

Table C2. Total Energy Expenditures by Major Fuel, 1999

	All Buildings		Total Energy Expenditures (million dollars)				
	Number of Buildings (thousand)	Floorspace (million square feet)	Total of Major Fuels	Electricity	Natural Gas	Fuel Oil	District Heat
All Buildings	4,657	67,338	81,552	66,424	10,609	956	3,564
Building Floorspace (Square Feet)							
1,001 to 5,000	2,348	6,774	12,355	10,262	1,802	197	Q
5,001 to 10,000	1,110	8,238	9,228	7,146	1,810	95	Q
10,001 to 25,000	708	11,153	10,873	8,663	1,813	145	Q
25,001 to 50,000	257	9,311	10,090	8,188	1,274	131	496
50,001 to 100,000	145	10,112	12,057	10,023	1,253	114	667
100,001 to 200,000	59	8,271	10,344	8,555	1,104	87	598
200,001 to 500,000	23	6,851	8,015	6,432	958	120	504
Over 500,000	7	6,628	8,592	7,155	594	68	775
Principal Building Activity							
Education	327	8,651	8,018	5,820	1,111	208	879
Food Sales	174	994	3,587	3,359	195	Q	Q
Food Service	349	1,851	6,380	5,082	1,185	Q	Q
Health Care	127	2,918	5,653	4,268	881	87	Q
Inpatient	11	1,865	4,151	2,948	757	79	Q
Outpatient	116	1,053	1,503	1,320	124	Q	Q
Lodging	153	4,521	5,716	4,266	943	26	482
Mercantile	667	10,398	13,085	11,851	1,126	Q	Q
Retail (Other Than Mall)	534	4,766	5,922	5,166	670	Q	Q
Enclosed and Strip Malls	133	5,631	7,164	6,685	456	Q	N
Office	739	12,044	17,775	15,683	1,215	168	709
Public Assembly	305	4,393	5,096	3,983	560	Q	487
Public Order and Safety	72	1,168	1,222	805	176	Q	Q
Religious Worship	307	3,405	1,494	1,041	409	Q	Q
Service	478	3,388	4,639	3,108	1,371	102	Q
Warehouse and Storage	603	10,477	6,029	4,829	1,124	55	Q
Other	102	1,222	2,498	2,063	224	Q	Q
Vacant	253	1,908	361	265	89	Q	Q
Year Constructed							
1919 or Before	419	4,034	3,271	2,170	684	149	268
1920 to 1945	499	6,445	5,797	4,174	968	119	535
1946 to 1959	763	9,127	9,216	6,989	1,390	184	652
1960 to 1969	665	10,866	13,237	10,250	1,986	185	815
1970 to 1979	774	11,840	15,858	13,461	1,726	132	538
1980 to 1989	846	13,931	18,342	15,777	2,033	113	Q
1990 to 1999	690	11,094	15,832	13,604	1,820	73	Q
Floors							
One	2,879	26,800	30,962	26,384	4,075	288	Q
Two	1,168	16,985	19,465	15,870	2,936	214	Q
Three	420	8,928	9,483	7,284	1,460	195	544
Four to Nine	178	10,180	14,974	11,438	1,766	216	1,553
Ten or More	11	4,445	6,670	5,448	372	43	806
Census Region and Division							
Northeast	686	12,360	18,996	15,133	1,895	704	1,264
New England	208	3,735	4,658	3,783	403	362	Q
Middle Atlantic	479	8,625	14,338	11,351	1,491	342	1,154
Midwest	1,188	16,761	17,258	12,933	3,277	27	1,021
East North Central	782	11,205	11,682	8,798	2,252	13	618
West North Central	406	5,556	5,577	4,135	1,024	14	Q
South	1,762	23,485	27,303	23,275	3,294	180	554
South Atlantic	748	11,001	13,771	11,968	1,397	157	Q
East South Central	396	5,220	5,943	4,830	999	Q	Q
West South Central	618	7,264	7,590	6,476	898	5	Q
West	1,021	14,731	17,995	15,083	2,144	45	724
Mountain	315	4,579	4,338	3,365	739	8	Q
Pacific	705	10,152	13,657	11,718	1,405	Q	Q

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Climate Zone: 45-Year Average							
Under 2,000 CDD and --							
More than 7,000 HDD	525	5,890	6,009	4,505	1,125	206	Q
5,500-7,000 HDD	986	17,083	19,809	15,163	3,108	319	1,219
4,000-5,499 HDD	1,085	16,243	21,900	17,164	2,874	369	1,492
Fewer than 4,000 HDD	1,134	16,333	20,548	17,847	2,341	Q	314
2,000 CDD or More and --							
Fewer than 4,000 HDD	926	11,788	13,286	11,745	1,160	15	Q
Workers (main shift)							
Fewer than 5	2,376	14,321	10,245	8,046	1,747	132	Q
5 to 9	807	6,325	6,930	5,462	1,111	147	Q
10 to 19	683	8,028	10,426	8,439	1,509	Q	Q
20 to 49	487	10,814	13,937	11,068	2,386	153	Q
50 to 99	174	8,898	10,937	9,122	1,177	153	485
100 to 249	90	8,356	11,684	9,683	1,210	120	671
250 or More	39	10,595	17,393	14,604	1,468	136	1,185
Weekly Operating Hours							
39 or Fewer	978	6,596	2,316	1,717	502	68	Q
40 to 48	1,156	13,105	10,960	8,799	1,480	183	Q
49 to 60	986	14,200	15,814	12,980	2,123	245	466
61 to 84	664	12,458	15,896	13,082	2,045	164	605
85 to 167	474	9,116	15,569	13,107	1,810	136	516
Open Continuously	398	11,863	20,997	16,739	2,650	160	1,449
Ownership and Occupancy							
Nongovernment Owned	4,135	54,994	66,801	55,086	8,913	693	2,110
Owner Occupied	2,801	37,785	47,362	38,540	6,383	591	1,848
Nonowner Occupied	1,099	15,596	19,195	16,358	2,474	101	Q
Unoccupied	236	1,613	244	Q	Q	Q	N
Government Owned	521	12,343	14,751	11,338	1,696	263	1,454
Federal	63	1,797	2,707	2,195	159	17	336
State	83	3,391	4,516	3,189	470	29	828
Local	375	7,156	7,529	5,955	1,067	217	Q
Vacancy Status							
Completely Vacant	140	953	Q	Q	Q	N	N
Mostly Vacant	113	956	191	121	Q	Q	Q
Partially Vacant	697	15,520	16,227	13,761	1,600	128	737
Not At All Vacant	3,707	49,910	64,965	52,397	8,920	823	2,824
Number of Establishments							
One	3,528	43,343	54,521	43,175	7,939	727	2,680
2 to 5	688	10,582	11,256	9,297	1,524	137	Q
6 to 10	114	3,574	5,148	4,492	511	18	Q
11 to 20	48	3,260	4,247	3,846	275	47	Q
More than 20	27	4,811	6,103	5,402	297	25	379
Currently Unoccupied	251	1,769	278	211	64	Q	N
Energy Sources (more than one may apply)							
Electricity	4,395	65,716	81,548	66,424	10,607	953	3,564
Natural Gas	2,670	45,525	58,798	46,431	10,609	297	1,461
Fuel Oil	434	13,285	18,854	15,165	1,786	956	948
District Heat	117	5,891	10,915	6,841	488	23	3,564
District Chilled Water	50	2,750	4,807	3,224	226	Q	1,349
Propane	451	6,290	7,054	6,286	433	272	Q
Other	153	2,322	3,001	2,512	381	55	Q

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Space-Heating Energy Sources (more than one may apply)							
Electricity	1,880	32,291	40,678	35,332	4,167	244	934
Natural Gas	2,380	37,902	46,471	36,918	9,122	130	Q
Fuel Oil	377	5,611	6,565	5,013	610	909	Q
District Heat	96	5,534	10,208	6,432	385	Q	3,371
Propane	307	2,728	2,690	2,583	Q	46	Q
Other	94	945	1,016	891	Q	Q	Q
Primary Space-Heating Energy Source							
Electricity	1,128	17,627	23,523	21,622	1,608	Q	Q
Natural Gas	2,189	32,729	38,998	30,654	8,225	71	Q
Fuel Oil	302	3,719	3,839	2,923	108	802	Q
District Heat	77	5,077	9,287	5,784	220	7	3,277
Propane	282	2,107	1,966	1,960	Q	Q	N
Other	38	343	Q	Q	Q	Q	N
Cooling Energy Sources (more than one may apply)							
Electricity	3,450	55,545	72,249	60,281	9,247	752	1,968
Natural Gas	142	1,914	3,034	2,487	518	Q	Q
District Chilled Water	50	2,750	4,807	3,224	226	Q	1,349
Water-Heating Energy Sources (more than one may apply)							
Electricity	1,546	24,171	30,746	27,581	2,441	262	462
Natural Gas	1,520	29,196	38,398	30,391	7,556	166	Q
Fuel Oil	110	2,218	2,747	2,089	188	454	Q
District Heat	62	4,182	7,911	4,710	319	14	2,868
Propane	130	1,371	2,147	2,075	Q	Q	Q
Cooking Energy Sources (more than one may apply)							
Electricity	437	13,733	21,428	18,252	2,274	183	719
Natural Gas	505	16,785	25,164	20,171	4,019	183	790
Propane	118	1,754	3,241	3,038	Q	140	Q
Energy End Uses (more than one may apply)							
Buildings with Space Heating	4,016	61,602	77,862	63,164	10,189	954	3,556
Buildings with Cooling	3,560	58,474	77,278	63,845	9,647	758	3,028
Buildings with Water Heating	3,239	56,115	74,711	60,875	9,705	849	3,283
Buildings with Cooking	857	24,681	37,233	30,873	4,672	409	1,279
Buildings with Manufacturing	151	3,126	3,811	3,060	634	39	Q
Buildings with Electricity Generation	172	11,882	18,991	15,509	2,080	243	1,159
Percent of Floorspace Heated							
Not Heated	641	5,736	3,690	3,261	Q	Q	Q
1 to 50	576	7,593	5,293	4,533	679	49	Q
51 to 99	627	10,745	13,939	11,384	1,896	125	534
100	2,813	43,264	58,630	47,247	7,614	779	2,990
Percent of Floorspace Cooled							
Not Cooled	1,097	8,864	4,275	2,579	962	198	Q
1 to 50	1,012	16,846	14,072	10,363	2,897	397	Q
51 to 99	751	16,966	24,422	20,141	3,056	195	1,031
100	1,796	24,662	38,784	33,342	3,694	166	1,582

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Percent Lit When Open							
Zero	34	173	Q	Q	Q	Q	N
1 to 50	835	9,187	6,822	5,396	1,081	93	Q
51 to 99	1,228	20,665	27,188	21,574	4,085	355	1,173
100	2,096	34,233	47,058	39,065	5,354	502	2,138
Building Never Open/ Electricity Not Used.....	464	3,080	403	319	79	Q	N
Percent Lit When Closed							
Zero	2,174	20,771	17,327	14,034	2,565	264	464
1 to 50	1,688	30,950	38,650	31,794	4,845	501	1,510
51 to 100	143	2,160	4,575	3,857	548	Q	Q
Building Never Closed/ Electricity Not Used.....	652	13,457	21,001	16,739	2,651	163	1,449
Heating Equipment (more than one may apply)							
Heat Pumps	492	8,923	12,150	10,243	1,481	51	Q
Furnaces	1,460	14,449	14,052	10,722	3,054	212	Q
Individual Space Heaters	894	17,349	18,689	15,110	2,712	170	697
District Heat	96	5,534	10,208	6,432	385	Q	3,371
Boilers	581	19,522	23,671	18,848	3,974	705	Q
Packaged Heating Units	1,347	25,743	35,951	31,069	4,291	132	459
Other	185	4,073	5,151	4,400	559	48	Q
Cooling Equipment (more than one may apply)							
Residential-Type Central							
Air Conditioners	676	8,329	8,891	7,113	1,538	82	Q
Heat Pumps	485	9,147	12,330	10,416	1,477	89	Q
Individual Air Conditioners	799	14,276	15,537	11,793	2,519	421	803
District Chilled Water	50	2,750	4,807	3,224	226	Q	1,349
Central Chillers	130	12,909	20,759	17,041	2,301	190	1,227
Packaged Air Conditioning							
Units	1,953	36,527	50,789	43,059	6,277	360	1,094
Swamp Coolers	136	2,219	2,832	2,238	518	Q	Q
Other	49	1,312	1,821	1,580	172	Q	Q
Main Equipment Replaced Since 1995 (more than one may apply)							
Heating	984	13,220	16,100	13,421	2,431	102	Q
Cooling	1,085	17,390	22,162	18,381	2,949	249	583
Lighting Equipment Types (more than one may apply)							
Incandescent	2,193	38,156	48,515	39,345	6,273	493	2,404
Standard Fluorescent	3,778	60,344	76,738	62,616	9,788	891	3,443
Compact Fluorescent	607	20,666	29,689	24,269	3,255	313	1,852
High Intensity Discharge	430	19,223	24,549	19,743	3,203	269	1,334
Halogen	572	17,926	25,096	20,656	3,246	190	1,005
Other	58	1,004	1,506	1,235	Q	Q	Q
Water Heating Equipment							
Centralized System	2,472	35,579	47,665	38,010	6,762	631	2,261
Distributed System	566	10,899	13,260	11,383	1,409	111	Q
Combination of Centralized and Distributed System	200	9,637	13,786	11,481	1,533	108	665

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Commercial Refrigeration Equipment (more than one may apply)							
Any Equipment	950	25,652	40,917	34,282	4,858	442	1,336
Walk-In Units	658	19,713	33,935	28,489	4,086	313	1,048
Cases or Cabinets	820	22,001	35,710	30,056	4,052	365	1,237
None	3,707	41,686	40,635	32,142	5,751	514	2,228
Personal Computers							
None	1,617	9,583	6,478	4,762	1,291	119	Q
1 to 4	1,636	13,853	16,059	13,009	2,502	198	Q
5 to 9	542	6,528	8,451	6,947	1,327	68	Q
10 to 19	403	7,514	9,636	7,747	1,374	158	Q
20 to 49	247	8,087	9,782	8,162	1,171	109	341
50 to 99	105	5,867	6,928	5,601	903	98	326
100 to 249	71	6,818	9,137	7,675	840	105	516
250 or More	36	9,088	15,083	12,521	1,202	101	1,260
Photocopiers							
None	2,825	21,631	22,207	17,615	3,624	321	647
One	1,114	12,928	15,654	12,840	2,079	144	Q
2 to 4	540	15,620	17,906	14,526	2,514	240	626
5 to 9	102	5,384	6,938	5,626	852	117	343
10 or More	75	11,774	18,847	15,816	1,540	134	1,357
Other Electronic Equipment (more than one may apply)							
Laser Printers	1,949	46,567	61,755	51,039	7,229	662	2,826
FAX Machines	2,807	54,764	72,276	59,661	8,864	798	2,954
Medical Diagnostic Equipment	86	2,493	4,977	3,775	813	69	Q
Energy-Related Space Functions (more than one may apply)							
Commercial Food Preparation	767	23,328	35,213	29,173	4,443	383	1,214
Activities with Large Amounts of Hot Water	698	21,793	32,545	25,383	4,972	353	1,838
Building Shell Conservation Features (more than one may apply)							
Multipaned Windows	2,130	38,193	49,189	39,911	6,557	585	2,136
Tinted, Reflective, or Shading Glass	1,283	29,915	41,475	35,125	4,359	272	1,718
HVAC Conservation Features (more than one may apply)							
Variable Air-Volume System	550	19,387	29,233	24,379	2,946	230	1,677
Economizer Cycle	567	21,256	33,194	27,641	3,563	194	1,795
HVAC Maintenance	2,786	53,395	71,785	58,705	8,812	861	3,406
Energy Management and Control System (EMCS)	460	21,613	31,814	26,143	3,177	246	2,248
Lighting Conservation Features (more than one may apply)							
Specular Reflectors	843	19,994	28,083	23,678	3,000	350	1,054
Electronic Ballasts	2,167	42,035	55,999	46,324	6,436	633	2,606
Skylights or Atriums	580	18,286	21,710	17,867	2,796	223	824

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.