

Release date: September 2021

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**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

Total floorspace (million square feet)

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	8,025	6,785	4,505	2,022	258	1,240	Q	324	820
5,001 to 10,000	10,204	8,799	5,966	2,537	Q	1,406	Q	Q	941
10,001 to 25,000	15,838	13,682	8,912	4,701	Q	2,157	Q	520	1,501
25,001 to 50,000	13,957	11,612	7,483	4,029	Q	2,345	Q	681	1,373
50,001 to 100,000	15,302	10,026	5,716	4,193	Q	5,276	Q	1,957	3,065
100,001 to 200,000	13,003	8,889	4,856	3,980	Q	4,113	Q	1,237	2,656
200,001 to 500,000	11,776	8,397	3,823	4,493	Q	3,379	258	1,178	1,943
Over 500,000	8,317	6,538	4,094	2,427	Q	1,779	624	593	562
<b>Principal building activity</b>									
Education	13,623	3,015	2,603	412	N	10,608	Q	3,178	7,313
Food sales	1,006	1,006	708	298	N	N	N	N	N
Food service	1,385	1,098	663	435	N	Q	Q	Q	Q
Health care	4,018	3,556	2,812	744	N	462	173	Q	158
Inpatient	2,259	1,893	1,776	Q	N	365	Q	Q	Q
Outpatient	1,760	1,663	1,036	627	N	Q	Q	Q	Q
Lodging	6,976	6,564	4,574	1,990	N	412	Q	Q	Q
Mercantile	10,781	10,766	4,455	6,312	N	Q	Q	Q	Q
Retail (other than mall)	5,193	5,178	3,005	2,173	N	Q	Q	Q	Q
Enclosed and strip malls	5,588	5,588	1,450	4,138	N	N	N	N	N
Office	16,662	13,301	6,701	6,600	N	3,361	762	1,035	1,563
Public assembly	7,192	4,418	3,743	675	N	2,774	Q	1,001	1,709
Public order and safety	1,538	Q	Q	Q	N	1,269	Q	457	731
Religious worship	5,471	5,471	5,308	Q	N	N	N	N	N
Service	6,240	5,115	3,252	1,863	N	1,125	344	Q	626
Warehouse and storage	17,483	16,866	8,867	7,999	N	616	237	Q	Q
Other	2,435	1,877	1,356	521	N	558	Q	297	Q
Vacant	1,612	1,403	Q	278	990	208	Q	Q	Q
<b>Year constructed</b>									
Before 1920	3,600	2,805	2,215	461	Q	795	Q	Q	585
1920 to 1945	5,646	3,733	2,710	990	Q	1,913	276	647	991
1946 to 1959	6,937	4,584	3,159	1,297	Q	2,353	Q	747	1,456
1960 to 1969	10,360	7,492	4,816	2,591	Q	2,868	361	1,126	1,381
1970 to 1979	13,061	10,354	6,265	3,916	Q	2,707	241	1,064	1,402
1980 to 1989	13,465	11,390	6,230	4,978	Q	2,075	Q	644	1,344
1990 to 1999	15,535	12,124	7,435	4,607	Q	3,411	351	879	2,181
2000 to 2009	17,500	13,822	7,929	5,801	Q	3,678	Q	1,117	2,339
2010 to 2018	10,319	8,425	4,597	3,740	Q	1,894	Q	514	1,183

**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

Total floorspace (million square feet)

	Nongovernment-owned buildings					Government-owned buildings			
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Census region</b>									
Northeast	15,951	12,696	7,704	4,824	Q	3,255	288	919	2,048
Midwest	25,932	20,467	12,897	7,282	Q	5,466	406	1,329	3,730
South	34,907	26,255	16,788	9,140	326	8,653	914	3,215	4,523
West	19,633	15,311	7,966	7,136	Q	4,322	337	1,425	2,559
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	7,044	5,422	3,703	1,713	Q	1,622	Q	362	1,124
Cool	26,768	21,279	13,668	7,273	Q	5,490	451	1,387	3,652
Mixed mild	25,096	19,123	11,102	7,768	Q	5,973	715	1,920	3,338
Warm	25,085	19,442	11,694	7,489	258	5,644	495	2,275	2,875
Hot or very hot	12,429	9,462	5,187	4,139	Q	2,967	Q	946	1,872
<b>Number of floors</b>									
1	43,576	35,603	19,481	15,632	491	7,973	605	2,272	5,096
2	23,300	17,831	11,293	6,275	Q	5,468	426	1,263	3,779
3	10,516	7,246	5,458	1,685	Q	3,270	Q	1,233	1,930
4 to 9	13,031	9,082	6,089	2,875	Q	3,949	366	1,882	1,700
10 or more	6,000	4,965	3,035	1,915	Q	1,035	442	238	355
<b>Elevators and escalators (more than one may apply)</b>									
Any elevators	36,501	24,874	16,394	8,196	Q	11,627	1,268	4,035	6,324
1 elevator	14,215	9,031	6,495	2,451	Q	5,185	317	1,528	3,340
2 to 5 elevators	13,316	9,098	5,339	3,586	Q	4,218	299	1,759	2,160
6 or more elevators	8,970	6,745	4,560	2,158	Q	2,225	652	749	824
Any escalators	3,753	2,548	1,672	873	Q	1,204	Q	Q	453
<b>Number of workers (main shift)</b>									
Fewer than 5	21,065	18,284	12,933	4,361	990	2,781	Q	815	1,825
5 to 9	10,323	8,906	5,916	2,990	N	1,416	Q	528	762
10 to 19	11,348	9,689	6,468	3,221	N	1,658	Q	657	918
20 to 49	16,132	12,295	6,783	5,513	N	3,837	Q	963	2,595
50 to 99	12,961	7,926	3,703	4,223	N	5,035	Q	1,838	2,942
100 to 249	12,442	8,277	3,932	4,344	N	4,166	291	1,230	2,644
250 or more	12,152	9,349	5,620	3,730	N	2,802	769	858	1,175
<b>Weekly operating hours</b>									
Fewer than 40	10,766	8,989	6,219	1,779	990	1,777	Q	559	1,163
40 to 48	18,826	13,203	8,293	4,910	N	5,622	460	1,531	3,632
49 to 60	22,845	16,464	9,088	7,376	N	6,381	344	1,662	4,374
61 to 84	14,736	11,720	6,121	5,599	N	3,016	156	1,127	1,733
85 to 167	10,038	8,380	4,587	3,794	N	1,658	Q	686	722
Open continuously	19,213	15,971	11,048	4,923	N	3,242	683	1,323	1,236

**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

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	Nongovernment-owned buildings					Government-owned buildings			
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Party responsible for operation of energy systems</b>									
Building owner	79,282	58,825	42,692	15,248	885	20,456	1,786	6,558	12,113
Business owner or tenant	12,842	12,374	1,610	10,659	Q	468	Q	Q	341
Property management	1,994	1,725	393	1,331	N	Q	Q	Q	Q
Other	2,306	1,804	660	1,144	N	502	Q	Q	Q
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	82,862	62,229	43,086	18,267	876	20,633	1,797	6,569	12,267
Business owner or tenant	7,585	7,346	877	6,372	Q	240	Q	Q	Q
Property management	1,072	914	Q	638	N	Q	Q	Q	Q
Other	4,904	4,239	1,117	3,105	Q	664	Q	Q	322
<b>Number of establishments</b>									
1	65,391	47,362	34,023	13,339	N	18,029	1,282	5,949	10,798
2 to 5	16,431	14,253	7,090	7,163	N	2,178	329	695	1,154
6 to 10	5,539	4,968	1,683	3,285	N	571	Q	Q	431
11 to 20	3,894	3,630	902	2,728	N	264	Q	Q	Q
More than 20	3,999	3,523	1,657	1,867	N	475	Q	Q	Q
Currently unoccupied	1,168	990	N	N	990	Q	Q	Q	Q
<b>Campus or complex activity</b>									
Not part of a campus or complex	56,609	45,678	26,618	18,341	719	10,931	917	2,653	7,361
Primary or secondary school	5,106	574	513	Q	Q	4,532	Q	1,216	3,257
College or university	3,761	1,777	1,506	Q	N	1,984	N	1,935	Q
Office complex	3,823	3,416	1,545	1,812	Q	406	Q	Q	Q
Retail complex	4,573	4,566	1,833	2,659	Q	Q	N	N	Q
Storage complex	5,684	5,550	3,022	2,512	Q	Q	Q	Q	Q
Religious campus or complex	3,209	3,209	3,084	Q	Q	N	N	N	N
Health care complex	2,838	2,467	2,128	330	Q	370	Q	Q	Q
Lodging or resort complex	1,575	1,530	1,019	472	Q	Q	Q	Q	Q
Transportation complex	774	Q	Q	Q	N	377	N	Q	313
Government complex	1,706	Q	Q	Q	N	1,683	400	298	985
Other	6,765	5,540	3,733	1,768	Q	1,225	Q	497	615
<b>Predominant exterior wall material</b>									
Brick, stone, or stucco	46,134	31,870	20,400	11,097	374	14,263	1,166	4,468	8,629
Concrete (block or poured)	19,357	15,802	9,172	6,341	289	3,555	217	1,101	2,237
Concrete panels	8,331	7,177	3,181	3,970	Q	1,154	Q	410	501
Siding or shingles	5,992	5,385	3,941	1,328	Q	608	Q	Q	374
Metal panels	12,198	10,689	6,777	3,771	Q	1,509	Q	516	773
Window glass	2,192	1,752	755	974	Q	440	Q	Q	Q
Other	2,219	2,053	1,130	901	Q	166	Q	Q	Q

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<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Predominant roof material</b>									
Metal surfacing	20,936	16,696	10,855	5,511	329	4,240	Q	1,146	2,838
Synthetic or rubber	31,563	23,760	13,301	10,212	Q	7,803	712	2,388	4,702
Built-up	19,308	13,664	7,688	5,814	Q	5,644	450	1,906	3,288
Slate or tile shingles	3,997	3,200	2,242	886	Q	797	Q	Q	409
Wooden materials (including shingles)	1,568	1,432	855	563	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	14,058	12,219	8,546	3,535	Q	1,839	226	553	1,060
Concrete	1,968	1,405	645	760	N	563	Q	319	Q
Other	3,026	2,352	1,223	1,101	Q	674	Q	Q	330
<b>Roof tilt</b>									
Flat	54,253	39,943	21,658	17,779	506	14,310	1,336	4,600	8,374
Shallow pitch	27,609	22,956	14,376	8,278	302	4,653	430	1,362	2,861
Steeper pitch	14,561	11,829	9,321	2,325	Q	2,732	Q	927	1,625
<b>Cool roof characteristics (more than one may apply)</b>									
White/reflective coating or paint	32,799	25,611	14,119	11,233	Q	7,188	638	2,293	4,257
White/reflective tiles or shingles	2,713	2,002	1,348	642	Q	711	Q	293	348
Aluminum coating	6,149	4,988	3,058	1,834	Q	1,161	Q	518	627
Ballasted roof system	6,277	4,658	2,651	1,991	Q	1,619	Q	308	1,126
Other cool roof property	1,603	1,140	468	672	N	463	Q	Q	Q
<b>Renovations since 2000 (more than one may apply)</b>									
Any type of renovation	45,165	34,265	21,199	12,712	355	10,900	822	3,506	6,572
Addition or annex	10,854	6,985	5,173	1,779	Q	3,869	276	916	2,676
Reduction in floorspace	1,784	1,495	896	599	N	289	Q	Q	Q
Roof replacement	20,862	15,656	9,909	5,552	Q	5,206	469	1,411	3,326
Interior wall reconfiguration	21,283	16,601	9,749	6,728	Q	4,681	489	1,572	2,620
Window replacement	10,977	8,076	5,709	2,340	Q	2,902	282	772	1,848
HVAC equipment upgrade	27,575	20,626	12,944	7,483	Q	6,949	529	2,127	4,293
Lighting upgrade	29,098	21,987	13,875	7,964	Q	7,111	670	2,198	4,242
Electrical upgrade	15,761	11,703	7,539	4,041	Q	4,058	456	1,442	2,160
Plumbing system upgrade	15,537	11,174	7,347	3,679	Q	4,363	411	1,385	2,566
Insulation upgrade	7,980	5,878	3,946	1,904	Q	2,102	243	560	1,299
Fire, safety, or security upgrade	19,985	14,570	9,537	4,973	Q	5,415	475	1,568	3,372
Structural upgrade	4,203	3,258	2,570	677	Q	945	238	252	455
Other	1,168	984	728	256	N	184	Q	Q	Q
No renovations	43,832	34,124	20,793	12,722	610	9,707	1,094	2,991	5,622
Buildings constructed 2013 or later	7,426	6,338	3,364	2,948	Q	1,088	Q	391	666

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<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Energy sources (more than one may apply)</b>									
Electricity	94,844	73,201	44,617	27,937	647	21,644	1,946	6,854	12,843
Natural gas	67,722	51,735	31,586	19,934	Q	15,987	1,323	4,940	9,725
Fuel oil	21,185	14,809	9,593	5,162	Q	6,375	793	1,768	3,814
District heat	6,745	3,637	2,933	688	Q	3,107	475	2,007	625
District chilled water	4,288	1,937	1,553	352	Q	2,351	141	1,577	633
Propane	10,157	8,634	5,362	3,157	Q	1,523	Q	537	796
Solar	3,820	2,121	1,239	878	Q	1,699	253	510	935
Wood, coal, and other	2,113	1,813	1,318	495	N	300	Q	Q	Q
<b>Space-heating energy sources (more than one may apply)</b>									
Electricity	45,603	37,333	21,298	15,915	Q	8,270	732	2,451	5,088
Natural gas	58,042	44,582	26,936	17,462	Q	13,461	1,084	3,811	8,566
Fuel oil	4,134	2,557	1,929	620	Q	1,577	Q	Q	1,191
District heat	6,547	3,507	2,803	688	Q	3,040	471	1,943	625
Propane	3,896	3,495	2,377	1,003	Q	401	Q	Q	214
Other sources <sup>b</sup>	927	900	759	Q	N	Q	Q	Q	Q
<b>Primary space-heating energy source</b>									
Electricity	27,618	22,928	12,591	10,273	Q	4,690	407	1,201	3,082
Natural gas	50,060	37,959	23,480	14,314	Q	12,101	928	3,437	7,735
Fuel oil	2,223	1,404	871	524	Q	820	Q	Q	682
District heat	6,090	3,283	2,648	619	Q	2,807	462	1,774	571
Propane	2,290	2,045	1,565	373	Q	245	Q	Q	Q
Other sources <sup>b</sup>	380	362	352	Q	N	Q	N	N	Q
<b>Cooling energy sources (more than one may apply)</b>									
Electricity	84,526	65,574	39,465	25,849	260	18,952	1,740	5,543	11,669
Natural gas	400	229	Q	Q	N	Q	N	Q	Q
District chilled water	4,288	1,937	1,553	352	Q	2,351	141	1,577	633
<b>Water-heating energy sources (more than one may apply)</b>									
Electricity	47,125	39,407	21,095	18,212	Q	7,719	767	2,023	4,928
Natural gas	46,652	33,953	21,375	12,519	Q	12,699	1,013	3,756	7,930
Fuel oil	1,807	996	798	Q	Q	811	Q	Q	582
District heat	4,206	2,265	1,885	381	N	1,941	392	1,277	272
Propane	1,947	1,562	1,150	403	Q	384	Q	Q	Q
<b>Cooking energy sources (more than one may apply)</b>									
Electricity	30,509	21,521	13,776	7,736	Q	8,988	606	2,489	5,893
Natural gas	27,705	18,823	12,268	6,546	Q	8,882	610	2,571	5,701
Propane	3,101	2,317	1,623	694	N	784	Q	Q	461

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<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Energy end uses (more than one may apply)</b>									
Buildings with space heating	88,661	67,980	41,507	26,113	360	20,680	1,868	6,567	12,246
Buildings with cooling	87,506	66,906	40,664	25,950	292	20,600	1,811	6,591	12,198
Buildings with water heating	87,717	67,295	41,291	25,847	Q	20,422	1,838	6,524	12,060
Buildings with cooking	43,580	30,621	20,384	10,219	Q	12,959	926	3,696	8,337
Buildings with manufacturing	6,871	6,133	3,649	2,483	N	738	Q	250	331
Buildings with electricity generation	29,457	20,191	12,695	7,442	Q	9,266	963	2,778	5,526
Buildings with lighting	94,103	72,480	44,295	27,573	612	21,624	1,946	6,841	12,836
<b>Percentage of floorspace heated</b>									
Not heated	7,762	6,747	3,848	2,269	630	1,015	Q	Q	615
1 to 50%	10,620	9,765	5,385	4,310	Q	855	Q	Q	459
51 to 99%	20,174	15,445	9,465	5,862	Q	4,729	656	1,849	2,224
100%	57,867	42,770	26,657	15,941	Q	15,096	1,026	4,508	9,563
<b>Percentage of floorspace cooled</b>									
Not cooled	8,917	7,821	4,691	2,432	699	1,095	Q	Q	663
1 to 50%	19,722	16,930	9,148	7,655	Q	2,792	257	775	1,759
51 to 99%	26,277	18,787	11,348	7,426	Q	7,491	811	2,565	4,115
100%	41,507	31,190	20,168	10,869	Q	10,318	743	3,251	6,324
<b>Percentage lit when open</b>									
0%	Q	Q	Q	Q	N	N	N	N	N
1 to 50%	14,172	12,440	9,010	3,430	N	1,732	Q	537	1,103
51 to 99%	38,847	30,159	17,417	12,742	N	8,688	1,033	2,984	4,671
100%	39,877	28,901	17,585	11,317	N	10,975	821	3,301	6,854
Building never open or electricity not used	2,998	2,699	1,149	559	990	300	Q	Q	232
<b>Percentage lit during off hours</b>									
0%	15,578	12,929	9,073	3,821	Q	2,649	Q	769	1,771
1 to 50%	69,800	52,727	30,866	21,423	438	17,073	1,502	5,363	10,208
51 to 100%	7,243	5,645	3,442	2,030	Q	1,598	316	548	734
Building always open with no off hours	2,223	1,900	1,237	663	N	324	Q	Q	Q
Electricity not used	1,579	1,527	739	Q	344	Q	N	Q	Q

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<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Heating equipment (more than one may apply)</b>									
Packaged heating units	48,064	39,126	21,598	17,435	Q	8,938	684	2,451	5,802
Furnaces	17,272	15,345	9,245	5,913	Q	1,927	Q	618	1,191
Individual space heaters	21,122	17,958	11,332	6,574	Q	3,164	414	1,103	1,648
Boilers	28,831	17,956	11,774	6,134	Q	10,876	949	2,802	7,124
Heat pumps	15,110	11,650	6,973	4,661	Q	3,460	205	1,147	2,108
District heat	6,547	3,507	2,803	688	Q	3,040	471	1,943	625
Duct reheat	7,418	5,774	2,802	2,920	Q	1,644	Q	554	931
Other	821	800	Q	468	N	Q	Q	Q	Q
<b>Cooling equipment (more than one may apply)</b>									
Packaged air-conditioning units	56,290	45,023	25,634	19,171	Q	11,266	1,192	3,181	6,892
Residential-type central air conditioners	18,270	14,011	8,809	5,184	Q	4,259	251	1,284	2,724
Individual air conditioners	13,619	10,598	6,946	3,650	Q	3,020	255	806	1,960
Central chillers	17,926	10,351	6,844	3,482	Q	7,575	969	2,413	4,192
Heat pumps	11,098	8,131	5,208	2,906	Q	2,967	329	1,021	1,617
District chilled water	4,288	1,937	1,553	352	Q	2,351	141	1,577	633
Swamp coolers	2,070	1,608	903	687	Q	463	Q	Q	Q
Other	Q	Q	Q	Q	N	Q	Q	Q	N
<b>HVAC features (more than one may apply)</b>									
Economizer cycle	34,087	22,524	13,828	8,596	Q	11,563	1,103	3,832	6,629
Variable air volume (VAV) system	29,268	19,201	11,711	7,352	Q	10,067	1,022	3,577	5,467
Dedicated outside air system (DOAS)	9,027	5,679	4,127	1,486	Q	3,347	295	1,292	1,760
Demand controlled ventilation (DCV)	10,474	6,518	3,834	2,614	Q	3,956	343	1,201	2,412
Regular HVAC maintenance	78,015	58,414	34,916	23,177	Q	19,600	1,696	6,271	11,634
Building automation system (BAS) controls heating or cooling	40,462	26,257	16,163	9,993	Q	14,205	1,121	4,734	8,350
Internet-connected or smart thermostat	5,966	4,868	3,589	1,279	N	1,098	Q	431	543
Programmable thermostat	20,882	18,613	10,396	8,133	Q	2,269	Q	540	1,553
<b>Main equipment replaced since 2000 (more than one may apply)</b>									
Heating	32,451	25,411	16,148	9,087	Q	7,040	621	1,658	4,760
Cooling	23,013	17,141	11,750	5,338	Q	5,872	488	1,483	3,900
<b>Water-heating equipment</b>									
Centralized system	59,280	44,179	29,541	14,532	Q	15,101	1,343	5,032	8,726
Distributed system	14,307	12,511	5,860	6,623	Q	1,797	Q	503	1,220
Combination of centralized and distributed systems	14,129	10,605	5,891	4,692	Q	3,524	422	990	2,113



**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**Total floorspace (million square feet)**

	Nongovernment-owned buildings					Government-owned buildings			
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Generation technologies (more than one may apply)</b>									
Reciprocating engine generators	25,163	17,397	11,158	6,185	Q	7,765	804	2,143	4,818
Solar panels	3,750	2,108	1,234	871	Q	1,642	244	484	914
Other generation technology	2,055	1,486	795	691	N	569	Q	312	Q
<b>Lighting equipment types (more than one may apply)</b>									
Incandescent	21,081	16,778	10,502	6,213	Q	4,302	445	1,330	2,527
Standard fluorescent	72,912	55,216	32,962	21,710	544	17,696	1,594	5,623	10,479
Compact fluorescent	33,691	25,891	15,121	10,651	Q	7,800	756	2,842	4,201
High-intensity discharge (HID)	11,356	7,686	4,945	2,720	Q	3,670	662	978	2,030
Halogen	15,012	12,156	6,582	5,507	Q	2,856	325	1,017	1,514
LED	61,849	47,924	29,098	18,741	Q	13,925	1,328	4,955	7,642
Other	Q	Q	Q	Q	N	N	N	N	N
<b>Refrigeration equipment (more than one may apply)</b>									
Any refrigeration	77,589	58,701	36,611	22,040	Q	18,889	1,731	5,926	11,232
Walk-in units	29,384	18,876	11,399	7,461	Q	10,508	653	3,114	6,742
Cases or cabinets	28,517	20,438	12,102	8,316	Q	8,079	784	2,045	5,249
Large cold storage areas	3,592	2,775	1,573	1,194	Q	817	Q	337	410
Commercial ice makers	34,672	24,368	15,595	8,757	Q	10,304	907	3,074	6,323
Residential-type or compact units	64,735	49,571	30,746	18,795	Q	15,164	1,512	4,549	9,103
Vending machines	42,071	29,510	17,372	12,131	Q	12,561	1,423	3,876	7,262
No refrigeration	18,834	16,027	8,744	6,342	941	2,807	Q	963	1,629
<b>Office equipment (more than one may apply)</b>									
Desktop computers	82,012	62,270	37,179	25,085	Q	19,743	1,684	6,314	11,745
With multiple monitors	50,844	38,166	21,616	16,550	N	12,678	1,310	4,218	7,150
Laptop computers	69,375	51,724	30,342	21,382	N	17,651	1,569	5,444	10,639
Dedicated servers	51,595	37,274	20,610	16,665	N	14,321	1,401	3,840	9,081
Tablets charged in building	48,778	35,093	19,589	15,504	N	13,684	1,037	4,319	8,329
Large floor-standing office devices <sup>c</sup>	54,088	38,165	22,190	15,975	N	15,923	1,453	4,964	9,507
Smaller desktop office devices <sup>c</sup>	74,467	56,886	34,024	22,846	Q	17,582	1,437	5,705	10,440
Interactive whiteboards	16,939	7,290	4,881	2,410	N	9,649	336	2,688	6,624
Televisions or video displays	63,618	47,479	28,830	18,649	N	16,139	1,315	5,165	9,659
Point-of-sale devices or cash registers	33,606	24,631	14,111	10,520	N	8,975	896	2,388	5,690



**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**Total floorspace (million square feet)**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	10,361	6,738	4,541	2,197	N	3,623	497	1,157	1,969
Fast food or small restaurant	9,759	8,223	4,403	3,819	N	1,536	Q	488	746
Cafeteria or large restaurant	14,531	6,902	5,079	1,823	N	7,629	539	2,093	4,997
Commercial kitchen or food preparation area	17,698	12,164	8,137	4,018	Q	5,535	214	1,734	3,587
Small kitchen area	20,519	15,204	10,765	4,430	Q	5,315	398	1,355	3,562
<b>Separate computer areas (more than one may apply)</b>									
Server closet	48,722	34,804	19,127	15,677	N	13,919	977	4,143	8,798
Data center	11,383	7,763	4,869	2,894	N	3,620	673	1,136	1,812
Computer-based training room	16,556	8,870	5,514	3,355	N	7,687	757	2,329	4,601
Student or public computer center	12,527	4,801	3,049	1,752	N	7,726	152	2,247	5,327
<b>Window and interior lighting features (more than one may apply)</b>									
Multipaned windows	72,694	55,377	34,359	20,447	571	17,317	1,482	5,255	10,580
Tinted window glass	44,363	34,187	18,734	15,117	336	10,176	1,095	3,158	5,922
Reflective window glass	17,929	14,600	7,295	7,238	Q	3,329	209	1,010	2,110
External overhangs or awnings	28,718	22,580	13,247	9,230	Q	6,139	437	1,546	4,155
Skylights or atriums	19,815	14,843	9,035	5,738	Q	4,973	472	1,365	3,136
Light scheduling	33,552	25,217	13,953	11,108	Q	8,335	783	2,820	4,732
Occupancy sensors	44,304	31,951	18,058	13,813	Q	12,353	1,250	3,959	7,144
Multilevel lighting or dimming	14,424	10,832	6,891	3,922	Q	3,592	306	1,263	2,023
Daylight harvesting	7,244	5,554	2,997	2,519	Q	1,691	411	414	866
Plug-load control	1,961	1,293	867	411	Q	667	Q	Q	344
Demand responsive lighting	2,045	1,412	937	465	Q	633	Q	Q	301
Building automation system (BAS) for lighting	16,645	11,263	6,059	5,185	Q	5,381	478	1,565	3,338

**Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**Total floorspace (million square feet)**

	Nongovernment-owned buildings					Government-owned buildings			
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	96,423	74,728	45,355	28,382	990	21,695	1,946	6,888	12,861
<b>Electric vehicle (EV) charging</b>									
Charging stations associated with the building	10,165	8,260	5,028	3,221	Q	1,904	510	547	847

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.

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

<sup>b</sup>*Other sources* includes wood, coal, solar, and all other energy sources.

<sup>c</sup>*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.

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**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	5.3	5.3	6.4	7.2	24.6	14.1	40.5	25.1	14.3
5,001 to 10,000	5.8	6.0	8.4	10.9	39.6	18.2	50.1	28.1	21.2
10,001 to 25,000	6.1	5.8	6.1	11.1	67.8	16.0	45.5	31.2	17.1
25,001 to 50,000	5.6	6.5	8.3	10.0	64.7	9.7	33.4	24.2	11.3
50,001 to 100,000	5.3	6.7	7.8	9.7	63.4	8.5	30.3	16.7	9.9
100,001 to 200,000	5.5	6.6	8.1	9.8	48.7	9.0	32.3	16.5	10.9
200,001 to 500,000	5.0	6.4	7.8	9.2	53.7	8.4	23.1	19.2	9.6
Over 500,000	8.6	9.8	12.7	14.7	50.2	17.6	35.6	34.1	16.3
<b>Principal building activity</b>									
Education	5.3	9.9	10.8	22.7	0.0	6.1	36.2	10.7	8.1
Food sales	17.0	17.0	21.4	24.2	0.0	0.0	0.0	0.0	0.0
Food service	8.5	8.2	10.0	11.6	0.0	26.4	7.7	35.4	36.2
Health care	5.5	5.7	6.5	12.8	0.0	18.8	40.6	44.9	27.1
Inpatient	7.2	7.5	8.2	28.6	0.0	22.4	47.3	52.2	31.4
Outpatient	8.0	8.5	11.8	13.6	0.0	38.9	84.7	76.8	46.3
Lodging	8.3	8.0	10.5	11.4	0.0	44.6	82.3	57.9	67.8
Mercantile	6.0	6.0	7.7	8.4	0.0	64.1	51.5	68.7	25.3
Retail (other than mall)	8.6	8.6	10.7	12.2	0.0	64.1	51.5	68.7	25.3
Enclosed and strip malls	7.6	7.6	15.4	9.5	0.0	0.0	0.0	0.0	0.0
Office	5.5	5.6	6.0	8.3	0.0	14.8	29.9	25.5	14.0
Public assembly	5.8	7.6	8.2	20.6	0.0	9.8	66.7	21.3	10.3
Public order and safety	15.9	34.9	43.4	64.7	0.0	17.1	32.2	38.6	17.7
Religious worship	9.3	9.3	9.6	39.2	0.0	0.0	0.0	0.0	0.0
Service	8.1	8.8	11.0	14.9	0.0	16.8	30.2	29.9	21.3
Warehouse and storage	7.2	7.4	8.0	10.9	0.0	24.9	29.9	67.7	41.1
Other	15.1	18.2	22.3	32.1	0.0	23.4	49.6	31.7	46.8
Vacant	14.1	15.8	39.3	27.1	19.2	28.4	71.6	58.2	33.4
<b>Year constructed</b>									
Before 1920	10.8	12.0	13.0	20.3	66.7	19.9	48.7	49.7	20.5
1920 to 1945	8.8	10.4	12.9	12.8	71.6	18.7	45.3	36.6	16.7
1946 to 1959	7.6	9.3	10.2	18.9	52.4	11.9	41.2	20.1	16.0
1960 to 1969	5.2	6.3	8.1	10.3	46.8	11.4	28.0	21.6	13.0
1970 to 1979	6.0	7.1	7.8	10.4	43.5	9.8	28.6	15.0	12.7
1980 to 1989	5.9	6.2	9.2	8.1	44.4	11.4	40.7	21.0	15.1
1990 to 1999	6.6	7.6	9.0	9.9	62.5	9.6	21.3	20.3	12.3
2000 to 2009	6.3	7.0	7.6	10.4	49.4	10.5	30.2	18.2	10.1
2010 to 2018	7.6	8.8	10.4	12.0	59.7	12.9	72.2	21.0	16.2

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Census region</b>									
Northeast	7.2	8.2	10.2	10.1	45.3	11.1	31.7	25.5	10.8
Midwest	7.4	7.9	7.0	11.9	44.0	11.9	25.7	21.8	12.0
South	6.1	6.0	6.2	8.1	28.3	12.5	28.3	22.0	11.8
West	7.1	8.0	8.9	9.3	46.0	11.1	33.5	17.8	13.8
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	17.0	17.7	18.8	22.6	71.7	19.7	39.1	25.7	21.8
Cool	8.3	8.5	8.9	11.3	35.6	11.5	23.4	17.5	13.6
Mixed mild	10.5	10.3	12.1	10.5	33.2	13.7	32.8	21.4	15.8
Warm	10.0	10.6	11.6	10.6	32.5	18.4	30.9	28.9	15.9
Hot or very hot	14.1	13.3	14.9	15.6	55.5	19.0	45.6	31.2	17.6
<b>Number of floors</b>									
1	4.5	4.6	4.8	6.8	25.2	8.3	24.5	15.3	9.0
2	4.4	5.0	5.4	8.8	47.7	7.4	29.9	15.4	9.6
3	7.6	7.6	8.8	13.3	61.8	14.6	58.7	28.1	13.5
4 to 9	6.3	7.0	7.5	12.8	41.2	12.8	23.8	24.4	12.6
10 or more	11.0	11.2	15.4	12.6	49.4	22.2	44.3	37.4	27.1
<b>Elevators and escalators (more than one may apply)</b>									
Any elevators	4.5	5.1	5.7	7.6	34.3	7.5	22.0	16.3	7.3
1 elevator	6.0	6.7	8.0	11.8	40.9	10.5	32.1	25.0	10.1
2 to 5 elevators	5.2	6.6	7.9	10.9	51.8	8.6	27.2	16.3	10.0
6 or more elevators	8.4	9.0	11.6	12.3	59.5	15.3	36.4	27.6	14.8
Any escalators	13.7	16.6	23.9	16.9	2.7	20.6	53.8	33.2	16.6
<b>Number of workers (main shift)</b>									
Fewer than 5	5.9	6.2	6.5	12.1	19.2	11.4	46.0	18.4	12.8
5 to 9	6.9	7.3	8.1	12.5	0.0	15.8	52.4	28.2	19.5
10 to 19	7.4	7.7	9.7	12.0	0.0	14.7	49.0	24.8	20.4
20 to 49	4.8	5.7	6.9	8.4	0.0	9.6	36.7	19.9	10.2
50 to 99	5.9	7.5	10.0	9.9	0.0	9.0	36.8	16.9	9.9
100 to 249	5.6	7.0	8.7	10.0	0.0	8.5	28.8	17.0	10.5
250 or more	6.4	7.1	8.9	9.7	0.0	12.1	31.2	21.2	11.6
<b>Weekly operating hours</b>									
Fewer than 40	6.6	7.3	7.8	15.6	19.2	12.8	48.5	20.0	15.1
40 to 48	5.1	6.3	7.5	10.2	0.0	7.5	26.8	14.9	9.4
49 to 60	4.3	5.1	5.8	7.7	0.0	9.4	21.7	17.2	11.3
61 to 84	5.3	5.8	9.3	7.9	0.0	11.2	31.3	22.4	11.8
85 to 167	6.2	7.1	7.6	11.6	0.0	12.4	35.5	19.1	15.3
Open continuously	5.0	5.2	6.1	7.7	0.0	14.6	29.7	26.0	14.1

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Party responsible for operation of energy systems</b>									
Building owner	3.2	3.4	3.4	5.7	20.2	6.0	16.2	12.0	5.9
Business owner or tenant	7.2	7.4	16.8	7.8	63.9	28.1	61.2	53.6	35.9
Property management	11.7	12.0	23.4	14.4	0.0	38.2	50.2	56.1	50.8
Other	11.1	13.1	20.4	17.7	0.0	23.3	51.6	41.0	29.7
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	3.1	3.4	3.4	5.5	20.1	6.1	16.2	12.0	6.0
Business owner or tenant	8.8	9.1	26.8	9.4	67.4	21.3	51.0	58.3	33.1
Property management	16.2	17.2	29.7	19.9	0.0	42.3	50.2	77.6	54.9
Other	8.1	9.1	15.5	11.3	50.2	18.2	46.3	30.6	26.3
<b>Number of establishments</b>									
1	3.6	3.9	3.8	6.6	0.0	7.0	17.5	13.1	6.7
2 to 5	5.5	5.7	7.7	6.9	0.0	12.9	26.2	27.8	14.6
6 to 10	7.9	8.3	11.6	10.7	0.0	17.5	22.0	34.7	22.2
11 to 20	8.9	9.3	14.8	10.7	0.0	25.9	45.7	51.2	39.3
More than 20	10.1	10.5	12.2	14.6	0.0	35.8	71.3	50.6	35.3
Currently unoccupied	16.5	19.2	0.0	0.0	19.2	31.2	101.1	68.3	35.4
<b>Campus or complex activity</b>									
Not part of a campus or complex	3.7	4.2	4.6	5.8	23.7	7.3	19.3	16.4	6.9
Primary or secondary school	9.4	25.3	27.5	59.7	70.4	10.1	58.7	17.4	11.9
College or university	15.9	24.6	27.8	34.4	0.0	20.2	0.0	20.6	49.1
Office complex	10.0	10.2	16.3	11.3	59.7	41.3	65.6	48.7	45.0
Retail complex	9.2	9.2	13.8	12.4	82.6	62.3	0.0	0.0	62.3
Storage complex	11.0	11.0	12.9	16.0	50.8	69.6	65.2	44.1	84.0
Religious campus or complex	12.0	12.0	11.9	43.7	51.6	0.0	0.0	0.0	0.0
Health care complex	8.2	8.1	8.9	20.6	55.4	23.3	44.1	55.7	33.2
Lodging or resort complex	13.7	14.1	19.8	27.4	95.1	58.5	50.2	74.4	70.2
Transportation complex	33.2	57.5	66.5	59.1	0.0	19.4	0.0	47.5	21.2
Government complex	17.0	82.2	50.7	90.0	0.0	17.0	29.1	46.5	18.0
Other	7.4	8.9	10.2	15.1	58.5	16.3	46.8	31.6	21.3
<b>Predominant exterior wall material</b>									
Brick, stone, or stucco	3.9	4.1	4.9	6.2	34.5	7.7	19.2	16.3	7.3
Concrete (block or poured)	4.8	5.5	6.5	7.7	34.8	9.6	25.8	16.6	12.7
Concrete panels	8.4	9.4	8.3	14.7	81.6	19.2	59.7	31.0	17.1
Siding or shingles	9.3	9.9	9.8	16.4	63.7	14.9	56.1	34.2	18.6
Metal panels	6.0	6.2	6.8	11.4	51.7	17.4	42.5	30.5	17.1
Window glass	11.4	12.7	17.0	15.5	91.3	19.8	50.1	36.8	24.5
Other	13.7	14.4	19.4	21.6	60.5	27.4	67.9	57.2	35.4

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Predominant roof material</b>									
Metal surfacing	5.6	5.6	5.8	9.6	33.5	11.7	37.2	19.4	11.5
Synthetic or rubber	4.1	4.6	4.7	6.6	32.8	8.8	24.2	18.8	10.1
Built-up	4.8	6.3	8.1	8.3	41.1	7.8	30.3	14.5	9.0
Slate or tile shingles	10.1	11.2	13.7	19.1	89.6	25.9	40.1	68.7	23.1
Wooden materials (including shingles)	17.8	19.3	26.2	24.5	94.5	27.7	88.5	51.6	65.2
Asphalt, fiberglass, or other shingles	5.6	6.6	7.0	12.0	54.6	13.4	36.1	22.1	17.4
Concrete	11.9	15.3	16.7	24.0	0.0	22.5	63.0	32.7	35.7
Other	9.8	11.2	13.4	17.8	73.0	19.5	42.2	30.5	27.8
<b>Roof tilt</b>									
Flat	3.3	4.0	4.4	5.6	24.7	6.0	19.4	13.0	6.7
Shallow pitch	4.8	5.1	5.8	7.7	31.2	10.6	26.8	18.6	10.1
Steeper pitch	5.7	6.3	6.1	13.4	52.2	10.6	52.5	17.7	13.9
<b>Cool roof characteristics (more than one may apply)</b>									
White/reflective coating or paint	4.4	4.9	5.4	7.0	32.1	8.1	30.0	15.3	9.4
White/reflective tiles or shingles	10.4	11.7	13.8	16.1	58.5	20.9	35.5	37.1	28.9
Aluminum coating	9.2	10.0	12.1	15.1	31.8	20.2	52.6	31.7	21.1
Ballasted roof system	9.5	10.9	14.3	14.1	49.4	14.6	35.4	25.0	18.1
Other cool roof property	19.2	18.4	27.6	23.0	0.0	40.1	82.6	36.8	37.3
<b>Renovations since 2000 (more than one may apply)</b>									
Any type of renovation	3.4	4.3	4.8	6.4	30.7	6.5	17.4	13.2	7.8
Addition or annex	6.0	7.3	7.5	15.0	67.7	9.6	30.9	19.2	11.4
Reduction in floorspace	13.2	14.7	18.8	23.1	0.0	31.7	64.6	82.2	31.7
Roof replacement	4.3	5.5	6.5	8.0	34.4	8.5	23.8	15.7	10.4
Interior wall reconfiguration	4.2	5.1	6.4	7.9	50.7	8.2	23.7	16.1	11.1
Window replacement	5.8	7.3	8.6	12.3	72.6	10.4	31.1	21.3	12.1
HVAC equipment upgrade	4.2	4.7	5.6	7.4	45.6	9.0	21.9	17.7	9.9
Lighting upgrade	3.9	4.6	5.4	6.7	47.0	8.7	20.2	17.7	9.8
Electrical upgrade	5.6	6.1	7.4	9.2	43.9	11.2	22.5	21.2	13.8
Plumbing system upgrade	5.2	6.2	7.8	8.1	46.5	9.6	26.4	18.9	12.6
Insulation upgrade	7.8	9.7	12.5	14.9	46.0	10.9	34.8	19.5	15.0
Fire, safety, or security upgrade	4.4	5.4	6.8	7.8	40.4	7.9	24.0	13.2	11.1
Structural upgrade	10.2	12.9	15.4	17.1	48.9	14.7	35.8	30.1	21.5
Other	14.9	15.8	18.3	24.1	0.0	36.2	71.8	65.8	43.0
No renovations	3.9	3.9	4.5	6.1	23.0	7.8	22.6	15.5	7.0
Buildings constructed 2013 or later	8.3	9.3	11.0	13.3	98.7	17.7	38.9	22.1	25.1

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Energy sources (more than one may apply)</b>									
Electricity	3.0	3.3	3.3	4.7	22.9	6.0	16.1	11.9	6.0
Natural gas	3.4	3.9	4.2	5.1	36.0	5.8	18.5	11.0	7.0
Fuel oil	5.4	6.2	7.5	8.4	45.1	6.9	29.1	12.1	8.9
District heat	11.4	13.0	14.1	19.7	51.6	17.3	34.9	26.0	17.8
District chilled water	13.7	20.8	24.9	25.8	79.1	18.3	30.2	26.7	15.7
Propane	7.6	8.1	9.0	12.0	62.6	15.5	36.3	30.0	15.1
Solar	11.5	14.8	17.6	18.1	2.7	16.2	33.9	30.6	19.7
Wood, coal, and other	14.0	14.2	16.8	27.1	0.0	38.7	58.7	95.0	49.8
<b>Space-heating energy sources (more than one may apply)</b>									
Electricity	3.7	4.0	4.6	5.6	37.3	8.4	19.8	12.7	10.7
Natural gas	3.6	4.1	4.5	5.2	39.8	5.7	20.2	11.3	7.2
Fuel oil	11.6	13.9	15.2	21.3	55.4	15.3	61.4	29.9	16.5
District heat	11.6	13.1	14.3	19.7	51.6	17.6	35.2	26.8	17.8
Propane	13.1	13.9	16.5	19.3	62.6	22.3	50.7	43.5	30.2
Other sources <sup>b</sup>	19.6	19.3	22.1	36.6	0.0	75.8	25.2	49.4	104.4
<b>Primary space-heating energy source</b>									
Electricity	5.5	5.3	6.1	7.2	43.8	13.6	28.0	16.5	16.3
Natural gas	4.1	4.5	5.0	5.8	43.2	5.8	21.9	12.2	7.4
Fuel oil	15.3	19.5	22.2	24.4	55.4	20.9	79.5	44.9	23.1
District heat	12.6	14.1	15.0	22.6	51.6	18.4	34.9	28.1	16.4
Propane	16.9	17.4	18.7	28.1	66.9	27.7	50.7	60.6	36.8
Other sources <sup>b</sup>	30.3	31.6	32.6	64.2	0.0	47.7	0.0	0.0	47.7
<b>Cooling energy sources (more than one may apply)</b>									
Electricity	3.0	3.3	3.6	4.6	30.7	6.0	16.7	12.1	6.4
Natural gas	24.2	21.7	25.2	48.1	0.0	49.4	0.0	68.3	57.3
District chilled water	13.7	20.8	24.9	25.8	79.1	18.3	30.2	26.7	15.7
<b>Water-heating energy sources (more than one may apply)</b>									
Electricity	3.6	3.7	4.4	5.0	31.4	9.2	24.7	14.6	10.1
Natural gas	3.7	4.5	5.1	5.6	46.6	5.8	21.6	11.8	6.9
Fuel oil	15.4	19.1	23.3	28.9	55.4	22.9	92.6	44.1	22.4
District heat	12.8	17.9	18.7	23.9	0.0	15.9	38.1	22.8	28.2
Propane	14.7	15.5	16.2	33.1	55.4	22.7	55.9	41.3	29.6



**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Cooking energy sources (more than one may apply)</b>									
Electricity	3.9	4.6	5.1	6.2	49.2	7.1	21.3	13.4	8.5
Natural gas	3.4	4.5	5.4	6.1	55.4	5.9	29.8	11.5	8.9
Propane	11.7	12.9	15.6	23.0	0.0	22.0	57.4	40.3	21.3
<b>Energy end uses (more than one may apply)</b>									
Buildings with space heating	3.0	3.4	3.5	4.8	29.6	6.0	16.2	12.0	6.3
Buildings with cooling	3.0	3.3	3.5	4.6	29.9	6.0	16.5	12.0	6.2
Buildings with water heating	2.9	3.2	3.3	4.6	27.1	5.9	16.4	12.1	6.0
Buildings with cooking	3.1	3.8	4.1	5.1	80.2	5.5	22.1	10.8	7.4
Buildings with manufacturing	7.9	8.5	10.8	12.6	0.0	21.8	46.3	33.1	31.6
Buildings with electricity generation	4.4	5.3	6.1	7.4	45.1	6.3	26.5	11.5	7.6
Buildings with lighting	3.0	3.2	3.3	4.6	23.4	6.0	16.1	12.0	6.0
<b>Percentage of floorspace heated</b>									
Not heated	10.0	10.5	12.2	15.3	25.1	17.0	62.3	36.9	18.9
1 to 50%	7.1	7.5	9.1	10.7	87.1	18.8	38.2	38.9	25.4
51 to 99%	5.3	5.6	5.8	8.5	61.0	13.0	29.6	23.5	13.5
100%	3.2	3.5	3.8	5.3	28.9	5.8	17.1	9.7	7.0
<b>Percentage of floorspace cooled</b>									
Not cooled	8.0	8.7	8.2	16.2	23.7	16.4	48.9	32.1	18.8
1 to 50%	5.2	5.8	7.2	9.1	57.4	10.7	34.7	22.6	11.9
51 to 99%	5.1	5.0	5.7	7.2	78.3	11.0	28.7	22.4	9.9
100%	3.5	3.8	4.5	5.8	32.5	6.5	16.7	11.5	8.0
<b>Percentage lit when open</b>									
0%	38.5	38.5	40.4	55.4	0.0	0.0	0.0	0.0	0.0
1 to 50%	6.0	6.2	6.9	13.0	0.0	16.7	40.8	35.4	17.0
51 to 99%	3.6	4.3	5.1	5.8	0.0	8.4	21.3	18.7	7.4
100%	3.8	4.1	5.0	6.5	0.0	6.4	21.2	9.7	7.9
Building never open or electricity not used	12.1	13.2	18.0	26.1	19.2	21.3	101.1	41.3	25.7
<b>Percentage lit during off hours</b>									
0%	6.7	7.3	7.4	12.4	61.9	15.6	46.8	24.7	16.3
1 to 50%	3.0	3.3	3.7	4.7	28.1	6.3	17.5	12.6	6.3
51 to 100%	6.7	7.9	9.3	13.3	35.6	13.3	29.9	23.9	23.0
Building always open with no off hours	11.6	12.1	14.2	20.8	0.0	35.1	48.4	62.0	26.3
Electricity not used	17.6	18.1	24.5	31.0	30.8	55.6	0.0	78.7	58.3

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Heating equipment (more than one may apply)</b>									
Packaged heating units	3.6	4.2	4.6	5.8	32.6	6.5	20.4	12.5	8.6
Furnaces	5.7	5.6	6.6	8.1	50.0	18.6	51.9	34.7	17.7
Individual space heaters	4.8	5.4	7.0	7.4	67.3	8.5	29.1	15.1	11.4
Boilers	4.0	5.7	6.5	8.3	72.6	5.4	21.5	12.0	6.7
Heat pumps	5.4	6.1	8.6	7.6	63.2	10.7	30.0	18.0	13.8
District heat	11.6	13.1	14.3	19.7	51.6	17.6	35.2	26.8	17.8
Duct reheat	7.0	8.3	10.2	10.9	52.2	12.4	45.0	28.5	16.6
Other	24.1	24.4	44.2	26.3	0.0	44.6	72.6	67.1	70.6
<b>Cooling equipment (more than one may apply)</b>									
Packaged air-conditioning units	3.4	3.9	4.4	5.7	34.7	6.4	20.0	12.3	7.9
Residential-type central air conditioners	5.2	5.1	6.2	7.8	72.4	11.3	30.9	25.0	11.4
Individual air conditioners	5.3	6.0	7.3	9.9	2.7	10.7	28.4	18.8	12.7
Central chillers	5.0	6.1	6.9	10.5	84.0	7.9	22.7	17.9	8.5
Heat pumps	6.8	7.9	9.6	12.2	68.3	11.7	46.4	19.1	15.5
District chilled water	13.7	20.8	24.9	25.8	79.1	18.3	30.2	26.7	15.7
Swamp coolers	13.1	13.4	13.1	27.6	102.4	33.2	49.9	51.0	41.7
Other	36.4	43.5	57.7	57.5	0.0	77.2	69.2	102.0	0.0
<b>HVAC features (more than one may apply)</b>									
Economizer cycle	3.9	5.1	5.8	6.6	44.7	6.7	23.0	12.8	7.9
Variable air volume (VAV) system	4.9	5.3	6.6	6.9	35.3	7.6	24.5	16.7	7.5
Dedicated outside air system (DOAS)	7.8	9.4	12.1	12.9	46.3	13.9	49.7	26.7	12.9
Demand controlled ventilation (DCV)	5.5	7.8	9.1	13.4	72.9	9.6	43.9	17.3	13.3
Regular HVAC maintenance	3.2	3.6	3.8	4.9	32.5	6.0	17.4	12.3	6.4
Building automation system (BAS) controls heating or cooling	3.7	4.8	6.0	6.2	47.3	4.9	23.5	10.2	6.7
Internet-connected or smart thermostat	10.5	11.1	12.6	18.8	0.0	20.6	56.2	43.2	19.6
Programmable thermostat	5.4	5.4	7.1	7.0	73.7	14.0	39.5	30.1	14.4
<b>Main equipment replaced since 2000 (more than one may apply)</b>									
Heating	3.8	4.6	5.3	6.8	42.6	7.2	20.6	12.7	9.2
Cooling	4.3	5.2	5.8	9.1	47.2	6.9	23.5	16.6	7.8
<b>Water-heating equipment</b>									
Centralized system	3.4	3.7	3.9	5.4	32.9	7.0	18.8	14.7	6.9
Distributed system	6.4	6.0	8.1	8.3	80.7	17.0	30.4	27.3	19.1
Combination of centralized and distributed systems	5.2	5.6	6.7	7.9	59.3	8.9	26.5	15.6	11.9

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings					Government-owned buildings			
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Generation technologies (more than one may apply)</b>									
Reciprocating engine generators	4.8	5.7	6.8	7.8	45.1	6.8	28.6	11.7	8.0
Solar panels	11.5	14.9	17.6	18.3	2.7	16.4	35.1	31.4	20.2
Other generation technology	14.4	16.2	20.3	23.0	0.0	20.7	55.2	32.4	30.0
<b>Lighting equipment types (more than one may apply)</b>									
Incandescent	4.5	4.8	6.0	6.4	59.0	11.0	27.0	21.6	11.5
Standard fluorescent	3.4	3.5	4.1	4.9	25.9	6.7	17.8	14.0	6.3
Compact fluorescent	4.2	4.4	5.6	5.7	33.6	9.3	24.7	18.2	8.5
High-intensity discharge (HID)	7.1	8.0	10.0	10.2	60.1	10.0	29.1	19.4	11.9
Halogen	4.2	5.1	7.3	6.9	77.9	11.5	31.7	18.0	13.7
LED	2.9	3.5	4.1	4.7	39.2	6.4	19.4	12.7	6.8
Other	24.1	24.1	60.2	26.0	0.0	0.0	0.0	0.0	0.0
<b>Refrigeration equipment (more than one may apply)</b>									
Any refrigeration	3.0	3.4	3.6	4.6	37.7	5.8	16.8	12.4	6.0
Walk-in units	3.4	4.3	5.5	5.5	69.4	5.5	32.3	11.6	8.0
Cases or cabinets	3.7	4.4	5.4	5.8	79.4	7.0	29.8	12.2	9.4
Large cold storage areas	11.3	13.6	19.9	16.4	70.6	20.5	42.1	34.6	28.4
Commercial ice makers	3.5	4.2	4.5	6.4	69.4	7.7	26.6	18.7	7.7
Residential-type or compact units	3.2	3.5	3.8	5.0	34.0	6.8	17.4	15.5	6.3
Vending machines	3.8	4.4	4.8	6.3	70.6	6.7	19.2	15.5	6.7
No refrigeration	5.3	5.7	6.0	9.5	19.6	13.1	39.2	17.8	14.8
<b>Office equipment (more than one may apply)</b>									
Desktop computers	2.9	3.2	3.4	4.5	49.2	6.0	17.2	12.2	6.1
With multiple monitors	3.5	3.9	4.5	5.2	0.0	8.0	20.9	17.7	6.9
Laptop computers	3.0	3.6	4.0	4.7	0.0	6.1	17.7	13.3	6.5
Dedicated servers	3.3	4.1	4.7	5.2	0.0	5.1	19.3	10.5	7.1
Tablets charged in building	3.3	3.7	4.2	5.3	0.0	6.9	23.0	15.8	6.8
Large floor-standing office devices <sup>c</sup>	3.0	3.9	4.3	5.6	0.0	5.7	19.2	12.3	6.2
Smaller desktop office devices <sup>c</sup>	3.1	3.4	3.5	4.6	49.2	5.8	18.0	12.4	6.4
Interactive whiteboards	4.5	7.5	10.9	8.2	0.0	5.3	28.7	12.4	7.5
Televisions or video displays	3.0	3.4	3.9	4.6	0.0	5.8	18.8	12.6	6.5
Point-of-sale devices or cash registers	3.4	4.1	5.1	5.7	0.0	5.6	23.1	13.1	7.2

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	6.7	8.4	10.5	10.9	0.0	8.7	32.5	17.1	10.2
Fast food or small restaurant	5.9	6.5	9.6	7.7	0.0	16.6	51.6	33.1	16.0
Cafeteria or large restaurant	4.6	7.7	9.5	11.7	0.0	6.3	34.4	12.2	8.3
Commercial kitchen or food preparation area	4.4	5.7	7.1	8.3	55.4	7.4	32.0	15.3	10.8
Small kitchen area	4.7	5.4	6.4	7.7	49.2	8.4	25.0	16.4	9.8
<b>Separate computer areas (more than one may apply)</b>									
Server closet	3.4	4.3	4.9	5.6	0.0	4.9	15.6	9.9	6.6
Data center	6.7	8.7	11.0	11.2	0.0	8.8	32.3	13.5	12.8
Computer-based training room	4.6	7.3	10.3	10.0	0.0	5.8	21.8	12.7	7.5
Student or public computer center	4.6	9.2	12.2	12.2	0.0	6.0	28.9	10.2	8.0
<b>Window and interior lighting features (more than one may apply)</b>									
Multipaned windows	3.2	3.6	3.7	5.1	24.8	5.8	18.8	12.2	6.5
Tinted window glass	3.4	4.1	4.8	5.5	31.8	6.5	21.5	12.3	8.5
Reflective window glass	5.6	6.3	9.3	7.8	38.1	9.6	24.9	14.7	14.3
External overhangs or awnings	4.5	5.5	6.8	6.0	32.6	7.0	24.3	15.2	8.6
Skylights or atriums	4.5	5.5	6.7	8.5	39.4	7.2	23.3	15.1	9.9
Light scheduling	4.1	4.6	6.2	5.6	48.3	8.4	25.4	17.2	8.4
Occupancy sensors	3.8	4.5	5.5	5.6	39.8	6.3	20.9	12.8	6.9
Multilevel lighting or dimming	6.6	6.9	8.8	7.9	94.4	13.5	26.2	32.7	12.2
Daylight harvesting	6.3	6.5	9.0	9.2	71.8	15.4	39.5	21.0	18.9
Plug-load control	12.2	15.1	17.6	27.2	94.5	20.9	35.3	30.7	37.0
Demand responsive lighting	15.2	15.6	20.1	20.1	42.6	28.2	71.0	55.1	31.9
Building automation system (BAS) for lighting	5.2	6.5	8.5	8.2	91.6	8.5	35.2	16.2	11.0

**Relative standard errors (RSEs) for Table B18. Occupancy of nongovernment-owned and government-owned buildings, floorspace, 2018**

**RSEs for total floorspace**

	Nongovernment-owned buildings				Government-owned buildings				
	All buildings	All buildings	Owner occupied	Leased to tenant or tenants	Unoccupied	All buildings	Federal	State	Local
<b>All buildings</b>	3.1	3.3	3.3	4.8	19.2	6.0	16.1	11.8	6.0
<b>Electric vehicle (EV) charging</b>									
Charging stations associated with the building	7.2	7.7	10.0	10.2	58.5	14.7	39.7	24.3	12.6

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>.

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

<sup>b</sup>Other sources includes wood, coal, solar, and all other energy sources.

<sup>c</sup>Office devices refers to any combination of printers, copiers, scanners, or FAX machines.