

Table E7. Natural Gas Consumption (Btu) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (trillion Btu)					Natural Gas Energy Intensity (thousand Btu/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Building Floorspace (Square Feet)										
1,001 to 5,000	250	155	35	41	18	81.1	50.4	11.5	13.4	5.9
5,001 to 10,000	209	143	32	30	Q	56.5	38.8	8.7	8.2	Q
10,001 to 25,000	309	248	32	22	8	43.9	35.1	4.6	3.1	1.1
25,001 to 50,000	258	188	41	12	Q	42.7	31.1	6.8	2.0	Q
50,001 to 100,000	244	174	43	8	19	36.5	26.0	6.4	1.2	2.9
100,001 to 200,000	249	170	56	7	16	37.5	25.6	8.4	1.0	2.5
200,001 to 500,000	205	134	44	11	16	36.1	23.5	7.7	2.0	2.9
Over 500,000	204	105	49	11	40	44.3	22.7	10.7	2.4	8.6
Principal Building Activity										
Education	268	207	37	5	19	38.1	29.5	5.2	0.7	2.7
Food Sales	39	27	2	8	Q	51.7	35.6	3.2	11.2	Q
Food Service	203	54	56	91	Q	145.6	39.0	40.0	65.4	Q
Health Care	243	136	74	10	23	95.3	53.6	28.9	3.8	9.1
Inpatient	204	103	71	9	21	113.2	56.8	39.4	5.2	11.9
Outpatient	38	34	3	Q	Q	51.8	45.6	3.5	Q	Q
Lodging	215	64	124	14	Q	50.4	15.0	29.2	3.3	Q
Retail (Other Than Mall).....	91	84	3	3	2	31.9	29.3	1.0	0.9	0.7
Office	269	230	13	3	23	32.8	28.1	1.6	0.3	2.8
Public Assembly	102	92	2	3	Q	37.5	33.8	0.9	1.0	Q
Public Order and Safety	29	15	10	Q	Q	45.0	24.1	15.1	Q	Q
Religious Worship	82	77	2	3	Q	31.2	29.1	0.9	1.0	Q
Service	139	119	2	Q	17	55.8	47.8	0.9	Q	Q
Warehouse and Storage	132	111	4	Q	Q	24.1	20.2	0.7	Q	Q
Other	87	72	2	Q	12	69.7	57.9	1.7	Q	9.4
Vacant	28	26	Q	Q	Q	23.7	22.0	Q	Q	Q
Year Constructed										
Before 1920	143	114	12	15	Q	51.9	41.2	4.4	5.5	Q
1920 to 1945	229	150	24	18	37	49.0	32.0	5.1	3.9	8.0
1946 to 1959	216	159	34	11	13	46.5	34.0	7.3	2.3	2.7
1960 to 1969	255	187	45	10	13	45.3	33.1	8.0	1.8	2.4
1970 to 1979	351	244	68	22	17	45.9	31.9	8.9	2.8	2.2
1980 to 1989	291	180	68	21	23	45.0	27.8	10.5	3.3	3.5
1990 to 1999	314	204	54	30	26	38.4	25.0	6.7	3.6	3.1
2000 to 2003	127	79	26	15	6	36.9	23.0	7.7	4.3	1.9
Census Region and Division										
Northeast	428	310	49	30	39	46.6	33.8	5.3	3.3	4.2
New England	75	59	Q	Q	5	51.1	40.5	4.5	2.9	Q
Middle Atlantic	353	251	42	26	34	45.8	32.5	5.4	3.4	4.4
Midwest	705	555	80	29	41	53.5	42.1	6.1	2.2	3.1
East North Central	528	424	60	20	24	55.2	44.3	6.3	2.1	2.5
West North Central	177	131	20	8	Q	49.1	36.5	5.5	2.4	4.8
South	474	263	123	58	31	35.6	19.8	9.2	4.3	2.3
South Atlantic	217	115	56	28	18	34.2	18.1	8.9	4.4	2.9
East South Central	102	66	25	6	5	44.6	29.1	11.0	2.6	2.0
West South Central	156	83	42	24	8	33.2	17.6	8.8	5.1	1.7
West	320	187	81	25	27	41.0	24.0	10.3	3.2	3.5
Mountain	167	120	33	4	Q	59.7	42.9	12.0	1.4	Q
Pacific	153	68	47	21	17	30.6	13.5	9.4	4.3	3.4

Table E7. Natural Gas Consumption (Btu) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (trillion Btu)					Natural Gas Energy Intensity (thousand Btu/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Climate Zone: 30-Year Average										
Under 2,000 CDD and --										
More than 7,000 HDD	431	356	46	15	15	56.4	46.5	6.0	2.0	2.0
5,500-7,000 HDD	679	511	92	36	39	52.8	39.8	7.2	2.8	3.1
4,000-5,499 HDD	337	214	52	28	43	41.5	26.3	6.5	3.4	5.3
Fewer than 4,000 HDD	358	193	91	41	32	34.1	18.4	8.7	3.9	3.1
2,000 CDD or More and --										
Fewer than 4,000 HDD	122	42	51	22	8	28.1	9.7	11.6	5.1	1.8
Number of Floors										
One	664	471	91	71	30	44.4	31.5	6.1	4.8	2.0
Two	491	366	60	27	37	42.9	32.0	5.3	2.4	3.2
Three	241	178	38	13	11	42.5	31.4	6.8	2.4	1.9
Four to Nine	378	233	91	20	35	49.3	30.3	11.8	2.6	4.5
Ten or More	154	68	52	10	25	41.0	18.0	13.8	2.6	6.6
Number of Workers (main shift)										
Fewer than 5	272	213	25	15	19	38.8	30.4	3.5	2.2	2.6
5 to 9	198	136	32	26	Q	48.5	33.2	7.8	6.4	Q
10 to 19	242	166	37	34	5	45.5	31.3	6.9	6.4	1.0
20 to 49	395	280	58	31	25	48.1	34.2	7.1	3.8	3.0
50 to 99	241	167	46	12	16	39.2	27.1	7.5	1.9	2.6
100 to 249	235	161	49	8	16	45.8	31.5	9.6	1.6	3.0
250 or More	344	192	85	15	53	45.6	25.4	11.2	2.0	7.0
Weekly Operating Hours										
Fewer than 40	107	94	Q	4	3	32.9	28.9	Q	1.3	0.8
40 to 48	249	220	11	6	13	36.1	31.8	1.5	0.8	1.8
49 to 60	374	304	26	18	26	36.7	29.8	2.6	1.8	2.6
61 to 84	314	231	30	30	23	42.1	30.9	4.0	4.1	3.1
85 to 167	257	161	36	45	15	49.2	30.7	7.0	8.7	2.8
Open Continuously	626	306	224	38	58	60.1	29.4	21.5	3.7	5.5
Ownership and Occupancy										
Nongovernment Owned.....	1,503	995	274	131	103	45.1	29.9	8.2	3.9	3.1
Owner Occupied	708	506	106	42	53	42.8	30.6	6.4	2.5	3.2
Nonowner Occupied	779	472	168	89	50	49.0	29.7	10.6	5.6	3.1
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	425	321	58	11	35	41.9	31.7	5.7	1.1	3.4
Federal	35	27	4	Q	2	32.4	24.9	4.0	Q	2.0
State	98	76	11	2	10	40.4	31.0	4.6	0.8	3.9
Local	291	219	43	7	23	43.9	33.0	6.4	1.1	3.5
Vacancy Status										
Completely Vacant	18	17	(*)	Q	Q	19.4	18.5	0.1	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	318	231	41	15	31	37.6	27.3	4.9	1.8	3.7
Not At All Vacant	1,582	1,059	291	127	105	46.7	31.3	8.6	3.7	3.1
Number of Establishments										
One	1,462	971	275	118	98	47.9	31.8	9.0	3.9	3.2
2 to 5	307	231	41	18	16	40.4	30.5	5.5	2.4	2.1
6 to 10	48	38	5	Q	Q	35.4	27.9	3.7	1.7	Q
11 to 20	34	26	Q	Q	Q	27.0	20.7	3.4	0.7	Q
More than 20	58	32	7	2	Q	32.4	17.9	3.7	1.1	Q
Currently Unoccupied	18	17	(*)	Q	Q	19.4	18.5	0.1	Q	Q

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Predominant Exterior Wall Material										
Brick, Stone or Stucco	1,127	750	204	93	80	47.9	31.8	8.6	4.0	3.4
Concrete (Block or Poured)	351	242	62	22	24	47.9	33.0	8.5	3.1	3.3
Concrete Panels	180	126	Q	8	16	38.4	26.9	6.2	1.8	3.5
Siding or Shingles	85	55	18	10	2	42.7	27.7	9.2	4.9	1.0
Metal Panels	130	106	7	5	12	32.4	26.3	1.8	1.2	3.0
Window Glass	14	10	2	Q	Q	20.8	13.8	3.6	Q	Q
Other	35	23	9	2	Q	38.8	26.0	10.0	1.7	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant Roof Material										
Built-Up	743	489	138	47	68	48.8	32.2	9.1	3.1	4.5
Shingles (Not Wood)	310	213	52	29	Q	47.6	32.7	8.0	4.5	Q
Metal Surfacing	194	151	15	14	14	33.6	26.1	2.6	2.4	2.5
Synthetic or Rubber	542	378	96	32	36	45.8	31.9	8.1	2.7	3.1
Slate or Tile	67	41	16	9	Q	42.3	25.7	9.9	6.0	Q
Wooden Materials	21	11	7	Q	(*)	39.8	21.7	Q	Q	0.4
Concrete	24	11	6	Q	Q	Q	Q	Q	4.5	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	16	12	1	Q	Q	43.3	31.8	3.5	Q	Q
Renovations in Buildings Constructed Before 1980 (more than one may apply)										
Any Type of Renovation										
Since 1980	684	474	118	40	52	51.5	35.7	8.9	3.0	3.9
Addition or Annex	304	202	65	13	24	60.4	40.2	12.9	2.6	4.8
Reduction In Floorspace	52	34	11	2	4	53.5	35.5	11.7	2.5	3.8
Cosmetic Improvements	497	344	84	33	37	49.3	34.1	8.3	3.2	3.7
Wall or Roof Replacement	278	197	46	13	22	44.0	31.2	7.3	2.0	3.5
Interior Wall										
Re-Configuration	342	243	56	14	28	48.7	34.6	7.9	2.1	4.0
HVAC Equipment Upgrade.....	467	316	88	24	39	55.1	37.2	10.4	2.9	4.6
Lighting Upgrade	397	286	65	21	25	49.0	35.3	8.0	2.6	3.1
Window Replacement	242	179	37	10	16	48.5	35.8	7.4	2.0	3.2
Plumbing System Upgrade	287	198	48	17	24	50.2	34.6	8.4	2.9	4.3
Insulation Upgrade	132	95	18	9	9	44.5	32.3	6.1	3.1	3.0
Other Renovation	26	16	Q	Q	Q	59.1	35.9	Q	Q	Q
No Renovations Since 1980.....	512	379	66	36	31	42.3	31.3	5.4	3.0	2.6
Building Newer than 1980	732	463	149	66	55	40.5	25.6	8.2	3.6	3.0
Energy Sources (more than one may apply)										
Electricity	1,927	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Natural Gas	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Fuel Oil	507	281	145	27	53	48.8	27.1	14.0	2.6	5.1
District Heat	47	24	10	7	6	19.2	9.9	4.1	2.7	2.5
District Chilled Water	35	20	8	Q	Q	19.8	11.5	4.7	Q	Q
Propane	106	64	27	6	9	43.0	25.9	10.8	2.6	3.8
Other	47	33	9	2	Q	52.3	36.7	10.0	1.7	Q
Space-Heating Energy Source										
Natural Gas	1,803	1,316	270	98	118	48.8	35.6	7.3	2.7	3.2
Natural Gas Main	1,687	1,250	240	86	111	51.2	37.9	7.3	2.6	3.4
Natural Gas Secondary	116	66	30	12	8	29.1	16.6	7.5	3.1	1.9
Other Excluding Natural Gas	106	(*)	57	38	11	17.7	(*)	9.5	6.4	1.8
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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	Total Natural Gas Consumption (trillion Btu)					Natural Gas Energy Intensity (thousand Btu/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Primary Space-Heating Energy Source										
Electricity	177	48	79	36	13	28.6	7.8	12.8	5.9	2.2
Natural Gas	1,687	1,250	240	86	111	51.2	37.9	7.3	2.6	3.4
Fuel Oil	20	8	3	Q	Q	Q	Q	Q	4.9	Q
District Heat	23	Q	6	6	3	10.9	Q	Q	3.0	Q
Propane	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Source										
Natural Gas	92	38	15	2	37	90.3	37.6	14.8	1.9	36.0
Other Excluding Natural Gas	1,729	1,197	305	136	91	43.2	29.9	7.6	3.4	2.3
Buildings without Cooling	107	81	12	4	Q	43.7	33.0	5.0	1.6	Q
Water-Heating Energy Source										
Natural Gas	1,509	963	332	105	108	52.4	33.4	11.5	3.7	3.7
Other Excluding Natural Gas	361	299	(*)	36	26	29.3	24.3	(*)	2.9	2.1
Bldgs without Water Heating	57	54	(*)	Q	Q	24.6	23.1	(*)	Q	Q
Cooking Energy Source										
Natural Gas	856	422	232	142	61	55.5	27.3	15.0	9.2	3.9
Other Excluding Natural Gas	141	107	22	(*)	11	43.7	33.4	6.8	(*)	3.5
Buildings without Cooking	931	787	78	(*)	65	37.5	31.7	3.2	(*)	2.6
Energy End Uses (more than one may apply)										
Buildings with Space Heating	1,909	1,316	328	137	129	44.4	30.6	7.6	3.2	3.0
Buildings with Cooling	1,821	1,235	320	138	127	44.4	30.1	7.8	3.4	3.1
Buildings with Water Heating	1,870	1,262	332	142	134	45.5	30.7	8.1	3.4	3.3
Buildings with Cooking	997	529	254	142	72	53.4	28.4	13.6	7.6	3.9
Buildings with Manufacturing	100	63	4	Q	30	43.6	27.2	1.9	Q	13.2
Buildings with Electricity Generation	534	293	141	19	81	51.3	28.2	13.6	1.8	7.8
Percent of Floorspace Heated										
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	97	64	9	9	15	24.3	16.0	2.2	2.3	3.8
51 to 99	268	174	47	26	Q	44.9	29.2	8.0	4.3	Q
100	1,544	1,077	272	102	94	46.8	32.6	8.2	3.1	2.8
Percent of Floorspace Cooled										
Not Cooled	107	81	12	4	Q	43.7	33.0	5.0	1.6	Q
1 to 50	452	371	26	16	38	37.2	30.6	2.2	1.4	3.1
51 to 99	451	297	82	40	32	46.4	30.5	8.4	4.1	3.3
100	918	567	212	82	57	47.9	29.6	11.1	4.3	3.0
Heating Equipment (more than one may apply)										
Heat Pumps	224	109	75	17	24	40.3	19.7	13.5	3.0	4.2
Packaged Heat Pumps	140	65	51	11	Q	42.0	19.4	15.3	3.2	Q
Split-System Heat Pumps	42	24	11	Q	Q	29.0	16.4	7.9	Q	Q
Individual Room Heat Pumps	84	40	31	6	7	38.1	18.1	14.1	2.7	3.2
Furnaces	673	500	87	50	36	44.0	32.6	5.7	3.3	2.4
Individual Space Heaters	379	270	61	16	32	42.3	30.2	6.8	1.8	3.6
District Heat	39	18	10	7	Q	17.1	7.9	4.3	2.8	Q
Boilers	1,040	709	197	44	89	57.2	39.0	10.8	2.4	4.9
Packaged Heating Units	582	383	115	54	30	42.7	28.1	8.4	4.0	2.2
Other	47	39	5	2	3	26.3	21.4	2.5	0.9	1.4

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Cooling Equipment (more than one may apply)										
Residential-Type Central										
Air Conditioners	391	269	57	36	29	49.0	33.7	7.2	4.5	3.7
Heat Pumps	234	119	74	18	24	40.1	20.3	12.7	3.1	4.0
Packaged Heat Pumps	145	71	50	11	Q	43.4	21.3	14.9	3.2	Q
Split-System Heat Pumps	45	25	11	Q	Q	29.9	16.8	7.6	Q	Q
Individual Room Heat Pumps ..	85	41	31	6	7	35.8	17.3	13.0	2.5	3.0
Individual Air Conditioners	410	280	92	16	22	45.0	30.8	10.1	1.8	2.4
District Chilled Water	35	20	8	Q	Q	19.8	11.5	4.7	Q	Q
Central Chillers	501	296	121	18	66	55.0	32.5	13.3	2.0	7.3
Packaged Air Conditioning										
Units	1,090	763	171	88	67	45.8	32.1	7.2	3.7	2.8
Swamp Coolers	81	48	19	7	Q	63.6	38.1	14.7	5.4	Q
Other	52	33	Q	Q	3	64.8	41.3	Q	2.2	Q
Main Equipment Replaced Since 1990 (more than one may apply)										
Heating	605	427	104	36	38	49.3	34.8	8.5	2.9	3.1
Cooling	779	528	144	50	56	48.5	32.9	9.0	3.1	3.5
Water Heating Equipment										
Centralized System	1,226	822	220	106	78	48.4	32.4	8.7	4.2	3.1
Distributed System	254	201	20	21	13	33.7	26.6	2.6	2.7	1.7
Combination of Centralized and Distributed System	390	239	92	15	43	47.4	29.1	11.2	1.9	5.2
Energy-Related Space Functions (more than one may apply)										
Commercial Food Preparation....	996	529	254	142	71	53.4	28.4	13.6	7.6	3.8
Activities with Large Amounts of Hot Water	931	498	254	97	83	58.1	31.1	15.8	6.1	5.1
Separate Computer Area	875	589	169	36	81	42.4	28.6	8.2	1.7	3.9
HVAC Conservation Features (more than one may apply)										
Variable Air-Volume System.....	710	455	140	40	75	48.6	31.2	9.6	2.7	5.2
Economizer Cycle	805	543	154	39	70	48.3	32.6	9.3	2.3	4.2
HVAC Maintenance	1,659	1,114	308	120	117	44.9	30.1	8.3	3.3	3.2
Energy Management and Control System (EMCS)	477	312	93	21	51	41.1	26.9	8.0	1.8	4.4
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)										
Heating	1,292	903	200	94	95	41.4	29.0	6.4	3.0	3.1
Cooling	1,288	882	203	105	98	41.0	28.1	6.4	3.3	3.1
Lighting	1,250	968	106	100	77	40.2	31.1	3.4	3.2	2.5
Office Equipment	476	380	38	28	30	37.6	30.0	3.0	2.2	2.3

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,928	1,316	332	142	137	44.3	30.3	7.6	3.3	3.2
Annual Consumption (hundred cubic feet)										
1,000 or Less	37	30	4	1	Q	8.4	7.0	1.0	0.3	Q
1,001 to 5,000	249	206	23	16	4	25.6	21.2	2.4	1.6	0.4
5,001 to 10,000	247	174	34	31	8	39.4	27.7	5.5	5.0	1.2
10,001 to 25,000	360	239	61	42	18	46.3	30.7	7.8	5.4	2.3
25,001 to 50,000	293	199	45	26	22	52.9	36.0	8.2	4.7	4.0
50,001 to 100,000	218	144	40	8	26	54.8	36.3	10.0	2.0	6.5
Over 100,000	525	324	125	17	59	89.4	55.1	21.3	2.9	10.1
Provider of Natural Gas (more than one may apply)										
Local Utility	1,631	1,120	278	133	99	42.5	29.2	7.2	3.5	2.6
Some Other Provider	389	256	76	13	44	61.0	40.2	11.9	2.0	6.8

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. In the 1999 CBECS, malls represented 3.8 percent of total natural gas consumption.

(*)=Value rounds to zero in the units displayed.

Q=Data withheld because fewer than 20 buildings were sampled for any cell, or because the Relative Standard Error (RSE) was greater than 50 percent for a cell in the "Total" column.

Notes: • Due to rounding, data may not sum to totals. • HVAC = Heating, Ventilation, and Air Conditioning.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871A, C, and E of the 2003 Commercial Buildings Energy Consumption Survey.

Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Building Floorspace (Square Feet)										
1,001 to 5,000	243	151	34	40	18	78.7	48.9	11.1	13.0	5.7
5,001 to 10,000	202	139	31	29	Q	54.8	37.6	8.5	7.9	Q
10,001 to 25,000	300	240	31	21	7	42.5	34.1	4.4	3.0	1.1
25,001 to 50,000	250	182	40	11	Q	41.5	30.2	6.6	1.9	Q
50,001 to 100,000	236	169	41	8	19	35.4	25.2	6.2	1.2	2.8
100,001 to 200,000	241	165	54	7	16	36.3	24.8	8.1	1.0	2.4
200,001 to 500,000	199	130	42	11	16	35.0	22.8	7.5	1.9	2.8
Over 500,000	198	101	48	11	38	43.0	22.0	10.4	2.3	8.3
Principal Building Activity										
Education	260	201	36	5	18	36.9	28.6	5.1	0.7	2.6
Food Sales	37	26	2	8	Q	50.2	34.5	3.1	10.9	Q
Food Service	197	53	54	89	Q	141.2	37.8	38.8	63.5	Q
Health Care	235	132	71	9	22	92.5	51.9	28.1	3.7	8.8
Inpatient	198	99	69	9	21	109.8	55.1	38.2	5.0	11.5
Outpatient	37	33	2	Q	Q	50.2	44.3	3.4	Q	Q
Lodging	208	62	121	14	Q	48.9	14.6	28.3	3.2	Q
Retail (Other Than Mall).....	89	81	3	2	2	30.9	28.4	1.0	0.8	0.7
Office	261	223	13	2	22	31.8	27.2	1.6	0.3	2.7
Public Assembly	99	89	2	3	Q	36.4	32.8	0.9	1.0	Q
Public Order and Safety	28	15	9	Q	Q	43.7	23.3	14.7	Q	Q
Religious Worship	80	74	2	3	Q	30.3	28.3	0.9	1.0	Q
Service	135	116	2	Q	17	54.1	46.3	0.9	Q	Q
Warehouse and Storage	128	108	4	Q	Q	23.4	19.6	0.7	Q	Q
Other	85	70	2	Q	11	67.6	56.1	1.6	Q	9.1
Vacant	27	25	Q	Q	Q	23.0	21.3	Q	Q	Q
Year Constructed										
Before 1920	139	110	12	15	Q	50.3	39.9	4.3	5.3	Q
1920 to 1945	223	145	23	18	36	47.6	31.1	5.0	3.8	7.7
1946 to 1959	210	154	33	11	12	45.1	33.0	7.1	2.3	2.6
1960 to 1969	248	181	44	10	13	44.0	32.1	7.8	1.8	2.3
1970 to 1979	341	237	66	21	17	44.5	30.9	8.7	2.8	2.2
1980 to 1989	282	174	66	21	22	43.7	26.9	10.1	3.2	3.4
1990 to 1999	305	198	53	29	25	37.2	24.2	6.5	3.5	3.0
2000 to 2003	123	77	26	14	6	35.8	22.3	7.5	4.1	1.8
Census Region and Division										
Northeast	415	301	47	29	38	45.2	32.8	5.1	3.2	4.1
New England	73	58	Q	Q	4	49.5	39.3	4.4	2.8	Q
Middle Atlantic	343	243	41	25	33	44.4	31.6	5.3	3.3	4.3
Midwest	683	538	78	28	40	51.9	40.9	5.9	2.1	3.0
East North Central	512	411	58	20	23	53.5	42.9	6.1	2.1	2.4
West North Central	171	127	19	8	Q	47.6	35.4	5.4	2.3	4.6
South	460	255	119	56	30	34.6	19.2	8.9	4.2	2.2
South Atlantic	210	111	54	27	18	33.2	17.6	8.6	4.2	2.8
East South Central	99	64	24	6	4	43.3	28.2	10.6	2.5	1.9
West South Central	151	80	40	23	8	32.2	17.0	8.6	5.0	1.6
West	311	182	78	24	26	39.8	23.3	10.0	3.1	3.3
Mountain	162	116	32	4	Q	57.9	41.6	11.6	1.3	Q
Pacific	149	66	46	21	17	29.7	13.1	9.2	4.1	3.3

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Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Climate Zone: 30-Year Average										
Under 2,000 CDD and --										
More than 7,000 HDD	418	345	44	15	15	54.7	45.1	5.8	1.9	1.9
5,500-7,000 HDD	659	496	90	35	38	51.3	38.6	7.0	2.7	3.0
4,000-5,499 HDD	327	207	51	27	42	40.3	25.5	6.3	3.3	5.1
Fewer than 4,000 HDD	347	187	89	40	31	33.0	17.8	8.4	3.8	3.0
2,000 CDD or More and --										
Fewer than 4,000 HDD	119	41	49	21	7	27.3	9.4	11.3	4.9	1.7
Number of Floors										
One	644	457	88	69	29	43.1	30.6	5.9	4.6	2.0
Two	476	355	59	26	36	41.6	31.1	5.1	2.3	3.1
Three	234	173	37	13	11	41.2	30.5	6.6	2.3	1.9
Four to Nine	367	226	88	20	34	47.9	29.4	11.5	2.6	4.4
Ten or More	149	66	50	9	24	39.8	17.5	13.3	2.5	6.4
Number of Workers (main shift)										
Fewer than 5	264	207	24	15	18	37.6	29.5	3.4	2.1	2.6
5 to 9	192	132	31	25	Q	47.1	32.2	7.6	6.2	Q
10 to 19	235	161	36	33	5	44.2	30.3	6.7	6.2	0.9
20 to 49	383	272	57	30	24	46.6	33.1	6.9	3.7	2.9
50 to 99	234	162	45	11	16	38.0	26.3	7.3	1.8	2.5
100 to 249	228	156	48	8	15	44.4	30.5	9.4	1.6	2.9
250 or More	334	186	82	15	51	44.2	24.6	10.9	1.9	6.8
Weekly Operating Hours										
Fewer than 40	104	91	Q	4	3	31.9	28.1	Q	1.3	0.8
40 to 48	242	213	10	6	12	35.0	30.9	1.5	0.8	1.8
49 to 60	363	295	25	17	25	35.6	28.9	2.5	1.7	2.5
61 to 84	305	224	29	29	23	40.8	30.0	3.8	3.9	3.0
85 to 167	249	156	35	44	14	47.7	29.8	6.8	8.4	2.7
Open Continuously	607	297	217	37	56	58.3	28.5	20.8	3.6	5.4
Ownership and Occupancy										
Nongovernment Owned.....	1,458	965	266	127	100	43.7	29.0	8.0	3.8	3.0
Owner Occupied	686	491	103	41	52	41.5	29.7	6.2	2.5	3.1
Nonowner Occupied	756	458	163	86	48	47.6	28.8	10.3	5.4	3.0
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	412	312	56	10	34	40.6	30.7	5.6	1.0	3.3
Federal	34	26	4	Q	2	31.4	24.2	3.9	Q	2.0
State	95	73	11	2	9	39.1	30.1	4.5	0.8	3.8
Local	283	212	41	7	22	42.6	32.0	6.2	1.1	3.3
Vacancy Status										
Completely Vacant	18	17	(*)	Q	Q	18.8	18.0	0.1	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	308	224	40	14	30	36.5	26.5	4.7	1.7	3.5
Not At All Vacant	1,534	1,027	282	123	102	45.3	30.4	8.3	3.6	3.0
Number of Establishments										
One	1,418	942	267	115	95	46.5	30.9	8.7	3.8	3.1
2 to 5	298	224	40	18	15	39.2	29.5	5.3	2.3	2.0
6 to 10	47	37	5	Q	Q	34.4	27.1	3.6	1.6	Q
11 to 20	33	26	Q	Q	Q	26.2	20.1	3.3	0.7	Q
More than 20	56	31	7	2	Q	31.4	17.3	3.6	1.1	Q
Currently Unoccupied	18	17	(*)	Q	Q	18.8	18.0	0.1	Q	Q

Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Predominant Exterior Wall Material										
Brick, Stone or Stucco	1,093	728	197	91	78	46.4	30.9	8.4	3.8	3.3
Concrete (Block or Poured)	340	234	60	22	23	46.4	32.0	8.3	3.0	3.2
Concrete Panels	174	122	Q	8	16	37.3	26.1	6.0	1.7	3.4
Siding or Shingles	83	54	18	9	2	41.4	26.9	8.9	4.7	1.0
Metal Panels	126	103	7	5	12	31.4	25.5	1.7	1.2	2.9
Window Glass	14	9	2	Q	Q	20.2	13.4	3.5	Q	Q
Other	34	23	9	1	Q	37.6	25.2	9.7	1.6	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant Roof Material										
Built-Up	720	475	134	46	66	47.4	31.2	8.8	3.0	4.4
Shingles (Not Wood)	301	207	51	28	Q	46.1	31.7	7.8	4.3	Q
Metal Surfacing	188	147	14	14	14	32.6	25.4	2.5	2.3	2.4
Synthetic or Rubber	526	366	93	31	35	44.4	30.9	7.9	2.6	3.0
Slate or Tile	65	39	15	9	Q	41.1	25.0	9.6	5.8	Q
Wooden Materials	20	11	7	Q	(*)	38.6	21.0	Q	Q	0.4
Concrete	23	11	5	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	16	12	1	Q	Q	42.0	30.8	3.4	Q	Q
Renovations in Buildings Constructed Before 1980 (more than one may apply)										
Any Type of Renovation										
Since 1980	663	460	114	39	50	50.0	34.7	8.6	2.9	3.8
Addition or Annex	295	196	63	13	23	58.6	38.9	12.5	2.5	4.7
Reduction In Floorspace	50	33	11	2	4	51.8	34.4	11.4	2.4	3.7
Cosmetic Improvements	482	333	81	32	36	47.8	33.1	8.1	3.1	3.5
Wall or Roof Replacement	270	191	45	12	21	42.6	30.2	7.1	2.0	3.4
Interior Wall										
Re-Configuration	331	236	54	14	27	47.2	33.6	7.7	2.0	3.9
HVAC Equipment Upgrade.....	453	306	85	24	38	53.4	36.1	10.1	2.8	4.4
Lighting Upgrade	386	278	63	20	25	47.6	34.3	7.7	2.5	3.0
Window Replacement	235	174	36	10	16	47.0	34.7	7.2	2.0	3.1
Plumbing System Upgrade	278	192	47	16	24	48.7	33.5	8.1	2.8	4.1
Insulation Upgrade	128	93	17	9	9	43.1	31.3	5.9	3.0	2.9
Other Renovation	25	15	Q	Q	Q	57.4	34.8	Q	Q	Q
No Renovations Since 1980.....	497	368	64	35	30	41.0	30.3	5.3	2.9	2.5
Building Newer than 1980	710	449	144	64	53	39.3	24.8	8.0	3.5	2.9
Energy Sources (more than one may apply)										
Electricity	1,869	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Natural Gas	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Fuel Oil	492	273	141	27	51	47.3	26.3	13.6	2.6	4.9
District Heat	46	23	10	6	6	18.7	9.6	4.0	2.6	2.4
District Chilled Water	34	20	8	Q	Q	19.2	11.2	4.5	Q	Q
Propane	103	62	26	6	9	41.7	25.1	10.5	2.5	3.7
Other	46	32	9	1	Q	50.7	35.6	9.7	1.6	Q
Space-Heating Energy Source^a										
Natural Gas	1,749	1,276	262	95	115	47.3	34.5	7.1	2.6	3.1
Natural Gas Main	1,636	1,212	233	83	107	49.6	36.8	7.1	2.5	3.3
Natural Gas Secondary	112	64	29	12	7	28.2	16.1	7.3	3.0	1.9
Other Excluding Natural Gas	103	(*)	56	37	10	17.2	(*)	9.3	6.2	1.7
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Primary Space-Heating Energy Source										
Electricity	171	46	76	35	13	27.8	7.5	12.4	5.7	2.1
Natural Gas	1,636	1,212	233	83	107	49.6	36.8	7.1	2.5	3.3
Fuel Oil	20	8	3	Q	Q	Q	Q	Q	Q	Q
District Heat	22	Q	5	6	3	10.5	Q	Q	2.9	Q
Propane	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Source										
Natural Gas	89	37	15	2	36	87.6	36.5	14.3	1.9	34.9
Other Excluding Natural Gas	1,677	1,161	296	132	88	41.9	29.0	7.4	3.3	2.2
Buildings without Cooling	104	78	12	4	Q	42.4	32.0	4.9	1.6	Q
Water-Heating Energy Source										
Natural Gas	1,463	934	322	102	105	50.8	32.4	11.2	3.5	3.6
Other Excluding Natural Gas	350	290	(*)	35	25	28.5	23.5	(*)	2.8	2.1
Bldgs without Water Heating	56	52	(*)	Q	Q	23.9	22.4	(*)	Q	Q
Cooking Energy Source										
Natural Gas	830	409	225	138	59	53.8	26.5	14.6	8.9	3.8
Other Excluding Natural Gas	137	104	21	(*)	11	42.4	32.4	6.6	(*)	3.4
Buildings without Cooking	903	763	76	(*)	63	36.4	30.8	3.1	(*)	2.6
Energy End Uses (more than one may apply)										
Buildings with Space Heating	1,852	1,276	318	133	125	43.1	29.7	7.4	3.1	2.9
Buildings with Cooling	1,766	1,198	310	134	124	43.0	29.2	7.6	3.3	3.0
Buildings with Water Heating	1,814	1,224	322	137	130	44.1	29.8	7.8	3.3	3.2
Buildings with Cooking	967	513	246	138	70	51.8	27.5	13.2	7.4	3.7
Buildings with Manufacturing	97	61	4	Q	29	42.3	26.4	1.8	Q	12.8
Buildings with Electricity Generation	518	284	137	19	78	49.8	27.3	13.2	1.8	7.5
Percent of Floorspace Heated										
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	94	62	9	9	15	23.5	15.6	2.2	2.2	3.6
51 to 99	260	169	46	25	Q	43.6	28.4	7.7	4.2	Q
100	1,498	1,045	263	99	91	45.4	31.7	8.0	3.0	2.8
Percent of Floorspace Cooled										
Not Cooled	104	78	12	4	Q	42.4	32.0	4.9	1.6	Q
1 to 50	438	360	25	16	37	36.1	29.7	2.1	1.3	3.0
51 to 99	438	288	79	38	32	45.0	29.6	8.2	3.9	3.2
100	890	550	206	80	55	46.5	28.7	10.7	4.2	2.9
Heating Equipment (more than one may apply)										
Heat Pumps	217	106	73	16	23	39.1	19.1	13.1	2.9	4.1
Packaged Heat Pumps	135	63	49	10	Q	40.8	18.8	14.9	3.1	Q
Split-System Heat Pumps	41	23	11	Q	Q	28.2	15.9	7.6	Q	Q
Individual Room Heat Pumps ..	81	39	30	6	7	37.0	17.6	13.7	2.6	3.1
Furnaces	653	485	85	48	35	42.7	31.7	5.5	3.2	2.3
Individual Space Heaters	368	262	59	15	31	41.0	29.3	6.6	1.7	3.5
District Heat	38	18	10	6	Q	16.6	7.6	4.2	2.8	Q
Boilers	1,009	688	191	43	87	55.5	37.9	10.5	2.4	4.8
Packaged Heating Units	564	371	111	52	29	41.4	27.3	8.2	3.8	2.2
Other	46	37	4	2	2	25.5	20.8	2.5	0.9	1.4

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Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Cooling Equipment (more than one may apply)										
Residential-Type Central										
Air Conditioners	379	261	56	35	28	47.5	32.7	7.0	4.3	3.6
Heat Pumps	227	115	72	17	23	38.9	19.7	12.3	3.0	3.9
Packaged Heat Pumps	141	69	49	10	Q	42.1	20.6	14.5	3.1	Q
Split-System Heat Pumps	43	24	11	Q	Q	29.0	16.3	7.4	Q	Q
Individual Room Heat Pumps ..	83	40	30	6	7	34.7	16.8	12.6	2.4	2.9
Individual Air Conditioners	398	272	89	16	21	43.7	29.8	9.8	1.7	2.3
District Chilled Water	34	20	8	Q	Q	19.2	11.2	4.5	Q	Q
Central Chillers	486	287	117	17	64	53.4	31.5	12.9	1.9	7.1
Packaged Air Conditioning										
Units	1,057	740	166	86	65	44.4	31.1	7.0	3.6	2.7
Swamp Coolers	78	47	18	7	Q	61.7	36.9	14.3	5.3	Q
Other	51	32	Q	Q	3	62.8	40.1	Q	2.2	Q
Main Equipment Replaced Since 1990 (more than one may apply)										
Heating	587	414	101	35	37	47.8	33.7	8.2	2.9	3.0
Cooling	756	512	140	49	55	47.1	31.9	8.7	3.0	3.4
Water Heating Equipment										
Centralized System	1,189	797	214	103	76	46.9	31.4	8.4	4.0	3.0
Distributed System	247	195	19	20	13	32.7	25.8	2.5	2.6	1.7
Combination of Centralized and Distributed System	378	232	89	15	41	46.0	28.3	10.9	1.8	5.0
Energy-Related Space Functions (more than one may apply)										
Commercial Food Preparation....	966	513	246	138	69	51.8	27.5	13.2	7.4	3.7
Activities with Large Amounts of Hot Water	903	483	246	94	80	56.3	30.1	15.3	5.9	5.0
Separate Computer Area	849	571	164	35	79	41.2	27.7	7.9	1.7	3.8
HVAC Conservation Features (more than one may apply)										
Variable Air-Volume System.....	688	441	136	39	73	47.2	30.2	9.3	2.6	5.0
Economizer Cycle	781	526	149	37	68	46.9	31.6	9.0	2.2	4.1
HVAC Maintenance	1,609	1,081	298	117	113	43.5	29.2	8.1	3.2	3.1
Energy Management and Control System (EMCS)	463	303	90	21	49	39.8	26.1	7.8	1.8	4.3
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)										
Heating	1,253	876	194	91	92	40.2	28.1	6.2	2.9	3.0
Cooling	1,249	856	197	101	95	39.7	27.2	6.3	3.2	3.0
Lighting	1,213	939	102	97	75	39.0	30.2	3.3	3.1	2.4
Office Equipment	462	369	37	28	29	36.5	29.1	2.9	2.2	2.3
Annual Consumption (hundred cubic feet)										
1,000 or Less	35	30	4	1	Q	8.2	6.8	0.9	0.3	Q
1,001 to 5,000	242	200	23	15	4	24.8	20.5	2.3	1.6	0.4
5,001 to 10,000	239	168	33	30	7	38.3	26.9	5.3	4.9	1.2
10,001 to 25,000	349	232	59	41	17	44.9	29.8	7.6	5.3	2.2
25,001 to 50,000	284	193	44	25	22	51.3	34.9	7.9	4.6	3.9
50,001 to 100,000	211	140	38	8	25	53.2	35.3	9.7	1.9	6.3
Over 100,000	510	314	121	17	58	86.8	53.5	20.6	2.8	9.8

Table E8. Natural Gas Consumption (cubic feet) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Natural Gas Consumption (billion cubic feet)					Natural Gas Energy Intensity (cubic feet/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	1,870	1,276	322	138	133	43.0	29.4	7.4	3.2	3.1
Provider of Natural Gas (more than one may apply)										
Local Utility	1,582	1,086	270	129	96	41.2	28.3	7.0	3.4	2.5
Some Other Provider	377	249	73	13	42	59.1	39.0	11.5	2.0	6.6

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/cbeecs>.

* Figures in this table do not include enclosed malls and strip malls. In the 1999 CBECS, malls represented 3.8 percent of total natural gas consumption.

^a Total natural gas energy intensity in the "Other Excluding Natural Gas" row has been revised and value does not match published value in consumption Table C24 (http://www.eia.doe.gov/emeu/cbeecs/cbeecs2003/detailed_tables_2003/detailed_tables_2003.html).

(*)=Value rounds to zero in the units displayed.

Q=Data withheld because fewer than 20 buildings were sampled for any cell, or because the Relative Standard Error (RSE) was greater than 50 percent for a cell in the "Total" column.

Notes: • Due to rounding, data may not sum to totals. • HVAC = Heating, Ventilation, and Air Conditioning.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871A, C, and E of the 2003 Commercial Buildings Energy Consumption Survey.