

Table C11. Electricity Consumption and Conditional Energy Intensity by Census Region, 1999

	Total Electricity Consumption (billion kWh)				Total Floorspace of Buildings Using Electricity (million square feet)				Electricity Energy Intensity (kWh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All Buildings	159	194	366	189	11,964	16,389	23,076	14,287	13.3	11.8	15.8	13.2
Building Floorspace (Square Feet)												
1,001 to 5,000	Q	21	55	24	820	1,664	2,411	1,385	25.7	12.5	23.0	17.6
5,001 to 10,000	10	17	33	22	1,246	1,951	2,862	1,661	8.3	8.9	11.6	13.2
10,001 to 25,000	18	22	50	19	1,732	2,830	4,187	2,094	10.2	7.6	11.9	9.2
25,001 to 50,000	15	17	48	29	1,407	1,754	3,345	2,668	10.5	9.5	14.5	10.8
50,001 to 100,000	20	31	55	38	1,748	2,403	3,450	2,434	11.3	13.1	16.1	15.6
100,001 to 200,000	19	35	54	24	1,461	2,279	2,858	1,648	13.1	15.2	18.9	14.7
200,001 to 500,000	18	25	40	17	1,348	1,988	2,238	1,216	13.4	12.5	18.0	13.7
Over 500,000	38	27	29	16	2,202	1,519	1,726	1,180	17.4	17.7	16.6	13.2
Principal Building Activity												
Education	14	17	25	19	1,714	2,250	2,348	2,338	8.2	7.6	10.7	8.2
Food Sales	Q	Q	22	Q	Q	Q	391	Q	Q	Q	55.4	Q
Food Service	Q	14	27	Q	Q	558	676	Q	Q	25.3	39.7	Q
Health Care	9	15	31	13	448	750	1,085	635	20.2	19.6	28.5	21.2
Inpatient	8	11	22	9	377	512	630	346	22.5	22.0	34.8	25.6
Outpatient	Q	Q	9	5	Q	Q	454	289	Q	Q	19.7	15.9
Lodging	6	10	25	16	484	940	1,595	1,501	12.3	11.1	15.5	10.9
Mercantile	27	28	65	33	1,885	2,591	4,080	1,842	14.2	11.0	15.8	17.9
Retail (Other Than Mall)	14	16	25	10	974	1,600	1,566	627	14.0	9.8	16.0	16.5
Enclosed and Strip Malls	13	13	40	23	912	991	2,513	1,215	14.3	13.0	15.8	18.6
Office	40	50	88	47	2,389	2,820	4,162	2,672	16.7	17.8	21.1	17.6
Public Assembly	14	13	21	8	882	1,132	1,471	856	15.5	11.5	14.3	9.7
Public Order and Safety	Q	2	4	Q	Q	216	286	Q	Q	10.0	14.9	Q
Religious Worship	1	2	6	3	440	923	1,146	896	2.2	2.6	5.3	3.2
Service	Q	10	19	5	Q	818	1,387	443	Q	11.7	13.8	11.5
Warehouse and Storage	13	17	25	10	1,666	2,587	3,774	1,852	7.7	6.5	6.6	5.4
Other	Q	Q	8	Q	Q	Q	301	Q	Q	Q	25.6	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year Constructed												
1919 or Before	7	Q	3	4	1,216	1,477	536	485	6.1	8.2	6.2	7.9
1920 to 1945	12	19	16	7	1,552	2,371	1,665	693	7.9	8.1	9.6	9.4
1946 to 1959	26	18	29	17	2,030	2,152	2,770	1,842	12.9	8.3	10.5	9.5
1960 to 1969	26	30	48	33	2,050	2,481	3,301	2,854	12.7	12.1	14.6	11.5
1970 to 1979	28	30	77	46	1,823	2,320	4,268	3,338	15.6	13.0	18.0	13.9
1980 to 1989	31	46	105	40	1,917	2,800	6,098	2,671	16.2	16.6	17.1	14.8
1990 to 1999	28	38	87	42	1,376	2,788	4,439	2,404	20.2	13.7	19.7	17.7
Climate Zone: 45-Year Average												
Under 2,000 CDD and --												
More than 7,000 HDD	11	47	N	6	1,150	4,110	N	491	9.5	11.5	N	13.0
5,500-7,000 HDD	71	101	N	25	5,698	8,716	N	2,293	12.5	11.5	N	10.9
4,000-5,499 HDD	77	46	78	30	5,117	3,563	4,694	2,418	15.0	13.0	16.6	12.5
Fewer than 4,000 HDD	N	N	142	100	N	N	8,687	7,235	N	N	16.4	13.8
2,000 CDD or More and --												
Fewer than 4,000 HDD	N	N	145	27	N	N	9,696	1,850	N	N	15.0	14.9
Workers (main shift)												
Fewer than 5	10	21	47	20	1,510	3,661	5,171	2,409	6.5	5.6	9.1	8.4
5 to 9	12	15	23	13	1,372	1,689	1,730	1,482	8.6	9.0	13.6	8.8
10 to 19	21	17	45	20	1,472	1,930	2,935	1,690	14.1	8.8	15.2	11.9
20 to 49	21	27	69	32	1,574	2,575	4,174	2,492	13.6	10.3	16.5	12.7
50 to 99	22	24	46	31	1,814	1,876	2,876	2,332	11.9	12.9	16.0	13.1
100 to 249	23	37	61	28	1,702	2,228	2,856	1,570	13.3	16.8	21.4	17.6
250 or More	51	53	74	46	2,519	2,430	3,335	2,312	20.1	21.8	22.3	20.0

Table C11. Electricity Consumption and Conditional Energy Intensity by Census Region, 1999

	Total Electricity Consumption (billion kWh)				Total Floorspace of Buildings Using Electricity (million square feet)				Electricity Energy Intensity (kWh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Weekly Operating Hours												
39 or Fewer	1	5	9	5	661	1,512	2,186	955	2.2	3.0	4.0	5.3
40 to 48	14	22	50	27	1,864	2,970	5,265	2,971	7.7	7.4	9.6	9.0
49 to 60	31	31	72	37	2,792	3,566	4,617	3,211	11.0	8.7	15.5	11.5
61 to 84	29	42	63	38	2,482	3,084	4,198	2,616	11.6	13.8	15.0	14.5
85 to 167	28	41	72	36	1,674	2,531	2,936	1,789	17.0	16.3	24.5	20.2
Open Continuously	55	53	100	46	2,491	2,725	3,876	2,743	22.1	19.3	25.7	16.9
Ownership and Occupancy												
Nongovernment Owned	126	160	301	155	9,398	13,529	19,340	11,372	13.4	11.9	15.6	13.6
Owner Occupied	95	125	217	93	7,124	9,931	13,151	7,300	13.4	12.5	16.5	12.7
Nonowner Occupied	30	35	83	62	2,235	3,398	5,818	3,990	13.6	10.4	14.3	15.5
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	33	34	64	34	2,566	2,860	3,736	2,914	12.9	11.8	17.2	11.7
Federal	Q	Q	14	9	Q	318	549	534	Q	20.9	25.6	16.8
State	10	12	16	10	683	956	915	828	14.0	12.6	17.1	11.8
Local	17	15	34	15	1,572	1,586	2,273	1,552	11.0	9.4	15.2	10.0
Vacancy Status												
Completely Vacant	N	Q	Q	Q	N	Q	Q	Q	N	Q	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	38	42	73	37	2,662	3,892	5,428	3,111	14.1	10.8	13.4	12.0
Not At All Vacant	121	151	292	151	9,086	12,149	17,274	11,002	13.3	12.5	16.9	13.7
Number of Establishments												
One	100	130	239	123	7,520	11,211	14,584	9,524	13.3	11.6	16.4	12.9
2 to 5	21	35	45	25	2,047	2,900	3,420	2,075	10.1	12.1	13.0	12.2
6 to 10	6	6	27	20	494	571	1,440	1,063	12.9	11.3	18.7	18.4
11 to 20	11	9	24	10	Q	579	1,239	738	16.1	14.9	19.3	13.5
More than 20	21	13	29	10	1,159	864	2,000	786	18.0	15.5	14.7	13.3
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Energy Sources (more than one may apply)												
Electricity	159	194	366	189	11,964	16,389	23,076	14,287	13.3	11.8	15.8	13.2
Natural Gas	103	159	241	140	7,305	13,506	14,199	10,486	14.1	11.7	17.0	13.3
Fuel Oil	63	48	83	32	5,406	2,423	3,749	1,699	11.7	19.8	22.2	18.7
District Heat	36	26	26	17	1,898	1,521	1,265	1,207	18.8	17.4	20.2	14.4
District Chilled Water	9	16	18	12	326	746	939	739	29.0	21.9	18.9	16.1
Propane	22	15	31	9	1,706	1,405	2,389	790	12.9	10.6	12.9	11.5
Other	6	8	12	8	580	606	579	557	10.0	12.4	20.5	14.2
Space-Heating Energy Source												
Electricity	74	94	238	93	4,625	6,429	13,862	7,375	16.0	14.7	17.1	12.6
Electricity Main	30	45	165	62	1,645	2,355	9,259	4,368	18.5	19.1	17.8	14.1
Electricity Secondary	44	49	72	31	2,980	4,074	4,603	3,007	14.6	12.1	15.7	10.3
Other Excluding Electricity	84	98	104	84	7,034	9,486	6,736	6,017	11.9	10.4	15.4	13.9
Buildings without Heating	Q	Q	24	13	Q	Q	2,478	894	Q	Q	9.6	14.2
Primary Space-Heating Energy Source												
Electricity	30	45	165	62	1,645	2,355	9,259	4,368	18.5	19.1	17.8	14.1
Natural Gas	64	120	142	96	4,913	11,348	8,815	7,624	13.1	10.6	16.1	12.5
Fuel Oil	20	Q	8	Q	2,795	Q	718	Q	7.2	Q	10.5	Q
District Heat	32	24	19	15	1,709	1,411	904	1,053	18.8	16.9	20.9	14.5
Propane	Q	2	7	Q	Q	626	819	Q	Q	3.7	8.0	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Cooling Energy Source												
Electricity	145	170	350	160	9,766	13,474	20,908	11,396	14.9	12.6	16.7	14.1
Other Excluding Electricity	8	17	11	16	545	897	640	846	15.5	19.1	17.1	19.2
Buildings without Cooling	5	7	5	13	1,653	2,018	1,527	2,044	3.1	3.6	3.1	6.2
Water-Heating Energy Source												
Electricity	68	66	181	63	4,485	4,633	10,480	4,574	15.2	14.2	17.3	13.7
Other Excluding Electricity	83	109	149	114	6,092	9,069	8,534	8,248	13.7	12.0	17.5	13.8
Buildings without Water Heating	7	20	35	13	1,387	2,687	4,062	1,465	5.3	7.4	8.5	8.6
Cooking Energy Source												
Electricity	48	56	126	44	2,680	3,335	5,166	2,551	17.9	16.7	24.3	17.1
Other Excluding Electricity	39	36	62	31	2,565	2,706	3,403	2,274	15.2	13.2	18.3	13.5
Buildings without Cooking	72	103	178	115	6,719	10,347	14,507	9,462	10.7	9.9	12.2	12.1
Energy End Uses (more than one may apply)												
Buildings with Space Heating	158	193	342	176	11,659	15,916	20,598	13,392	13.6	12.1	16.6	13.2
Buildings with Cooling	154	187	361	176	10,311	14,371	21,549	12,243	14.9	13.0	16.7	14.4
Buildings with Water Heating	152	174	331	176	10,577	13,702	19,014	12,822	14.3	12.7	17.4	13.8
Buildings with Cooking	87	91	188	74	5,245	6,042	8,569	4,825	16.6	15.1	21.9	15.4
Buildings with Manufacturing	8	15	13	8	568	818	1,035	706	14.2	18.0	12.6	11.1
Buildings with Electricity Generation	51	57	99	37	3,108	2,782	4,062	1,930	16.6	20.5	24.5	19.3
Percent of Floorspace Heated												
Not Heated	Q	Q	24	13	Q	Q	2,478	894	Q	Q	9.6	14.2
1 to 50	7	9	20	21	1,053	1,571	2,538	2,403	6.4	5.7	7.7	8.6
51 to 99	24	27	77	35	1,679	2,323	4,335	2,399	14.6	11.8	17.7	14.4
100	127	156	245	121	8,927	12,022	13,725	8,590	14.2	13.0	17.9	14.1
Percent of Floorspace Cooled												
Not Cooled	5	7	5	13	1,653	2,018	1,527	2,044	3.1	3.6	3.1	6.2
1 to 50	29	35	40	24	3,914	5,068	4,618	3,246	7.4	6.9	8.6	7.4
51 to 99	55	71	113	54	3,196	4,741	5,801	3,229	17.3	15.0	19.4	16.9
100	70	81	209	98	3,202	4,562	11,130	5,768	21.7	17.7	18.7	17.0
Percent Lit When Open												
Zero	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	9	15	27	15	1,620	2,486	3,013	2,068	5.4	6.0	8.9	7.2
51 to 99	55	77	110	53	4,081	5,814	6,392	4,378	13.4	13.2	17.2	12.2
100	96	101	226	120	6,077	7,668	12,817	7,671	15.7	13.2	17.6	15.7
Building Never Open/ Electricity Not Used	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Percent Lit When Closed												
Zero	21	35	68	48	3,390	5,264	7,296	4,821	6.2	6.6	9.3	10.1
1 to 50	75	101	170	82	5,766	8,047	10,912	6,226	13.1	12.6	15.5	13.2
51 to 100	Q	5	29	12	Q	353	992	497	Q	15.4	28.8	24.1
Building Never Closed/ Electricity Not Used	55	53	100	46	2,491	2,725	3,876	2,743	22.1	19.3	25.7	16.9
Heating Equipment (more than one may apply)												
Heat Pumps	20	19	83	29	1,193	1,015	4,580	2,135	17.0	18.7	18.2	13.4
Furnaces	22	49	47	21	2,257	5,767	3,949	2,476	9.8	8.5	11.8	8.7
Individual Space Heaters	46	56	76	37	3,555	4,667	5,471	3,628	13.0	12.0	13.8	10.3
District Heat	35	25	22	16	1,876	1,514	1,022	1,121	18.8	16.8	21.7	14.6
Boilers	60	71	84	53	5,461	5,961	4,209	3,883	10.9	11.8	19.9	13.7
Packaged Heating Units	77	82	182	89	4,033	5,081	10,455	6,175	19.1	16.2	17.4	14.4
Other	11	16	27	12	769	1,113	1,391	800	14.6	14.8	19.5	15.3

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	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Cooling Equipment (more than one may apply)												
Residential-Type Central												
Air Conditioners	11	28	49	12	950	2,951	3,272	1,156	11.7	9.5	15.1	10.5
Heat Pumps	17	20	83	32	1,215	1,063	4,604	2,265	14.1	18.9	18.1	14.2
Individual Air Conditioners	43	35	60	21	3,897	3,724	4,526	2,130	11.0	9.5	13.3	9.8
District Chilled Water	9	16	18	12	326	746	939	739	29.0	21.9	18.9	16.1
Central Chillers	50	61	103	51	2,782	3,149	4,328	2,651	17.9	19.3	23.9	19.1
Packaged Air Conditioning												
Units	113	118	237	117	6,641	8,198	13,915	7,773	17.0	14.3	17.0	15.0
Swamp Coolers	Q	Q	6	21	Q	Q	339	1,624	Q	Q	16.3	12.9
Other	Q	Q	7	Q	Q	Q	343	Q	Q	Q	21.2	Q
Main Equipment Replaced Since 1995 (more than one may apply)												
Heating	24	39	82	38	1,829	3,244	5,080	3,068	13.0	12.0	16.1	12.3
Cooling	40	50	118	45	3,080	3,808	7,088	3,414	13.0	13.2	16.6	13.2
Lighting Equipment Types (more than one may apply)												
Incandescent	95	111	223	113	7,047	9,903	12,970	8,236	13.5	11.2	17.2	13.8
Standard Fluorescent	150	185	346	180	11,348	14,840	20,850	13,305	13.2	12.5	16.6	13.6
Compact Fluorescent	64	89	126	72	3,939	5,518	6,427	4,781	16.2	16.0	19.7	15.0
High Intensity Discharge	58	80	119	43	4,382	5,513	5,874	3,454	13.3	14.5	20.3	12.3
Halogen	62	69	103	59	3,625	4,405	5,847	4,049	17.0	15.6	17.7	14.6
Other	Q	Q	11	Q	Q	Q	441	Q	Q	Q	25.1	Q
Water Heating Equipment												
Centralized System	98	98	192	113	6,941	9,037	11,500	8,102	14.1	10.9	16.7	13.9
Distributed System	23	26	69	38	1,823	2,328	4,120	2,628	12.4	11.3	16.8	14.6
Combination of Centralized and Distributed System	31	50	69	26	1,813	2,336	3,395	2,093	17.1	21.3	20.4	12.2
Commercial Refrigeration Equipment (more than one may apply)												
Any Equipment	98	104	192	90	5,536	6,252	8,734	5,130	17.8	16.7	22.0	17.6
Walk-In Units	83	83	163	77	4,335	4,580	6,809	3,988	19.1	18.1	24.0	19.4
Cases or Cabinets	86	90	169	79	4,723	5,429	7,512	4,337	18.2	16.6	22.5	18.2
None	61	90	173	99	6,428	10,137	14,342	9,156	9.5	8.9	12.1	10.8
Personal Computers												
None	5	13	26	13	1,128	2,281	3,313	1,239	4.3	5.7	7.9	10.3
1 to 4	28	36	68	31	2,293	3,758	4,755	3,045	12.1	9.6	14.4	10.1
5 to 9	10	14	47	19	811	1,308	2,870	1,539	12.8	10.5	16.4	12.2
10 to 19	19	14	42	22	1,749	1,570	2,707	1,488	10.7	8.8	15.5	14.6
20 to 49	21	22	45	23	1,395	1,935	2,588	2,168	15.0	11.5	17.6	10.7
50 to 99	10	19	30	19	903	1,638	1,893	1,432	11.4	11.7	15.8	13.0
100 to 249	23	34	41	23	1,599	1,829	2,174	1,216	14.6	18.4	18.7	18.8
250 or More	43	42	66	40	2,085	2,069	2,776	2,158	20.5	20.4	23.9	18.7
Photocopiers												
None	27	43	96	52	3,300	4,813	7,635	4,261	8.3	8.8	12.6	12.1
One	24	31	79	35	1,633	3,164	5,040	3,091	14.7	9.8	15.7	11.2
2 to 4	35	43	82	39	2,976	4,227	5,109	3,308	11.7	10.3	16.1	11.8
5 to 9	13	27	26	18	986	1,577	1,586	1,234	13.2	17.1	16.2	14.3
10 or More	60	50	82	46	3,069	2,607	3,705	2,393	19.5	19.2	22.2	19.3

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	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
Other Electronic Equipment (more than one may apply)												
Laser Printers	133	154	281	149	9,112	11,161	15,628	10,666	14.6	13.8	18.0	14.0
FAX Machines	151	177	327	170	10,496	13,369	18,804	12,095	14.4	13.3	17.4	14.1
Medical Diagnostic Equipment	8	13	28	13	365	586	953	588	21.1	22.8	29.5	21.4
Annual Consumption (kilowatthours)												
10,000 or Less	1	1	1	1	519	974	1,260	463	1.2	1.1	1.0	1.6
10,001 to 50,000	5	11	14	10	1,425	2,838	2,908	2,068	3.5	3.8	5.0	5.1
50,001 to 100,000	8	12	23	12	1,243	1,659	2,480	1,619	6.4	7.2	9.1	7.3
100,001 to 500,000	39	41	104	49	2,688	3,831	6,394	3,897	14.5	10.7	16.3	12.7
500,001 to 1,000,000	16	21	36	26	1,272	1,831	2,158	1,705	12.9	11.5	16.8	15.1
1,000,001 to 5,000,000	36	53	112	56	2,395	3,211	5,091	2,964	15.2	16.5	21.9	19.0
Over 5,000,000	54	55	75	34	2,421	2,045	2,785	1,571	22.2	27.0	27.1	21.9
Provider of Purchased Electricity (more than one may apply)												
Local Utility	136	184	352	172	10,535	15,611	22,263	13,634	12.9	11.8	15.8	12.6
Some Other Provider	24	6	5	Q	1,388	445	597	672	17.0	13.9	7.8	24.6

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. * 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.