

Table B22. Energy end uses, floorspace, 2018

	Total floorspace (million square feet)							
	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	96,423	88,661	87,506	87,717	43,580	6,871	29,457	94,103
Building floorspace (square feet)								
1,001 to 5,000	8,025	6,322	5,704	5,721	2,020	392	556	7,290
5,001 to 10,000	10,204	8,191	7,781	7,987	2,960	388	1,212	9,306
10,001 to 25,000	15,838	14,194	13,940	13,843	4,932	1,096	2,478	15,445
25,001 to 50,000	13,957	13,237	13,151	13,137	5,778	1,282	2,886	13,812
50,001 to 100,000	15,302	14,609	14,841	14,721	7,387	1,214	4,755	15,269
100,001 to 200,000	13,003	12,603	12,645	12,628	7,750	854	5,180	12,956
200,001 to 500,000	11,776	11,304	11,129	11,542	6,950	781	6,041	11,708
Over 500,000	8,317	8,201	8,317	8,137	5,803	864	6,347	8,317
Principal building activity								
Education	13,623	13,386	13,324	13,228	9,616	301	4,542	13,623
Food sales	1,006	919	916	986	816	Q	370	1,006
Food service	1,385	1,274	1,343	1,385	1,358	Q	Q	1,385
Health care	4,018	4,006	4,009	4,014	2,437	Q	2,864	4,018
Inpatient	2,259	2,249	2,259	2,256	2,109	Q	2,241	2,259
Outpatient	1,760	1,757	1,750	1,757	328	Q	623	1,760
Lodging	6,976	6,850	6,907	6,904	5,527	Q	2,908	6,976
Mercantile	10,781	10,538	10,500	10,227	5,942	412	2,497	10,776
Retail (other than mall)	5,193	5,031	4,912	4,639	1,683	Q	690	5,188
Enclosed and strip malls	5,588	5,507	5,588	5,588	4,259	Q	1,807	5,588
Office	16,662	16,300	16,380	16,332	6,096	746	6,793	16,662
Public assembly	7,192	6,825	6,775	7,023	4,119	Q	2,336	7,192
Public order and safety	1,538	1,507	1,519	1,528	1,008	Q	1,044	1,538
Religious worship	5,471	5,311	5,315	5,282	3,955	Q	427	5,471
Service	6,240	5,211	4,418	4,914	498	915	1,134	6,139
Warehouse and storage	17,483	13,538	13,180	13,273	1,431	3,191	3,283	15,713
Other	2,435	2,211	2,233	2,175	722	538	926	2,393
Vacant	1,612	785	686	444	Q	Q	Q	1,209
Year constructed								
Before 1920	3,600	3,413	3,019	3,297	1,446	Q	662	3,535
1920 to 1945	5,646	5,212	5,042	5,144	2,848	Q	1,703	5,547
1946 to 1959	6,937	6,525	6,151	6,479	3,401	465	1,526	6,744
1960 to 1969	10,360	9,782	9,369	9,520	5,017	584	2,737	10,205
1970 to 1979	13,061	11,792	11,888	11,726	5,196	1,313	3,892	12,872
1980 to 1989	13,465	12,447	12,648	12,397	6,230	892	4,234	13,298
1990 to 1999	15,535	13,947	13,966	13,593	6,542	1,071	4,337	14,885
2000 to 2009	17,500	16,005	16,243	16,142	8,800	1,351	6,243	17,082
2010 to 2018	10,319	9,537	9,180	9,418	4,101	721	4,123	9,935

Table B22. Energy end uses, floorspace, 2018

Total floorspace (million square feet)

	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu-facturing	Electricity gener-ation	Lighting
All buildings	96,423	88,661	87,506	87,717	43,580	6,871	29,457	94,103
Census region and division								
Northeast	15,951	15,465	14,557	15,001	8,071	979	6,798	15,760
New England	3,749	3,603	3,162	3,475	2,050	Q	1,692	3,737
Middle Atlantic	12,202	11,862	11,395	11,526	6,020	789	5,106	12,023
Midwest	25,932	24,096	22,577	23,634	12,282	2,302	7,193	25,183
East North Central	17,561	16,450	15,447	16,281	8,315	1,489	5,232	17,100
West North Central	8,372	7,646	7,130	7,353	3,967	813	1,961	8,083
South	34,907	31,527	33,255	31,781	15,176	2,067	9,746	34,055
South Atlantic	17,923	15,953	17,134	16,554	7,981	1,006	5,854	17,643
East South Central	5,404	5,076	5,118	4,740	2,116	307	1,171	5,078
West South Central	11,580	10,498	11,003	10,487	5,079	754	2,721	11,334
West	19,633	17,572	17,118	17,301	8,051	1,522	5,720	19,106
Mountain	7,680	7,206	6,911	6,725	3,538	599	2,547	7,390
Pacific	11,952	10,366	10,206	10,576	4,513	923	3,173	11,716
Climate zone^a								
Cold or very cold	7,044	6,641	5,725	6,499	3,354	876	1,791	6,884
Cool	26,768	25,143	23,165	24,430	13,086	2,007	8,415	26,134
Mixed mild	25,096	24,088	23,604	23,820	11,957	1,420	9,839	24,577
Warm	25,085	23,099	23,176	22,553	9,485	1,684	6,079	24,307
Hot or very hot	12,429	9,690	11,837	10,415	5,698	884	3,334	12,202
Number of workers (main shift)								
Fewer than 5	21,065	16,046	14,399	14,430	5,553	786	2,014	18,806
5 to 9	10,323	9,623	9,436	9,758	3,283	649	1,415	10,285
10 to 19	11,348	10,610	10,766	10,648	4,452	1,257	1,784	11,346
20 to 49	16,132	15,662	15,877	15,931	7,152	1,530	4,560	16,132
50 to 99	12,961	12,454	12,630	12,602	6,967	779	4,741	12,961
100 to 249	12,442	12,281	12,331	12,359	7,878	1,144	5,909	12,422
250 or more	12,152	11,986	12,068	11,988	8,295	726	9,034	12,152
Weekly operating hours								
Fewer than 40	10,766	8,809	8,213	8,326	3,863	437	1,121	9,961
40 to 48	18,826	17,422	16,866	16,842	6,292	2,051	3,973	18,640
49 to 60	22,845	21,477	21,186	21,403	8,983	1,675	6,172	22,739
61 to 84	14,736	13,884	13,742	14,054	7,092	890	4,613	14,602
85 to 167	10,038	9,325	9,540	9,324	4,973	737	4,086	9,621
Open continuously	19,213	17,743	17,960	17,767	12,377	1,081	9,491	18,541

Table B22. Energy end uses, floorspace, 2018

Total floorspace (million square feet)

	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	96,423	88,661	87,506	87,717	43,580	6,871	29,457	94,103
Ownership and occupancy								
Nongovernment owned	74,728	67,980	66,906	67,295	30,621	6,133	20,191	72,480
Owner occupied	45,355	41,507	40,664	41,291	20,384	3,649	12,695	44,295
Leased to tenant or tenants	28,382	26,113	25,950	25,847	10,219	2,483	7,442	27,573
Unoccupied	990	360	292	Q	Q	N	Q	612
Government owned	21,695	20,680	20,600	20,422	12,959	738	9,266	21,624
Federal	1,946	1,868	1,811	1,838	926	Q	963	1,946
State	6,888	6,567	6,591	6,524	3,696	250	2,778	6,841
Local	12,861	12,246	12,198	12,060	8,337	331	5,526	12,836
Energy sources (more than one may apply)								
Electricity	94,844	88,661	87,506	87,712	43,580	6,871	29,441	94,103
Natural gas	67,722	67,111	65,200	66,205	36,167	5,261	23,977	67,507
Fuel oil	21,185	20,667	20,304	20,659	12,946	1,356	18,298	21,185
District heat	6,745	6,726	6,554	6,657	3,553	284	3,848	6,745
District chilled water	4,288	4,239	4,288	4,232	2,041	Q	2,298	4,288
Propane	10,157	9,406	9,237	9,525	5,559	1,319	3,533	10,131
Solar	3,820	3,624	3,743	3,669	2,558	Q	3,784	3,803
Wood, coal, and other	2,113	2,028	1,807	1,897	930	Q	1,272	2,113
Energy end uses (more than one may apply)								
Buildings with space heating	88,661	88,661	84,736	85,109	42,729	6,359	28,753	88,398
Buildings with cooling	87,506	84,736	87,506	83,999	42,865	6,182	28,853	87,320
Buildings with water heating	87,717	85,109	83,999	87,717	43,488	6,441	28,818	87,605
Buildings with cooking	43,580	42,729	42,865	43,488	43,580	2,283	18,616	43,565
Buildings with manufacturing	6,871	6,359	6,182	6,441	2,283	6,871	1,962	6,871
Buildings with electricity generation	29,457	28,753	28,853	28,818	18,616	1,962	29,457	29,318
Buildings with lighting	94,103	88,398	87,320	87,605	43,565	6,871	29,318	94,103
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	10,361	10,276	10,265	10,333	10,306	547	6,245	10,361
Fast food or small restaurant	9,759	9,584	9,622	9,756	9,743	516	4,954	9,759
Cafeteria or large restaurant	14,531	14,325	14,362	14,502	14,345	522	8,538	14,531
Commercial kitchen or food preparation area	17,698	17,479	17,562	17,685	17,614	919	9,120	17,698
Small kitchen area	20,519	20,231	20,195	20,437	20,351	1,207	8,311	20,503

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	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	96,423	88,661	87,506	87,717	43,580	6,871	29,457	94,103
Separate computer areas (more than one may apply)								
Server closet	48,722	47,558	47,975	48,011	26,728	3,267	20,623	48,722
Data center or server farm	11,383	11,263	11,353	11,280	7,293	996	7,966	11,383
Computer-based training room	16,556	16,342	16,467	16,503	11,245	1,101	9,229	16,556
Student or public computer center	12,527	12,452	12,378	12,497	9,652	326	5,889	12,527

Data source: U.S. Energy Information Administration, Form EIA-871A of the *2018 Commercial Buildings Energy Consumption Survey*

Notes: Because of rounding, data may not sum to totals. The *Guide to the 2018 CBECS Tables* and *CBECS Terminology* contain definitions of terms used in these tables and comparisons between previous CBECS tables. You can access both references from <http://www.eia.gov/consumption/commercial/data/2018/>.

Data are sample survey estimates with relative standard errors published in a tab on the Excel worksheet for this table.

^a*Climate zones* are based on ASHRAE Standard 169-2021; see <https://www.eia.gov/consumption/commercial/maps.php#defined>.

Q = Data withheld either because the relative standard error was greater than 50% or the reporting sample had fewer than 20 buildings.

N = No buildings in reporting sample.

Release date: September 2021

Revised date: December 2022

Relative standard errors (RSEs) for Table B22. Energy end uses, floorspace, 2018

RSEs for total floorspace

Energy used for (more than one may apply)

	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	3.1	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Building floorspace (square feet)								
1,001 to 5,000	5.3	5.7	5.9	5.9	7.8	24.2	13.8	5.4
5,001 to 10,000	5.8	6.7	6.0	6.4	9.0	25.8	21.8	5.8
10,001 to 25,000	6.1	6.3	6.1	5.9	8.2	18.8	12.8	6.2
25,001 to 50,000	5.6	5.8	5.8	5.9	7.9	22.5	12.3	5.6
50,001 to 100,000	5.3	5.3	5.1	5.2	6.2	15.1	6.9	5.3
100,001 to 200,000	5.5	5.5	5.5	5.5	6.6	15.1	7.3	5.5
200,001 to 500,000	5.0	5.0	4.7	5.0	4.9	15.7	5.8	5.0
Over 500,000	8.6	8.7	8.6	8.7	9.3	25.8	10.7	8.6
Principal building activity								
Education	5.3	5.3	5.4	5.3	6.1	26.8	8.9	5.3
Food sales	17.0	18.1	16.1	17.3	19.4	41.4	34.2	17.0
Food service	8.5	8.4	8.4	8.5	8.6	31.3	33.4	8.5
Health care	5.5	5.6	5.5	5.6	6.2	44.9	6.4	5.5
Inpatient	7.2	7.3	7.2	7.2	6.5	61.2	7.3	7.2
Outpatient	8.0	8.0	8.0	8.0	18.1	58.1	13.9	8.0
Lodging	8.3	8.5	8.4	8.2	8.8	40.3	15.3	8.3
Mercantile	6.0	6.0	6.1	5.7	6.8	33.4	11.4	6.0
Retail (other than mall)	8.6	8.5	8.4	8.5	10.2	50.5	20.2	8.6
Enclosed and strip malls	7.6	7.7	7.6	7.6	8.0	39.9	13.0	7.6
Office	5.5	5.6	5.5	5.6	8.0	23.6	9.3	5.5
Public assembly	5.8	6.2	6.1	5.8	7.4	48.4	10.7	5.8
Public order and safety	15.9	16.2	16.1	16.0	18.8	50.4	18.1	15.9
Religious worship	9.3	9.7	9.5	9.5	10.8	49.2	27.5	9.3
Service	8.1	8.9	8.9	9.1	26.6	20.1	17.9	7.9
Warehouse and storage	7.2	7.9	8.1	7.8	14.4	10.5	15.7	7.3
Other	15.1	16.4	16.2	16.8	28.5	34.8	23.1	15.5
Vacant	14.1	17.2	17.7	20.5	37.1	50.2	30.7	16.0
Year constructed								
Before 1920	10.8	11.2	11.0	11.0	15.4	29.0	20.3	10.9
1920 to 1945	8.8	9.4	9.7	9.2	12.7	30.8	18.7	9.0
1946 to 1959	7.6	8.1	8.0	7.9	9.7	25.2	12.5	7.8
1960 to 1969	5.2	5.1	4.9	5.0	7.5	17.4	9.2	5.2
1970 to 1979	6.0	5.7	5.7	5.7	7.7	16.3	9.9	5.8
1980 to 1989	5.9	5.9	5.9	6.0	8.1	21.8	11.4	5.9
1990 to 1999	6.6	6.1	5.9	5.7	7.3	23.5	8.8	6.3
2000 to 2009	6.3	6.4	6.4	6.5	6.5	20.7	7.7	6.4
2010 to 2018	7.6	7.9	7.5	7.9	8.2	21.9	11.4	7.7

Relative standard errors (RSEs) for Table B22. Energy end uses, floorspace, 2018

RSEs for total floorspace

	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	3.1	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Census region and division								
Northeast	7.2	7.2	7.5	7.2	6.5	22.9	9.0	7.1
New England	10.8	11.2	11.3	11.5	11.4	32.7	18.1	10.8
Middle Atlantic	8.8	8.8	9.1	8.8	7.7	27.3	10.3	8.7
Midwest	7.4	7.0	6.8	7.1	7.0	15.6	7.1	7.2
East North Central	10.4	9.5	9.2	9.7	9.6	19.8	8.0	10.2
West North Central	7.9	9.7	9.4	9.4	9.5	26.9	14.8	7.8
South	6.1	6.0	5.9	5.6	5.5	12.6	7.3	5.9
South Atlantic	6.8	7.4	6.5	7.0	7.8	17.9	9.2	6.7
East South Central	20.3	20.6	21.1	17.5	18.0	26.4	29.3	18.4
West South Central	11.5	10.1	10.8	10.0	6.8	22.3	10.2	11.7
West	7.1	7.4	6.7	7.1	9.0	15.4	12.7	6.9
Mountain	13.1	13.7	13.5	14.3	15.3	24.7	24.4	13.4
Pacific	8.1	8.1	6.4	7.2	10.8	19.6	11.8	7.6
Climate zone^a								
Cold or very cold	17.0	16.9	17.3	17.1	16.8	29.1	19.2	17.1
Cool	8.3	8.4	8.4	8.4	8.7	13.8	9.6	8.1
Mixed mild	10.5	10.6	10.4	10.4	10.2	18.7	11.8	10.6
Warm	10.0	10.3	10.3	10.1	11.4	13.3	10.3	9.9
Hot or very hot	14.1	14.1	13.0	13.1	11.6	24.5	13.2	13.5
Number of workers (main shift)								
Fewer than 5	5.9	6.6	6.3	6.4	8.5	22.3	14.2	5.7
5 to 9	6.9	6.9	6.7	7.1	9.8	27.4	16.0	6.9
10 to 19	7.4	7.1	7.0	6.6	7.1	20.0	12.7	7.4
20 to 49	4.8	4.8	4.8	4.8	6.3	16.0	8.4	4.8
50 to 99	5.9	6.0	5.9	5.9	6.2	18.5	8.0	5.9
100 to 249	5.6	5.6	5.6	5.6	5.6	18.8	7.7	5.6
250 or more	6.4	6.5	6.4	6.5	7.5	23.0	8.0	6.4
Weekly operating hours								
Fewer than 40	6.6	7.5	8.0	7.7	10.0	34.8	14.3	6.7
40 to 48	5.1	5.0	4.8	4.9	6.7	11.6	8.9	5.0
49 to 60	4.3	4.3	4.4	4.3	6.2	16.2	7.7	4.4
61 to 84	5.3	5.4	5.4	5.3	6.5	21.3	8.1	5.3
85 to 167	6.2	6.3	6.2	6.1	7.6	23.4	11.2	5.9
Open continuously	5.0	5.2	5.0	5.1	5.3	16.5	7.0	4.9

Relative standard errors (RSEs) for Table B22. Energy end uses, floorspace, 2018

RSEs for total floorspace

	Energy used for (more than one may apply)							
	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	3.1	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Ownership and occupancy								
Nongovernment owned	3.3	3.4	3.3	3.2	3.8	8.5	5.3	3.2
Owner occupied	3.3	3.5	3.5	3.3	4.1	10.8	6.1	3.3
Leased to tenant or tenants	4.8	4.8	4.6	4.6	5.1	12.6	7.4	4.6
Unoccupied	19.2	29.6	29.9	27.1	80.2	0.0	45.1	23.4
Government owned	6.0	6.0	6.0	5.9	5.5	21.8	6.3	6.0
Federal	16.1	16.2	16.5	16.4	22.1	46.3	26.5	16.1
State	11.8	12.0	12.0	12.1	10.8	33.1	11.5	12.0
Local	6.0	6.3	6.2	6.0	7.4	31.6	7.6	6.0
Energy sources (more than one may apply)								
Electricity	3.0	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Natural gas	3.4	3.4	3.3	3.3	3.3	9.2	4.5	3.3
Fuel oil	5.4	5.5	5.4	5.5	6.3	18.2	5.9	5.4
District heat	11.4	11.4	11.6	11.5	11.9	29.5	12.6	11.4
District chilled water	13.7	13.9	13.7	13.8	11.9	34.6	12.1	13.7
Propane	7.6	8.2	8.3	7.8	9.7	14.1	14.5	7.7
Solar	11.5	11.9	11.7	11.8	12.0	33.4	11.5	11.6
Wood, coal, and other	14.0	14.2	14.5	14.7	21.3	35.3	17.2	14.0
Energy end uses (more than one may apply)								
Buildings with space heating	3.0	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Buildings with cooling	3.0	3.0	3.0	2.8	3.1	8.1	4.3	2.9
Buildings with water heating	2.9	2.9	2.8	2.9	3.1	8.4	4.3	2.9
Buildings with cooking	3.1	3.1	3.1	3.1	3.1	12.6	4.9	3.1
Buildings with manufacturing	7.9	7.9	8.1	8.4	12.6	7.9	15.4	7.9
Buildings with electricity generation	4.4	4.4	4.3	4.3	4.9	15.4	4.4	4.3
Buildings with lighting	3.0	3.0	2.9	2.9	3.1	7.9	4.3	3.0
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	6.7	6.8	6.7	6.8	6.7	26.3	9.4	6.7
Fast food or small restaurant	5.9	5.9	5.9	5.9	5.9	26.3	9.6	5.9
Cafeteria or large restaurant	4.6	4.7	4.6	4.7	4.7	25.3	7.0	4.6
Commercial kitchen or food preparation area	4.4	4.4	4.4	4.4	4.4	18.2	6.7	4.4
Small kitchen area	4.7	4.8	4.8	4.8	4.8	18.0	7.7	4.8

Relative standard errors (RSEs) for Table B22. Energy end uses, floorspace, 2018

RSEs for total floorspace

Energy used for (more than one may apply)

	All buildings	Space heating	Cooling	Water heating	Cooking	Manu- facturing	Electricity gener- ation	Lighting
All buildings	3.1	3.0	3.0	2.9	3.1	7.9	4.4	3.0
Separate computer areas (more than one may apply)								
Server closet	3.4	3.4	3.4	3.3	3.5	11.7	4.9	3.4
Data center or server farm	6.7	6.7	6.7	6.7	7.7	21.1	8.8	6.7
Computer-based training room	4.6	4.6	4.6	4.6	5.2	20.7	6.8	4.6
Student or public computer center	4.6	4.6	4.6	4.6	5.6	24.9	9.0	4.6

Data source: U.S. Energy Information Administration, Form EIA-871A of the 2018 Commercial Buildings Energy Consumption Survey

Note: RSE is a measure of the reliability or precision of a survey statistic. Variability occurs in survey statistics because the different samples that could be drawn would each produce different values for the survey statistics. *Estimation of Standard Errors* and *What is a Relative Standard Error (RSE)?* contain more information on how RSEs are estimated and used. Both references can be accessed from <https://www.eia.gov/consumption/commercial/survey-background-technical-information.php>.

^aClimate zones are based on ASHRAE Standard 169-2021; see <https://www.eia.gov/consumption/commercial/maps.php#defined>.