	Q	Q	Q	Q	Q	Q	Q	Q
District Heat	Q	Q	18	Q	Q	1,672	Q	Q	11.0
Propane	N	Q	N	N	Q	N	N	Q	N
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Sources									
Natural Gas	Q	Q	66	Q	Q	683	Q	Q	96.1
Other Excluding Natural Gas	397	725	554	6,098	18,102	15,806	65.2	40.1	35.1
Buildings without Cooling	43	42	Q	641	1,362	Q	66.8	31.0	Q
Water-Heating Energy Sources									
Natural Gas	316	604	543	3,995	13,529	11,296	79.1	44.6	48.1
Other Excluding Natural Gas	107	153	91	2,024	4,942	5,348	52.8	30.9	17.0
Bldgs without Water Heating	22	29	Q	757	1,290	Q	29.1	22.9	Q
Cooking Energy Sources									
Natural Gas	173	246	412	1,190	4,975	9,273	145.1	49.3	44.5
Other Excluding Natural Gas	13	53	70	201	1,549	1,468	63.1	34.5	47.9
Buildings without Cooking	260	487	156	5,385	13,237	6,190	48.2	36.8	25.2
Energy End Uses (more than one may apply)									
Buildings with Space Heating	431	783	637	6,641	19,611	16,722	64.9	40.0	38.1
Buildings with Cooling	402	744	620	6,135	18,399	16,489	65.6	40.4	37.6
Buildings with Water Heating	423	757	634	6,019	18,471	16,644	70.3	41.0	38.1
Buildings with Cooking	185	299	483	1,391	6,524	10,741	133.3	45.8	44.9
Buildings with Manufacturing	Q	47	43	Q	938	1,164	Q	49.8	36.8
Buildings with Electricity Generation	Q	124	388	Q	2,431	7,893	Q	50.9	49.1
Percent of Floorspace Heated									
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	34	51	9	712	2,271	1,024	48.3	22.6	8.4
51 to 99	60	97	103	930	2,420	2,615	64.1	40.2	39.3
100	337	635	526	4,999	14,920	13,083	67.4	42.5	40.2

Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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*	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
Percent of Floorspace Cooled									
Not Cooled	43	42	Q	641	1,362	Q	66.8	31.0	Q
1 to 50	84	250	104	1,708	6,358	4,066	49.2	39.3	25.6
51 to 99	79	154	205	1,136	3,879	4,717	69.1	39.6	43.5
100	240	340	310	3,291	8,162	7,706	72.8	41.7	40.3
Heating Equipment (more than one may apply)									
Heat Pumps	19	82	116	294	2,402	2,857	65.8	34.0	40.7
Packaged Heat Pumps	Q	45	79	Q	1,359	1,801	Q	33.0	43.9
Split-System Heat Pumps	Q	22	12	Q	738	600	Q	30.5	20.7
Individual Room Heat Pumps	Q	33	46	Q	881	1,298	Q	38.0	35.4
Furnaces	234	278	140	4,068	7,668	3,568	57.6	36.3	39.3
Individual Space Heaters	65	169	134	1,210	4,315	3,444	53.4	39.2	38.9
District Heat	Q	Q	32	Q	Q	1,813	Q	Q	17.7
Boilers	66	405	538	741	7,270	10,163	89.3	55.7	52.9
Packaged Heating Units	134	235	196	1,633	6,393	5,592	81.8	36.7	35.1
Other	Q	23	14	Q	636	941	Q	36.1	15.2
Cooling Equipment (more than one may apply)									
Residential-Type Central Air Conditioners	112	164	103	2,034	3,775	2,173	55.1	43.4	47.6
Heat Pumps	28	82	117	415	2,373	3,043	68.2	34.4	38.4
Packaged Heat Pumps	Q	44	79	Q	1,315	1,784	Q	33.6	44.0
Split-System Heat Pumps	Q	23	12	Q	753	589	Q	30.6	20.2
Individual Room Heat Pumps	Q	33	48	Q	851	1,513	Q	39.1	31.4
Individual Air Conditioners	53	177	168	922	4,330	3,862	58.0	40.9	43.4
District Chilled Water	Q	Q	21	Q	Q	1,375	Q	Q	15.5
Central Chillers	Q	120	363	Q	2,163	6,896	Q	55.5	52.7
Packaged Air Conditioning Units	232	444	381	3,180	10,963	9,663	73.0	40.5	39.4
Swamp Coolers	23	41	Q	218	703	Q	105.9	58.0	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Main Equipment Replaced Since 1990 (more than one may apply)									
Heating	123	301	162	1,980	6,674	3,621	62.3	45.2	44.7
Cooling	152	349	255	2,507	7,544	5,997	60.4	46.2	42.6
Water Heating Equipment									
Centralized System	333	528	328	4,557	12,516	8,279	73.1	42.2	39.6
Distributed System	77	108	62	1,283	3,389	2,887	59.7	31.9	21.5
Combination of Centralized and Distributed System	Q	120	244	Q	2,566	5,478	Q	46.9	44.6
Energy-Related Space Functions (more than one may apply)									
Commercial Food Preparation	185	298	483	1,391	6,512	10,741	133.3	45.8	44.9
Activities with Large Amounts of Hot Water	157	290	455	1,022	5,671	9,329	153.5	51.2	48.8
Separate Computer Area	28	307	513	578	7,533	12,505	49.3	40.8	41.0

Table C31. Natural Gas Consumption and Conditional Energy Intensity by Building Size for Non-Mall Buildings, 2003

	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* ..... **	445	786	638	6,776	19,761	16,931	65.7	39.8	37.7
HVAC Conservation Features (more than one may apply)									
Variable Air-Volume System	67	213	409	665	4,638	9,292	100.5	45.8	44.0
Economizer Cycle	63	271	447	704	5,534	10,418	88.9	49.0	42.9
HVAC Maintenance	312	669	628	4,256	16,257	16,471	73.4	41.1	38.1
Energy Management and Control System (EMCS)	Q	155	287	Q	3,554	7,882	Q	43.7	36.4
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)[a]									
Heating	300	548	405	4,846	14,185	12,149	61.9	38.6	33.4
Cooling	302	551	396	4,731	14,114	12,593	63.8	39.0	31.5
Lighting	388	613	212	5,980	15,710	9,381	64.8	39.0	22.6
Office Equipment	137	246	79	2,579	6,854	3,237	53.1	36.0	24.3
Annual Consumption (hundred cubic feet)									
1,000 or Less	32	3	Q	2,069	1,293	974	15.7	2.1	0.2
1,001 to 5,000	168	72	2	3,508	5,095	1,128	47.9	14.1	1.4
5,001 to 10,000	107	127	5	714	4,273	1,266	150.2	29.8	3.6
10,001 to 25,000	93	239	17	390	5,306	2,071	239.5	45.0	8.0
25,001 to 50,000	Q	193	47	Q	2,755	2,685	Q	70.0	17.5
50,001 to 100,000	N	108	103	N	844	3,125	N	127.4	33.1
Over 100,000	N	Q	465	N	Q	5,681	N	Q	81.8
Provider of Natural Gas (more than one may apply)									
Local Utility	422	707	453	6,480	18,272	13,611	65.1	38.7	33.3
Some Other Provider	26	100	251	336	1,653	4,383	77.2	60.7	57.2

See "Guide to the Tables" or "Glossary" for further explanations of the terms used in this table. Both can be accessed from the CBECS web site - http://www.eia.doe.gov/emeu/cbecs.

* Figures in this table do not include enclosed malls and strip malls. Mall buildings add an estimated 213 thousand buildings comprising 6.9 billion square feet. In the 1999 CBECS, malls represented 3.8 percent of total natural gas consumption.

[a] The definition for one or more of these row items has changed and may not be directly comparable with past CBECS estimates. See "Guide to the Tables" for discussion of the differences.

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 that use natural gas.

Notes: ● Statistics for the "Energy End Uses" category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. ● HVAC = Heating, Ventilation, and Air Conditioning. ● Due to rounding, data may not sum to totals.
Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A, C, and E of the 2003 Commercial Buildings Energy Consumption Survey.