

Table C7. Consumption and gross energy intensity by Census division (part 1) for sum of major fuels, 2012

	Sum of major fuel consumption (trillion Btu)			Total floorspace of buildings (million square feet)			Energy intensity for sum of major fuels (thousand Btu/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	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Building floorspace (square feet)									
1,001 to 5,000	29	77	101	405	652	1,066	70.8	118.8	95.0
5,001 to 10,000	32	57	107	541	707	1,062	58.4	81.2	101.1
10,001 to 25,000	49	111	132	901	1,507	1,823	54.7	73.5	72.6
25,001 to 50,000	54	69	167	642	1,002	2,040	83.9	69.2	81.7
50,001 to 100,000	63	188	164	598	2,078	1,809	105.3	90.5	90.7
100,001 to 200,000	43	259	143	418	2,124	1,771	103.3	121.7	80.6
200,001 to 500,000	71	174	195	597	1,636	2,129	119.0	106.3	91.5
Over 500,000	Q	156	122	Q	1,526	1,042	Q	102.3	116.7
Principal building activity									
Education	45	124	160	642	1,414	2,205	69.7	87.7	72.7
Food sales	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food service	Q	47	72	Q	162	217	Q	288.3	331.1
Health care	48	128	102	274	792	549	176.5	161.0	184.9
Inpatient	40	84	84	169	369	359	237.1	227.3	232.3
Outpatient	Q	44	18	Q	423	190	Q	103.2	95.0
Lodging	Q	75	69	Q	800	673	Q	93.9	102.0
Mercantile	35	119	172	463	1,190	1,488	75.2	99.6	115.4
Retail (other than mall)	Q	45	72	Q	672	748	Q	67.2	95.6
Enclosed and strip malls	Q	73	100	Q	518	740	Q	141.6	135.5
Office	61	309	206	738	2,965	2,430	82.4	104.1	84.8
Public assembly	24	68	103	350	603	1,196	69.9	112.8	86.1
Public order and safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious worship	Q	28	31	Q	613	547	Q	46.2	56.6
Service	14	35	58	255	568	847	54.9	61.3	68.8
Warehouse and storage	24	40	65	521	1,240	1,570	Q	31.9	41.4
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	345	Q	Q	Q
Year constructed									
Before 1920	43	54	39	692	940	642	61.9	57.2	60.7
1920 to 1945	Q	130	85	428	1,530	1,373	84.4	84.8	62.2
1946 to 1959	28	112	101	349	1,233	1,154	79.8	90.8	87.2
1960 to 1969	42	159	133	481	1,759	1,488	87.7	90.2	89.3
1970 to 1979	57	207	194	502	1,450	1,865	112.7	142.5	103.9
1980 to 1989	34	112	173	572	1,170	1,655	59.7	96.0	104.6
1990 to 1999	37	187	153	485	1,560	1,942	76.4	119.6	78.9
2000 to 2003	42	57	104	343	637	1,090	122.8	89.2	95.7
2004 to 2007	Q	20	76	Q	267	860	Q	74.5	87.8
2008 to 2012	16	55	73	217	685	672	72.3	80.5	108.4

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All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Climate region¹									
Very cold/Cold	368	565	1,041	4,302	6,208	11,683	85.5	91.1	89.1
Mixed-humid	N	526	Q	N	5,024	Q	N	104.7	Q
Mixed-dry/Hot-dry	N	N	N	N	N	N	N	N	N
Hot-humid	N	N	N	N	N	N	N	N	N
Marine	N	N	N	N	N	N	N	N	N
Number of floors									
One	76	265	460	1,083	2,782	4,975	70.4	95.3	92.6
Two	90	279	241	1,281	2,816	3,206	70.1	99.1	75.3
Three	76	123	140	965	1,456	1,708	78.9	84.5	81.7
Four to nine	94	262	203	782	2,626	2,085	119.9	99.8	97.3
Ten or more	Q	162	86	Q	1,552	767	Q	104.6	112.8
Elevators and escalators (more than one may apply)									
Any elevators	211	659	514	1,857	6,054	5,439	113.9	108.9	94.6
Number of elevators									
One	82	176	185	944	1,636	2,252	86.4	107.8	82.4
Two to five	85	245	170	713	2,432	1,993	119.6	100.8	85.4
Six or more	45	238	159	200	1,986	1,195	223.1	119.7	133.0
Any escalators	Q	82	58	Q	785	731	Q	105.0	79.7
Number of workers (main shift)									
Fewer than 5	36	90	140	1,017	1,675	2,663	35.1	54.0	52.6
5 to 9	37	53	88	496	786	1,110	74.6	66.8	79.6
10 to 19	33	62	132	439	951	1,232	74.7	65.4	106.9
20 to 49	53	135	203	546	1,358	2,270	97.8	99.5	89.5
50 to 99	69	177	207	657	1,728	2,147	104.6	102.6	96.4
100 to 249	72	194	145	686	1,843	1,548	105.5	105.5	93.8
250 or more	68	380	215	460	2,892	1,771	147.2	131.3	121.5
Weekly operating hours									
Fewer than 40	Q	28	55	392	781	1,329	23.4	35.6	41.5
40 to 48	41	98	128	830	1,531	1,988	48.8	63.9	64.2
49 to 60	57	189	207	910	2,435	2,736	62.1	77.6	75.6
61 to 84	77	219	254	984	2,329	2,591	78.7	93.9	97.9
85 to 167	84	172	180	530	1,351	1,606	157.8	127.4	112.3
Open continuously	101	386	307	655	2,806	2,491	153.5	137.6	123.4

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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	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Predominant roof material									
Metal surfacing	25	68	99	548	1,077	1,630	45.3	63.3	60.8
Synthetic or rubber	179	402	500	1,755	4,125	5,361	102.0	97.5	93.2
Built-up	55	373	261	684	3,098	2,894	81.1	120.5	90.1
Slate or tile shingles	Q	47	21	Q	591	288	Q	79.9	74.1
Wooden materials (including shingles)	Q	Q	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	77	145	215	864	1,805	2,191	88.6	80.6	98.1
Concrete	Q	29	Q	Q	288	Q	Q	101.1	Q
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	214	847	719	2,157	7,905	7,483	99.3	107.1	96.1
Shallow pitch	64	130	240	1,012	1,530	3,112	63.7	84.9	77.2
Steeper pitch	89	115	171	1,133	1,798	2,146	78.7	63.9	79.8
Cool roof	63	317	268	742	2,639	2,545	85.5	120.2	105.3
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	243	703	625	2,625	6,639	6,653	92.7	105.8	94.0
Addition or annex	84	192	257	815	1,759	2,501	103.6	108.9	102.6
Reduction in floorspace	Q	Q	Q	Q	Q	Q	Q	212.2	Q
Roof replacement	135	436	335	1,388	4,072	3,267	97.5	106.9	102.4
Exterior wall replacement	27	50	56	264	646	605	100.9	77.3	93.2
Interior wall reconfiguration	116	386	341	1,431	3,589	3,577	81.1	107.5	95.2
Window replacement	101	191	163	1,095	2,308	2,027	91.9	82.8	80.2
HVAC equipment upgrade	148	545	412	1,570	4,908	4,574	94.2	111.1	90.2
Lighting upgrade	181	427	395	1,666	4,343	4,115	108.9	98.3	95.9
Electrical upgrade	114	305	243	1,172	2,796	2,625	97.1	109.2	92.5
Plumbing system upgrade	96	268	216	1,023	2,355	2,294	94.3	113.8	94.2
Insulation upgrade	52	125	112	581	1,168	1,268	90.3	106.9	88.1
Fire, safety, or security upgrade	127	335	269	1,368	3,234	2,613	93.1	103.5	102.9
Structural upgrade	28	30	49	300	432	628	93.4	69.2	78.2
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	109	334	432	1,460	3,909	5,416	74.6	85.4	79.9
Buildings constructed 2008 or later	16	55	73	217	685	672	72.3	80.5	108.4

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All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Energy sources (more than one may apply)									
Electricity	368	1,092	1,131	4,192	11,099	12,544	87.7	98.4	90.2
Natural gas	233	940	1,027	2,241	8,827	10,790	103.9	106.5	95.2
Fuel oil	181	441	316	1,866	4,213	2,619	97.0	104.6	120.7
District heat	Q	223	66	Q	1,628	574	172.2	137.2	114.7
District chilled water	Q	Q	53	Q	656	420	Q	242.9	126.6
Propane	68	65	82	861	885	829	79.4	73.4	98.5
Other	Q	59	35	397	691	532	70.9	86.0	65.9
Space-heating energy sources (more than one may apply)									
Electricity	184	487	537	1,848	5,428	5,687	99.5	89.7	94.4
Natural gas	195	743	964	1,990	7,362	10,122	98.1	100.9	95.2
Fuel oil	85	133	42	1,270	1,581	292	67.2	84.1	143.7
District heat	Q	223	66	Q	1,628	574	172.2	137.2	114.7
Propane	16	19	Q	314	339	280	51.5	54.8	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Primary space-heating energy source									
Electricity	34	134	131	468	1,720	1,702	72.2	77.9	76.7
Natural gas	181	660	913	1,811	6,555	9,587	100.0	100.7	95.2
Fuel oil	79	62	Q	1,099	889	Q	71.8	70.1	Q
District heat	Q	221	62	Q	1,601	532	172.2	137.8	115.7
Propane	6	Q	Q	204	Q	Q	30.5	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources (more than one may apply)									
Electricity	312	942	1,083	3,317	9,986	11,474	94.1	94.4	94.4
Natural gas	Q	32	Q	Q	216	Q	Q	148.4	Q
District chilled water	Q	Q	53	Q	656	420	Q	242.9	126.6
Water-heating energy sources (more than one may apply)									
Electricity	153	393	423	1,939	4,622	4,914	78.7	85.0	86.1
Natural gas	170	718	802	1,492	6,042	7,910	113.7	118.8	101.4
Fuel oil	54	68	Q	693	708	Q	78.4	96.7	Q
District heat	Q	197	59	Q	1,383	470	169.3	142.3	126.1
Propane	12	Q	Q	233	Q	Q	50.7	Q	Q
Cooking energy sources (more than one may apply)									
Electricity	113	364	425	1,143	3,534	4,211	98.6	103.1	100.8
Natural gas	117	566	492	1,015	4,341	4,293	115.1	130.5	114.5
Propane	45	Q	Q	486	293	Q	91.7	102.1	Q

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All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	48	121	225	451	1,244	2,854	106.7	96.9	78.8
Heat pumps	37	100	62	388	1,103	604	94.7	90.4	103.4
Individual air conditioners	101	269	174	1,035	2,810	1,806	98.0	95.6	96.3
District chilled water	Q	Q	53	Q	656	420	Q	242.9	126.6
Central chillers	94	310	361	783	2,706	3,484	119.5	114.5	103.7
Packaged air conditioning units	201	638	689	2,062	6,635	6,839	97.6	96.2	100.7
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	120	335	398	1,646	3,709	4,404	73.0	90.2	90.5
Cooling	139	440	437	1,516	4,798	4,620	91.7	91.7	94.6
Water-heating equipment									
Centralized system	213	719	738	2,487	6,641	7,606	85.8	108.3	97.0
Distributed system	52	128	126	586	1,797	1,671	88.1	71.0	75.4
Combination of centralized and distributed system	96	232	256	843	2,279	2,804	114.5	101.7	91.4
Lighting equipment types (more than one may apply)									
Incandescent	175	607	630	2,046	5,520	6,180	85.4	109.9	101.9
Standard fluorescent	352	1,064	1,105	3,771	10,702	11,880	93.5	99.5	93.0
Compact fluorescent	291	866	827	2,886	7,886	8,336	101.0	109.8	99.2
High-intensity discharge (HID)	116	387	416	1,161	3,349	4,102	99.9	115.7	101.5
Halogen	151	352	492	1,494	3,774	4,590	100.9	93.2	107.1
LED	169	398	401	1,363	3,388	3,759	124.1	117.4	106.7
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Refrigeration equipment (more than one may apply)									
Any refrigeration	332	1,036	1,058	3,568	10,044	11,374	93.2	103.1	93.0
Walk-in units	189	623	536	1,424	4,445	4,481	133.0	140.2	119.6
Cases or cabinets	186	597	538	1,524	4,542	4,820	121.9	131.4	111.7
Large cold storage areas	Q	69	76	Q	430	695	Q	160.1	108.8
Commercial ice makers	177	576	578	1,240	4,333	4,666	142.9	132.8	123.9
Residential-type or compact units	286	847	900	3,081	8,354	9,850	93.0	101.3	91.4
Vending machines	204	724	673	1,902	6,546	6,685	107.2	110.6	100.7
No refrigeration	35	56	73	734	1,189	1,368	48.3	47.2	53.5

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All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Office equipment (more than one may apply)									
Desktop computers	350	1,043	1,081	3,686	10,430	11,561	94.9	100.0	93.5
With flat screen monitors	349	1,032	1,071	3,645	10,310	11,436	95.7	100.1	93.6
With multiple monitors	132	474	448	1,158	4,132	4,244	113.9	114.8	105.6
Laptop computers	305	889	897	3,093	8,681	9,507	98.7	102.4	94.3
Dedicated servers	247	792	765	2,511	7,575	7,894	98.5	104.5	96.9
Laser printers	269	792	801	2,696	7,622	8,535	99.8	103.9	93.8
Inkjet printers	167	411	481	1,899	4,660	5,161	88.1	88.3	93.3
FAX machines	292	954	930	3,164	9,569	9,955	92.4	99.7	93.4
Photocopiers	291	888	837	2,989	8,665	9,111	97.3	102.5	91.8
Number of desktop computers									
None	18	49	50	616	802	1,181	29.2	60.8	42.0
1 to 4	57	124	192	846	1,611	2,283	67.3	76.8	83.9
5 to 9	Q	99	144	Q	1,142	1,390	Q	86.8	103.3
10 to 19	42	109	113	494	1,150	1,304	84.9	94.8	87.0
20 to 49	90	138	170	717	1,610	1,633	126.3	85.4	104.1
50 to 99	39	88	132	430	936	1,532	91.7	94.0	86.0
100 to 249	39	233	130	432	1,870	1,569	89.2	124.5	82.7
250 or more	67	252	201	518	2,110	1,850	129.4	119.6	108.7
Number of laptop computers									
None	63	203	234	1,208	2,552	3,235	51.8	79.6	72.4
1 to 4	95	177	282	1,083	2,267	3,260	88.1	78.2	86.6
5 to 9	37	Q	112	323	1,082	1,063	114.5	130.3	105.5
10 to 19	50	94	86	521	979	1,060	95.5	96.1	81.1
20 to 49	29	127	136	348	1,123	1,384	84.1	113.3	98.5
50 to 99	33	84	100	242	976	978	135.2	86.0	101.8
100 to 249	23	128	71	346	1,068	711	66.9	119.9	99.5
250 or more	Q	137	110	Q	1,185	1,051	Q	115.6	104.4
Number of dedicated servers									
None	120	300	366	1,790	3,657	4,848	67.3	82.1	75.4
1 to 4	137	419	467	1,582	4,611	5,055	86.5	90.9	92.5
5 to 9	31	87	98	338	755	931	91.5	114.9	104.9
10 to 19	47	106	58	340	777	663	137.9	136.6	87.1
20 to 49	Q	52	75	Q	566	714	Q	92.3	104.4
50 or more	Q	128	68	Q	867	530	Q	147.1	127.8
Number of photocopiers									
None	77	204	294	1,312	2,568	3,630	58.6	79.3	81.1
One	76	132	222	912	1,692	2,726	83.4	78.0	81.6
2 to 4	97	223	271	1,017	2,564	3,003	95.4	87.0	90.1
5 to 9	51	178	148	599	1,347	1,644	84.4	131.9	90.0
10 or more	67	355	196	461	3,062	1,739	146.0	116.0	112.5

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All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Number of TVs or video displays									
None	81	178	201	1,513	2,541	3,230	53.8	69.9	62.4
One	33	88	125	435	981	1,485	76.8	90.2	84.1
2 to 4	86	165	264	833	2,097	2,889	103.1	78.7	91.4
5 to 9	39	157	81	441	1,383	839	89.6	113.2	96.6
10 to 19	39	182	123	391	1,408	1,134	99.0	129.3	108.2
20 to 49	35	109	102	375	1,069	1,198	93.9	101.7	85.1
50 to 99	Q	31	72	Q	270	783	Q	113.4	91.4
100 or more	36	183	163	202	1,483	1,184	178.9	123.1	137.9
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	Q	192	174	Q	1,710	1,632	Q	112.3	106.8
Fast food or small restaurant	35	184	163	335	1,416	1,299	105.4	130.1	125.3
Cafeteria or large restaurant	85	350	237	829	2,756	2,452	102.2	127.1	96.8
Commercial kitchen/food preparation area	95	329	302	915	2,339	2,960	103.7	140.8	102.1
Small kitchen area	66	208	204	776	2,329	2,282	85.6	89.3	89.4
Separate computer areas (more than one may apply)									
Data center or server farm	80	236	202	491	1,887	1,743	164.0	125.1	115.7
Computer-based training room	66	264	279	747	2,594	2,728	88.3	101.7	102.4
Student or public computer center	63	186	192	834	1,877	2,236	75.6	99.1	86.0
HVAC conservation features (more than one may apply)									
Economizer cycle	168	642	551	1,412	5,498	5,550	119.0	116.8	99.2
Regular HVAC maintenance	320	1,007	1,033	3,324	9,658	10,660	96.3	104.2	96.9
Building automation system (BAS) ²	200	582	578	1,734	5,199	5,646	115.5	111.8	102.4
Window and interior lighting features (more than one may apply)									
Multipaned windows	307	788	944	3,410	8,047	10,082	89.9	97.9	93.6
Tinted window glass	146	568	622	1,420	4,893	6,325	103.1	116.2	98.3
Reflective window glass	55	221	275	495	1,849	2,633	110.2	119.5	104.3
External overhangs or awnings	99	438	463	1,106	3,183	4,169	89.5	137.5	111.0
Skylights or atriums	128	326	272	1,376	2,682	2,815	92.8	121.4	96.7
Light scheduling	161	485	502	1,454	4,384	5,033	110.6	110.5	99.8
Occupancy sensors	257	562	578	2,302	5,430	5,927	111.7	103.5	97.5
Multi-level lighting or dimming	82	207	258	663	1,672	2,275	124.1	123.7	113.5
Daylight harvesting	41	91	114	303	729	1,147	136.2	124.6	99.1
Demand responsive lighting	Q	49	53	Q	448	506	Q	108.6	104.9
Building automation system (BAS) for lighting ²	66	201	178	526	1,633	1,680	126.1	122.9	106.2

Table C7. Consumption and gross energy intensity by Census division (part 1) for sum of major fuels, 2012

	Sum of major fuel consumption (trillion Btu)			Total floorspace of buildings (million square feet)			Energy intensity for sum of major fuels (thousand Btu/square foot)		
	New England	Middle Atlantic	East	New England	Middle Atlantic	East	New England	Middle Atlantic	East
			North Central			North Central			North Central
All buildings	368	1,092	1,131	4,302	11,232	12,742	85.5	97.2	88.7
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	256	872	875	3,315	8,975	9,790	77.1	97.2	89.4
Cooling	262	839	837	2,931	8,520	9,321	89.3	98.4	89.8
Lighting	359	989	1,047	3,987	10,272	11,570	90.1	96.2	90.5

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.

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, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.