

Table C1. Total Energy Consumption by Major Fuel, 1999

	All Buildings		Total Energy Consumption (trillion Btu)					Primary Electricity (trillion Btu)
	Number of Buildings (thousand)	Floorspace (million square feet)	Total of Major Fuels	Site Electricity	Natural Gas	Fuel Oil	District Heat	
All Buildings	4,657	67,338	5,733	3,098	2,023	179	433	9,352
Building Floorspace (Square Feet)								
1,001 to 5,000	2,348	6,774	772	415	312	29	Q	1,254
5,001 to 10,000	1,110	8,238	608	283	292	Q	Q	853
10,001 to 25,000	708	11,153	743	370	319	24	Q	1,118
25,001 to 50,000	257	9,311	692	371	234	25	61	1,121
50,001 to 100,000	145	10,112	865	494	250	24	97	1,491
100,001 to 200,000	59	8,271	772	451	230	19	72	1,361
200,001 to 500,000	23	6,851	660	340	237	25	57	1,028
Over 500,000	7	6,628	621	373	149	16	84	1,127
Principal Building Activity								
Education	327	8,651	649	257	227	48	117	777
Food Sales	174	994	201	165	31	Q	Q	498
Food Service	349	1,851	447	216	216	Q	Q	653
Health Care	127	2,918	515	232	217	19	46	701
Inpatient	11	1,865	427	172	195	18	Q	520
Outpatient	116	1,053	88	60	22	Q	Q	181
Lodging	153	4,521	450	196	181	Q	68	591
Mercantile	667	10,398	724	521	186	Q	Q	1,573
Retail (Other Than Mall)	534	4,766	344	221	110	Q	Q	666
Enclosed and Strip Malls	133	5,631	380	301	76	Q	N	907
Office	739	12,044	1,089	767	219	29	74	2,314
Public Assembly	305	4,393	359	191	96	Q	59	577
Public Order and Safety	72	1,168	102	40	33	7	Q	122
Religious Worship	307	3,405	110	42	62	Q	Q	126
Service	478	3,388	421	138	260	18	Q	417
Warehouse and Storage	603	10,477	461	220	230	8	Q	664
Other	102	1,222	176	101	45	Q	Q	306
Vacant	253	1,908	31	10	19	Q	Q	31
Year Constructed								
1919 or Before	419	4,034	275	91	120	26	Q	275
1920 to 1945	499	6,445	461	184	195	22	60	556
1946 to 1959	763	9,127	674	310	256	33	76	934
1960 to 1969	665	10,866	975	468	372	36	100	1,413
1970 to 1979	774	11,840	1,044	621	326	29	69	1,875
1980 to 1989	846	13,931	1,214	755	391	21	47	2,280
1990 to 1999	690	11,094	1,090	669	364	13	Q	2,020
Floors								
One	2,879	26,800	2,003	1,174	750	48	Q	3,545
Two	1,168	16,985	1,330	707	530	39	Q	2,136
Three	420	8,928	733	355	274	39	66	1,071
Four to Nine	178	10,180	1,217	599	377	43	198	1,810
Ten or More	11	4,445	449	262	92	10	86	790
Census Region and Division								
Northeast	686	12,360	1,116	543	299	138	136	1,638
New England	208	3,735	279	132	59	73	Q	399
Middle Atlantic	479	8,625	837	411	240	65	121	1,239
Midwest	1,188	16,761	1,509	662	709	5	132	2,000
East North Central	782	11,205	1,009	429	497	Q	80	1,296
West North Central	406	5,556	500	233	212	2	52	704
South	1,762	23,485	1,961	1,247	618	29	67	3,766
South Atlantic	748	11,001	916	613	249	26	Q	1,851
East South Central	396	5,220	473	271	186	Q	Q	817
West South Central	618	7,264	573	364	183	1	Q	1,098
West	1,021	14,731	1,147	645	396	8	98	1,948
Mountain	315	4,579	356	175	145	1	Q	530
Pacific	705	10,152	791	470	252	Q	Q	1,418

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Climate Zone: 45-Year Average								
Under 2,000 CDD and --								
More than 7,000 HDD	525	5,890	510	220	228	41	Q	665
5,500-7,000 HDD	986	17,083	1,535	671	642	62	160	2,027
4,000-5,499 HDD	1,085	16,243	1,545	790	520	69	166	2,385
Fewer than 4,000 HDD	1,134	16,333	1,291	827	425	Q	34	2,496
2,000 CDD or More and --								
Fewer than 4,000 HDD	926	11,788	853	589	208	2	Q	1,779
Workers (main shift)								
Fewer than 5	2,376	14,321	677	334	280	20	Q	1,009
5 to 9	807	6,325	465	217	194	23	Q	654
10 to 19	683	8,028	691	350	281	Q	Q	1,055
20 to 49	487	10,814	1,016	507	435	29	45	1,530
50 to 99	174	8,898	730	418	222	33	57	1,260
100 to 249	90	8,356	865	508	252	27	79	1,534
250 or More	39	10,595	1,289	765	359	28	138	2,309
Weekly Operating Hours								
39 or Fewer	978	6,596	164	68	82	11	Q	205
40 to 48	1,156	13,105	746	387	269	35	55	1,169
49 to 60	986	14,200	1,068	581	387	43	57	1,754
61 to 84	664	12,458	1,050	588	358	31	73	1,776
85 to 167	474	9,116	1,057	607	348	28	73	1,833
Open Continuously	398	11,863	1,648	866	577	32	173	2,614
Ownership and Occupancy								
Nongovernment Owned	4,135	54,994	4,565	2,534	1,659	121	250	7,651
Owner Occupied	2,801	37,785	3,340	1,807	1,202	105	226	5,455
Nonowner Occupied	1,099	15,596	1,207	720	447	16	Q	2,173
Unoccupied	236	1,613	17	Q	Q	Q	N	Q
Government Owned	521	12,343	1,169	563	364	58	184	1,701
Federal	63	1,797	218	123	37	3	55	370
State	83	3,391	376	160	114	6	96	484
Local	375	7,156	574	280	212	49	Q	846
Vacancy Status								
Completely Vacant	140	953	Q	Q	Q	N	N	Q
Mostly Vacant	113	956	Q	4	Q	Q	Q	13
Partially Vacant	697	15,520	1,049	648	306	24	71	1,955
Not At All Vacant	3,707	49,910	4,654	2,440	1,698	154	362	7,366
Number of Establishments								
One	3,528	43,343	4,047	2,021	1,542	136	347	6,102
2 to 5	688	10,582	761	429	273	26	33	1,294
6 to 10	114	3,574	304	202	86	Q	Q	611
11 to 20	48	3,260	251	184	50	10	Q	555
More than 20	27	4,811	350	253	60	4	33	764
Currently Unoccupied	251	1,769	21	9	12	Q	N	26
Energy Sources (more than one may apply)								
Electricity	4,395	65,716	5,733	3,098	2,023	179	433	9,352
Natural Gas	2,670	45,525	4,455	2,191	2,023	59	182	6,616
Fuel Oil	434	13,285	1,487	772	428	179	107	2,331
District Heat	117	5,891	905	359	108	Q	433	1,083
District Chilled Water	50	2,750	428	189	53	Q	185	571
Propane	451	6,290	430	262	Q	51	Q	791
Other	153	2,322	203	113	75	9	Q	341

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Space-Heating Energy Sources (more than one may apply)								
Electricity	1,880	32,291	2,634	1,701	780	43	109	5,135
Natural Gas	2,380	37,902	3,554	1,736	1,764	24	Q	5,241
Fuel Oil	377	5,611	521	204	140	172	Q	617
District Heat	96	5,534	834	339	80	Q	412	1,022
Propane	307	2,728	119	99	Q	9	Q	299
Other	94	945	63	43	Q	Q	Q	130
Primary Space-Heating Energy Source								
Electricity	1,128	17,627	1,346	1,031	282	10	Q	3,114
Natural Gas	2,189	32,729	3,063	1,442	1,602	13	Q	4,353
Fuel Oil	302	3,719	271	101	17	153	Q	305
District Heat	77	5,077	759	308	48	1	402	928
Propane	282	2,107	73	72	Q	Q	N	216
Other	38	343	Q	Q	Q	Q	N	Q
Cooling Energy Sources (more than one may apply)								
Electricity	3,450	55,545	4,938	2,816	1,756	144	222	8,503
Natural Gas	142	1,914	212	107	102	Q	Q	323
District Chilled Water	50	2,750	428	189	53	Q	185	571
Water-Heating Energy Sources (more than one may apply)								
Electricity	1,546	24,171	1,835	1,290	445	47	54	3,896
Natural Gas	1,520	29,196	2,961	1,444	1,451	32	Q	4,358
Fuel Oil	110	2,218	233	86	53	92	Q	259
District Heat	62	4,182	677	255	78	3	341	769
Propane	130	1,371	87	73	Q	Q	Q	220
Cooking Energy Sources (more than one may apply)								
Electricity	437	13,733	1,520	931	462	40	87	2,811
Natural Gas	505	16,785	1,928	982	823	39	84	2,963
Propane	118	1,754	162	123	Q	28	Q	370
Energy End Uses (more than one may apply)								
Buildings with Space Heating	4,016	61,602	5,529	2,965	1,954	179	431	8,950
Buildings with Cooling	3,560	58,474	5,344	2,996	1,834	145	369	9,046
Buildings with Water Heating	3,239	56,115	5,262	2,844	1,864	163	392	8,585
Buildings with Cooking	857	24,681	2,679	1,504	941	86	149	4,540
Buildings with Manufacturing	151	3,126	277	149	114	7	Q	449
Buildings with Electricity Generation	172	11,882	1,494	836	470	48	139	2,525
Percent of Floorspace Heated								
Not Heated	641	5,736	205	133	Q	Q	Q	402
1 to 50	576	7,593	333	191	130	9	Q	576
51 to 99	627	10,745	979	557	344	20	57	1,683
100	2,813	43,264	4,216	2,216	1,480	150	371	6,691
Percent of Floorspace Cooled								
Not Cooled	1,097	8,864	389	101	189	34	Q	306
1 to 50	1,012	16,846	1,122	436	561	76	50	1,315
51 to 99	751	16,966	1,743	1,002	589	40	112	3,026
100	1,796	24,662	2,479	1,559	684	29	207	4,705

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Percent Lit When Open								
Zero	34	173	Q	Q	Q	Q	N	Q
1 to 50	835	9,187	452	223	185	16	Q	672
51 to 99	1,228	20,665	1,993	1,005	760	69	159	3,034
100	2,096	34,233	3,255	1,853	1,062	94	246	5,594
Building Never Open/ Electricity Not Used.....	464	3,080	29	14	14	Q	N	41
Percent Lit When Closed								
Zero	2,174	20,771	1,170	587	458	47	78	1,772
1 to 50	1,688	30,950	2,604	1,462	879	96	167	4,413
51 to 100	143	2,160	310	183	108	Q	Q	553
Building Never Closed/ Electricity Not Used.....	652	13,457	1,649	866	578	32	173	2,614
Heating Equipment (more than one may apply)								
Heat Pumps	492	8,923	862	516	292	9	Q	1,557
Furnaces	1,460	14,449	1,082	475	566	33	Q	1,435
Individual Space Heaters	894	17,349	1,374	734	530	32	79	2,215
District Heat	96	5,534	834	339	80	Q	412	1,022
Boilers	581	19,522	1,911	912	841	142	Q	2,755
Packaged Heating Units	1,347	25,743	2,369	1,469	826	25	49	4,435
Other	185	4,073	387	229	134	9	Q	691
Cooling Equipment (more than one may apply)								
Residential-Type Central								
Air Conditioners	676	8,329	672	343	295	14	Q	1,037
Heat Pumps	485	9,147	871	521	291	16	Q	1,574
Individual Air Conditioners	799	14,276	1,196	544	486	82	84	1,642
District Chilled Water	50	2,750	428	189	53	Q	185	571
Central Chillers	130	12,909	1,598	902	522	40	135	2,723
Packaged Air Conditioning								
Units	1,953	36,527	3,390	1,995	1,193	71	131	6,024
Swamp Coolers	136	2,219	215	102	102	Q	Q	308
Other	49	1,312	130	82	40	Q	Q	247
Main Equipment Replaced Since 1995 (more than one may apply)								
Heating	984	13,220	1,085	623	431	17	Q	1,880
Cooling	1,085	17,390	1,535	864	557	49	65	2,609
Lighting Equipment Types (more than one may apply)								
Incandescent	2,193	38,156	3,441	1,852	1,214	97	278	5,591
Standard Fluorescent	3,778	60,344	5,400	2,939	1,874	169	418	8,872
Compact Fluorescent	607	20,666	2,162	1,197	677	62	227	3,613
High Intensity Discharge	430	19,223	1,903	1,023	676	57	148	3,088
Halogen	572	17,926	1,805	998	647	38	121	3,014
Other	58	1,004	117	59	Q	Q	Q	179
Water Heating Equipment								
Centralized System	2,472	35,579	3,368	1,710	1,258	120	279	5,164
Distributed System	566	10,899	872	533	278	20	Q	1,610
Combination of Centralized and Distributed System	200	9,637	1,023	600	328	23	72	1,811

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Commercial Refrigeration Equipment (more than one may apply)								
Any Equipment	950	25,652	2,874	1,655	980	91	148	4,997
Walk-In Units	658	19,713	2,407	1,386	839	66	115	4,186
Cases or Cabinets	820	22,001	2,481	1,448	821	77	136	4,370
None	3,707	41,686	2,859	1,442	1,043	89	285	4,355
Personal Computers								
None	1,617	9,583	458	193	214	18	Q	584
1 to 4	1,636	13,853	1,078	556	447	32	Q	1,678
5 to 9	542	6,528	584	307	254	11	Q	927
10 to 19	403	7,514	626	329	229	29	Q	992
20 to 49	247	8,087	655	382	209	23	41	1,153
50 to 99	105	5,867	532	266	200	19	46	803
100 to 249	71	6,818	688	411	184	25	69	1,240
250 or More	36	9,088	1,113	654	286	22	151	1,974
Photocopiers								
None	2,825	21,631	1,522	743	644	51	84	2,242
One	1,114	12,928	1,037	577	362	26	Q	1,741
2 to 4	540	15,620	1,304	682	483	48	90	2,059
5 to 9	102	5,384	530	284	184	24	38	857
10 or More	75	11,774	1,341	813	350	30	148	2,453
Other Electronic Equipment (more than one may apply)								
Laser Printers	1,949	46,567	4,356	2,450	1,432	130	345	7,396
FAX Machines	2,807	54,764	5,044	2,817	1,706	154	367	8,505
Medical Diagnostic Equipment	86	2,493	468	211	205	16	Q	637
Energy-Related Space Functions (more than one may apply)								
Commercial Food Preparation	767	23,328	2,548	1,425	899	81	142	4,302
Activities with Large Amounts of Hot Water	698	21,793	2,539	1,234	1,020	74	212	3,724
Building Shell Conservation Features (more than one may apply)								
Multipaned Windows	2,130	38,193	3,583	1,929	1,275	113	266	5,823
Tinted, Reflective, or Shading Glass	1,283	29,915	2,835	1,716	845	57	217	5,180
HVAC Conservation Features (more than one may apply)								
Variable Air-Volume System	550	19,387	2,115	1,245	619	47	203	3,759
Economizer Cycle	567	21,256	2,387	1,369	748	42	228	4,133
HVAC Maintenance	2,786	53,395	5,064	2,781	1,706	165	413	8,395
Energy Management and Control System (EMCS)	460	21,613	2,391	1,343	704	54	290	4,055

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Lighting Conservation Features (more than one may apply)								
Specular Reflectors	843	19,994	1,917	1,139	585	69	124	3,440
Electronic Ballasts	2,167	42,035	3,901	2,205	1,269	125	302	6,658
Skylights or Atriums	580	18,286	1,619	898	572	47	102	2,710

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: * 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 electric generation process at the utility plant. * 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.