

Table C31. Natural gas consumption and conditional energy intensity by building size, 2012

	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 feet	1,001 to 10,000 square feet	10,001 to 100,000 square feet	Over 100,000 feet	1,001 to 10,000 square feet	10,001 to 100,000 square feet	Over 100,000 feet
All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Principal building activity									
Education	14	140	130	376	4,483	4,661	37.1	31.1	28.0
Food sales	13	36	Q	229	484	Q	55.3	74.9	Q
Food service	184	37	N	1,087	307	N	169.7	121.8	N
Health care	10	40	208	307	821	2,164	31.8	48.9	96.3
Inpatient	N	17	197	N	234	1,878	N	71.4	104.8
Outpatient	10	23	12	307	587	286	31.8	39.9	40.7
Lodging	8	103	105	152	2,303	2,462	52.7	44.6	42.5
Mercantile	50	152	82	1,003	3,922	3,568	49.9	38.9	22.9
Retail (other than mall)	20	32	21	706	1,419	1,246	28.1	22.5	16.6
Enclosed and strip malls	30	121	61	298	2,503	2,322	101.7	48.2	26.2
Office	54	121	101	1,821	4,431	4,038	29.4	27.4	24.9
Public assembly	22	65	45	544	2,007	1,337	40.2	32.5	33.5
Public order and safety	9	15	16	169	490	348	50.6	30.8	46.2
Religious worship	29	53	Q	710	2,129	Q	40.7	24.8	Q
Service	70	47	Q	1,118	1,614	Q	62.5	28.9	Q
Warehouse and storage	16	55	65	737	2,779	3,490	21.2	19.7	18.8
Other	12	30	37	221	545	612	52.5	55.2	60.6
Vacant	Q	9	Q	Q	592	Q	Q	14.8	Q
Year constructed									
Before 1920	28	33	24	635	1,009	677	43.9	32.7	36.1
1920 to 1945	48	55	38	838	1,778	1,175	57.6	30.8	32.7
1946 to 1959	47	79	68	959	2,585	1,849	49.5	30.4	37.0
1960 to 1969	61	142	104	1,235	3,790	2,529	49.4	37.5	41.0
1970 to 1979	80	122	130	1,256	3,393	3,330	63.4	36.0	38.9
1980 to 1989	70	148	108	1,289	4,346	4,252	54.6	34.1	25.4
1990 to 1999	69	137	124	1,191	4,276	3,694	58.0	32.1	33.6
2000 to 2003	29	62	63	456	1,963	2,303	63.3	31.6	27.4
2004 to 2007	27	56	84	323	1,980	1,793	84.7	28.5	46.8
2008 to 2012	31	69	56	392	1,786	1,643	79.3	38.5	33.9
Census region and division									
Northeast	72	190	225	1,108	4,861	5,098	65.0	39.1	44.2
New England	12	42	54	275	1,094	872	44.6	38.0	61.9
Middle Atlantic	60	148	171	833	3,767	4,226	71.7	39.4	40.5
Midwest	135	281	211	2,504	6,995	5,527	54.1	40.1	38.1
East North Central	98	216	167	1,676	4,943	4,171	58.6	43.7	40.1
West North Central	37	65	43	828	2,052	1,356	45.0	31.5	32.0
South	174	253	173	2,802	9,274	7,824	62.1	27.3	22.1
South Atlantic	88	115	94	1,074	4,409	4,502	82.3	26.1	21.0
East South Central	19	53	29	551	1,653	1,232	35.4	31.9	23.4
West South Central	66	86	50	1,177	3,212	2,091	56.2	26.6	23.9
West	110	179	190	2,161	5,776	4,795	50.7	31.0	39.7
Mountain	38	51	Q	699	1,513	1,554	54.7	33.5	45.4
Pacific	71	129	120	1,462	4,263	3,241	48.8	30.1	37.0

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All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Climate region¹									
Very cold/Cold	207	464	399	3,706	11,313	9,492	55.9	41.0	42.0
Mixed-humid	169	246	226	2,666	8,624	8,071	63.3	28.6	28.0
Mixed-dry/Hot-dry	60	91	98	1,328	3,547	2,645	45.4	25.6	37.0
Hot-humid	42	67	58	623	2,353	2,324	67.7	28.4	24.8
Marine	13	35	19	252	1,070	712	50.3	32.8	26.4
Number of floors									
One	343	433	121	5,693	12,525	6,278	60.2	34.6	19.2
Two	110	251	137	2,166	8,148	4,350	51.0	30.8	31.5
Three	31	113	75	590	3,186	2,309	52.9	35.5	32.4
Four to nine	Q	102	323	Q	2,996	6,644	Q	34.1	48.7
Ten or more	N	Q	144	N	Q	3,663	N	Q	39.2
Number of workers (main shift)									
Fewer than 5	172	80	Q	3,898	3,458	Q	44.2	23.0	Q
5 to 9	119	74	Q	2,360	2,644	Q	50.4	28.1	Q
10 to 19	146	137	8	1,750	4,425	624	83.4	30.9	13.0
20 to 49	53	276	40	561	8,133	1,918	95.2	33.9	20.9
50 to 99	Q	220	131	Q	5,690	4,624	Q	38.7	28.3
100 to 249	N	109	220	N	2,329	6,551	N	46.7	33.6
250 or more	N	8	390	N	226	8,674	N	34.1	45.0
Weekly operating hours									
Fewer than 40	42	48	5	1,295	1,989	421	32.2	24.2	11.8
40 to 48	80	126	46	2,295	5,059	2,606	34.8	24.9	17.7
49 to 60	100	179	81	2,401	7,322	4,282	41.8	24.4	19.0
61 to 84	117	215	127	1,192	5,492	4,810	97.8	39.1	26.4
85 to 167	105	138	97	740	2,708	3,286	141.6	50.9	29.6
Open continuously	48	197	443	652	4,336	7,839	73.3	45.5	56.5
Ownership and occupancy									
Nongovernment owned	448	677	579	7,555	20,132	16,794	59.4	33.6	34.5
Owner occupied	245	320	303	4,137	9,422	6,983	59.3	34.0	43.3
Leased to tenant(s)	186	274	159	2,877	7,965	6,519	64.5	34.4	24.4
Owner occupied and leased	16	80	117	489	2,481	3,285	32.9	32.3	35.7
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government owned	43	226	220	1,020	6,774	6,450	41.8	33.4	34.2
Federal	Q	Q	19	Q	Q	450	Q	Q	41.2
State	8	73	84	141	1,729	2,068	54.0	42.4	40.8
Local	32	145	118	815	4,690	3,933	39.1	30.9	29.9
Party responsible for operation and maintenance of energy systems									
Building owner	384	723	700	7,111	22,274	19,715	54.0	32.5	35.5
Business owner or tenant	95	153	86	1,278	4,021	2,941	74.6	38.0	29.3
Property management	Q	Q	9	Q	Q	455	Q	Q	20.6
Other	Q	16	Q	Q	368	Q	Q	42.5	Q

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All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Provider of direct input on energy-related equipment purchases									
Building owner	397	761	710	7,353	23,438	20,156	54.0	32.5	35.2
Business owner or tenant	73	116	69	968	2,798	2,258	75.9	41.4	30.4
Property management	Q	Q	8	Q	Q	369	Q	Q	21.6
Other	16	22	13	204	573	462	79.4	37.7	28.0
Number of establishments									
One	412	588	490	6,791	17,387	12,978	60.6	33.8	37.8
2 to 5	71	171	176	1,521	5,686	5,225	46.5	30.2	33.7
6 to 10	6	63	35	172	1,827	1,094	36.4	34.7	31.9
11 to 20	Q	60	48	Q	1,372	1,357	Q	44.0	35.7
More than 20	N	16	50	N	343	2,520	N	46.0	19.7
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant exterior wall material									
Brick, stone, or stucco	269	494	369	4,110	14,475	10,414	65.4	34.1	35.4
Concrete (block or poured)	103	214	205	1,740	6,477	6,301	59.1	33.0	32.6
Concrete panels	8	70	126	168	1,881	3,889	47.0	37.1	32.3
Siding or shingles	57	51	Q	1,168	1,344	Q	48.7	37.6	Q
Metal panels	43	60	19	1,272	2,282	832	34.2	26.4	22.9
Window glass	Q	Q	Q	Q	Q	833	Q	Q	38.5
Other	Q	Q	Q	Q	Q	324	Q	Q	55.8
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant roof material									
Metal surfacing	112	95	28	2,161	3,971	1,694	51.6	24.0	16.8
Synthetic or rubber	107	345	377	1,530	8,539	9,721	70.0	40.4	38.8
Built-up	67	202	299	1,217	7,081	7,728	55.0	28.6	38.7
Slate or tile shingles	47	56	8	672	1,494	Q	69.5	37.5	Q
Wooden materials (including shingles)	24	Q	Q	312	Q	Q	77.1	Q	Q
Asphalt, fiberglass, or other shingles	128	175	56	2,560	5,013	2,323	50.0	34.9	24.0
Concrete	Q	Q	13	Q	Q	522	Q	Q	25.2
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q
Roof characteristics									
Roof tilt									
Flat	207	573	640	2,947	15,811	17,074	70.1	36.3	37.5
Shallow pitch	166	179	125	3,244	6,462	4,794	51.1	27.7	26.0
Steeper pitch	119	151	35	2,384	4,632	1,376	49.8	32.5	25.3
Cool roof	80	208	300	1,175	4,821	8,357	68.0	43.2	35.8

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All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	219	455	526	3,651	13,315	13,978	59.9	34.2	37.6
Addition or annex	50	133	273	768	3,942	5,396	65.3	33.8	50.7
Reduction in floorspace	9	8	Q	144	378	862	65.8	20.3	58.7
Roof replacement	94	247	323	1,796	6,469	7,887	52.6	38.2	40.9
Exterior wall replacement	23	34	70	316	1,286	1,793	71.7	26.3	38.9
Interior wall reconfiguration	90	224	315	1,623	6,683	7,769	55.6	33.4	40.5
Window replacement	66	129	183	1,020	4,026	4,239	64.9	31.9	43.2
HVAC equipment upgrade	120	292	409	1,959	8,407	10,072	61.3	34.8	40.6
Lighting upgrade	110	288	392	1,784	7,317	10,197	61.6	39.4	38.4
Electrical upgrade	92	156	289	1,415	4,559	6,400	65.1	34.3	45.1
Plumbing system upgrade	82	163	257	1,197	4,203	5,150	68.7	38.7	50.0
Insulation upgrade	42	80	141	755	2,375	2,764	55.0	33.5	51.1
Fire, safety, or security upgrade	70	181	304	1,177	4,833	7,217	59.2	37.5	42.1
Structural upgrade	23	37	88	309	1,078	1,447	74.4	34.3	60.6
Other	Q	Q	6	Q	Q	370	Q	Q	16.0
No renovations	241	379	218	4,531	11,805	7,623	53.2	32.1	28.5
Buildings constructed 2008 or later	31	69	56	392	1,786	1,643	79.3	38.5	33.9
Energy sources (more than one may apply)									
Electricity	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Natural gas	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Fuel oil	17	146	445	292	3,316	10,055	56.8	44.2	44.3
District heat	Q	6	99	Q	289	2,553	Q	19.2	38.6
District chilled water	Q	10	113	Q	338	2,071	Q	30.2	54.6
Propane	9	66	68	176	1,321	1,899	49.9	49.9	35.8
Other	8	43	55	157	1,132	1,349	51.0	37.8	40.8
Space-heating energy sources									
Natural gas	421	819	683	7,665	23,741	18,104	54.9	34.5	37.7
Natural gas main	364	738	623	6,851	19,975	16,161	53.2	37.0	38.6
Natural gas secondary	57	80	60	814	3,766	1,943	69.5	21.3	30.9
Other excluding natural gas	57	75	114	764	2,956	4,897	74.9	25.3	23.2
Buildings without heating	13	Q	Q	145	Q	Q	89.4	Q	Q
Primary space-heating energy source									
Electricity	109	143	75	1,469	5,956	4,124	74.3	24.0	18.2
Natural gas	364	738	623	6,851	19,975	16,161	53.2	37.0	38.6
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q	Q
District heat	Q	6	96	Q	289	2,484	Q	19.2	38.8
Propane	Q	Q	N	Q	Q	N	Q	Q	N
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources									
Natural gas	Q	Q	50	Q	Q	564	Q	Q	88.6
Other excluding natural gas	460	861	747	7,806	25,771	22,589	58.9	33.4	33.1
Buildings without cooling	30	36	Q	739	996	Q	40.4	36.0	Q

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All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Main equipment replaced since 1990 (more than one may apply)									
Heating	217	345	209	3,648	10,175	7,234	59.5	33.9	28.9
Cooling	223	350	287	3,734	10,478	8,880	59.7	33.4	32.3
Water-heating equipment									
Centralized system	374	567	439	6,349	16,787	10,869	58.9	33.7	40.4
Distributed system	48	111	92	1,043	3,636	3,532	45.6	30.5	26.1
Combination of centralized and distributed system	44	215	266	576	5,713	8,514	75.9	37.7	31.3
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	11	67	278	173	1,475	6,219	61.8	45.5	44.6
Fast food or small restaurant	31	130	202	300	2,393	5,652	102.3	54.2	35.8
Cafeteria or large restaurant	Q	128	443	Q	3,359	9,663	Q	38.1	45.9
Commercial kitchen/ food preparation area	14	217	425	367	4,851	8,864	38.4	44.8	48.0
Small kitchen area	46	156	196	1,300	4,701	4,882	35.6	33.2	40.2
HVAC conservation features (more than one may apply)									
Economizer cycle	75	330	585	746	8,815	15,122	101.2	37.4	38.7
Regular HVAC maintenance	357	805	780	5,425	23,040	22,226	65.8	35.0	35.1
Building automation system (BAS) ²	64	353	656	992	9,711	17,118	64.9	36.3	38.3
Window and interior lighting features (more than one may apply)									
Multipaned windows	332	710	666	5,349	20,051	18,374	62.1	35.4	36.3
Tinted window glass	193	488	577	3,140	14,413	15,078	61.4	33.9	38.3
Reflective window glass	52	191	285	984	4,845	6,221	52.4	39.4	45.8
External overhangs or awnings	221	405	380	3,286	10,445	9,489	67.2	38.8	40.0
Skylights or atriums	37	220	407	783	6,146	9,816	47.7	35.8	41.4
Light scheduling	116	352	437	1,574	9,154	12,381	73.6	38.5	35.3
Occupancy sensors	66	398	577	1,046	10,434	15,492	63.5	38.2	37.2
Multi-level lighting or dimming	60	206	294	583	4,359	6,762	102.9	47.2	43.4
Daylight harvesting	9	64	120	116	1,537	3,268	78.2	41.6	36.6
Demand responsive lighting	16	53	56	270	1,523	1,885	58.8	34.5	29.5
Building automation system (BAS) for lighting ²	17	126	184	240	3,116	6,045	70.5	40.5	30.4
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	381	666	588	6,786	21,648	18,384	56.1	30.8	32.0
Cooling	367	655	582	6,401	20,876	18,450	57.3	31.4	31.5
Lighting	465	841	747	8,153	25,244	21,636	57.1	33.3	34.5

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All buildings	491	903	799	8,575	26,906	23,244	57.3	33.6	34.4
Annual consumption (hundred cubic feet)									
1,000 or less	44	7	(*)	3,379	2,499	1,074	13.1	2.7	0.2
1,001 to 5,000	176	97	2	3,877	8,034	1,425	45.3	12.1	1.6
5,001 to 10,000	92	132	7	678	5,307	2,002	136.0	24.9	3.7
10,001 to 25,000	143	270	35	570	6,561	4,026	251.1	41.1	8.7
25,001 to 50,000	Q	202	78	Q	3,067	4,037	Q	65.9	19.4
50,001 to 100,000	Q	123	142	Q	1,048	4,211	Q	117.7	33.8
Over 100,000	N	Q	534	N	Q	6,469	N	Q	82.5

¹These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • 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.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and C of the 2012 Commercial Buildings Energy Consumption Survey.