

Table C27. Natural Gas Consumption and Conditional Energy Intensity by Census Division for Non-Mall Buildings, 2003: Part 1

	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)		
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Building Floorspace (Square Feet)									
1,001 to 5,000	Q	41	68	Q	417	729	Q	99.5	93.6
5,001 to 10,000	Q	31	43	Q	482	654	Q	64.8	66.0
10,001 to 25,000	Q	45	90	Q	931	1,681	Q	47.9	53.6
25,001 to 50,000	Q	39	70	Q	829	1,422	Q	47.4	49.5
50,001 to 100,000	Q	43	73	Q	1,263	1,554	Q	34.1	47.2
100,001 to 200,000	Q	41	67	Q	1,445	1,264	Q	28.3	52.7
200,001 to 500,000	Q	55	56	Q	1,484	1,277	Q	37.3	44.1
Over 500,000	Q	47	44	Q	865	989	Q	54.0	44.4
Principal Building Activity									
Education	Q	49	99	Q	1,247	1,804	Q	39.5	54.6
Food Sales	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food Service	Q	Q	35	Q	Q	228	Q	Q	152.9
Health Care	Q	41	49	Q	396	484	Q	103.8	100.6
Inpatient	Q	37	38	Q	306	287	Q	120.3	131.2
Outpatient	Q	Q	Q	Q	Q	Q	Q	Q	Q
Lodging	Q	Q	39	Q	Q	507	Q	Q	77.5
Retail (Other Than Mall).....	Q	13	29	Q	269	485	Q	48.2	59.2
Office	Q	72	84	Q	1,887	1,929	Q	38.2	43.7
Public Assembly	Q	12	35	Q	602	550	Q	Q	64.2
Public Order and Safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious Worship	Q	Q	29	Q	Q	624	Q	Q	46.3
Service	Q	Q	44	Q	Q	723	Q	Q	61.5
Warehouse and Storage	Q	24	34	Q	913	1,259	Q	26.0	26.7
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year Constructed									
Before 1920	Q	30	48	Q	704	819	Q	43.0	58.0
1920 to 1945	Q	73	65	Q	1,584	959	Q	46.2	68.2
1946 to 1959	Q	52	67	Q	1,237	1,360	Q	41.9	49.0
1960 to 1969	Q	51	68	Q	1,113	1,215	Q	45.6	56.0
1970 to 1979	Q	48	110	Q	1,034	1,980	Q	46.8	55.8
1980 to 1989	Q	31	64	Q	838	1,126	Q	37.5	56.4
1990 to 1999	Q	32	63	Q	818	1,403	Q	39.3	44.8
2000 to 2003	Q	Q	28	Q	Q	708	Q	Q	39.2
Climate Zone: 30-Year Average									
Under 2,000 CDD and --									
More than 7,000 HDD	N	Q	151	N	Q	2,660	N	53.3	56.7
5,500-7,000 HDD	73	116	361	1,465	2,227	6,909	49.5	52.0	52.3
4,000-5,499 HDD	N	165	N	N	4,328	N	N	38.1	N
Fewer than 4,000 HDD	N	N	N	N	N	N	N	N	N
2,000 CDD or More and --									
Fewer than 4,000 HDD	N	N	N	N	N	N	N	N	N
Number of Floors									
One	Q	92	159	Q	1,889	2,820	Q	48.6	56.5
Two	Q	83	146	Q	1,755	3,025	Q	47.4	48.4
Three	Q	51	86	Q	1,125	1,658	Q	45.0	51.9
Four to Nine	45	67	93	614	1,925	1,658	73.8	34.7	56.0
Ten or More	Q	50	27	Q	1,021	409	Q	49.2	67.1

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	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Number of Workers (main shift)									
Fewer than 5	Q	39	92	Q	887	1,956	Q	43.5	46.9
5 to 9	Q	34	44	Q	496	784	Q	69.3	56.0
10 to 19	Q	39	65	Q	1,069	1,105	Q	36.3	59.2
20 to 49	Q	60	111	Q	1,812	1,855	Q	33.1	60.0
50 to 99	Q	44	71	Q	994	1,418	Q	44.6	49.7
100 to 249	Q	41	59	Q	885	1,085	Q	46.0	54.6
250 or More	Q	86	70	Q	1,574	1,367	Q	54.5	51.2
Weekly Operating Hours									
Fewer than 40	Q	Q	43	Q	Q	1,180	Q	Q	36.3
40 to 48	Q	38	89	Q	1,188	1,554	Q	31.9	57.0
49 to 60	Q	69	108	Q	1,824	2,629	Q	37.8	41.2
61 to 84	Q	65	87	Q	1,197	1,541	Q	54.6	56.4
85 to 167	Q	35	83	Q	821	1,181	Q	42.3	70.7
Open Continuously	40	123	102	510	2,302	1,485	79.1	53.4	68.7
Ownership and Occupancy									
Nongovernment Owned	61	287	366	1,219	6,427	6,793	49.7	44.7	53.9
Owner Occupied	42	159	170	791	3,365	3,244	53.4	47.2	52.3
Nonowner Occupied	Q	125	186	Q	2,874	3,023	Q	43.6	61.4
Unoccupied	N	Q	Q	N	Q	Q	N	Q	Q
Government Owned	Q	55	146	Q	1,289	2,777	Q	42.9	52.6
Federal	Q	Q	Q	Q	Q	Q	Q	Q	Q
State	Q	Q	Q	Q	Q	Q	Q	Q	Q
Local	Q	49	113	Q	1,028	2,018	Q	48.0	55.9
Vacancy Status									
Completely Vacant	N	Q	Q	N	Q	Q	N	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	26	65	89	571	1,576	1,983	46.4	41.0	44.9
Not At All Vacant	46	271	412	880	5,874	7,026	52.2	46.2	58.6
Number of Establishments									
One	45	243	386	826	4,915	6,833	54.0	49.4	56.5
2 to 5	Q	52	91	Q	1,515	1,700	Q	34.1	53.7
6 to 10	Q	Q	Q	Q	Q	Q	Q	Q	Q
11 to 20	Q	Q	Q	Q	Q	Q	Q	Q	Q
More than 20	Q	Q	Q	Q	Q	Q	Q	Q	Q
Currently Unoccupied	N	Q	Q	N	Q	Q	N	Q	Q
Predominant Exterior Wall Material									
Brick, Stone or Stucco	53	228	338	864	4,743	5,826	60.9	48.0	58.0
Concrete (Block or Poured)	Q	60	90	Q	1,484	1,690	Q	40.2	53.1
Concrete Panels	Q	Q	40	Q	Q	757	Q	Q	53.2
Siding or Shingles	Q	Q	14	Q	Q	358	Q	Q	38.1
Metal Panels	Q	Q	13	Q	Q	455	Q	Q	28.1
Window Glass	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

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	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)		
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Predominant Roof Material									
Built-Up	Q	126	205	Q	2,621	3,492	Q	48.1	58.6
Shingles (Not Wood)	Q	55	90	Q	970	1,705	Q	57.0	53.1
Metal Surfacing	Q	Q	31	Q	Q	786	Q	Q	39.0
Synthetic or Rubber	45	120	152	745	2,563	2,988	59.8	46.9	50.7
Slate or Tile	Q	Q	13	Q	Q	188	Q	Q	67.3
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	27	145	202	581	2,987	3,211	47.0	48.5	62.9
Addition or Annex	Q	58	80	Q	1,203	1,216	Q	47.8	65.6
Reduction In Floorspace	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cosmetic Improvements	Q	119	146	439	2,541	2,197	37.9	46.7	66.3
Wall or Roof Replacement	Q	55	84	Q	1,607	1,293	Q	34.2	65.3
Interior Wall									
Re-Configuration	Q	69	104	Q	1,748	1,630	Q	39.5	63.5
HVAC Equipment Upgrade	Q	95	135	Q	1,896	2,016	Q	50.1	66.7
Lighting Upgrade	Q	93	119	Q	2,136	1,876	Q	43.7	63.6
Window Replacement	Q	68	81	Q	1,739	1,196	Q	39.1	67.3
Plumbing System Upgrade	Q	64	85	Q	1,613	1,111	Q	39.7	76.4
Insulation Upgrade	Q	32	35	Q	771	664	Q	41.4	53.3
Other Renovation	Q	Q	Q	Q	Q	Q	Q	Q	Q
No Renovations Since 1980	17	110	156	387	2,685	3,122	44.2	40.8	50.0
Building Newer than 1980	Q	88	154	Q	2,044	3,236	Q	43.2	47.6
Energy Sources (more than one may apply)									
Electricity	73	343	512	1,465	7,716	9,568	49.5	44.4	53.5
Natural Gas	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Fuel Oil	Q	124	96	Q	3,188	1,494	Q	39.0	64.2
District Heat	Q	Q	Q	Q	482	Q	Q	20.1	Q
District Chilled Water	Q	Q	Q	Q	Q	Q	Q	Q	Q
Propane	N	Q	26	N	Q	630	N	Q	42.0
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Space-Heating Energy Sources									
Natural Gas	69	324	501	1,198	6,041	8,758	57.8	53.6	57.2
Natural Gas Main	66	301	477	1,061	5,377	8,230	62.0	56.0	57.9
Natural Gas Secondary	Q	23	24	Q	663	528	Q	34.0	45.5
Other Excluding Natural Gas	Q	17	10	Q	Q	781	Q	Q	13.1
Buildings without Heating	N	Q	Q	N	Q	Q	N	Q	Q
Primary Space-Heating Energy Source									
Electricity	Q	22	31	Q	636	795	Q	35.3	39.4
Natural Gas	66	301	477	1,061	5,377	8,230	62.0	56.0	57.9
Fuel Oil	Q	12	Q	Q	Q	Q	Q	Q	Q
District Heat	Q	Q	Q	Q	377	Q	Q	Q	Q
Propane	N	N	N	N	N	N	N	N	N
Other	N	Q	Q	N	Q	Q	N	Q	Q

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	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Cooling Energy Sources									
Natural Gas	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other Excluding Natural Gas	57	284	459	1,197	7,006	8,566	47.3	40.6	53.6
Buildings without Cooling	Q	27	38	Q	478	848	Q	56.6	45.2
Water-Heating Energy Sources									
Natural Gas	49	269	389	682	4,919	6,417	71.2	54.6	60.7
Other Excluding Natural Gas	20	65	110	693	2,467	2,733	28.7	26.5	40.1
Bldgs without Water Heating	Q	Q	13	Q	Q	419	Q	Q	31.4
Cooking Energy Sources									
Natural Gas	Q	154	202	Q	3,106	3,052	Q	49.7	66.2
Other Excluding Natural Gas	Q	Q	54	Q	442	1,053	Q	58.9	51.4
Buildings without Cooking	46	162	256	870	4,168	5,465	52.8	38.9	46.9
Energy End Uses (more than one may apply)									
Buildings with Space Heating	73	340	511	1,465	7,711	9,539	49.5	44.1	53.6
Buildings with Cooling	68	316	474	1,319	7,238	8,722	51.9	43.6	54.3
Buildings with Water Heating	68	334	499	1,375	7,386	9,150	49.8	45.2	54.5
Buildings with Cooking	27	181	256	595	3,548	4,105	44.7	50.9	62.4
Buildings with Manufacturing	Q	27	13	Q	476	418	Q	57.6	32.0
Buildings with Electricity Generation	Q	112	126	Q	2,136	2,311	Q	52.6	54.7
Percent of Floorspace Heated									
Not Heated	N	Q	Q	N	Q	Q	N	Q	Q
1 to 50	Q	21	20	Q	725	686	Q	29.1	29.9
51 to 99	Q	54	65	Q	923	1,044	Q	58.8	62.2
100	59	265	425	1,107	6,063	7,809	53.0	43.7	54.5
Percent of Floorspace Cooled									
Not Cooled	Q	27	38	Q	478	848	Q	56.6	45.2
1 to 50	Q	99	139	Q	2,777	2,921	Q	35.5	47.6
51 to 99	Q	92	120	Q	2,043	2,060	Q	45.2	58.5
100	22	125	214	410	2,418	3,741	53.1	51.6	57.3
Heating Equipment (more than one may apply)									
Heat Pumps	Q	37	22	Q	799	591	Q	46.2	36.7
Packaged Heat Pumps	Q	23	18	Q	497	469	Q	47.3	37.6
Split-System Heat Pumps	Q	Q	Q	Q	Q	Q	Q	Q	Q
Individual Room Heat Pumps	Q	Q	Q	Q	Q	Q	Q	Q	Q
Furnaces	Q	92	211	Q	2,060	4,284	Q	44.9	49.2
Individual Space Heaters	Q	68	99	Q	1,553	2,290	Q	43.5	43.3
District Heat	Q	Q	Q	Q	399	Q	Q	19.5	Q
Boilers	57	213	287	925	4,217	4,274	61.2	50.5	67.2
Packaged Heating Units	Q	99	128	Q	2,078	2,302	Q	47.8	55.6
Other	Q	Q	13	Q	Q	326	Q	Q	39.8

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All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Cooling Equipment (more than one may apply)									
Residential-Type Central									
Air Conditioners	Q	76	106	Q	1,739	1,890	Q	44.0	56.2
Heat Pumps	Q	39	25	Q	817	618	Q	47.5	40.4
Packaged Heat Pumps	Q	25	21	Q	515	491	Q	49.2	42.2
Split-System Heat Pumps	Q	Q	Q	Q	Q	Q	Q	Q	Q
Individual Room Heat Pumps	Q	Q	Q	Q	Q	Q	Q	Q	Q
Individual Air Conditioners	Q	85	126	Q	2,263	2,026	Q	37.6	62.2
District Chilled Water	Q	Q	Q	Q	Q	Q	Q	Q	Q
Central Chillers	Q	96	120	Q	1,177	1,863	Q	81.3	64.2
Packaged Air Conditioning									
Units	48	196	295	676	4,633	5,119	70.4	42.4	57.7
Swamp Coolers	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Main Equipment Replaced Since 1990 (more than one may apply)									
Heating	Q	97	175	Q	2,384	3,072	Q	40.6	56.9
Cooling	29	139	225	628	3,549	3,491	45.4	39.1	64.6
Water Heating Equipment									
Centralized System	40	246	330	921	4,599	6,013	43.4	53.5	54.8
Distributed System	Q	36	76	Q	1,618	1,523	Q	22.2	49.9
Combination of Centralized and Distributed System	Q	52	93	Q	1,169	1,614	Q	44.3	57.8
Energy-Related Space Functions (more than one may apply)									
Commercial Food Preparation	27	181	256	595	3,548	4,105	44.7	50.9	62.4
Activities with Large Amounts of Hot Water	38	130	221	652	2,652	3,310	58.7	48.9	66.9
Separate Computer Area	48	190	220	685	4,197	4,260	69.7	45.3	51.8
HVAC Conservation Features (more than one may apply)									
Variable Air-Volume System	Q	124	192	Q	2,526	3,281	Q	49.0	58.4
Economizer Cycle	43	135	236	640	2,738	3,973	67.6	49.1	59.3
HVAC Maintenance	62	303	439	1,221	6,927	8,008	51.0	43.8	54.9
Energy Management and Control System (EMCS)	Q	90	141	Q	1,961	2,522	Q	45.8	55.9
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)^a									
Heating	33	272	341	961	6,062	6,822	33.9	44.9	50.0
Cooling	34	249	328	931	5,928	6,398	36.8	42.0	51.2
Lighting	31	209	392	890	5,013	7,425	34.3	41.8	52.8
Office Equipment	Q	96	140	Q	2,632	3,116	Q	36.3	44.9

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All Buildings*	73	343	512	1,465	7,716	9,570	49.5	44.4	53.5
Annual Consumption (hundred cubic feet)									
1,000 or Less	Q	3	7	Q	Q	425	Q	Q	16.4
1,001 to 5,000	11	38	57	331	1,303	1,910	31.8	29.2	30.1
5,001 to 10,000	Q	40	74	Q	859	1,445	Q	46.8	51.0
10,001 to 25,000	Q	67	86	Q	1,595	1,554	Q	41.9	55.3
25,001 to 50,000	Q	48	86	Q	1,265	1,601	Q	38.2	53.6
50,001 to 100,000	Q	31	53	Q	638	960	Q	49.3	55.3
Over 100,000	Q	115	149	Q	1,333	1,674	Q	86.1	89.1
Provider of Natural Gas (more than one may apply)									
Local Utility	59	268	415	1,212	6,765	7,922	48.9	39.6	52.4
Some Other Provider	Q	94	133	Q	1,212	2,071	Q	77.5	64.1

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.