

Release date: September 2021

Revised date: December 2022

Table B12. Selected principal building activity: part 1, floorspace, 2018

	Total floorspace (million square feet)							
	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Building floorspace (square feet)								
1,001 to 5,000	8,025	1,409	1,380	1,428	534	655	463	396
5,001 to 10,000	10,204	1,885	1,446	1,644	804	886	825	761
10,001 to 25,000	15,838	3,049	2,172	1,505	2,181	1,545	2,028	1,224
25,001 to 50,000	13,957	2,199	1,899	846	1,736	1,514	1,383	1,510
50,001 to 100,000	15,302	2,254	2,380	569	1,752	1,024	595	4,018
100,001 to 200,000	13,003	2,056	2,412	Q	1,854	470	Q	3,321
200,001 to 500,000	11,776	2,588	2,541	Q	1,325	416	Q	2,157
Over 500,000	8,317	2,043	2,432	Q	596	683	N	236
Year constructed								
Before 1920	3,600	Q	1,109	Q	Q	465	505	428
1920 to 1945	5,646	436	1,716	369	Q	589	Q	942
1946 to 1959	6,937	1,208	582	455	606	537	498	1,995
1960 to 1969	10,360	1,350	1,282	1,040	1,108	669	816	1,999
1970 to 1979	13,061	2,800	2,268	1,042	1,288	944	696	1,584
1980 to 1989	13,465	2,325	3,441	680	1,541	532	595	1,247
1990 to 1999	15,535	3,527	2,505	970	1,799	1,222	898	2,148
2000 to 2009	17,500	3,087	2,346	986	2,767	1,482	906	2,241
2010 to 2018	10,319	2,491	1,413	656	1,269	753	Q	1,038
Census region and division								
Northeast	15,951	2,398	3,196	1,268	1,394	1,107	585	2,545
New England	3,749	469	454	323	Q	424	Q	621
Middle Atlantic	12,202	1,929	2,741	944	1,044	682	510	1,924
Midwest	25,932	4,714	4,336	2,223	2,625	1,890	1,444	3,837
East North Central	17,561	3,402	2,943	1,312	1,756	1,384	963	2,435
West North Central	8,372	1,312	1,393	911	869	506	482	1,402
South	34,907	6,365	5,703	1,684	4,463	2,711	2,569	4,967
South Atlantic	17,923	3,034	3,253	755	2,159	1,655	1,322	2,345
East South Central	5,404	1,250	545	310	706	Q	628	822
West South Central	11,580	2,080	1,905	619	1,598	893	619	1,800
West	19,633	4,006	3,427	1,066	2,300	1,485	873	2,275
Mountain	7,680	1,049	1,358	462	1,125	570	Q	895
Pacific	11,952	2,958	2,069	605	1,174	915	530	1,379
Climate zone^a								
Cold or very cold	7,044	1,219	1,252	586	742	435	Q	1,279
Cool	26,768	3,896	4,442	2,762	2,884	2,046	1,453	3,748
Mixed mild	25,096	4,829	5,307	953	2,050	1,695	1,070	3,931
Warm	25,085	5,314	3,648	1,418	3,295	1,829	1,797	2,947
Hot or very hot	12,429	2,226	2,013	522	1,810	1,187	814	1,718

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Number of floors								
1	43,576	12,093	3,334	4,686	8,287	2,847	1,990	4,930
2	23,300	4,098	3,684	1,308	1,734	1,923	2,296	4,333
3	10,516	845	2,223	Q	705	1,125	989	2,000
4 to 9	13,031	Q	3,877	Q	Q	1,273	Q	2,282
10 or more	6,000	N	3,544	N	N	Q	N	Q
Elevators and escalators (more than one may apply)								
Any elevators	36,501	2,330	11,215	Q	1,071	2,974	1,330	6,928
1 elevator	14,215	1,520	2,839	Q	428	1,379	1,123	4,371
2 to 5 elevators	13,316	597	4,496	Q	Q	772	Q	2,423
6 or more elevators	8,970	Q	3,880	Q	Q	823	Q	134
Any escalators	3,753	Q	1,274	Q	616	848	Q	Q
Number of workers (main shift)								
Fewer than 5	21,065	5,467	1,027	2,810	1,424	2,673	3,179	599
5 to 9	10,323	1,766	1,260	1,091	872	1,171	932	1,034
10 to 19	11,348	2,121	1,427	993	1,295	761	846	1,226
20 to 49	16,132	3,447	2,098	921	2,114	1,009	389	2,897
50 to 99	12,961	2,012	2,099	Q	1,797	725	Q	4,162
100 to 249	12,442	1,778	2,463	Q	2,765	345	N	3,141
250 or more	12,152	891	6,289	Q	513	508	N	564
Weekly operating hours								
Fewer than 40	10,766	1,838	920	610	Q	1,281	3,038	838
40 to 48	18,826	4,345	4,244	2,325	1,291	972	846	3,454
49 to 60	22,845	4,012	5,968	1,766	2,745	1,192	635	5,405
61 to 84	14,736	2,075	2,566	727	3,406	1,393	511	2,615
85 to 167	10,038	2,622	754	515	2,058	1,423	Q	1,185
Open continuously	19,213	2,592	2,210	299	1,074	931	Q	Q
Ownership and occupancy								
Nongovernment owned	74,728	16,866	13,301	5,115	10,766	4,418	5,471	3,015
Owner occupied	45,355	8,867	6,701	3,252	4,455	3,743	5,308	2,603
Leased to tenant or tenants	28,382	7,999	6,600	1,863	6,312	675	Q	412
Unoccupied	990	N	N	N	N	N	N	N
Government owned	21,695	616	3,361	1,125	Q	2,774	N	10,608
Federal	1,946	237	762	344	Q	Q	N	Q
State	6,888	Q	1,035	Q	Q	1,001	N	3,178
Local	12,861	Q	1,563	626	Q	1,709	N	7,313
Party responsible for operation of energy systems								
Building owner	79,282	11,799	14,432	5,016	6,298	6,432	5,379	13,097
Business owner or tenant	12,842	4,836	1,232	1,160	3,663	475	Q	Q
Property management	1,994	404	567	Q	Q	Q	Q	Q
Other	2,306	443	431	Q	Q	Q	Q	358

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Provider of direct input on energy-related equipment purchases								
Building owner	82,862	13,237	14,801	5,230	7,455	6,528	5,386	13,086
Business owner or tenant	7,585	2,658	673	720	2,240	Q	Q	Q
Property management	1,072	Q	222	Q	Q	Q	N	Q
Other	4,904	1,317	966	Q	893	351	Q	353
Number of establishments								
1	65,391	12,657	7,319	5,451	3,594	5,399	5,099	12,656
2 to 5	16,431	3,620	3,403	624	2,702	1,159	Q	915
6 to 10	5,539	805	2,017	Q	1,777	Q	N	Q
11 to 20	3,894	322	1,726	Q	1,378	Q	N	Q
More than 20	3,999	Q	2,197	N	1,330	Q	N	Q
Currently unoccupied	1,168	N	N	N	N	N	N	N
Campus or complex activity								
Not part of a campus or complex	56,609	10,046	10,342	3,962	7,157	3,756	3,208	6,835
Primary or secondary school	5,106	N	Q	N	N	420	N	4,417
College or university	3,761	Q	511	Q	Q	629	N	1,548
Office complex	3,823	Q	3,311	Q	Q	Q	Q	Q
Retail complex	4,573	491	Q	Q	3,337	Q	N	N
Storage complex	5,684	4,904	Q	Q	Q	Q	N	N
Religious campus or complex	3,209	Q	Q	Q	N	Q	2,126	479
Health care complex	2,838	Q	Q	Q	N	Q	N	Q
Lodging or resort complex	1,575	Q	Q	N	Q	Q	N	N
Transportation complex	774	Q	Q	Q	N	279	N	Q
Government complex	1,706	Q	572	390	N	Q	N	N
Other	6,765	1,303	985	1,236	Q	1,147	Q	Q
Predominant exterior wall material								
Brick, stone, or stucco	46,134	3,068	8,892	1,633	4,748	3,576	3,806	10,285
Concrete (block or poured)	19,357	3,609	2,166	1,509	3,970	1,649	636	2,155
Concrete panels	8,331	4,027	1,876	Q	417	301	Q	282
Siding or shingles	5,992	851	787	395	422	546	613	412
Metal panels	12,198	5,707	498	2,477	894	768	Q	Q
Window glass	2,192	N	1,541	N	Q	203	N	Q
Other	2,219	Q	902	Q	Q	Q	Q	Q

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Predominant roof material								
Metal surfacing	20,936	7,114	1,526	3,645	1,556	1,803	913	1,822
Synthetic or rubber	31,563	5,113	6,370	850	4,868	2,284	545	5,130
Built-up	19,308	2,439	4,590	732	2,284	967	377	3,901
Slate or tile shingles	3,997	Q	731	Q	Q	594	633	391
Wooden materials (including shingles)	1,568	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	14,058	1,408	1,990	763	1,307	1,031	2,638	1,583
Concrete	1,968	Q	601	Q	Q	Q	Q	266
Other	3,026	645	632	Q	Q	Q	Q	362
Roof tilt								
Flat	54,253	7,689	12,050	2,500	7,407	3,111	738	9,406
Shallow pitch	27,609	8,364	2,922	2,732	2,910	2,158	1,432	2,649
Steeper pitch	14,561	1,430	1,691	1,008	464	1,924	3,302	1,569
Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	32,799	6,493	6,036	1,651	4,403	2,361	769	4,782
White or reflective tiles or shingles	2,713	Q	373	Q	Q	Q	Q	485
Aluminum coating	6,149	1,624	474	911	864	471	Q	513
Ballasted roof system	6,277	861	1,898	Q	517	353	Q	881
Other cool roof property	1,603	N	730	Q	Q	Q	Q	Q
Renovations since 2000 (more than one may apply)								
Any type of renovation	45,165	5,232	9,706	2,246	4,933	3,575	2,690	7,335
Addition or annex	10,854	1,079	1,106	607	868	1,139	690	2,931
Reduction in floorspace	1,784	Q	482	Q	Q	Q	Q	Q
Roof replacement	20,862	2,367	4,101	642	1,935	1,388	1,492	3,842
Interior wall reconfiguration	21,283	2,000	6,873	1,015	1,689	1,619	730	2,935
Window replacement	10,977	875	2,573	606	853	948	665	2,185
HVAC equipment upgrade	27,575	2,548	6,647	931	2,780	2,069	1,743	4,725
Lighting upgrade	29,098	3,211	7,057	1,411	2,933	2,280	1,114	4,608
Electrical upgrade	15,761	1,677	3,799	582	1,400	1,381	535	2,615
Plumbing system upgrade	15,537	996	4,034	550	1,084	1,418	653	2,866
Insulation upgrade	7,980	657	2,011	436	642	726	Q	1,385
Fire, safety, or security upgrade	19,985	1,711	4,743	769	1,309	1,595	861	4,049
Structural upgrade	4,203	339	997	Q	Q	265	Q	651
Other	1,168	Q	Q	Q	581	Q	Q	Q
No renovations	43,832	10,093	6,016	3,506	4,842	3,108	2,580	5,658
Buildings constructed 2013 or later	7,426	2,157	940	488	1,006	509	Q	630

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Energy sources (more than one may apply)								
Electricity	94,844	16,335	16,662	6,208	10,776	7,192	5,471	13,623
Natural gas	67,722	10,309	11,283	3,343	8,992	5,233	4,083	10,254
Fuel oil	21,185	2,098	5,419	1,463	925	1,359	393	2,709
District heat	6,745	Q	1,853	Q	Q	942	Q	1,375
District chilled water	4,288	Q	786	N	N	916	Q	1,049
Propane	10,157	2,749	664	681	807	844	730	1,182
Solar	3,820	412	724	Q	501	553	Q	847
Wood, coal, and other	2,113	Q	Q	590	Q	Q	Q	Q
Space-heating energy sources (more than one may apply)								
Electricity	45,603	6,605	9,108	2,041	7,228	2,901	2,473	5,398
Natural gas	58,042	9,245	9,283	3,187	8,667	4,280	3,606	9,096
Fuel oil	4,134	Q	537	794	Q	Q	Q	1,151
District heat	6,547	Q	1,845	Q	Q	915	Q	1,335
Propane	3,896	558	Q	477	483	248	506	428
Other sources ^b	927	Q	Q	504	Q	Q	N	Q
Primary space-heating energy source								
Electricity	27,618	4,172	6,261	1,227	3,612	1,877	1,614	2,952
Natural gas	50,060	8,683	7,885	2,936	6,622	3,839	3,125	8,218
Fuel oil	2,223	Q	256	498	Q	Q	Q	686
District heat	6,090	Q	1,732	Q	Q	837	Q	1,233
Propane	2,290	425	Q	263	Q	Q	419	Q
Other sources ^b	380	Q	Q	Q	N	Q	N	Q
Cooling energy sources (more than one may apply)								
Electricity	84,526	13,156	15,784	4,418	10,500	6,073	5,267	12,590
Natural gas	400	Q	Q	N	Q	Q	Q	Q
District chilled water	4,288	Q	786	N	N	916	Q	1,049
Water-heating energy sources (more than one may apply)								
Electricity	47,125	8,759	9,753	3,238	8,587	3,011	2,910	4,749
Natural gas	46,652	5,215	6,923	1,679	6,459	3,848	2,634	8,707
Fuel oil	1,807	Q	374	Q	Q	Q	Q	645
District heat	4,206	N	1,384	Q	N	628	N	739
Propane	1,947	Q	Q	Q	Q	Q	Q	321
Cooking energy sources (more than one may apply)								
Electricity	30,509	1,130	4,544	400	5,104	2,370	2,520	6,412
Natural gas	27,705	Q	2,865	Q	4,699	2,639	2,108	6,954
Propane	3,101	Q	Q	Q	Q	553	Q	656

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Energy end uses (more than one may apply)								
Buildings with space heating	88,661	13,538	16,300	5,211	10,538	6,825	5,311	13,386
Buildings with cooling	87,506	13,180	16,380	4,418	10,500	6,775	5,315	13,324
Buildings with water heating	87,717	13,273	16,332	4,914	10,227	7,023	5,282	13,228
Buildings with cooking	43,580	1,431	6,096	498	5,942	4,119	3,955	9,616
Buildings with manufacturing	6,871	3,191	746	915	412	Q	Q	301
Buildings with electricity generation	29,457	3,283	6,793	1,134	2,497	2,336	427	4,542
Buildings with lighting	94,103	15,713	16,662	6,139	10,776	7,192	5,471	13,623
Percentage of floorspace heated								
Not heated	7,762	3,945	362	1,029	Q	368	Q	Q
1 to 50%	10,620	5,332	947	1,056	1,160	478	Q	Q
51 to 99%	20,174	1,603	4,538	768	3,959	1,680	1,070	2,686
100%	57,867	6,603	10,815	3,388	5,419	4,666	3,951	10,622
Percentage of floorspace cooled								
Not cooled	8,917	4,303	Q	1,822	Q	417	Q	299
1 to 50%	19,722	9,676	1,114	2,903	1,056	783	571	1,655
51 to 99%	26,277	1,599	6,002	609	4,692	2,333	1,228	4,445
100%	41,507	1,905	9,264	906	4,753	3,660	3,517	7,224
Percentage lit when open								
0%	Q	Q	N	Q	N	N	N	N
1 to 50%	14,172	4,403	1,523	1,659	461	1,365	2,171	556
51 to 99%	38,847	3,876	8,086	1,360	7,340	3,024	2,111	5,389
100%	39,877	7,301	7,053	3,065	2,976	2,730	1,189	7,679
Building never open or electricity not used	2,998	1,398	N	Q	Q	Q	N	N
Percentage lit during off hours								
0%	15,578	4,862	1,389	2,564	586	1,433	1,901	1,722
1 to 50%	69,800	10,340	14,334	3,357	9,658	5,184	3,548	11,277
51 to 100%	7,243	928	757	Q	473	406	Q	614
Building always open with no off hours	2,223	Q	Q	Q	Q	Q	N	Q
Electricity not used	1,579	1,148	N	Q	Q	N	N	N

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All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Heating equipment (more than one may apply)								
Packaged heating units	48,064	8,533	7,051	2,091	9,587	3,390	2,390	6,086
Furnaces	17,272	2,881	2,180	1,834	3,789	1,244	1,702	980
Individual space heaters	21,122	4,207	2,821	2,310	3,311	1,019	1,122	1,718
Boilers	28,831	1,350	5,797	907	1,708	2,214	1,497	8,155
Heat pumps	15,110	1,435	2,776	389	2,663	830	917	2,638
District heat	6,547	Q	1,845	Q	Q	915	Q	1,335
Duct reheat	7,418	Q	2,566	Q	1,284	516	Q	779
Other	821	Q	Q	N	Q	Q	N	Q
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	56,290	9,613	9,215	2,361	9,743	4,051	3,364	7,799
Residential-type central air conditioners	18,270	2,791	2,861	1,176	1,905	1,354	1,455	2,630
Individual air conditioners	13,619	1,584	1,050	787	1,709	867	780	2,093
Central chillers	17,926	420	5,630	Q	624	1,131	414	4,721
Heat pumps	11,098	998	2,234	525	993	734	751	2,034
District chilled water	4,288	Q	786	N	N	916	Q	1,049
Swamp coolers	2,070	452	306	Q	Q	Q	Q	Q
Other	Q	Q	Q	N	N	N	N	N
HVAC features (more than one may apply)								
Economizer cycle	34,087	2,407	8,553	592	3,470	2,754	1,061	7,400
Variable air volume (VAV) system	29,268	2,392	8,720	600	1,169	2,402	838	6,094
Dedicated outside air system (DOAS)	9,027	640	1,500	Q	Q	869	Q	2,027
Demand controlled ventilation (DCV)	10,474	1,274	1,845	507	515	924	616	2,615
Regular HVAC maintenance	78,015	11,685	15,154	3,078	9,214	5,977	4,075	12,704
Building automation system (BAS) controls heating or cooling	40,462	2,317	9,657	453	4,992	3,089	1,639	9,686
Internet-connected or smart thermostat	5,966	1,197	852	Q	676	492	793	503
Programmable thermostat	20,882	5,776	3,453	1,733	2,152	1,538	1,445	1,364
Main equipment replaced since 2000 (more than one may apply)								
Heating	32,451	5,238	6,153	2,042	4,021	2,124	2,622	4,978
Cooling	23,013	3,308	4,746	1,409	948	1,400	1,776	4,254
Water-heating equipment								
Centralized system	59,280	7,936	10,207	3,626	5,124	5,148	3,943	9,764
Distributed system	14,307	3,835	2,446	1,059	3,025	748	617	1,041
Combination of centralized and distributed systems	14,129	1,502	3,679	Q	2,078	1,127	722	2,423

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Generation technologies (more than one may apply)								
Reciprocating engine generators	25,163	2,803	6,066	1,033	1,718	1,823	369	3,729
Solar panels	3,750	412	721	Q	501	553	Q	836
Other generation technology	2,055	Q	479	Q	Q	Q	Q	Q
Lighting equipment types (more than one may apply)								
Incandescent	21,081	1,687	3,575	637	3,771	2,115	2,033	2,353
Standard fluorescent	72,912	11,593	13,118	4,434	8,986	5,387	4,469	11,234
Compact fluorescent	33,691	2,945	7,374	946	5,606	2,975	1,440	4,257
High-intensity discharge (HID)	11,356	1,850	1,620	715	960	1,200	412	1,836
Halogen	15,012	1,239	2,086	594	3,800	1,372	1,136	1,681
LED	61,849	8,191	12,391	2,758	8,086	4,954	3,503	8,578
Other	Q	N	Q	N	Q	Q	N	N
Refrigeration equipment (more than one may apply)								
Any refrigeration	77,589	10,857	13,999	3,724	9,561	6,410	4,812	12,094
Walk-in units	29,384	834	3,482	Q	5,345	2,440	415	7,984
Cases or cabinets	28,517	1,492	3,845	Q	5,883	2,993	858	5,584
Large cold storage areas	3,592	777	Q	N	730	Q	N	239
Commercial ice makers	34,672	2,240	5,452	444	4,900	3,764	1,224	6,349
Residential-type or compact units	64,735	9,207	12,596	3,557	7,576	5,026	4,387	9,388
Vending machines	42,071	6,178	7,829	1,446	6,185	2,678	663	7,891
No refrigeration	18,834	6,626	2,663	2,516	1,220	782	660	1,529
Office equipment (more than one may apply)								
Desktop computers	82,012	12,656	16,044	4,051	10,542	5,993	4,148	13,041
With multiple monitors	50,844	8,225	13,212	1,610	6,036	3,257	1,749	7,510
Laptop computers	69,375	9,944	14,370	3,155	8,371	4,628	3,767	12,362
Dedicated servers	51,595	7,189	12,578	1,464	6,593	2,831	1,139	9,688
Tablets charged in building	48,778	5,538	10,248	1,498	7,758	2,979	1,902	9,679
Large floor-standing office devices ^c	54,088	7,357	13,050	1,459	5,079	3,651	2,579	11,199
Smaller desktop office devices ^c	74,467	11,642	14,029	3,877	9,960	5,481	3,537	11,668
Interactive whiteboards	16,939	522	3,786	Q	370	533	Q	8,963
Televisions or video displays	63,618	7,548	12,340	2,137	8,475	5,259	3,780	10,984
Point-of-sale devices or cash registers	33,606	1,591	4,932	1,380	9,042	3,681	Q	5,375

Table B12. Selected principal building activity: part 1, floorspace, 2018

	Total floorspace (million square feet)							
	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	96,423	17,483	16,662	6,240	10,781	7,192	5,471	13,623
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	10,361	Q	2,100	N	1,377	1,836	Q	1,801
Fast food or small restaurant	9,759	Q	1,733	Q	3,897	1,097	Q	435
Cafeteria or large restaurant	14,531	Q	2,269	Q	735	1,163	Q	6,712
food preparation area	17,698	Q	1,398	Q	3,102	1,744	1,206	4,075
Small kitchen area	20,519	1,061	3,705	432	1,424	1,839	2,728	3,670
Separate computer areas (more than one may apply)								
Server closet	48,722	6,780	12,156	1,361	5,510	2,769	1,131	9,616
Data center	11,383	1,407	3,700	Q	420	513	Q	1,807
Computer-based training room	16,556	1,500	3,135	Q	1,753	711	Q	6,064
Student or public computer center	12,527	Q	738	Q	1,008	719	Q	7,545
Window and interior lighting features (more than one may apply)								
Multipaned windows	72,694	9,974	13,689	3,836	8,624	5,347	4,483	11,443
Tinted window glass	44,363	6,797	9,721	1,678	6,663	3,065	2,405	6,244
Reflective window glass	17,929	1,728	4,523	509	3,642	858	586	2,105
External overhangs or awnings	28,718	3,348	3,777	1,081	6,593	2,404	1,593	4,083
Skylights or atriums	19,815	3,876	3,284	776	2,079	1,704	550	3,144
Light scheduling	33,552	2,862	7,646	560	7,022	2,433	1,215	4,851
Occupancy sensors	44,304	7,029	10,299	1,510	5,336	2,841	1,289	7,822
Multilevel lighting or dimming	14,424	676	3,458	Q	1,746	1,731	988	2,116
Daylight harvesting	7,244	354	2,478	Q	1,377	530	Q	768
Plug-load control	1,961	Q	379	N	Q	Q	Q	382
Demand responsive lighting	2,045	Q	490	Q	Q	Q	Q	432
Building automation system (BAS) for lighting	16,645	848	3,724	Q	4,320	1,334	Q	3,312
Electric vehicle (EV) charging								
Charging stations associated with the building	10,165	2,504	2,764	556	684	920	N	401

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>.

^b*Other sources* includes wood, coal, solar, and all other energy sources.

^c*Office devices* refers to any combination of printers, copiers, scanners, or FAX machines.

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 B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Building floorspace (square feet)								
1,001 to 5,000	5.3	12.9	11.7	9.8	12.9	19.4	17.7	18.7
5,001 to 10,000	5.8	14.1	11.9	15.1	22.3	13.7	24.9	21.7
10,001 to 25,000	6.1	14.1	15.4	18.7	13.2	15.3	13.0	18.9
25,001 to 50,000	5.6	17.7	14.1	22.9	12.7	13.9	18.3	10.8
50,001 to 100,000	5.3	14.9	13.6	21.7	17.5	12.6	22.9	8.7
100,001 to 200,000	5.5	15.3	11.0	54.0	12.3	18.0	37.0	10.3
200,001 to 500,000	5.0	13.1	9.3	91.0	13.8	21.9	43.6	7.3
Over 500,000	8.6	18.2	15.9	76.4	21.4	20.9	0.0	23.3
Year constructed								
Before 1920	10.8	34.7	20.9	47.2	46.2	20.9	23.5	30.8
1920 to 1945	8.8	25.0	22.0	25.9	35.2	24.6	32.3	15.9
1946 to 1959	7.6	17.6	21.1	22.3	26.2	22.0	21.1	14.1
1960 to 1969	5.2	13.1	13.2	19.5	19.5	19.9	22.3	11.4
1970 to 1979	6.0	14.9	10.9	17.9	16.6	17.0	26.0	11.8
1980 to 1989	5.9	18.3	8.8	24.1	13.6	20.8	20.9	16.3
1990 to 1999	6.6	12.7	10.3	33.8	10.6	16.5	21.9	12.1
2000 to 2009	6.3	15.8	12.4	15.3	10.5	14.4	16.4	11.2
2010 to 2018	7.6	17.5	19.2	26.1	14.7	17.1	30.1	17.0
Census region and division								
Northeast	7.2	17.2	12.1	13.5	13.6	13.5	26.2	8.9
New England	10.8	23.5	22.1	29.5	26.1	14.1	57.5	13.7
Middle Atlantic	8.8	20.7	13.6	15.0	15.6	20.1	28.8	10.7
Midwest	7.4	12.5	11.9	16.3	16.2	11.9	18.8	11.6
East North Central	10.4	15.1	16.3	24.4	23.2	14.4	22.9	12.0
West North Central	7.9	22.0	14.3	18.4	17.2	20.7	33.1	24.2
South	6.1	14.0	10.7	18.1	10.3	10.7	14.4	10.5
South Atlantic	6.8	17.8	15.2	23.6	16.1	13.0	17.2	14.0
East South Central	20.3	40.1	19.3	45.7	21.9	52.7	44.2	24.1
West South Central	11.5	24.9	18.0	33.8	15.1	19.1	16.6	20.3
West	7.1	15.0	10.2	17.4	9.7	13.2	20.5	11.5
Mountain	13.1	25.5	21.0	20.2	15.6	26.5	28.2	15.2
Pacific	8.1	17.9	10.0	27.0	10.7	13.7	28.6	15.8
Climate zone^a								
Cold or very cold	17.0	30.9	17.2	31.3	24.7	23.7	35.3	20.9
Cool	8.3	14.5	13.3	13.5	13.1	12.9	22.7	13.2
Mixed mild	10.5	13.6	13.6	21.0	16.0	15.6	15.1	15.4
Warm	10.0	15.0	11.4	22.9	14.5	17.3	19.7	13.0
Hot or very hot	14.1	30.4	14.8	22.3	17.2	15.4	18.8	18.0

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Number of floors								
1	4.5	8.4	9.1	9.3	6.7	10.2	13.0	9.8
2	4.4	11.3	9.8	15.5	15.2	11.1	12.6	8.8
3	7.6	25.8	14.0	37.4	20.7	20.4	21.5	12.6
4 to 9	6.3	38.6	9.4	76.0	53.5	16.3	35.5	14.4
10 or more	11.0	0.0	13.1	0.0	0.0	60.8	0.0	41.4
Elevators and escalators (more than one may apply)								
Any elevators	4.5	13.8	7.4	28.3	16.1	10.4	14.5	7.1
1 elevator	6.0	16.0	11.2	31.5	28.3	15.5	15.7	8.9
2 to 5 elevators	5.2	24.6	8.9	80.5	26.5	15.7	33.4	9.4
6 or more elevators	8.4	67.6	12.9	100.4	29.5	20.3	89.0	28.6
Any escalators	13.7	53.0	21.7	100.4	21.8	19.7	76.8	31.4
Number of workers (main shift)								
Fewer than 5	5.9	11.4	14.5	11.9	16.5	9.0	12.4	19.1
5 to 9	6.9	17.3	13.9	18.0	21.1	15.7	17.3	23.4
10 to 19	7.4	16.9	14.4	18.7	18.7	18.5	22.5	17.9
20 to 49	4.8	13.5	14.9	22.9	11.1	15.8	25.5	11.1
50 to 99	5.9	15.0	13.0	32.0	14.0	23.2	36.6	9.5
100 to 249	5.6	19.7	11.4	43.1	11.1	19.8	0.0	8.8
250 or more	6.4	24.1	9.0	76.4	19.1	18.5	0.0	17.1
Weekly operating hours								
Fewer than 40	6.6	18.7	16.9	19.3	22.0	11.9	13.3	17.9
40 to 48	5.1	11.0	7.7	12.8	15.8	19.7	20.6	9.2
49 to 60	4.3	11.3	7.7	16.9	11.1	13.8	20.8	9.8
61 to 84	5.3	18.1	11.6	22.5	9.5	14.3	32.1	13.5
85 to 167	6.2	16.8	18.6	22.2	11.6	13.4	30.5	11.8
Open continuously	5.0	13.8	12.7	22.9	11.3	16.1	45.1	40.6
Ownership and occupancy								
Nongovernment owned	3.3	7.4	5.6	8.8	6.0	7.6	9.3	9.9
Owner occupied	3.3	8.0	6.0	11.0	7.7	8.2	9.6	10.8
Leased to tenant or tenants	4.8	10.9	8.3	14.9	8.4	20.6	39.2	22.7
Unoccupied	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Government owned	6.0	24.9	14.8	16.8	64.1	9.8	0.0	6.1
Federal	16.1	29.9	29.9	30.2	51.5	66.7	0.0	36.2
State	11.8	67.7	25.5	29.9	68.7	21.3	0.0	10.7
Local	6.0	41.1	14.0	21.3	25.3	10.3	0.0	8.1
Party responsible for operation of energy systems								
Building owner	3.2	7.7	5.8	8.7	8.1	6.1	9.4	5.4
Business owner or tenant	7.2	12.9	19.8	18.5	9.7	27.3	76.9	42.9
Property management	11.7	26.2	17.6	50.2	32.8	37.7	49.6	80.0
Other	11.1	26.7	24.6	52.3	28.4	52.5	102.7	27.7

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Provider of direct input on energy-related equipment purchases								
Building owner	3.1	7.2	5.8	8.6	7.4	6.1	9.4	5.3
Business owner or tenant	8.8	17.7	20.4	23.7	11.4	29.1	80.2	41.9
Property management	16.2	29.4	23.1	73.2	42.2	58.3	0.0	69.4
Other	8.1	15.1	18.1	37.9	19.5	27.7	102.7	24.1
Number of establishments								
1	3.6	7.7	7.6	8.1	10.5	6.7	9.7	5.8
2 to 5	5.5	12.8	8.8	24.8	10.7	15.0	31.6	17.0
6 to 10	7.9	22.0	14.2	75.4	11.4	21.3	0.0	79.2
11 to 20	8.9	23.3	15.2	75.4	15.0	41.3	0.0	49.1
More than 20	10.1	46.8	14.3	0.0	14.0	22.5	0.0	71.0
Currently unoccupied	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campus or complex activity								
Not part of a campus or complex	3.7	9.1	7.0	10.7	6.9	9.2	13.1	7.2
Primary or secondary school	9.4	0.0	40.6	0.0	0.0	24.5	0.0	9.7
College or university	15.9	106.0	28.9	92.7	61.5	22.2	0.0	16.0
Office complex	10.0	35.9	11.1	35.6	51.6	99.7	71.0	89.5
Retail complex	9.2	30.0	33.3	25.8	10.7	48.8	0.0	0.0
Storage complex	11.0	11.8	56.4	39.0	44.9	70.6	0.0	0.0
Religious campus or complex	12.0	61.6	37.3	48.6	0.0	30.6	13.8	28.4
Health care complex	8.2	89.0	32.7	99.7	0.0	78.3	0.0	94.5
Lodging or resort complex	13.7	83.8	87.2	0.0	62.6	34.5	0.0	0.0
Transportation complex	33.2	69.6	68.7	67.8	0.0	18.1	0.0	51.5
Government complex	17.0	40.2	27.6	20.0	0.0	39.6	0.0	0.0
Other	7.4	18.8	16.8	22.0	36.4	15.2	50.7	29.4
Predominant exterior wall material								
Brick, stone, or stucco	3.9	12.8	7.7	14.1	8.4	9.5	12.0	6.2
Concrete (block or poured)	4.8	14.9	14.7	16.1	8.6	11.6	25.3	15.0
Concrete panels	8.4	14.8	17.0	37.6	25.9	23.8	39.3	17.5
Siding or shingles	9.3	25.4	15.5	21.5	34.0	16.5	22.4	24.3
Metal panels	6.0	9.0	18.5	13.6	15.4	19.9	37.8	35.0
Window glass	11.4	0.0	13.5	0.0	76.8	20.6	0.0	80.1
Other	13.7	32.9	20.7	45.6	33.8	29.4	49.5	67.2

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Predominant roof material								
Metal surfacing	5.6	10.3	13.7	12.0	12.6	12.9	18.4	14.3
Synthetic or rubber	4.1	11.3	8.8	17.0	8.4	10.8	22.2	9.3
Built-up	4.8	13.8	9.2	28.5	11.7	15.8	23.0	10.2
Slate or tile shingles	10.1	32.7	19.3	41.1	36.3	24.0	20.7	35.5
Wooden materials (including shingles)	17.8	63.6	50.1	45.7	46.3	51.9	51.6	59.6
Asphalt, fiberglass, or other shingles	5.6	20.1	15.3	19.5	17.4	16.5	15.5	13.5
Concrete	11.9	54.2	18.4	65.3	43.8	36.9	59.5	25.2
Other	9.8	24.9	17.3	40.1	23.2	33.8	48.0	26.5
Roof tilt								
Flat	3.3	9.8	6.4	12.8	6.8	9.1	17.7	6.1
Shallow pitch	4.8	8.8	12.4	11.7	12.4	11.8	18.7	12.5
Steeper pitch	5.7	18.2	12.1	16.6	19.2	12.2	10.8	12.4
Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	4.4	10.4	8.3	13.5	8.0	9.3	18.5	8.6
White or reflective tiles or shingles	10.4	33.8	17.4	37.3	28.4	34.4	48.2	24.4
Aluminum coating	9.2	19.6	24.3	28.1	21.4	22.9	47.6	17.1
Ballasted roof system	9.5	18.3	15.0	56.1	22.6	23.5	53.9	19.1
Other cool roof property	19.2	0.0	32.4	82.5	44.4	59.5	5.6	47.4
Renovations since 2000 (more than one may apply)								
Any type of renovation	3.4	10.6	6.1	15.4	8.6	7.6	12.0	6.5
Addition or annex	6.0	22.6	17.5	30.3	14.9	15.1	24.9	11.0
Reduction in floorspace	13.2	32.8	27.6	46.7	33.1	47.9	79.9	28.9
Roof replacement	4.3	11.7	8.6	23.5	10.6	14.0	15.4	8.1
Interior wall reconfiguration	4.2	11.7	7.0	25.0	15.1	12.2	17.4	11.0
Window replacement	5.8	16.9	11.8	25.8	17.1	16.5	20.4	10.3
HVAC equipment upgrade	4.2	13.6	7.3	21.5	10.3	11.9	13.2	7.9
Lighting upgrade	3.9	11.2	6.8	18.4	10.0	10.0	15.8	8.5
Electrical upgrade	5.6	15.4	9.5	19.0	13.1	15.4	21.1	10.4
Plumbing system upgrade	5.2	16.2	10.2	26.6	14.3	13.5	22.9	10.1
Insulation upgrade	7.8	24.9	18.7	28.1	20.7	21.4	47.8	12.8
Fire, safety, or security upgrade	4.4	14.2	8.9	27.4	12.9	13.2	16.5	8.9
Structural upgrade	10.2	22.1	26.7	35.2	31.2	23.5	53.6	17.2
Other	14.9	39.8	41.9	82.2	16.3	75.0	81.9	57.2
No renovations	3.9	8.5	8.2	10.1	7.4	8.7	14.1	7.3
Buildings constructed 2013 or later	8.3	18.5	19.7	27.6	17.5	19.8	38.4	24.3

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Energy sources (more than one may apply)								
Electricity	3.0	7.4	5.5	8.0	6.0	5.8	9.3	5.3
Natural gas	3.4	8.6	6.3	10.5	6.3	6.9	11.7	6.6
Fuel oil	5.4	17.2	10.1	16.1	19.5	12.2	28.0	12.0
District heat	11.4	86.2	15.2	64.1	70.4	16.9	104.2	21.0
District chilled water	13.7	45.5	16.9	0.0	0.0	19.5	83.0	23.7
Propane	7.6	14.0	20.1	18.7	18.5	19.2	20.7	15.2
Solar	11.5	32.1	20.5	52.9	21.1	26.8	2.8	17.5
Wood, coal, and other	14.0	33.0	41.0	25.2	30.0	37.5	52.2	50.1
Space-heating energy sources (more than one may apply)								
Electricity	3.7	9.4	6.4	12.8	7.3	9.5	11.6	9.3
Natural gas	3.6	8.7	6.5	10.4	6.5	8.0	12.6	6.6
Fuel oil	11.6	32.7	33.0	21.9	40.3	31.8	36.1	18.7
District heat	11.6	86.2	15.2	64.1	70.4	17.2	104.2	21.4
Propane	13.1	24.1	25.4	24.5	26.5	29.3	23.5	23.9
Other sources ^b	19.6	35.1	55.6	25.7	74.8	52.0	0.0	94.1
Primary space-heating energy source								
Electricity	5.5	12.5	7.7	17.0	9.9	13.5	14.5	16.2
Natural gas	4.1	8.8	6.6	10.9	8.0	8.8	13.8	6.7
Fuel oil	15.3	31.1	31.3	30.0	41.9	49.5	45.2	26.4
District heat	12.6	86.2	17.0	64.1	70.4	18.2	104.2	22.8
Propane	16.9	28.3	39.8	33.0	42.2	41.3	26.7	30.0
Other sources ^b	30.3	54.6	52.2	36.7	0.0	47.7	0.0	50.4
Cooling energy sources (more than one may apply)								
Electricity	3.0	8.1	5.6	8.9	6.1	6.5	9.6	5.3
Natural gas	24.2	70.5	61.6	0.0	70.7	2.8	96.2	60.8
District chilled water	13.7	45.5	16.9	0.0	0.0	19.5	83.0	23.7
Water-heating energy sources (more than one may apply)								
Electricity	3.6	8.8	6.6	10.6	6.3	10.4	12.3	8.5
Natural gas	3.7	11.3	7.0	14.0	7.4	8.9	13.6	6.7
Fuel oil	15.4	52.6	45.9	64.2	57.4	45.3	88.0	25.3
District heat	12.8	0.0	21.0	75.1	0.0	19.8	0.0	25.5
Propane	14.7	54.3	54.0	54.7	35.3	34.8	40.4	26.3
Cooking energy sources (more than one may apply)								
Electricity	3.9	17.1	9.3	28.4	7.8	9.6	14.4	7.3
Natural gas	3.4	32.7	12.5	62.3	7.8	8.9	13.8	7.0
Propane	11.7	78.2	45.1	82.6	31.5	25.1	34.3	24.0

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Energy end uses (more than one may apply)								
Buildings with space heating	3.0	7.9	5.6	8.9	6.0	6.2	9.7	5.3
Buildings with cooling	3.0	8.1	5.5	8.9	6.1	6.1	9.5	5.4
Buildings with water heating	2.9	7.8	5.6	9.1	5.7	5.8	9.5	5.3
Buildings with cooking	3.1	14.4	8.0	26.6	6.8	7.4	10.8	6.1
Buildings with manufacturing	7.9	10.5	23.6	20.1	33.4	48.4	49.2	26.8
Buildings with electricity generation	4.4	15.7	9.3	17.9	11.4	10.7	27.5	8.9
Buildings with lighting	3.0	7.3	5.5	7.9	6.0	5.8	9.3	5.3
Percentage of floorspace heated								
Not heated	10.0	13.8	26.3	21.9	38.2	25.1	55.3	32.7
1 to 50%	7.1	11.2	14.8	15.1	17.4	27.6	17.3	38.3
51 to 99%	5.3	21.4	11.0	23.9	9.9	11.5	21.0	12.7
100%	3.2	10.6	6.0	9.5	7.7	8.2	10.7	6.3
Percentage of floorspace cooled								
Not cooled	8.0	10.6	32.7	14.1	41.4	19.1	65.4	27.1
1 to 50%	5.2	8.9	12.5	12.4	17.4	16.1	21.3	12.5
51 to 99%	5.1	23.0	10.3	23.2	9.2	11.5	15.9	10.0
100%	3.5	16.0	6.5	14.4	8.3	8.9	11.2	7.4
Percentage lit when open								
0%	38.5	40.2	0.0	50.3	0.0	0.0	0.0	0.0
1 to 50%	6.0	11.7	13.8	17.5	21.2	12.7	15.4	28.5
51 to 99%	3.6	13.1	8.1	15.0	7.5	8.3	13.1	7.3
100%	3.8	8.9	6.7	9.8	12.1	11.0	16.6	7.5
Building never open or electricity not used	12.1	18.8	0.0	42.5	68.2	58.4	0.0	0.0
Percentage lit during off hours								
0%	6.7	12.3	15.4	12.1	21.7	14.3	16.4	15.7
1 to 50%	3.0	8.2	5.8	10.8	6.3	7.0	11.0	5.8
51 to 100%	6.7	22.6	23.4	41.1	21.9	23.5	74.9	27.1
Building always open with no off hours	11.6	44.3	31.4	56.7	63.8	27.3	0.0	49.1
Electricity not used	17.6	21.9	0.0	54.4	68.2	0.0	0.0	0.0

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Heating equipment (more than one may apply)								
Packaged heating units	3.6	10.5	7.2	13.0	6.4	8.6	14.3	7.7
Furnaces	5.7	10.4	14.2	14.2	10.1	17.6	16.3	21.0
Individual space heaters	4.8	9.8	11.0	12.4	10.2	12.8	17.0	11.4
Boilers	4.0	20.3	8.6	18.4	16.8	11.2	16.1	6.5
Heat pumps	5.4	19.9	12.3	32.3	9.9	20.9	18.0	12.6
District heat	11.6	86.2	15.2	64.1	70.4	17.2	104.2	21.4
Duct reheat	7.0	31.9	12.7	72.9	16.0	23.1	41.4	16.3
Other	24.1	55.7	65.9	0.0	27.7	75.5	0.0	83.4
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	3.4	9.5	6.6	11.9	6.6	7.2	11.5	6.2
Residential-type central air conditioners	5.2	11.0	13.3	19.2	12.9	17.2	15.2	11.2
Individual air conditioners	5.3	18.4	13.2	18.2	13.3	16.5	19.9	13.7
Central chillers	5.0	24.4	9.2	42.9	21.5	15.2	20.9	8.1
Heat pumps	6.8	21.7	14.6	27.2	16.0	20.2	20.0	14.1
District chilled water	13.7	45.5	16.9	0.0	0.0	19.5	83.0	23.7
Swamp coolers	13.1	18.7	28.9	32.2	42.8	47.2	51.7	37.9
Other	36.4	76.0	76.5	0.0	0.0	0.0	0.0	0.0
HVAC features (more than one may apply)								
Economizer cycle	3.9	14.0	8.4	24.5	9.4	9.7	19.3	7.0
Variable air volume (VAV) system	4.9	15.9	8.4	23.4	13.7	10.9	17.5	7.9
Dedicated outside air system (DOAS)	7.8	24.2	18.7	41.7	28.9	21.4	32.6	10.0
Demand controlled ventilation (DCV)	5.5	21.7	13.3	27.4	17.3	18.0	24.8	10.6
Regular HVAC maintenance	3.2	8.8	6.0	9.8	6.0	6.8	11.4	5.5
Building automation system (BAS) controls heating or cooling	3.7	17.3	7.6	21.8	8.2	8.7	15.4	5.9
Internet-connected or smart thermostat	10.5	21.0	29.2	33.0	22.4	21.2	19.2	25.5
Programmable thermostat	5.4	10.5	8.2	14.8	13.7	13.5	18.0	15.1
Main equipment replaced since 2000 (more than one may apply)								
Heating	3.8	10.1	7.8	16.1	8.8	11.2	13.2	7.3
Cooling	4.3	12.2	11.0	13.1	14.9	12.9	13.3	7.3
Water-heating equipment								
Centralized system	3.4	8.2	7.1	9.5	8.0	8.1	10.3	6.3
Distributed system	6.4	13.6	10.1	22.0	9.9	18.8	19.4	16.9
Combination of centralized and distributed systems	5.2	17.9	9.4	33.0	9.2	13.4	21.5	11.8

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Generation technologies (more than one may apply)								
Reciprocating engine generators	4.8	17.1	9.7	19.3	13.4	11.7	28.3	9.9
Solar panels	11.5	32.1	20.6	52.9	21.1	26.8	2.8	17.7
Other generation technology	14.4	47.1	22.7	108.5	38.1	37.6	2.7	31.4
Lighting equipment types (more than one may apply)								
Incandescent	4.5	13.4	8.7	25.6	9.5	11.3	13.3	11.3
Standard fluorescent	3.4	8.4	6.0	9.0	6.4	7.1	10.7	5.3
Compact fluorescent	4.2	12.4	8.8	17.7	8.5	10.3	14.5	8.4
High-intensity discharge (HID)	7.1	15.9	16.2	19.5	14.9	16.6	33.5	12.4
Halogen	4.2	15.5	11.1	24.7	9.8	14.0	15.8	11.8
LED	2.9	9.3	6.5	12.2	6.8	7.0	9.8	6.0
Other	24.1	0.0	70.9	0.0	26.5	60.2	0.0	0.0
Refrigeration equipment (more than one may apply)								
Any refrigeration	3.0	8.7	5.8	10.2	6.4	6.2	9.8	5.6
Walk-in units	3.4	27.5	13.2	69.8	7.5	10.7	25.5	6.8
Cases or cabinets	3.7	18.5	10.3	34.7	7.5	9.5	19.5	9.0
Large cold storage areas	11.3	17.4	40.6	0.0	20.3	36.2	0.0	26.7
Commercial ice makers	3.5	16.4	9.6	27.2	8.5	8.7	14.6	7.2
Residential-type or compact units	3.2	9.2	6.1	10.9	7.4	7.6	10.4	6.1
Vending machines	3.8	10.7	7.8	18.3	8.7	9.4	22.3	6.5
No refrigeration	5.3	10.1	11.1	11.2	17.0	16.5	31.9	14.5
Office equipment (more than one may apply)								
Desktop computers	2.9	8.2	5.7	9.6	6.0	6.7	10.8	5.3
With multiple monitors	3.5	9.2	6.0	14.5	8.1	9.7	13.6	7.2
Laptop computers	3.0	8.9	6.2	11.5	7.3	8.0	11.1	5.6
Dedicated servers	3.3	9.9	6.5	13.8	7.7	9.7	17.1	6.5
Tablets charged in building	3.3	10.7	7.3	12.7	7.2	9.7	13.0	6.3
Large floor-standing office devices ^c	3.0	10.7	6.3	13.0	8.8	9.3	12.4	5.6
Smaller desktop office devices ^c	3.1	8.3	6.1	9.8	5.9	7.4	10.5	5.4
Interactive whiteboards	4.5	21.9	8.7	47.5	22.4	21.6	47.6	5.7
Televisions or video displays	3.0	10.7	6.4	12.8	6.6	7.4	10.3	5.6
Point-of-sale devices or cash registers	3.4	15.7	10.2	13.4	6.1	9.4	30.6	6.6

Relative standard errors (RSEs) for Table B12. Selected principal building activity: part 1, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.1	7.2	5.5	8.1	6.0	5.8	9.3	5.3
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	6.7	73.9	16.8	0.0	14.0	10.0	25.7	8.8
Fast food or small restaurant	5.9	57.2	15.6	71.5	7.9	16.8	32.7	23.9
Cafeteria or large restaurant food preparation area	4.6	75.3	15.4	79.2	20.3	17.0	46.4	6.4
Small kitchen area	4.4	42.8	21.2	50.4	10.4	13.1	16.1	8.3
	4.7	15.1	10.2	29.4	13.8	11.8	13.8	9.0
Separate computer areas (more than one may apply)								
Server closet	3.4	10.3	5.6	14.7	8.1	9.8	15.5	6.0
Data center	6.7	21.1	10.4	59.2	23.6	23.2	44.1	9.8
Computer-based training room	4.6	20.1	10.0	33.2	13.4	17.1	47.1	6.5
Student or public computer center	4.6	68.2	16.2	59.1	17.3	18.3	55.9	5.9
Window and interior lighting features (more than one may apply)								
Multipaned windows	3.2	9.1	6.3	10.2	6.6	6.5	10.4	5.9
Tinted window glass	3.4	11.5	6.9	13.1	6.9	10.1	12.6	7.7
Reflective window glass	5.6	18.8	9.3	25.4	9.9	16.6	26.7	16.7
External overhangs or awnings	4.5	13.2	7.9	16.2	7.7	8.6	18.5	8.8
Skylights or atriums	4.5	12.9	11.0	22.0	10.9	12.6	19.6	8.9
Light scheduling	4.1	13.1	8.2	23.8	6.8	12.3	18.1	9.5
Occupancy sensors	3.8	10.2	7.5	16.7	8.0	9.1	16.9	6.7
Multilevel lighting or dimming	6.6	21.5	11.2	30.6	12.6	15.3	14.7	11.4
Daylight harvesting	6.3	21.9	12.7	32.7	13.1	24.1	33.6	15.9
Plug-load control	12.2	47.7	24.1	0.0	37.6	63.4	67.5	24.8
Demand responsive lighting	15.2	32.5	31.8	60.7	29.4	51.7	45.6	37.5
Building automation system (BAS) for lighting	5.2	28.7	12.2	42.1	8.1	15.4	36.8	9.8
Electric vehicle (EV) charging								
Charging stations associated with the building	7.2	14.2	15.9	31.6	19.8	18.2	0.0	21.2

Data source: U.S. Energy Information Administration, Forms 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>.

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

^b*Other sources* includes wood, coal, solar, and all other energy sources.

^c*Office devices* refers to any combination of printers, copiers, scanners, or FAX machines.