Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
All Buildings*	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Building Floorspace (Square Feet)									
1,001 to 5,000	85	98	59	1,222	1,214	648	69.5	81.0	91.5
5,001 to 10,000	56	90	56	1,131	1,733	828	49.8	51.9	67.7
10,001 to 25,000	103	141	57	2,392	2,909	1,752	42.9	48.4	32.3
25,001 to 50,000	90	102	58	1,827	2,700	1,498	49.3	37.7	38.7
50,001 to 100,000	68	112	57	1,636	3,178	1,869	41.4	35.1	30.5
100,001 to 200,000	63	120	59	1,501	2,745	2,399	42.0	43.6	24.5
200,001 to 500,000	45	104	50	1,496	2,748	1,435	30.1	37.8	34.8
Over 500,000	62	105	Q	893	2,535	Q	69.1	41.4	Q
Principal Building Activity									
Education	109	110	41	2,581	2,816	1,648	42.3	39.2	24.6
Food Sales	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food Service	47	72	78	491	422	482	95.8	169.4	162.6
Health Care	66	131	39	633	1,410	501	104.1	92.6	77.5
Inpatient	58	112	28	444	1,141	220	130.2	98.3	128.2
Outpatient	Q	18	11	Q	269	282	Q	68.4	37.9
Lodging	38	129	41	Q	2,123	1,154	Q	61.0	35.7
Retail (Other Than Mall)	34	27	27	675	1,028	1,162	50.5	26.7	23.4
Office	91	129	42	2,109	4,459	1,640	43.0	29.0	25.3
Public Assembly	30	43	26	1,047	965	711	Q	45.0	36.4
Public Order and Safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious Worship	37	29	14	1,086	943	600	33.7	31.2	22.7
Service	35	64	37	608	1,278	610	57.0	49.9	59.8
Warehouse and Storage	35	64	29	1,039	2,667	1,788	33.8	24.0	16.4
Other	Q	Q	29	Q	408	521	Q	75.7	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
Census Region and Division									
Northeast	185	153	76	4,201	3,454	1,525	44.1	44.4	50.0
New England	30	Q	Q	677	Q	Q	44.9	Q	Q
Middle Atlantic	155	131	57	3,525	2,985	1,206	44.0	43.7	47.2
Midwest	245	310	129	4,201	5,898	3,064	58.2	52.5	42.1
East North Central	180	242	91	3,138	4,321	2,110	57.2	56.0	42.9
West North Central	65	68	38	1,063	1,577	954	61.3	42.9	40.4
South	87	213	160	2,129	6,213	4,969	40.7	34.3	32.3
South Atlantic	Q	77	86	996	2,426	2,903	48.0	31.6	29.5
East South Central	12	63	24	386	1,110	785	30.2	56.8	30.6
West South Central	27	74	51	746	2,677	1,280	36.5	27.5	39.5
West	54	195	62	1,566	4,198	2,049	34.8	46.4	30.1
Mountain	22	115	25	393	1,677	726	56.3	68.3	34.7
Pacific	32	80	36	1,173	2,521	1,323	27.6	31.8	27.5
Climate Zone: 30-Year Average									
Under 2,000 CDD and --									
More than 7,000 HDD	142	197	80	2,237	3,425	1,984	63.3	57.6	40.1
5,500-7,000 HDD	212	327	120	4,168	5,882	2,800	50.9	55.6	42.7
4,000-5,499 HDD	131	122	74	3,161	3,207	1,745	41.4	37.9	42.5
Fewer than 4,000 HDD	70	168	110	1,966	5,054	3,489	35.4	33.2	31.5
2,000 CDD or More and --									
Fewer than 4,000 HDD	17	57	44	565	2,195	1,590	30.7	26.1	27.6

Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
All Buildings*	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Number of Floors									
One	117	312	214	2,559	7,157	5,224	45.6	43.7	41.0
Two	153	237	86	3,223	5,432	2,786	47.5	43.7	30.8
Three	119	71	43	2,688	1,666	1,313	44.3	42.8	32.9
Four to Nine	132	176	60	2,602	3,266	1,802	50.6	53.8	33.0
Ten or More	51	74	Q	1,025	2,242	Q	49.4	33.1	Q
Number of Workers (main shift)									
Fewer than 5	100	112	53	2,447	2,975	1,601	40.7	37.7	32.8
5 to 9	66	80	46	1,359	1,696	1,029	48.7	47.1	44.8
10 to 19	85	89	60	2,026	1,886	1,406	42.2	47.4	42.8
20 to 49	117	172	94	2,622	3,332	2,258	44.7	51.6	41.4
50 to 99	62	116	56	1,136	3,005	2,016	54.9	38.5	27.8
100 to 249	62	111	55	1,147	2,613	1,367	53.9	42.5	40.0
250 or More	79	191	64	1,361	4,256	1,932	57.8	44.9	33.3
Weekly Operating Hours									
Fewer than 40	40	50	14	1,120	1,487	653	35.8	33.5	21.5
40 to 48	97	107	38	2,678	2,907	1,328	36.1	36.9	28.6
49 to 60	132	158	72	2,841	4,918	2,432	46.5	32.2	29.8
61 to 84	103	132	70	2,168	3,236	2,064	47.5	40.7	34.0
85 to 167	55	103	91	1,039	2,155	2,031	53.0	47.7	45.0
Open Continuously	144	321	141	2,251	5,059	3,101	64.2	63.5	45.6
Ownership and Occupancy									
Nongovernment Owned	441	666	350	9,318	15,243	8,756	47.4	43.7	40.0
Owner Occupied	271	262	154	5,409	7,195	3,943	50.0	36.4	39.1
Nonowner Occupied	170	392	194	3,788	7,504	4,594	44.8	52.3	42.2
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	130	205	77	2,779	4,519	2,852	46.8	45.4	26.9
Federal	7	21	Q	163	569	Q	42.3	36.4	Q
State	16	67	12	477	1,360	601	32.7	49.6	20.7
Local	108	117	58	2,139	2,591	1,900	50.3	45.1	30.5
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	125	135	48	2,555	4,155	1,737	49.0	32.5	27.6
Not At All Vacant	439	719	377	9,264	14,947	9,635	47.4	48.1	39.1
Number of Establishments									
One	421	670	327	8,689	13,334	8,496	48.4	50.3	38.5
2 to 5	99	125	74	2,172	3,365	2,056	45.3	37.1	36.1
6 to 10	15	19	Q	372	618	Q	40.2	31.2	Q
11 to 20	Q	22	Q	Q	689	Q	Q	31.8	Q
More than 20	Q	22	Q	Q	1,210	Q	Q	18.5	Q
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q

Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
All Buildings*	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Predominant Exterior Wall Material									
Brick, Stone or Stucco	427	459	208	9,195	9,498	4,857	46.4	48.3	42.7
Concrete (Block or Poured)	103	175	62	1,883	3,739	1,701	54.8	46.7	36.4
Concrete Panels	Q	114	55	Q	2,597	1,942	Q	43.7	28.2
Siding or Shingles	24	30	29	553	685	759	42.7	44.4	37.8
Metal Panels	Q	65	51	Q	2,163	1,647	Q	30.1	31.0
Window Glass	Q	8	Q	Q	361	Q	Q	23.0	Q
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	254	358	108	4,836	7,622	2,751	52.5	47.0	39.2
Shingles (Not Wood)	122	119	60	2,074	2,762	1,683	58.6	43.2	35.5
Metal Surfacing	17	86	85	504	2,438	2,839	33.6	35.3	30.1
Synthetic or Rubber	130	248	148	2,731	5,411	3,696	47.6	45.8	40.1
Slate or Tile	28	21	16	740	477	357	37.5	43.0	46.0
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	348	316	N	6,712	6,558	N	51.8	48.1	N
Addition or Annex	128	167	N	2,246	2,791	N	57.1	59.9	N
Reduction In Floorspace	Q	Q	N	Q	Q	N	Q	Q	N
Cosmetic Improvements	238	244	N	5,105	4,967	N	46.5	49.2	N
Wall or Roof Replacement	120	149	N	3,225	3,103	N	37.3	48.2	N
Interior Wall Re-Configuration	151	181	N	3,465	3,554	N	43.5	50.8	N
HVAC Equipment Upgrade	229	224	N	4,163	4,319	N	54.9	51.9	N
Lighting Upgrade	191	195	N	4,254	3,850	N	44.9	50.6	N
Window Replacement	141	95	N	3,280	1,720	N	42.9	55.0	N
Plumbing System Upgrade	146	132	N	3,137	2,578	N	46.5	51.3	N
Insulation Upgrade	69	59	N	1,595	1,364	N	43.3	43.0	N
Other Renovation	Q	Q	N	Q	Q	N	Q	Q	N
No Renovations Since 1980	224	273	N	5,385	6,735	N	41.6	40.5	N
Building Newer than 1980	N	282	427	N	6,469	11,608	N	43.7	36.8
Energy Sources (more than one may apply)									
Electricity	571	871	427	12,091	19,763	11,608	47.2	44.1	36.8
Natural Gas	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Fuel Oil	138	249	104	3,084	4,932	2,367	44.6	50.6	44.1
District Heat	Q	25	Q	667	1,135	Q	Q	22.3	Q
District Chilled Water	Q	23	Q	Q	883	Q	Q	26.6	Q
Propane	Q	55	15	Q	1,250	724	Q	43.8	20.7
Other	Q	24	Q	Q	484	Q	Q	48.9	Q

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Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
All Buildings*	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Space-Heating Energy Sources									
Natural Gas	541	814	394	10,050	17,081	9,828	53.9	47.6	40.1
Natural Gas Main	520	754	362	9,431	15,149	8,390	55.1	49.8	43.2
Natural Gas Secondary	22	59	32	619	1,932	1,438	35.1	30.7	22.1
Other Excluding Natural Gas	26	51	26	1,937	2,502	1,576	Q	20.3	16.7
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q
Primary Space-Heating Energy Source									
Electricity	29	90	52	726	3,223	2,213	40.5	27.8	23.6
Natural Gas	520	754	362	9,431	15,149	8,390	55.1	49.8	43.2
Fuel Oil	13	Q	Q	Q	Q	Q	Q	Q	Q
District Heat	4	16	Q	514	968	Q	7.6	16.3	Q
Propane	N	N	Q	N	N	Q	N	N	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Sources									
Natural Gas	Q	38	Q	Q	419	Q	Q	90.1	Q
Other Excluding Natural Gas	468	806	403	10,345	18,622	11,038	45.2	43.3	36.5
Buildings without Cooling	68	27	Q	1,428	722	Q	47.8	37.7	Q
Water-Heating Energy Sources									
Natural Gas	439	681	343	8,044	13,116	7,661	54.6	51.9	44.7
Other Excluding Natural Gas	107	168	76	3,013	5,766	3,534	35.5	29.1	21.4
Bldgs without Water Heating	25	22	Q	1,041	881	Q	24.2	24.8	Q
Cooking Energy Sources									
Natural Gas	264	364	203	4,847	6,307	4,284	54.4	57.7	47.4
Other Excluding Natural Gas	41	74	22	727	1,755	736	57.0	41.9	29.3
Buildings without Cooking	266	434	203	6,523	11,701	6,588	40.8	37.1	30.8
Energy End Uses (more than one may apply)									
Buildings with Space Heating	567	865	420	11,988	19,582	11,404	47.3	44.2	36.8
Buildings with Cooling	503	844	419	10,669	19,041	11,313	47.2	44.3	37.0
Buildings with Water Heating	546	849	419	11,057	18,882	11,195	49.4	45.0	37.4
Buildings with Cooking	305	437	225	5,574	8,062	5,020	54.7	54.3	44.7
Buildings with Manufacturing	35	42	20	648	1,229	424	54.5	34.4	46.9
Buildings with Electricity Generation	123	285	110	1,836	5,646	2,920	67.1	50.5	37.6
Percent of Floorspace Heated									
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	31	35	28	1,344	1,565	1,097	23.3	22.3	25.6
51 to 99	105	92	63	2,111	2,231	1,623	49.8	41.2	38.7
100	431	738	329	8,532	15,787	8,683	50.5	46.7	37.9
Percent of Floorspace Cooled									
Not Cooled	68	27	Q	1,428	722	Q	47.8	37.7	Q
1 to 50	178	185	74	4,377	5,173	2,582	40.8	35.8	28.8
51 to 99	137	185	115	2,879	4,188	2,666	47.7	44.3	43.0
100	187	473	230	3,414	9,680	6,065	54.9	48.9	37.9

Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
All Buildings*	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Heating Equipment (more than one may apply)									
Heat Pumps	52	108	58	1,122	2,673	1,757	46.0	40.5	32.7
Packaged Heat Pumps	Q	78	24	519	1,899	904	64.2	41.1	26.7
Split-System Heat Pumps	Q	18	19	Q	736	545	Q	24.4	34.2
Individual Room Heat Pumps	21	33	27	642	785	768	33.1	42.0	35.0
Furnaces	221	274	158	4,508	6,468	4,327	49.0	42.3	36.6
Individual Space Heaters	116	157	95	2,594	3,986	2,389	44.8	39.4	39.7
District Heat	Q	19	Q	652	996	Q	Q	19.3	Q
Boilers	374	472	162	6,850	8,165	3,160	54.7	57.8	51.3
Packaged Heating Units	117	260	187	2,183	6,825	4,610	53.5	38.2	40.6
Other	Q	24	14	Q	870	672	Q	27.5	21.2
Cooling Equipment (more than one may apply)									
Residential-Type Central Air Conditioners	140	149	90	2,694	3,429	1,860	52.1	43.5	48.4
Heat Pumps	61	107	59	1,182	2,705	1,945	51.8	39.5	30.2
Packaged Heat Pumps	Q	76	24	596	1,855	902	68.2	41.2	26.6
Split-System Heat Pumps	Q	18	19	Q	730	566	Q	24.1	33.4
Individual Room Heat Pumps	21	33	28	605	867	907	35.1	38.6	30.7
Individual Air Conditioners	186	156	56	4,111	3,461	1,542	45.3	45.0	36.2
District Chilled Water	Q	23	Q	Q	883	Q	Q	26.6	Q
Central Chillers	114	274	97	1,869	5,296	1,936	61.0	51.8	50.3
Packaged Air Conditioning Units	283	495	280	5,894	10,897	7,015	48.0	45.4	39.9
Swamp Coolers	Q	56	Q	Q	905	Q	Q	61.8	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Main Equipment Replaced Since 1990 (more than one may apply)									
Heating	221	365	N	4,630	7,645	N	47.8	47.8	N
Cooling	274	482	N	6,085	9,963	N	45.0	48.4	N
Water Heating Equipment									
Centralized System	343	577	270	6,539	12,019	6,795	52.4	48.0	39.7
Distributed System	92	91	63	2,462	3,051	2,046	37.5	29.9	30.9
Combination of Centralized and Distributed System	111	181	86	2,055	3,813	2,354	54.0	47.5	36.4
Energy-Related Space Functions (more than one may apply)									
Commercial Food Preparation	304	437	225	5,563	8,062	5,020	54.7	54.3	44.7
Activities with Large Amounts of Hot Water	249	437	217	4,152	7,176	4,694	59.9	60.9	46.2
Separate Computer Area	238	418	192	5,023	10,078	5,514	47.4	41.5	34.9
HVAC Conservation Features (more than one may apply)									
Variable Air-Volume System	160	335	194	2,616	7,289	4,689	61.0	45.9	41.4
Economizer Cycle	156	429	196	2,876	8,712	5,068	54.2	49.3	38.7
HVAC Maintenance	456	760	393	9,645	16,923	10,416	47.3	44.9	37.7
Energy Management and Control System (EMCS)	111	241	112	2,167	6,029	3,431	51.1	39.9	32.5

Table C32. Natural Gas Consumption and Conditional Energy Intensity by Year Constructed 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)		
	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003	1959 or Before	1960 to 1989	1990 to 2003
**All Buildings* ..... **	571	871	427	12,097	19,763	11,608	47.2	44.1	36.8
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)[a]									
Heating	409	569	275	8,877	14,453	7,850	46.1	39.4	35.1
Cooling	387	566	296	8,632	14,308	8,498	44.9	39.6	34.8
Lighting	415	523	274	9,376	13,751	7,944	44.3	38.0	34.5
Office Equipment	164	189	109	4,362	4,975	3,333	37.7	37.9	32.8
Annual Consumption (hundred cubic feet)									
1,000 or Less	14	15	7	1,617	1,670	1,049	8.5	8.9	6.5
1,001 to 5,000	90	99	53	2,818	4,392	2,522	31.8	22.5	21.1
5,001 to 10,000	75	100	65	1,466	2,803	1,984	51.1	35.6	32.5
10,001 to 25,000	117	153	79	2,316	3,187	2,265	50.6	47.9	34.8
25,001 to 50,000	75	127	82	1,497	2,376	1,661	50.4	53.4	49.1
50,001 to 100,000	52	118	42	810	2,293	866	63.6	51.4	48.0
Over 100,000	149	260	101	1,572	3,042	1,261	94.8	85.4	79.9
Provider of Natural Gas (more than one may apply)									
Local Utility	463	733	385	10,701	17,234	10,427	43.2	42.6	37.0
Some Other Provider	131	188	57	1,773	3,432	1,167	74.1	54.9	48.9

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.