

Table C8. Consumption and gross energy intensity by Census division (part 2) 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Building floorspace (square feet)									
1,001 to 5,000	54	169	50	792	1,564	613	67.7	107.7	82.0
5,001 to 10,000	39	127	34	810	1,764	606	47.9	71.8	56.3
10,001 to 25,000	61	159	64	1,065	2,709	769	57.6	58.5	83.6
25,001 to 50,000	54	156	45	989	2,273	501	54.4	68.8	89.9
50,001 to 100,000	90	218	57	920	3,049	1,002	97.4	71.5	56.7
100,001 to 200,000	50	192	44	628	2,817	578	79.2	68.1	76.3
200,001 to 500,000	53	173	41	597	2,089	503	88.5	82.7	81.9
Over 500,000	35	165	33	376	1,715	Q	93.2	96.3	Q
Principal building activity									
Education	75	178	34	968	2,840	469	77.7	62.6	72.6
Food sales	Q	38	Q	Q	188	Q	Q	204.9	Q
Food service	33	120	36	153	396	150	213.9	304.0	236.7
Health care	52	107	54	313	662	271	167.5	161.7	200.1
Inpatient	30	86	48	137	405	184	220.5	211.4	260.6
Outpatient	Q	21	Q	176	257	Q	126.4	83.1	Q
Lodging	39	111	45	384	1,217	486	100.5	91.1	93.2
Mercantile	38	235	55	644	2,746	736	59.3	85.8	74.6
Retail (other than mall)	14	61	Q	394	1,052	Q	35.5	58.3	Q
Enclosed and strip malls	24	174	Q	250	1,694	Q	96.7	102.8	Q
Office	61	201	55	904	3,183	694	67.2	63.0	78.7
Public assembly	35	80	19	390	904	330	90.7	88.6	57.3
Public order and safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious worship	11	34	18	378	857	614	29.9	40.1	29.7
Service	30	55	19	625	741	318	47.3	74.1	58.4
Warehouse and storage	28	83	14	960	2,832	Q	29.4	29.5	27.1
Other	Q	78	Q	Q	568	Q	Q	137.4	Q
Vacant	Q	9	Q	191	546	Q	Q	Q	Q
Year constructed									
Before 1920	15	41	21	398	425	278	36.6	97.1	74.8
1920 to 1945	25	42	17	396	690	219	63.9	60.5	75.6
1946 to 1959	44	80	21	508	1,515	268	87.4	52.8	77.4
1960 to 1969	83	158	47	1,198	1,699	699	69.1	92.9	67.0
1970 to 1979	66	135	60	754	1,703	555	87.4	79.4	107.6
1980 to 1989	60	263	81	962	3,584	940	62.3	73.4	85.9
1990 to 1999	58	211	79	856	2,798	1,213	67.5	75.4	64.8
2000 to 2003	30	147	13	405	1,919	208	73.8	76.7	63.5
2004 to 2007	25	138	21	375	1,923	312	67.9	71.8	67.8
2008 to 2012	29	Q	Q	325	1,725	212	89.0	82.9	Q

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	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Climate region¹									
Very cold/Cold	319	N	N	4,488	N	N	71.1	N	N
Mixed-humid	116	1,022	279	1,689	13,349	3,810	68.5	76.6	73.2
Mixed-dry/Hot-dry	N	N	N	N	N	N	N	N	N
Hot-humid	N	336	Q	N	4,632	Q	N	72.6	82.6
Marine	N	N	N	N	N	N	N	N	N
Number of floors									
One	156	614	185	2,677	9,191	2,639	58.1	66.8	69.9
Two	101	262	67	1,661	3,825	1,084	60.9	68.4	61.4
Three	75	95	27	899	992	344	84.0	95.8	78.2
Four to nine	92	300	73	829	2,913	705	111.0	102.9	103.3
Ten or more	Q	88	Q	Q	1,061	Q	Q	82.6	Q
Elevators and escalators (more than one may apply)									
Any elevators	204	580	125	2,115	6,484	1,236	96.5	89.5	100.8
Number of elevators									
One	75	129	34	968	1,948	440	77.8	66.2	78.4
Two to five	84	267	35	788	2,839	476	106.5	94.1	73.9
Six or more	45	184	55	359	1,697	320	124.7	108.5	171.8
Any escalators	Q	67	Q	Q	646	Q	Q	103.4	Q
Number of workers (main shift)									
Fewer than 5	64	140	53	1,623	3,033	1,266	39.4	46.2	42.2
5 to 9	46	120	31	800	1,751	491	56.9	68.4	62.4
10 to 19	55	170	54	648	1,935	573	84.7	87.8	94.2
20 to 49	78	219	57	1,102	3,001	964	70.6	73.0	59.2
50 to 99	53	279	75	614	3,490	764	86.8	79.9	98.7
100 to 249	75	210	40	766	2,622	447	98.3	80.2	89.4
250 or more	64	220	59	626	2,150	399	102.5	102.3	147.0
Weekly operating hours									
Fewer than 40	23	25	17	697	1,161	698	32.4	21.7	24.8
40 to 48	47	134	63	1,060	2,901	1,269	44.8	46.1	49.9
49 to 60	95	283	54	1,636	5,097	876	58.1	55.5	61.6
61 to 84	82	281	49	1,037	3,459	476	78.8	81.4	102.4
85 to 167	88	224	50	821	1,846	503	107.6	121.3	100.3
Open continuously	100	411	135	927	3,518	1,082	107.6	116.9	125.1

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	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Predominant roof material									
Metal surfacing	68	205	76	1,634	3,905	1,369	41.8	52.6	55.8
Synthetic or rubber	172	401	130	2,141	4,388	1,387	80.5	91.3	93.8
Built-up	104	356	81	1,104	4,714	880	94.2	75.4	92.1
Slate or tile shingles	Q	88	Q	Q	1,065	Q	Q	82.4	Q
Wooden materials (including shingles)	Q	28	Q	Q	268	Q	Q	104.3	Q
Asphalt, fiberglass, or other shingles	76	220	57	1,077	2,964	992	70.4	74.3	57.6
Concrete	Q	45	Q	Q	490	Q	Q	92.7	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	271	833	193	3,091	10,067	2,046	87.7	82.7	94.4
Shallow pitch	105	353	123	1,897	5,282	1,817	55.3	66.8	67.6
Steeper pitch	59	172	53	1,190	2,631	1,041	49.5	65.5	51.1
Cool roof	102	314	111	1,121	3,879	1,345	91.4	81.0	82.7
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	261	562	240	3,443	7,251	2,752	75.8	77.5	87.0
Addition or annex	133	203	82	1,580	2,353	778	84.2	86.2	105.7
Reduction in floorspace	Q	41	Q	Q	344	Q	Q	120.6	Q
Roof replacement	178	246	155	2,131	2,865	1,647	83.5	85.9	94.3
Exterior wall replacement	42	76	27	468	773	300	89.6	97.8	91.1
Interior wall reconfiguration	141	298	126	1,625	3,346	1,228	86.7	89.1	102.5
Window replacement	77	175	66	1,013	2,079	584	76.4	84.3	113.0
HVAC equipment upgrade	166	375	154	1,967	4,584	1,437	84.6	81.9	106.9
Lighting upgrade	176	337	153	1,989	4,151	1,440	88.4	81.1	106.0
Electrical upgrade	130	235	100	1,378	2,571	979	94.4	91.6	101.6
Plumbing system upgrade	106	205	80	1,153	2,371	825	91.6	86.5	97.0
Insulation upgrade	82	108	38	929	1,159	409	88.8	93.1	92.5
Fire, safety, or security upgrade	121	260	98	1,201	2,782	900	101.0	93.3	108.6
Structural upgrade	32	73	Q	258	695	Q	124.4	105.2	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	145	653	119	2,409	9,005	1,940	60.2	72.6	61.3
Buildings constructed 2008 or later	29	Q	Q	325	1,725	212	89.0	82.9	Q

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All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Energy sources (more than one may apply)									
Electricity	435	1,358	369	6,016	17,608	4,824	72.3	77.1	76.5
Natural gas	344	941	295	4,236	9,984	3,436	81.2	94.3	85.8
Fuel oil	133	445	95	1,316	4,419	797	100.9	100.8	118.9
District heat	49	127	41	332	1,159	Q	146.9	109.4	Q
District chilled water	Q	124	49	Q	1,202	Q	Q	103.3	Q
Propane	55	88	28	1,080	1,476	470	50.7	59.4	60.2
Other	13	40	Q	267	554	Q	48.5	72.0	Q
Space-heating energy sources (more than one may apply)									
Electricity	200	946	234	2,951	12,514	3,170	67.9	75.6	73.8
Natural gas	309	632	234	3,909	7,309	2,662	78.9	86.5	88.1
Fuel oil	Q	38	Q	375	458	Q	64.8	83.0	Q
District heat	49	125	41	332	1,148	Q	146.9	108.8	Q
Propane	31	21	7	723	498	218	43.0	41.2	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Primary space-heating energy source									
Electricity	74	624	124	1,281	8,533	1,982	57.9	73.1	62.6
Natural gas	280	489	190	3,497	5,694	2,067	80.1	85.9	92.1
Fuel oil	Q	18	Q	Q	245	Q	Q	72.8	Q
District heat	49	123	41	332	1,089	Q	146.9	112.6	Q
Propane	21	7	Q	517	307	193	39.8	24.1	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources (more than one may apply)									
Electricity	405	1,277	334	5,352	16,368	4,307	75.6	78.0	77.6
Natural gas	Q	Q	Q	Q	Q	Q	Q	Q	Q
District chilled water	Q	124	49	Q	1,202	Q	Q	103.3	Q
Water-heating energy sources (more than one may apply)									
Electricity	186	759	189	3,020	11,163	2,900	61.6	68.0	65.3
Natural gas	245	617	200	2,705	5,651	2,103	90.6	109.2	95.3
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q	Q
District heat	Q	103	Q	Q	944	Q	Q	109.0	Q
Propane	16	22	Q	251	353	Q	62.6	61.7	Q
Cooking energy sources (more than one may apply)									
Electricity	193	494	157	1,949	5,446	1,544	99.0	90.8	101.8
Natural gas	151	555	156	1,349	4,427	1,487	111.7	125.4	105.0
Propane	18	34	Q	211	510	Q	86.7	66.9	Q

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All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	82	178	65	1,493	2,574	891	55.0	69.1	73.1
Heat pumps	28	357	48	421	4,925	839	66.0	72.5	57.7
Individual air conditioners	56	181	60	779	2,484	808	71.4	73.1	74.5
District chilled water	Q	124	49	Q	1,202	Q	Q	103.3	Q
Central chillers	127	387	92	991	3,884	831	128.7	99.6	111.4
Packaged air conditioning units	229	763	216	2,977	9,119	2,686	76.9	83.7	80.4
Swamp coolers	N	Q	N	N	Q	N	N	Q	N
Other	Q	Q	N	Q	Q	N	Q	Q	N
Main equipment replaced since 1990 (more than one may apply)									
Heating	160	396	138	2,482	5,204	1,616	64.4	76.1	85.2
Cooling	185	478	157	2,591	6,455	1,755	71.4	74.0	89.2
Water-heating equipment									
Centralized system	287	773	224	3,710	8,889	2,745	77.3	86.9	81.5
Distributed system	39	165	19	663	3,030	437	58.2	54.4	43.5
Combination of centralized and distributed system	96	374	119	1,137	4,226	1,416	84.3	88.5	83.9
Lighting equipment types (more than one may apply)									
Incandescent	251	673	198	2,858	7,828	2,468	87.9	85.9	80.3
Standard fluorescent	420	1,302	359	5,634	16,888	4,573	74.6	77.1	78.6
Compact fluorescent	312	985	258	3,505	10,855	2,923	89.0	90.8	88.3
High-intensity discharge (HID)	133	437	107	1,255	5,325	1,182	105.9	82.0	90.7
Halogen	142	581	127	1,578	6,161	1,349	90.1	94.4	94.4
LED	134	471	117	1,389	4,553	1,232	96.6	103.4	94.6
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Refrigeration equipment (more than one may apply)									
Any refrigeration	407	1,260	356	5,196	15,268	4,498	78.4	82.5	79.1
Walk-in units	204	721	173	1,850	6,399	1,199	110.0	112.7	144.2
Cases or cabinets	205	625	153	1,983	5,711	1,596	103.3	109.5	96.1
Large cold storage areas	Q	126	Q	Q	1,049	Q	Q	120.0	Q
Commercial ice makers	224	808	231	1,932	7,957	2,457	116.1	101.5	94.2
Residential-type or compact units	336	1,004	269	4,407	13,129	3,747	76.2	76.4	71.7
Vending machines	261	809	237	2,988	9,706	2,702	87.5	83.3	87.7
No refrigeration	27	98	14	982	2,713	406	27.9	36.1	33.3

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	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Office equipment (more than one may apply)									
Desktop computers	411	1,289	346	5,301	16,255	4,236	77.5	79.3	81.7
With flat screen monitors	409	1,263	343	5,192	16,079	4,156	78.7	78.5	82.6
With multiple monitors	188	593	133	2,164	6,888	1,498	87.0	86.1	88.5
Laptop computers	343	1,088	279	4,389	13,950	3,421	78.2	78.0	81.6
Dedicated servers	280	942	241	3,378	11,468	2,897	82.9	82.1	83.1
Laser printers	300	959	244	3,624	11,789	2,681	82.7	81.3	90.9
Inkjet printers	165	574	139	2,521	7,724	1,954	65.5	74.3	71.0
FAX machines	352	1,151	279	4,484	14,307	3,404	78.5	80.4	82.1
Photocopiers	316	972	255	3,942	12,279	3,057	80.1	79.2	83.5
Number of desktop computers									
None	24	70	23	877	1,726	668	27.5	40.4	34.2
1 to 4	74	260	70	1,299	3,318	911	56.9	78.4	76.5
5 to 9	53	144	43	730	1,723	649	71.9	83.7	66.7
10 to 19	33	123	37	522	1,903	649	63.4	64.4	56.3
20 to 49	77	226	65	958	2,966	758	80.7	76.3	85.9
50 to 99	35	114	38	452	1,713	456	76.7	66.6	82.7
100 to 249	68	191	41	634	2,156	410	106.8	88.4	100.2
250 or more	72	231	53	706	2,476	403	101.3	93.2	131.1
Number of laptop computers									
None	92	270	90	1,789	4,031	1,483	51.2	67.0	60.6
1 to 4	103	296	80	1,785	4,218	1,281	57.7	70.2	62.3
5 to 9	34	154	28	415	2,003	452	82.5	76.7	61.6
10 to 19	39	146	50	414	1,994	489	93.2	73.4	101.3
20 to 49	72	185	47	811	2,362	505	89.0	78.5	92.5
50 to 99	32	67	26	334	809	244	95.9	83.0	105.6
100 to 249	Q	106	Q	Q	1,078	Q	Q	98.0	Q
250 or more	35	134	Q	319	1,487	Q	111.2	90.1	Q
Number of dedicated servers									
None	155	416	128	2,800	6,513	2,007	55.3	63.9	63.9
1 to 4	147	593	122	2,145	7,735	1,785	68.7	76.7	68.6
5 to 9	45	83	Q	504	1,063	414	89.1	77.8	82.2
10 to 19	37	103	Q	343	1,286	Q	108.2	80.4	Q
20 to 49	Q	66	Q	Q	696	Q	Q	94.6	Q
50 or more	Q	97	Q	Q	688	Q	Q	140.8	Q
Number of photocopiers									
None	119	386	114	2,236	5,702	1,847	53.2	67.7	61.6
One	93	222	61	1,216	3,397	816	76.6	65.3	74.5
2 to 4	106	306	84	1,581	4,073	1,247	67.3	75.1	67.2
5 to 9	41	151	36	523	1,943	456	78.8	77.7	79.9
10 or more	75	294	74	621	2,865	538	120.7	102.5	138.2

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All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Number of TVs or video displays									
None	86	215	56	1,861	4,717	1,132	46.3	45.7	49.1
One	39	140	37	806	2,162	740	48.1	64.9	50.7
2 to 4	76	251	75	1,167	3,192	964	65.2	78.5	77.6
5 to 9	50	126	41	611	1,524	637	81.6	82.4	64.1
10 to 19	77	142	38	760	1,558	435	101.3	90.8	88.4
20 to 49	36	175	42	470	1,973	401	76.0	88.5	104.6
50 to 99	Q	120	Q	Q	1,213	Q	Q	98.7	Q
100 or more	49	190	68	357	1,643	Q	137.1	115.9	150.0
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	65	260	36	630	2,550	329	103.4	102.0	108.3
Fast food or small restaurant	64	259	72	476	2,135	609	135.0	121.3	118.5
Cafeteria or large restaurant	108	335	74	1,003	3,709	613	107.3	90.2	119.9
Commercial kitchen/food preparation area	108	364	88	993	3,867	722	109.0	94.1	122.3
Small kitchen area	82	225	68	1,130	2,551	1,072	72.3	88.2	63.6
Separate computer areas (more than one may apply)									
Data center or server farm	84	233	51	745	2,296	456	113.0	101.6	112.7
Computer-based training room	120	322	98	1,222	3,895	879	98.0	82.7	111.9
Student or public computer center	96	257	78	1,102	3,187	761	87.3	80.7	102.4
HVAC conservation features (more than one may apply)									
Economizer cycle	230	476	124	2,366	5,286	1,059	97.1	90.0	116.7
Regular HVAC maintenance	368	1,222	296	4,513	14,891	3,362	81.5	82.1	88.2
Building automation system (BAS) ²	228	744	170	2,350	8,070	1,880	97.0	92.1	90.3
Window and interior lighting features (more than one may apply)									
Multipaned windows	390	1,031	283	5,200	12,612	3,378	75.0	81.7	83.8
Tinted window glass	233	773	211	2,744	9,706	2,497	85.0	79.7	84.3
Reflective window glass	116	316	78	1,180	2,980	711	98.3	106.1	109.5
External overhangs or awnings	179	695	167	2,326	7,774	2,074	76.9	89.4	80.5
Skylights or atriums	99	398	77	1,276	4,768	922	77.6	83.5	83.2
Light scheduling	153	551	110	1,617	6,195	1,217	94.8	89.0	90.4
Occupancy sensors	185	664	129	1,990	7,130	1,429	92.9	93.2	90.2
Multi-level lighting or dimming	94	356	93	902	3,452	886	103.7	103.2	104.6
Daylight harvesting	39	100	Q	375	999	Q	104.0	100.2	Q
Demand responsive lighting	34	127	Q	406	1,315	Q	83.5	96.7	Q
Building automation system (BAS) for lighting ²	73	251	41	768	2,714	495	95.0	92.3	83.8

Table C8. Consumption and gross energy intensity by Census division (part 2) 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
All buildings	435	1,358	369	6,178	17,981	4,904	70.4	75.5	75.3
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	308	931	230	4,336	12,357	3,581	70.9	75.4	64.2
Cooling	302	1,003	234	4,121	13,458	3,675	73.3	74.5	63.7
Lighting	413	1,242	338	5,693	16,417	4,478	72.5	75.6	75.4

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/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • 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.