

Table C5. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 1999

	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)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All Buildings	1,116	1,509	1,961	1,147	12,360	16,761	23,485	14,731	90.3	90.0	83.5	77.9
Building Floorspace (Square Feet)												
1,001 to 5,000	123	197	296	156	901	1,835	2,536	1,503	137.0	107.2	116.9	103.8
5,001 to 10,000	96	142	227	143	1,302	2,045	3,058	1,834	74.0	69.3	74.1	78.2
10,001 to 25,000	151	177	304	111	1,954	2,881	4,194	2,124	77.2	61.3	72.6	52.3
25,001 to 50,000	117	139	255	181	1,407	1,773	3,384	2,746	83.2	78.2	75.3	66.0
50,001 to 100,000	150	216	270	229	1,771	2,436	3,450	2,455	84.7	88.9	78.3	93.1
100,001 to 200,000	124	255	263	131	1,461	2,279	2,864	1,666	84.6	111.7	91.9	78.3
200,001 to 500,000	127	217	207	108	1,362	1,993	2,273	1,222	93.1	109.0	91.1	88.8
Over 500,000	228	167	139	88	2,202	1,519	1,726	1,180	103.4	109.9	80.4	74.5
Principal Building Activity												
Education	154	178	159	157	1,714	2,250	2,348	2,338	90.0	79.1	67.8	67.3
Food Sales	Q	Q	80	Q	Q	Q	392	208	Q	Q	204.9	Q
Food Service	Q	113	Q	Q	Q	558	676	396	Q	202.7	Q	Q
Health Care	97	125	189	104	448	750	1,085	635	215.8	167.0	174.2	163.4
Inpatient	92	103	Q	Q	377	512	630	346	244.6	202.1	Q	Q
Outpatient	Q	Q	37	Q	Q	239	454	289	Q	Q	80.7	Q
Lodging	66	96	163	125	484	940	1,595	1,501	135.8	102.7	101.9	83.1
Mercantile	141	177	267	138	1,885	2,591	4,080	1,842	75.0	68.5	65.4	75.1
Retail (Other Than Mall)	82	106	111	44	974	1,600	1,566	627	84.2	66.4	71.1	70.7
Enclosed and Strip Malls	Q	71	155	94	912	991	2,513	1,215	Q	71.8	61.8	77.3
Office	217	270	378	225	2,389	2,820	4,162	2,672	90.7	95.7	90.7	84.3
Public Assembly	92	91	103	73	882	1,142	1,511	859	104.4	79.4	68.2	85.5
Public Order and Safety	Q	Q	Q	Q	530	216	286	Q	Q	Q	Q	Q
Religious Worship	18	31	33	27	440	923	1,146	896	41.2	34.0	28.9	30.2
Service	Q	99	218	33	740	818	1,387	443	Q	121.2	157.0	75.0
Warehouse and Storage	77	201	130	53	1,743	2,764	3,957	2,012	44.4	72.7	32.9	26.2
Other	Q	Q	32	Q	Q	283	305	338	Q	Q	105.3	Q
Vacant	Q	Q	Q	Q	367	533	554	455	Q	Q	Q	Q
Year Constructed												
1919 or Before	97	121	22	34	1,392	1,576	549	518	70.0	77.0	39.9	66.1
1920 to 1945	117	190	99	54	1,619	2,423	1,704	699	72.4	78.4	58.2	77.7
1946 to 1959	217	166	160	131	2,030	2,152	2,910	2,035	106.8	77.4	55.0	64.3
1960 to 1969	197	243	311	224	2,050	2,602	3,318	2,896	96.1	93.4	93.8	77.2
1970 to 1979	167	215	392	271	1,823	2,347	4,278	3,391	91.4	91.6	91.6	79.9
1980 to 1989	172	288	556	198	2,070	2,828	6,263	2,771	83.3	101.8	88.8	71.4
1990 to 1999	148	285	421	235	1,376	2,834	4,464	2,420	107.8	100.6	94.4	97.3
Floors												
One	239	482	888	394	3,131	5,800	11,826	6,044	76.5	83.1	75.1	65.2
Two	254	310	458	308	2,944	4,405	5,687	3,948	86.2	70.5	80.5	78.1
Three	191	244	160	139	2,261	2,725	2,106	1,836	84.4	89.6	75.8	75.5
Four to Nine	269	383	330	236	2,598	3,080	2,540	1,962	103.5	124.4	129.9	120.1
Ten or More	163	89	127	71	1,426	752	1,327	940	114.1	118.8	95.5	75.2
Climate Zone: 45-Year Average												
Under 2,000 CDD and --												
More than 7,000 HDD	80	379	N	51	1,184	4,185	N	522	67.5	90.5	N	98.1
5,500-7,000 HDD	494	843	N	198	5,806	8,932	N	2,345	85.1	94.3	N	84.3
4,000-5,499 HDD	542	287	518	198	5,370	3,645	4,759	2,470	100.9	78.8	108.8	80.2
Fewer than 4,000 HDD	N	N	760	532	N	N	8,859	7,474	N	N	85.7	71.2
2,000 CDD or More and --												
Fewer than 4,000 HDD	N	N	684	168	N	N	9,867	1,920	N	N	69.4	87.7

Table C5. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 1999

	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)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Workers (main shift)												
Fewer than 5	90	192	260	135	1,906	4,033	5,579	2,802	47.0	47.7	46.6	48.3
5 to 9	93	141	126	105	1,372	1,689	1,730	1,533	67.7	83.6	72.9	68.2
10 to 19	141	171	256	123	1,472	1,930	2,935	1,690	96.0	88.7	87.2	72.6
20 to 49	168	207	444	197	1,574	2,575	4,174	2,492	106.5	80.4	106.3	79.2
50 to 99	164	173	225	168	1,814	1,876	2,876	2,332	90.3	92.4	78.1	72.1
100 to 249	157	263	288	157	1,702	2,228	2,856	1,570	92.4	118.1	100.8	99.8
250 or More	303	360	363	262	2,519	2,430	3,335	2,312	120.3	148.3	108.9	113.6
Weekly Operating Hours												
39 or Fewer	25	48	55	36	900	1,851	2,532	1,313	28.3	25.8	21.8	27.2
40 to 48	125	176	269	177	1,879	2,989	5,265	2,972	66.4	59.0	51.0	59.4
49 to 60	189	268	400	211	2,792	3,577	4,617	3,214	67.8	74.8	86.7	65.6
61 to 84	227	286	337	200	2,482	3,088	4,198	2,689	91.5	92.5	80.3	74.4
85 to 167	176	305	367	209	1,813	2,531	2,978	1,794	96.9	120.7	123.2	116.5
Open Continuously	374	426	533	315	2,494	2,725	3,896	2,748	149.8	156.3	136.9	114.6
Ownership and Occupancy												
Nongovernment Owned	850	1,215	1,593	907	9,542	13,896	19,745	11,810	89.1	87.4	80.7	76.8
Owner Occupied	677	907	1,171	585	7,143	9,990	13,228	7,424	94.7	90.8	88.5	78.8
Nonowner Occupied	173	303	411	320	2,286	3,427	5,881	4,001	75.6	88.5	69.9	79.9
Unoccupied	Q	Q	Q	Q	Q	479	636	385	Q	Q	Q	Q
Government Owned	266	294	369	241	2,818	2,865	3,740	2,921	94.3	102.5	98.6	82.3
Federal	Q	Q	68	Q	394	318	549	537	Q	Q	124.2	114.7
State	78	113	117	68	683	961	919	828	114.6	117.7	127.3	82.4
Local	148	131	184	111	1,741	1,586	2,273	1,556	85.2	82.9	80.9	71.2
Vacancy Status												
Completely Vacant	N	Q	Q	Q	Q	298	Q	287	N	Q	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	235	Q	Q	Q	Q	Q	Q
Partially Vacant	224	292	340	192	2,693	4,031	5,548	3,248	83.1	72.5	61.3	59.3
Not At All Vacant	889	1,201	1,615	949	9,301	12,197	17,383	11,029	95.6	98.4	92.9	86.0
Number of Establishments												
One	749	1,094	1,390	814	7,665	11,299	14,723	9,655	97.7	96.8	94.4	84.4
2 to 5	150	247	220	145	2,186	2,900	3,421	2,075	68.5	85.0	64.2	69.8
6 to 10	Q	39	127	88	494	571	1,440	1,068	Q	67.5	88.1	82.5
11 to 20	Q	53	100	43	705	579	1,239	738	Q	91.3	80.4	58.2
More than 20	111	71	115	53	1,159	864	2,000	788	95.5	82.2	57.5	67.4
Currently Unoccupied	Q	Q	Q	Q	Q	548	662	407	Q	Q	Q	Q
Energy Sources (more than one may apply)												
Electricity	1,116	1,509	1,961	1,147	11,964	16,389	23,076	14,287	93.2	92.1	85.0	80.3
Natural Gas	753	1,311	1,489	902	7,305	13,506	14,199	10,515	103.1	97.1	104.9	85.8
Fuel Oil	484	358	443	202	5,414	2,423	3,749	1,699	89.3	147.6	118.2	119.1
District Heat	289	235	210	171	1,898	1,521	1,265	1,207	152.1	154.4	166.3	141.5
District Chilled Water	Q	132	119	Q	326	746	939	739	Q	177.5	126.3	Q
Propane	124	Q	137	45	1,706	1,405	2,389	790	72.6	88.3	57.4	56.6
Other	Q	58	56	45	580	606	579	557	Q	95.9	97.1	81.3
Space-Heating Energy Sources (more than one may apply)												
Electricity	433	573	1,123	504	4,625	6,429	13,862	7,375	93.7	89.2	81.0	68.3
Natural Gas	563	1,163	1,082	747	5,703	12,467	10,904	8,828	98.7	93.3	99.2	84.6
Fuel Oil	283	99	114	Q	3,612	619	1,128	252	78.4	160.3	101.2	Q
District Heat	287	230	162	155	1,876	1,514	1,022	1,121	153.0	152.2	158.2	138.1
Propane	59	17	34	Q	761	733	1,013	221	77.6	22.7	33.5	Q
Other	Q	Q	Q	Q	Q	281	260	Q	Q	Q	Q	Q

Table C5. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 1999

	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)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Primary Space-Heating												
Energy Source												
Electricity	142	208	713	283	1,645	2,355	9,259	4,368	86.3	88.3	77.0	64.8
Natural Gas	473	1,056	897	638	4,913	11,348	8,815	7,653	96.3	93.0	101.8	83.3
Fuel Oil	205	Q	52	Q	2,803	Q	718	Q	73.0	Q	71.7	Q
District Heat	250	218	143	148	1,709	1,411	904	1,053	146.2	154.5	157.9	140.5
Propane	Q	8	22	Q	505	626	819	157	Q	12.9	27.2	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Sources (more than one may apply)												
Electricity	966	1,260	1,798	914	9,766	13,474	20,908	11,396	98.9	93.5	86.0	80.2
Natural Gas	Q	70	Q	65	446	550	266	652	Q	127.7	Q	99.2
District Chilled Water	Q	132	119	Q	326	746	939	739	Q	177.5	126.3	Q
Water-Heating Energy Sources (more than one may apply)												
Electricity	374	419	764	278	4,485	4,633	10,480	4,574	83.4	90.5	72.9	60.7
Natural Gas	421	823	1,010	707	4,074	8,323	8,943	7,856	103.4	98.8	113.0	90.0
Fuel Oil	151	Q	63	Q	1,678	Q	328	Q	90.2	Q	190.9	Q
District Heat	205	188	168	Q	1,300	1,219	863	799	157.4	154.2	194.8	145.2
Propane	Q	Q	Q	Q	561	428	Q	Q	Q	Q	Q	Q
Cooking Energy Sources (more than one may apply)												
Electricity	287	365	616	252	2,680	3,335	5,166	2,551	107.2	109.5	119.2	98.8
Natural Gas	388	495	665	379	3,380	4,445	5,345	3,614	114.9	111.4	124.3	105.0
Propane	63	Q	Q	Q	523	Q	789	Q	119.7	Q	76.6	Q
Energy End Uses (more than one may apply)												
Buildings with Space Heating	1,109	1,499	1,831	1,090	11,667	15,916	20,598	13,421	95.1	94.2	88.9	81.2
Buildings with Cooling	1,035	1,406	1,873	1,030	10,311	14,371	21,549	12,243	100.3	97.8	86.9	84.1
Buildings with Water Heating	1,055	1,339	1,804	1,063	10,577	13,702	19,014	12,822	99.8	97.7	94.9	82.9
Buildings with Cooking	583	660	974	461	5,245	6,042	8,569	4,825	111.2	109.3	113.7	95.6
Buildings with Manufacturing	Q	109	77	41	568	818	1,035	706	Q	132.8	74.5	57.6
Buildings with Electricity Generation	348	407	495	244	3,108	2,782	4,062	1,930	112.1	146.1	121.8	126.3
Percent of Floorspace Heated												
Not Heated	Q	Q	131	57	693	846	2,887	1,310	Q	Q	45.3	43.8
1 to 50	44	64	118	108	1,053	1,571	2,538	2,432	41.8	40.6	46.3	44.2
51 to 99	148	177	465	189	1,688	2,323	4,335	2,399	87.7	76.2	107.4	78.7
100	917	1,258	1,248	794	8,927	12,022	13,725	8,590	102.7	104.6	90.9	92.4
Percent of Floorspace Cooled												
Not Cooled	81	103	Q	117	2,049	2,390	1,936	2,489	39.7	43.0	Q	47.1
1 to 50	282	416	272	152	3,914	5,068	4,618	3,246	72.0	82.1	58.8	46.8
51 to 99	361	475	591	317	3,196	4,741	5,801	3,229	112.9	100.2	101.8	98.1
100	392	515	1,011	562	3,202	4,562	11,130	5,768	122.4	112.8	90.9	97.4
Percent Lit When Open												
Zero	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	70	144	148	90	1,620	2,486	3,013	2,068	43.4	57.9	49.1	43.4
51 to 99	440	571	635	347	4,081	5,814	6,392	4,378	107.8	98.2	99.4	79.2
100	604	785	1,160	706	6,077	7,668	12,817	7,671	99.5	102.4	90.5	92.0
Building Never Open/ Electricity Not Used.....	Q	Q	Q	Q	555	780	1,162	582	Q	Q	Q	Q

Table C5. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 1999

	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)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Percent Lit When Closed												
Zero	185	309	364	313	3,390	5,264	7,296	4,821	54.4	58.6	49.8	65.0
1 to 50	514	740	893	457	5,766	8,047	10,912	6,226	89.1	92.0	81.8	73.4
51 to 100	Q	Q	172	62	318	353	992	497	Q	Q	172.8	124.0
Building Never Closed/ Electricity Not Used.....	374	426	533	315	2,887	3,097	4,285	3,188	129.6	137.5	124.5	98.9
Heating Equipment (more than one may apply)												
Heat Pumps	124	109	477	152	1,193	1,015	4,580	2,135	104.1	107.1	104.2	71.0
Furnaces	170	464	300	148	2,257	5,767	3,949	2,476	75.3	80.4	76.0	59.8
Individual Space Heaters	295	416	406	257	3,555	4,667	5,471	3,657	82.9	89.2	74.2	70.3
District Heat	287	230	162	155	1,876	1,514	1,022	1,121	153.0	152.2	158.2	138.1
Boilers	467	584	487	372	5,469	5,961	4,209	3,883	85.4	98.0	115.8	95.8
Packaged Heating Units	401	568	911	488	4,033	5,081	10,455	6,175	99.4	111.8	87.1	79.1
Other	65	Q	111	66	769	1,113	1,391	800	84.9	129.5	79.8	82.8
Cooling Equipment (more than one may apply)												
Residential-Type Central												
Air Conditioners	87	231	274	79	950	2,951	3,272	1,156	91.8	78.3	83.7	68.8
Heat Pumps	111	112	481	167	1,215	1,063	4,604	2,265	91.6	105.5	104.4	73.6
Individual Air Conditioners	359	334	351	152	3,897	3,724	4,526	2,130	92.2	89.6	77.5	71.5
District Chilled Water	Q	132	119	Q	326	746	939	739	Q	177.5	126.3	Q
Central Chillers	342	424	523	310	2,782	3,149	4,328	2,651	122.8	134.6	120.9	116.8
Packaged Air Conditioning												
Units	695	877	1,173	645	6,641	8,198	13,915	7,773	104.7	106.9	84.3	83.0
Swamp Coolers	Q	Q	Q	139	Q	Q	339	1,624	Q	Q	Q	85.7
Other	Q	Q	Q	Q	Q	328	343	324	Q	Q	Q	Q
Main Equipment Replaced Since 1995 (more than one may apply)												
Heating	158	278	413	235	1,829	3,244	5,080	3,068	86.4	85.8	81.3	76.6
Cooling	294	376	597	268	3,080	3,808	7,088	3,414	95.4	98.8	84.2	78.5
Lighting Equipment Types (more than one may apply)												
Incandescent	691	858	1,155	736	7,047	9,903	12,970	8,236	98.1	86.7	89.1	89.3
Standard Fluorescent	1,058	1,422	1,828	1,092	11,348	14,840	20,850	13,305	93.3	95.8	87.7	82.1
Compact Fluorescent	443	623	645	451	3,939	5,518	6,427	4,781	112.6	112.9	100.3	94.3
High Intensity Discharge	390	617	625	271	4,382	5,513	5,874	3,454	89.1	111.8	106.4	78.4
Halogen	423	472	554	355	3,625	4,405	5,847	4,049	116.8	107.3	94.8	87.6
Other	Q	Q	Q	Q	Q	Q	441	180	Q	Q	Q	Q
Water Heating Equipment												
Centralized System	727	804	1,129	707	6,941	9,037	11,500	8,102	104.8	88.9	98.2	87.3
Distributed System	126	224	329	193	1,823	2,328	4,120	2,628	68.9	96.3	79.7	73.6
Combination of Centralized and Distributed System	203	311	346	162	1,813	2,336	3,395	2,093	111.7	133.3	102.0	77.6
Commercial Refrigeration Equipment (more than one may apply)												
Any Equipment	619	734	983	538	5,536	6,252	8,734	5,130	111.8	117.3	112.6	105.0
Walk-In Units	506	592	848	461	4,335	4,580	6,809	3,988	116.7	129.3	124.6	115.5
Cases or Cabinets	528	632	857	464	4,723	5,429	7,512	4,337	111.9	116.4	114.1	106.9
None	497	775	978	609	6,824	10,509	14,751	9,601	72.8	73.8	66.3	63.4

Table C5. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 1999

	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)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Personal Computers												
None	52	131	158	116	1,524	2,653	3,722	1,684	34.0	49.5	42.6	69.1
1 to 4	184	318	382	194	2,293	3,758	4,755	3,045	80.3	84.5	80.4	63.6
5 to 9	66	105	304	109	811	1,308	2,870	1,539	81.6	80.3	105.8	71.0
10 to 19	169	111	237	109	1,749	1,570	2,707	1,488	96.9	70.4	87.5	73.1
20 to 49	138	177	216	124	1,395	1,935	2,588	2,168	98.6	91.3	83.5	57.3
50 to 99	91	177	147	116	903	1,638	1,893	1,432	101.2	107.8	77.8	81.3
100 to 249	149	216	192	131	1,599	1,829	2,174	1,216	92.9	118.3	88.5	107.5
250 or More	267	275	324	247	2,085	2,069	2,776	2,158	127.9	132.7	116.8	114.7
Photocopiers												
None	237	375	572	338	3,696	5,185	8,044	4,706	64.2	72.2	71.1	71.7
One	166	262	402	207	1,633	3,164	5,040	3,091	101.6	82.7	79.9	67.1
2 to 4	256	343	458	246	2,976	4,227	5,109	3,308	86.0	81.2	89.7	74.4
5 to 9	87	208	131	104	986	1,577	1,586	1,234	87.9	132.2	82.5	84.5
10 or More	370	321	398	252	3,069	2,607	3,705	2,393	120.6	123.1	107.3	105.3
Other Electronic Equipment (more than one may apply)												
Laser Printers	907	1,126	1,467	855	9,112	11,161	15,628	10,666	99.6	100.9	93.9	80.2
FAX Machines	1,015	1,332	1,707	990	10,496	13,369	18,804	12,095	96.7	99.6	90.8	81.8
Medical Diagnostic Equipment	82	110	179	98	365	586	953	588	223.6	187.3	187.6	165.9
Energy-Related Space Functions (more than one may apply)												
Commercial Food Preparation	543	628	933	444	4,890	5,709	8,126	4,603	111.0	110.0	114.8	96.4
Activities with Large Amounts of Hot Water	504	632	899	504	4,268	5,335	7,199	4,990	118.1	118.5	124.8	101.0
Building Shell Conservation Features (more than one may apply)												
Multipaned Windows	757	1,067	1,154	605	7,564	11,546	11,981	7,103	100.1	92.4	96.3	85.2
Tinted, Reflective, or Shading Glass	477	686	1,006	666	4,525	6,364	11,246	7,780	105.5	107.7	89.4	85.6
HVAC Conservation Features (more than one may apply)												
Variable Air-Volume System	406	578	650	482	3,643	4,858	6,121	4,765	111.5	119.0	106.1	101.0
Economizer Cycle	498	734	614	541	4,634	5,688	5,858	5,075	107.4	129.0	104.9	106.6
HVAC Maintenance	1,050	1,294	1,699	1,022	10,640	13,025	17,981	11,749	98.6	99.3	94.5	87.0
Energy Management and Control System (EMCS)	466	698	718	510	4,211	5,296	7,108	4,998	110.8	131.8	101.0	101.9
Lighting Conservation Features (more than one may apply)												
Specular Reflectors	516	466	570	365	4,874	4,296	6,400	4,424	105.9	108.5	89.1	82.5
Electronic Ballasts	822	1,091	1,211	777	8,480	10,287	13,745	9,523	96.9	106.0	88.1	81.6
Skylights or Atriums	337	477	533	271	3,697	4,491	6,116	3,982	91.3	106.3	87.1	68.1

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.

Notes: * Statistics for the "energy end uses" represent consumption in buildings that have the end use, not consumption for a particular fuel for a 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, Form EIA-871A of the 1999 Commercial Buildings Energy Consumption Survey.