

Table C32. Natural gas consumption and conditional energy intensity by year constructed, 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)		
	1959 or before	1960 to 1989	1990 to 2012	1959 or before	1960 to 1989	1990 to 2012	1959 or before	1960 to 1989	1990 to 2012
All buildings	421	965	807	11,504	25,420	21,801	36.6	38.0	37.0
Building floorspace (square feet)									
1,001 to 5,000	69	98	82	1,196	1,475	1,086	58.0	66.4	75.5
5,001 to 10,000	54	113	74	1,236	2,305	1,276	43.9	49.1	58.3
10,001 to 25,000	59	152	86	2,187	3,785	2,852	27.0	40.0	30.2
25,001 to 50,000	51	134	93	1,497	3,851	2,800	33.8	34.7	33.1
50,001 to 100,000	57	127	146	1,688	3,893	4,354	33.7	32.7	33.5
100,001 to 200,000	40	138	105	1,476	3,732	4,207	27.1	36.9	25.0
200,001 to 500,000	65	115	122	1,549	3,800	2,944	42.1	30.2	41.5
Over 500,000	26	89	99	675	2,578	2,281	38.5	34.4	43.4
Principal building activity									
Education	79	114	91	2,357	3,729	3,434	33.5	30.6	26.5
Food sales	Q	20	27	Q	317	421	Q	62.4	63.6
Food service	47	95	80	409	532	453	114.4	179.0	176.3
Health care	32	111	116	440	1,493	1,359	72.2	74.4	85.1
Inpatient	25	96	93	245	1,045	822	101.1	91.7	113.0
Outpatient	7	15	23	194	448	537	35.6	33.9	42.3
Lodging	24	104	87	594	2,356	1,968	40.0	44.3	44.3
Mercantile	23	139	121	863	3,679	3,952	27.0	37.9	30.7
Retail (other than mall)	12	22	39	554	959	1,858	21.0	22.5	21.1
Enclosed and strip malls	Q	118	82	Q	2,720	2,094	Q	43.3	39.2
Office	79	135	62	2,220	5,169	2,901	35.5	26.1	21.2
Public assembly	32	49	51	1,154	1,250	1,485	27.8	39.3	34.1
Public order and safety	Q	15	17	Q	296	507	Q	50.2	33.4
Religious worship	27	34	24	968	1,100	949	27.4	31.0	25.5
Service	30	55	34	601	1,348	841	50.4	40.8	40.1
Warehouse and storage	29	53	53	916	3,166	2,925	32.0	16.8	18.2
Other	Q	33	42	Q	570	441	Q	58.5	94.2
Vacant	3	6	Q	307	415	Q	8.9	15.2	Q
Census region and division									
Northeast	139	195	154	3,248	4,442	3,378	42.7	43.8	45.6
New England	27	35	46	599	890	752	45.6	39.3	60.6
Middle Atlantic	111	160	108	2,649	3,552	2,626	42.0	45.0	41.3
Midwest	142	285	200	3,470	6,491	5,064	40.9	43.8	39.5
East North Central	109	216	157	2,568	4,448	3,774	42.6	48.5	41.5
West North Central	33	69	44	902	2,042	1,291	36.1	33.8	33.8
South	80	281	239	2,971	8,467	8,463	27.0	33.2	28.3
South Atlantic	37	123	138	1,518	3,841	4,625	24.4	32.0	29.7
East South Central	17	53	31	413	1,778	1,245	40.6	30.1	24.8
West South Central	26	105	71	1,040	2,847	2,593	25.3	36.8	27.3
West	61	204	214	1,815	6,020	4,897	33.4	33.9	43.7
Mountain	18	61	81	453	1,636	1,677	39.4	37.1	48.2
Pacific	43	144	133	1,362	4,384	3,220	31.4	32.8	41.4

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All buildings	421	965	807	11,504	25,420	21,801	36.6	38.0	37.0
Provider of direct input on energy-related equipment purchases									
Building owner	375	820	673	10,490	22,166	18,291	35.8	37.0	36.8
Business owner or tenant	38	117	103	789	2,564	2,672	47.8	45.7	38.6
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	21	24	Q	468	600	Q	44.1	40.7
Number of establishments									
One	294	630	566	7,344	15,383	14,430	40.0	40.9	39.3
2 to 5	94	185	139	2,794	5,174	4,463	33.7	35.7	31.1
6 to 10	15	49	41	575	1,540	977	25.8	32.0	41.5
11 to 20	Q	59	45	Q	1,269	1,259	Q	46.5	35.4
More than 20	11	38	16	452	1,829	581	24.1	21.0	27.6
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant exterior wall material									
Brick, stone, or stucco	281	483	367	7,889	11,765	9,345	35.6	41.1	39.3
Concrete (block or poured)	84	282	155	2,148	7,316	5,053	39.2	38.6	30.7
Concrete panels	7	70	125	233	2,446	3,260	32.1	28.8	38.5
Siding or shingles	28	52	51	839	1,027	1,022	33.4	50.7	49.6
Metal panels	Q	46	59	Q	2,032	2,121	Q	22.8	27.8
Window glass	Q	17	Q	Q	501	489	Q	33.0	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									
Metal surfacing	22	101	112	843	2,773	4,209	25.9	36.4	26.7
Synthetic or rubber	160	299	371	3,819	7,977	7,994	41.8	37.5	46.4
Built-up	97	317	154	2,911	8,611	4,503	33.5	36.8	34.1
Slate or tile shingles	47	34	31	1,057	844	900	44.3	39.8	Q
Wooden materials (including shingles)	Q	24	Q	Q	323	Q	Q	73.9	Q
Asphalt, fiberglass, or other shingles	78	165	116	2,421	3,978	3,497	32.2	41.4	33.1
Concrete	Q	10	10	Q	436	321	Q	24.1	32.5
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	260	674	485	6,996	17,364	11,473	37.2	38.8	42.3
Shallow pitch	83	180	206	2,194	5,550	6,757	38.0	32.5	30.5
Steeper pitch	78	110	116	2,315	2,506	3,571	33.6	43.9	32.6
Cool roof	96	233	258	2,249	5,907	6,196	42.6	39.5	41.7

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All buildings	421	965	807	11,504	25,420	21,801	36.6	38.0	37.0
Cooling energy sources									
Natural gas	Q	22	Q	Q	282	Q	Q	79.4	Q
Other excluding natural gas	377	914	777	10,587	24,422	21,158	35.6	37.4	36.7
Buildings without cooling	24	29	16	666	716	444	35.5	40.1	35.6
Water-heating energy sources									
Natural gas	330	770	627	7,294	17,542	14,687	45.3	43.9	42.7
Other excluding natural gas	81	179	168	3,459	7,370	6,666	23.4	24.3	25.2
Buildings without water heating	10	16	12	751	507	448	13.1	30.8	26.9
Cooking energy sources									
Natural gas	212	534	462	4,443	10,793	9,534	47.7	49.5	48.4
Other excluding natural gas	50	81	69	1,606	2,226	2,425	31.4	36.4	28.3
Buildings without cooking	159	350	277	5,456	12,400	9,842	29.1	28.2	28.2
Energy end uses (more than one may apply)									
Buildings with space heating	416	953	800	11,408	25,082	21,639	36.5	38.0	36.9
Buildings with cooling	398	936	791	10,838	24,703	21,357	36.7	37.9	37.1
Buildings with water heating	411	949	795	10,753	24,912	21,353	38.3	38.1	37.2
Buildings with cooking	262	615	530	6,049	13,019	11,959	43.4	47.2	44.3
Buildings with manufacturing	29	51	41	929	1,708	1,102	30.9	29.8	36.9
Buildings with electricity generation	101	333	401	2,370	8,638	9,263	42.5	38.5	43.3
Percent of floorspace heated									
Not heated	Q	12	Q	Q	337	Q	Q	35.5	Q
1 to 50	25	52	43	1,225	2,815	1,676	20.5	18.5	25.7
51 to 99	90	180	161	2,596	4,465	4,086	34.8	40.4	39.5
100	301	720	595	7,586	17,802	15,877	39.7	40.5	37.5
Percent of floorspace cooled									
Not cooled	24	29	16	666	716	444	35.5	40.1	35.6
1 to 50	131	170	107	3,266	5,893	3,871	40.0	28.9	27.7
51 to 99	113	269	269	3,589	7,057	6,460	31.6	38.0	41.6
100	154	497	415	3,983	11,753	11,025	38.6	42.3	37.6
Heating equipment (more than one may apply)									
Heat pumps	45	97	99	1,372	3,133	3,055	33.0	30.9	32.5
Furnaces	51	107	80	1,384	3,372	2,290	36.8	31.9	35.0
Individual space heaters	129	247	156	3,778	6,951	5,079	34.2	35.5	30.6
District heat	9	Q	Q	581	1,174	1,078	14.9	48.9	Q
Boilers	226	403	330	5,001	8,675	6,342	45.3	46.5	52.1
Packaged heating units	215	601	511	6,313	16,317	14,940	34.0	36.8	34.2
Other	Q	18	31	Q	434	663	Q	42.4	46.4

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All buildings	421	965	807	11,504	25,420	21,801	36.6	38.0	37.0
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	89	192	124	2,359	4,918	3,226	37.8	39.1	38.5
Heat pumps	49	108	93	1,563	3,371	3,083	31.5	31.9	30.3
Individual air conditioners	121	171	73	2,976	3,997	2,164	40.7	42.8	33.7
District chilled water	5	61	Q	191	1,151	1,089	27.7	52.8	Q
Central chillers	102	261	221	2,549	6,386	4,810	40.0	40.8	46.0
Packaged air conditioning units	215	579	492	6,027	15,288	13,602	35.7	37.9	36.1
Swamp coolers	16	35	18	248	654	634	65.6	52.9	29.1
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Main equipment replaced since 1990 (more than one may apply)									
Heating	228	543	N	6,646	14,412	N	34.3	37.7	N
Cooling	255	605	N	7,506	15,587	N	34.0	38.8	N
Water-heating equipment									
Centralized system	273	580	526	6,713	14,556	12,735	40.7	39.8	41.3
Distributed system	62	111	78	1,601	3,867	2,743	38.6	28.7	28.4
Combination of centralized and distributed system	76	259	191	2,439	6,489	5,875	31.3	39.8	32.5
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	40	151	164	1,005	3,527	3,336	40.2	42.8	49.2
Fast food or small restaurant	31	163	169	835	3,777	3,733	36.7	43.1	45.4
Cafeteria or large restaurant	95	256	222	2,339	5,996	4,708	40.7	42.6	47.1
Commercial kitchen/food preparation area	102	294	261	2,336	6,195	5,552	43.6	47.4	47.0
Small kitchen area	100	159	140	2,801	4,183	3,899	35.7	38.0	36.0
HVAC conservation features (more than one may apply)									
Economizer cycle	129	412	450	3,553	10,587	10,543	36.2	38.9	42.7
Regular HVAC maintenance	343	862	738	8,859	22,036	19,796	38.7	39.1	37.3
Building automation system (BAS) ²	147	428	498	3,844	11,380	12,598	38.3	37.6	39.5

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All buildings	421	965	807	11,504	25,420	21,801	36.6	38.0	37.0
Window and interior lighting features (more than one may apply)									
Multipaned windows	284	704	721	7,427	17,931	18,416	38.2	39.3	39.2
Tinted window glass	186	575	498	4,794	14,758	13,079	38.7	39.0	38.1
Reflective window glass	63	207	258	1,552	5,264	5,234	40.7	39.3	49.2
External overhangs or awnings	149	459	397	3,300	10,776	9,143	45.3	42.6	43.4
Skylights or atriums	87	303	274	2,293	7,732	6,721	37.8	39.2	40.8
Light scheduling	130	376	399	3,256	9,678	10,175	39.8	38.8	39.3
Occupancy sensors	161	431	449	3,951	11,337	11,684	40.8	38.1	38.4
Multi-level lighting or dimming	68	215	277	1,580	4,699	5,425	42.7	45.7	51.1
Daylight harvesting	28	84	81	522	2,047	2,351	53.2	41.0	34.3
Demand responsive lighting	21	57	47	383	1,722	1,574	54.7	32.9	29.6
Building automation system (BAS) for lighting ²	45	114	168	847	3,612	4,942	52.8	31.6	34.0
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	335	706	593	9,145	20,019	17,654	36.7	35.3	33.6
Cooling	319	695	590	8,684	19,680	17,362	36.7	35.3	34.0
Lighting	407	905	743	11,022	23,946	20,065	36.9	37.8	37.0
Annual consumption (hundred cubic feet)									
1,000 or less	17	21	13	1,561	3,247	2,143	10.9	6.6	6.0
1,001 to 5,000	82	113	81	3,106	5,498	4,731	26.4	20.5	17.0
5,001 to 10,000	54	109	68	1,945	3,411	2,631	27.9	32.0	26.0
10,001 to 25,000	78	195	175	1,849	4,816	4,491	42.2	40.4	39.0
25,001 to 50,000	51	139	114	1,234	2,948	2,974	41.2	47.1	38.4
50,001 to 100,000	32	131	115	664	2,339	2,275	47.5	56.2	50.6
Over 100,000	108	257	241	1,144	3,161	2,556	94.2	81.3	94.3

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.

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.