

Release date: September 2021

Revised date: December 2022

Table B14. Selected principal building activity: part 2, floorspace, 2018

	Total floorspace (million square feet)							
	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care		Out-patient	Public order and safety
All health care					In-patient			
All buildings	96,423	1,385	6,976	1,006	4,018	2,259	1,760	1,538
Building floorspace (square feet)								
1,001 to 10,000	18,229	1,159	377	454	424	N	424	Q
10,001 to 100,000	45,098	Q	3,706	449	1,195	199	997	704
Over 100,000	33,096	Q	2,893	Q	2,399	2,060	339	615
Year constructed								
Before 1946	9,246	254	333	Q	305	Q	Q	Q
1946 to 1979	30,358	338	1,993	247	1,220	895	325	273
1980 to 1999	29,000	340	2,268	227	925	426	499	580
2000 to 2018	27,819	453	2,383	464	1,568	771	798	557
Census region								
Northeast	15,951	138	1,207	Q	779	367	412	Q
Midwest	25,932	279	1,661	404	1,076	712	364	Q
South	34,907	563	2,379	249	1,173	716	457	673
West	19,633	405	1,729	Q	990	463	527	323
Climate zone^a								
Cold or very cold	7,044	131	416	Q	246	Q	Q	Q
Cool	26,768	337	1,944	291	1,200	725	475	354
Mixed mild	25,096	318	1,860	Q	1,173	647	526	547
Warm	25,085	402	1,879	202	961	494	467	421
Hot or very hot	12,429	197	877	Q	438	268	170	Q
Number of floors								
1	43,576	963	908	832	683	Q	570	549
2	23,300	292	1,399	Q	598	Q	465	Q
3	10,516	Q	1,145	Q	423	168	255	Q
4 to 9	13,031	Q	2,100	Q	1,711	1,307	404	280
10 or more	6,000	N	1,424	N	602	537	Q	197
Elevators and escalators (more than one may apply)								
Any elevators	36,501	Q	4,723	Q	3,117	2,138	979	803
1 elevator	14,215	Q	1,144	Q	338	Q	316	Q
2 to 5 elevators	13,316	Q	2,472	Q	977	399	578	305
6 or more elevators	8,970	N	1,107	N	1,801	1,717	Q	332
Any escalators	3,753	Q	Q	N	Q	Q	Q	Q
Number of workers (main shift)								
Fewer than 10	31,388	680	1,912	519	255	N	255	441
10 to 99	40,441	678	3,949	433	1,191	213	978	418
100 or more	24,594	Q	1,115	Q	2,572	2,046	527	680

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Weekly operating hours								
Fewer than 49	29,592	201	N	Q	689	N	689	369
49 to 84	37,581	694	Q	Q	813	N	813	123
85 to 167	10,038	429	N	488	Q	N	Q	Q
Open continuously	19,213	Q	6,951	276	2,437	2,259	179	1,039
Ownership and occupancy								
Nongovernment owned	74,728	1,098	6,564	1,006	3,556	1,893	1,663	Q
Owner occupied	45,355	663	4,574	708	2,812	1,776	1,036	Q
Leased to tenant or tenants	28,382	435	1,990	298	744	Q	627	Q
Unoccupied	990	N	N	N	N	N	N	N
Government owned	21,695	Q	412	N	462	365	Q	1,269
Federal	1,946	Q	Q	N	173	Q	Q	Q
State	6,888	Q	Q	N	Q	Q	Q	457
Local	12,861	Q	Q	N	158	Q	Q	731
Party responsible for operation of energy systems								
Building owner	79,282	1,104	6,319	846	3,616	2,154	1,462	1,378
Business owner or tenant	12,842	260	Q	Q	271	Q	247	Q
Property management	1,994	Q	294	N	Q	Q	Q	N
Other	2,306	Q	238	Q	Q	Q	Q	Q
Provider of direct input on energy-related equipment purchases								
Building owner	82,862	1,137	6,369	876	3,679	2,144	1,535	1,445
Business owner or tenant	7,585	184	Q	Q	162	Q	Q	Q
Property management	1,072	Q	Q	Q	Q	Q	Q	N
Other	4,904	Q	387	Q	160	Q	Q	Q
Number of establishments								
1	65,391	1,253	5,717	765	2,398	1,494	904	1,076
2 to 5	16,431	Q	1,000	242	1,200	622	578	362
6 to 10	5,539	Q	Q	N	233	Q	Q	Q
11 to 20	3,894	N	Q	N	Q	Q	Q	Q
More than 20	3,999	N	Q	N	Q	Q	Q	Q
Currently unoccupied	1,168	N	N	N	N	N	N	N

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Campus or complex activity								
Not part of a campus or complex	56,609	1,026	4,395	866	1,724	643	1,081	853
Primary or secondary school	5,106	Q	N	N	N	N	N	N
College or university	3,761	Q	576	N	Q	Q	Q	Q
Office complex	3,823	Q	N	N	Q	N	Q	Q
Retail complex	4,573	Q	Q	Q	Q	N	Q	N
Storage complex	5,684	N	N	N	N	N	N	N
Religious campus or complex	3,209	Q	Q	N	N	N	N	N
Health care complex	2,838	Q	272	N	2,190	1,609	581	Q
Lodging or resort complex	1,575	Q	1,155	N	N	N	N	N
Transportation complex	774	N	N	N	N	N	N	N
Government complex	1,706	Q	N	N	N	N	N	194
Other	6,765	Q	505	Q	Q	N	Q	Q
Predominant exterior wall material								
Brick, stone, or stucco	46,134	923	4,136	333	2,796	1,608	1,188	540
Concrete (block or poured)	19,357	231	1,262	316	408	225	183	334
Concrete panels	8,331	Q	148	Q	361	263	Q	Q
Siding or shingles	5,992	146	973	Q	215	Q	192	Q
Metal panels	12,198	Q	Q	Q	Q	Q	Q	Q
Window glass	2,192	Q	Q	N	Q	Q	Q	Q
Other	2,219	Q	242	Q	Q	Q	Q	Q
Predominant roof material								
Metal surfacing	20,936	300	400	330	Q	Q	Q	Q
Synthetic or rubber	31,563	347	1,763	424	2,062	1,378	684	503
Built-up	19,308	267	1,372	Q	1,012	568	444	411
Slate or tile shingles	3,997	Q	648	Q	Q	Q	Q	Q
Wooden materials (including shingles)	1,568	Q	329	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	14,058	195	1,910	Q	577	215	362	Q
Concrete	1,968	Q	294	Q	Q	Q	Q	Q
Other	3,026	Q	Q	Q	Q	Q	Q	Q
Roof tilt								
Flat	54,253	675	3,568	563	3,334	2,074	1,260	888
Shallow pitch	27,609	349	1,781	271	305	Q	244	456
Steeper pitch	14,561	361	1,627	Q	379	Q	256	Q

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Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	32,799	450	2,116	347	1,675	1,123	552	379
White or reflective tiles or shingles	2,713	Q	348	Q	195	Q	Q	Q
Aluminum coating	6,149	Q	Q	Q	Q	Q	Q	Q
Ballasted roof system	6,277	Q	592	Q	513	366	147	Q
Other cool roof property	1,603	Q	Q	N	Q	Q	Q	Q
Renovations since 2000 (more than one may apply)								
Any type of renovation	45,165	586	3,492	382	2,528	1,785	743	716
Addition or annex	10,854	163	531	Q	1,304	1,135	169	Q
Reduction in floorspace	1,784	Q	Q	Q	255	Q	Q	N
Roof replacement	20,862	281	1,954	Q	1,465	1,087	377	378
Interior wall reconfiguration	21,283	140	1,165	Q	1,810	1,259	551	291
Window replacement	10,977	186	987	Q	675	575	Q	Q
HVAC equipment upgrade	27,575	362	2,118	Q	1,981	1,432	549	403
Lighting upgrade	29,098	339	2,505	280	1,901	1,463	439	391
Electrical upgrade	15,761	257	1,108	Q	1,339	1,043	296	Q
Plumbing system upgrade	15,537	280	1,380	Q	1,278	1,032	246	338
Insulation upgrade	7,980	88	658	Q	730	555	175	Q
Fire, safety, or security upgrade	19,985	276	2,052	Q	1,532	1,182	350	Q
Structural upgrade	4,203	Q	Q	Q	503	415	Q	Q
Other	1,168	Q	Q	N	Q	N	Q	Q
No renovations	43,832	673	2,793	509	1,064	279	784	791
Buildings constructed 2013 or later	7,426	126	691	Q	427	Q	Q	Q
Energy sources (more than one may apply)								
Electricity	94,844	1,385	6,976	1,006	4,018	2,259	1,760	1,538
Natural gas	67,722	987	5,842	662	3,370	2,105	1,265	1,271
Fuel oil	21,185	Q	2,161	Q	2,499	2,040	458	896
District heat	6,745	Q	813	N	887	743	Q	Q
District chilled water	4,288	Q	371	N	665	535	Q	Q
Propane	10,157	219	1,101	Q	234	186	Q	Q
Solar	3,820	Q	Q	Q	Q	Q	Q	Q
Wood, coal, and other	2,113	Q	Q	Q	Q	Q	Q	N
Space-heating energy sources (more than one may apply)								
Electricity	45,603	657	4,725	550	1,845	905	939	546
Natural gas	58,042	694	3,879	584	2,725	1,670	1,055	1,105
Fuel oil	4,134	Q	Q	Q	478	457	Q	Q
District heat	6,547	Q	794	N	784	641	Q	Q
Propane	3,896	Q	Q	Q	Q	Q	Q	Q
Other sources ^b	927	N	Q	Q	Q	Q	Q	N

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Primary space-heating energy source								
Electricity	27,618	523	3,378	259	851	153	698	Q
Natural gas	50,060	650	2,695	540	2,291	1,401	890	1,024
Fuel oil	2,223	Q	Q	Q	Q	Q	Q	Q
District heat	6,090	Q	682	N	762	618	Q	Q
Propane	2,290	Q	Q	Q	Q	Q	Q	Q
Other sources ^b	380	N	N	Q	Q	Q	N	N
Cooling energy sources (more than one may apply)								
Electricity	84,526	1,319	6,696	916	3,610	2,013	1,597	1,501
Natural gas	400	Q	Q	N	Q	Q	Q	N
District chilled water	4,288	Q	371	N	665	535	Q	Q
Water-heating energy sources (more than one may apply)								
Electricity	47,125	610	1,973	484	1,240	477	763	477
Natural gas	46,652	757	4,921	534	2,881	1,772	1,109	1,002
Fuel oil	1,807	Q	Q	Q	271	251	Q	Q
District heat	4,206	Q	529	N	487	427	Q	Q
Propane	1,947	Q	Q	Q	Q	Q	Q	Q
Cooking energy sources (more than one may apply)								
Electricity	30,509	823	3,528	611	1,737	1,475	263	681
Natural gas	27,705	900	3,574	438	2,017	1,887	129	606
Propane	3,101	179	479	Q	Q	Q	N	Q
Energy end uses (more than one may apply)								
Buildings with space heating	88,661	1,274	6,850	919	4,006	2,249	1,757	1,507
Buildings with cooling	87,506	1,343	6,907	916	4,009	2,259	1,750	1,519
Buildings with water heating	87,717	1,385	6,904	986	4,014	2,256	1,757	1,528
Buildings with cooking	43,580	1,358	5,527	816	2,437	2,109	328	1,008
Buildings with manufacturing	6,871	Q	Q	Q	Q	Q	Q	Q
Buildings with electricity generation	29,457	Q	2,908	370	2,864	2,241	623	1,044
Buildings with lighting	94,103	1,385	6,976	1,006	4,018	2,259	1,760	1,538
Percentage of floorspace heated								
Not heated	7,762	Q	Q	Q	Q	Q	Q	Q
1 to 50%	10,620	Q	448	Q	Q	Q	Q	Q
51 to 99%	20,174	264	1,650	334	729	450	279	445
100%	57,867	893	4,752	551	3,139	1,744	1,395	1,049

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All buildings	96,423	1,385	6,976	1,006	4,018	2,259	1,760	1,538
Percentage of floorspace cooled								
Not cooled	8,917	Q	Q	Q	Q	N	Q	Q
1 to 50%	19,722	203	373	Q	Q	Q	Q	Q
51 to 99%	26,277	315	2,309	477	1,138	734	404	543
100%	41,507	825	4,226	383	2,828	1,521	1,307	542
Percentage lit when open								
0%	Q	N	N	N	N	N	N	N
1 to 50%	14,172	200	940	Q	Q	N	Q	Q
51 to 99%	38,847	426	3,375	415	1,833	1,081	752	590
100%	39,877	759	2,662	534	2,119	1,178	942	738
Building never open or electricity not used	2,998	N	N	N	N	N	N	Q
Percentage lit during off hours								
0%	15,578	358	Q	Q	Q	N	Q	Q
1 to 50%	69,800	950	4,636	551	2,484	966	1,517	1,004
51 to 100%	7,243	Q	1,400	Q	1,238	1,117	121	Q
Building always open with no off hours	2,223	Q	859	Q	212	176	Q	Q
Electricity not used	1,579	N	N	N	N	N	N	N
Heating equipment (more than one may apply)								
Packaged heating units	48,064	871	3,586	669	1,873	846	1,027	773
Furnaces	17,272	220	1,110	Q	270	Q	185	Q
Individual space heaters	21,122	139	2,494	Q	655	435	219	Q
Boilers	28,831	188	3,026	Q	2,243	1,612	631	598
Heat pumps	15,110	Q	1,796	Q	681	318	363	Q
District heat	6,547	Q	794	N	784	641	Q	Q
Duct reheat	7,418	Q	445	Q	563	473	Q	Q
Other	821	N	Q	Q	Q	Q	N	N
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	56,290	1,033	3,378	732	2,493	1,309	1,184	903
Residential-type central air conditioners	18,270	232	1,589	Q	974	657	317	539
Individual air conditioners	13,619	135	3,358	Q	596	518	Q	Q
Central chillers	17,926	Q	1,361	Q	1,829	1,524	305	419
Heat pumps	11,098	Q	1,281	Q	720	443	276	282
District chilled water	4,288	Q	371	N	665	535	Q	Q
Swamp coolers	2,070	Q	214	Q	Q	Q	Q	Q
Other	Q	Q	N	N	Q	Q	Q	N

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All buildings	96,423	1,385	6,976	1,006	4,018	2,259	1,760	1,538
HVAC features (more than one may apply)								
Economizer cycle	34,087	363	2,561	308	2,819	1,981	838	668
Variable air volume (VAV) system	29,268	272	1,782	Q	2,837	2,025	811	546
Dedicated outside air system (DOAS)	9,027	Q	1,203	Q	1,004	870	Q	Q
Demand controlled ventilation (DCV)	10,474	Q	685	Q	597	505	Q	Q
Regular HVAC maintenance	78,015	1,138	6,490	752	3,784	2,254	1,530	1,415
Building automation system (BAS) controls heating or cooling	40,462	306	2,439	441	3,033	2,119	914	691
Internet-connected or smart thermostat	5,966	Q	575	Q	Q	Q	Q	Q
Programmable thermostat	20,882	455	1,381	249	541	Q	487	Q
Main equipment replaced since 2000 (more than one may apply)								
Heating	32,451	469	2,300	214	967	478	489	379
Cooling	23,013	263	2,719	Q	1,111	763	349	271
Water-heating equipment								
Centralized system	59,280	1,030	5,825	766	2,800	1,372	1,428	1,325
Distributed system	14,307	266	482	Q	369	201	168	Q
Combination of centralized and distributed systems	14,129	Q	597	Q	844	682	162	153
Generation technologies (more than one may apply)								
Reciprocating engine generators	25,163	Q	2,514	Q	2,685	2,138	547	982
Solar panels	3,750	Q	Q	Q	Q	Q	Q	Q
Other generation technology	2,055	Q	293	N	219	Q	Q	Q
Lighting equipment types (more than one may apply)								
Incandescent	21,081	380	2,092	Q	1,314	918	396	396
Standard fluorescent	72,912	940	5,110	558	3,363	2,021	1,341	1,204
Compact fluorescent	33,691	318	3,609	Q	2,365	1,679	686	607
High-intensity discharge (HID)	11,356	Q	942	Q	829	742	Q	248
Halogen	15,012	217	1,128	Q	1,068	769	299	Q
LED	61,849	910	5,553	688	3,081	2,049	1,032	1,077
Other	Q	Q	N	N	N	N	N	N

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Refrigeration equipment (more than one may apply)								
Any refrigeration	77,589	1,385	6,529	1,006	3,831	2,259	1,573	1,462
Walk-in units	29,384	1,214	3,458	865	2,316	2,142	174	484
Cases or cabinets	28,517	907	2,819	855	2,084	1,784	300	364
Large cold storage areas	3,592	Q	Q	Q	250	232	Q	Q
Commercial ice makers	34,672	1,080	4,908	533	2,612	2,158	454	712
Residential-type or compact units	64,735	625	5,574	373	3,559	2,083	1,475	1,149
Vending machines	42,071	153	4,100	402	2,838	2,142	695	767
No refrigeration	18,834	N	448	N	Q	N	Q	Q
Office equipment (more than one may apply)								
Desktop computers	82,012	1,041	5,976	918	3,983	2,228	1,755	1,509
With multiple monitors	50,844	209	2,908	Q	3,167	2,125	1,042	954
Laptop computers	69,375	473	5,023	310	3,707	2,198	1,509	973
Dedicated servers	51,595	289	3,449	349	3,360	2,132	1,228	896
Tablets charged in building	48,778	542	3,337	232	3,013	1,907	1,106	700
Large floor-standing office devices ^c	54,088	Q	3,447	Q	3,355	2,100	1,255	1,023
Smaller desktop office devices ^c	74,467	826	5,478	692	3,700	2,044	1,656	1,421
Interactive whiteboards	16,939	Q	765	Q	925	775	Q	389
Televisions or video displays	63,618	744	5,880	509	3,444	2,179	1,265	1,250
Point-of-sale devices or cash registers	33,606	1,215	2,229	857	2,299	1,751	548	279
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	10,361	N	1,485	Q	1,003	930	Q	Q
Fast food or small restaurant	9,759	N	1,113	244	604	561	Q	Q
Cafeteria or large restaurant	14,531	N	1,284	Q	1,677	1,611	Q	Q
Commercial kitchen or food preparation area	17,698	N	3,064	390	1,641	1,574	Q	514
Small kitchen area	20,519	N	3,429	177	999	766	232	532
Separate computer areas (more than one may apply)								
Server closet	48,722	187	3,556	429	3,201	2,021	1,180	792
Data center	11,383	N	1,085	Q	1,577	1,348	229	286
Computer-based training room	16,556	Q	929	Q	1,542	1,301	241	400
Student or public computer center	12,527	N	1,291	Q	445	394	Q	Q

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Window and interior lighting features (more than one may apply)								
Multipaned windows	72,694	1,050	6,091	812	3,544	2,157	1,388	1,112
Tinted window glass	44,363	468	2,144	335	2,659	1,743	916	809
Reflective window glass	17,929	Q	1,298	Q	1,301	1,012	290	430
External overhangs or awnings	28,718	605	2,255	403	1,515	1,053	462	375
Skylights or atriums	19,815	Q	1,574	Q	1,676	1,335	341	358
Light scheduling	33,552	417	2,863	403	1,748	1,129	619	486
Occupancy sensors	44,304	269	2,774	299	2,801	1,877	924	688
Multilevel lighting or dimming	14,424	233	1,481	Q	1,155	957	198	Q
Daylight harvesting	7,244	Q	480	Q	570	464	Q	Q
Plug-load control	1,961	Q	216	Q	Q	Q	Q	Q
Demand responsive lighting	2,045	Q	Q	Q	Q	Q	Q	Q
Building automation system (BAS) for lighting	16,645	Q	1,032	325	881	568	312	Q
Electric vehicle (EV) charging								
Charging stations associated with the building	10,165	N	1,249	Q	649	580	Q	Q

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.

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

^bOther sources includes wood, coal, solar, and all other energy sources.

^cOffice 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 B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Health care			Public order and safety	
				Food sales	All health care	In-patient		Out-patient
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Building floorspace (square feet)								
1,001 to 10,000	4.7	9.3	19.5	16.1	12.9	0.0	12.9	30.4
10,001 to 100,000	3.8	27.4	10.4	30.4	12.9	32.8	13.8	24.5
Over 100,000	4.1	76.6	16.0	36.8	6.7	7.5	14.6	22.4
Year constructed								
Before 1946	7.8	15.4	25.4	42.4	34.2	42.8	55.6	41.3
1946 to 1979	4.0	16.8	16.3	24.4	9.6	11.2	20.6	35.5
1980 to 1999	5.0	17.5	17.7	22.9	11.0	16.8	16.4	24.3
2000 to 2018	5.6	20.5	11.1	29.6	10.9	17.2	13.7	25.8
Census region								
Northeast	7.2	27.4	18.3	59.3	15.2	20.9	17.8	27.1
Midwest	7.4	12.5	12.9	29.8	11.5	14.9	19.7	38.1
South	6.1	13.6	13.9	27.3	9.7	10.6	15.6	28.3
West	7.1	16.9	21.9	26.2	14.5	19.9	15.8	26.6
Climate zone^a								
Cold or very cold	17.0	26.0	20.6	52.5	18.0	22.3	38.0	54.4
Cool	8.3	19.5	15.8	25.3	13.9	18.0	17.1	23.5
Mixed mild	10.5	23.9	21.9	31.5	16.6	20.1	18.0	35.0
Warm	10.0	18.2	18.9	36.1	12.6	14.6	16.0	32.3
Hot or very hot	14.1	23.8	19.2	36.4	12.5	19.1	13.0	33.3
Number of floors								
1	4.5	10.4	21.0	20.2	12.2	30.2	13.4	28.0
2	4.4	19.9	15.6	38.1	18.3	50.2	16.3	29.1
3	7.6	33.7	20.7	42.3	16.1	27.7	21.2	45.8
4 to 9	6.3	45.2	11.9	50.1	8.6	10.2	17.5	39.2
10 or more	11.0	0.0	26.9	0.0	13.4	13.7	39.2	33.5
Elevators and escalators (more than one may apply)								
Any elevators	4.5	49.4	10.7	53.0	6.1	7.3	10.8	21.1
1 elevator	6.0	53.8	15.7	60.1	22.3	81.6	22.3	40.8
2 to 5 elevators	5.2	51.5	10.7	51.0	10.9	17.6	14.1	35.5
6 or more elevators	8.4	0.0	32.8	0.0	9.0	9.3	32.1	23.7
Any escalators	13.7	99.8	50.3	0.0	38.8	51.7	53.0	74.9
Number of workers (main shift)								
Fewer than 10	5.2	10.9	13.1	22.9	19.1	0.0	19.1	27.8
10 to 99	3.6	11.8	8.8	24.7	12.1	29.6	12.5	23.6
100 or more	4.7	52.6	29.6	53.2	6.4	7.5	13.4	24.2

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Campus or complex activity								
Not part of a campus or complex	3.7	8.6	10.4	16.7	8.7	14.9	11.3	15.8
Primary or secondary school	9.4	39.5	0.0	0.0	0.0	0.0	0.0	0.0
College or university	15.9	68.7	24.0	0.0	40.6	56.1	57.7	7.9
Office complex	10.0	57.6	0.0	0.0	57.8	0.0	57.8	70.3
Retail complex	9.2	48.9	5.5	38.0	50.4	0.0	50.4	0.0
Storage complex	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Religious campus or complex	12.0	50.3	62.6	0.0	0.0	0.0	0.0	0.0
Health care complex	8.2	99.9	27.5	0.0	8.4	8.6	20.6	45.3
Lodging or resort complex	13.7	72.3	16.0	0.0	0.0	0.0	0.0	0.0
Transportation complex	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Government complex	17.0	70.8	0.0	0.0	0.0	0.0	0.0	34.1
Other	7.4	53.2	26.0	51.2	57.3	0.0	57.3	34.7
Predominant exterior wall material								
Brick, stone, or stucco	3.9	10.6	12.6	22.5	7.5	9.1	11.5	18.0
Concrete (block or poured)	4.8	28.1	13.9	23.7	17.3	19.2	28.6	28.0
Concrete panels	8.4	100.0	27.8	51.9	19.2	22.7	32.6	36.7
Siding or shingles	9.3	22.8	20.9	56.8	24.9	44.7	26.3	50.4
Metal panels	6.0	52.7	28.4	33.7	32.0	52.2	32.9	53.9
Window glass	11.4	53.7	56.2	0.0	34.9	47.1	51.1	77.0
Other	13.7	52.2	36.1	63.4	45.0	47.5	100.1	71.6
Predominant roof material								
Metal surfacing	5.6	16.6	18.8	33.8	24.2	80.3	27.7	40.0
Synthetic or rubber	4.1	16.9	12.6	25.5	8.2	10.0	13.4	17.9
Built-up	4.8	26.0	23.4	39.1	12.9	13.1	23.5	30.9
Slate or tile shingles	10.1	29.5	24.1	56.8	33.9	60.6	37.9	67.4
Wooden materials (including shingles)	17.8	37.0	25.6	56.7	89.5	51.4	93.2	50.9
Asphalt, fiberglass, or other shingles	5.6	20.4	13.1	36.8	20.2	37.1	16.7	36.9
Concrete	11.9	78.8	25.8	72.4	47.0	62.7	58.6	54.8
Other	9.8	45.9	39.5	46.6	63.1	54.5	92.7	71.3
Roof tilt								
Flat	3.3	12.9	13.4	23.5	5.8	7.1	9.6	18.4
Shallow pitch	4.8	15.6	12.9	20.6	21.7	46.7	23.7	32.1
Steeper pitch	5.7	16.3	11.7	50.3	28.1	59.1	21.3	34.1

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	4.4	14.6	17.5	36.1	10.7	12.4	18.2	26.5
White or reflective tiles or shingles	10.4	59.5	26.4	48.9	25.8	50.5	30.0	50.8
Aluminum coating	9.2	28.0	30.9	43.8	40.0	61.5	51.4	59.5
Ballasted roof system	9.5	86.5	46.0	66.6	13.8	15.8	29.3	38.0
Other cool roof property	19.2	60.7	39.6	0.0	33.4	42.2	55.3	73.9
Renovations since 2000 (more than one may apply)								
Any type of renovation	3.4	12.4	11.6	26.4	6.8	7.6	12.3	19.1
Addition or annex	6.0	23.7	19.6	50.4	9.3	10.1	26.4	31.9
Reduction in floorspace	13.2	52.9	57.3	50.1	32.9	37.6	57.5	0.0
Roof replacement	4.3	18.8	18.8	34.1	10.6	11.8	18.9	28.7
Interior wall reconfiguration	4.2	22.5	26.3	44.6	9.0	10.2	14.1	37.7
Window replacement	5.8	23.2	30.4	38.2	17.1	18.3	32.0	54.4
HVAC equipment upgrade	4.2	17.2	15.9	46.1	8.0	8.8	15.0	27.1
Lighting upgrade	3.9	15.4	15.0	23.5	7.8	8.7	17.7	25.8
Electrical upgrade	5.6	16.0	29.5	32.2	10.0	10.5	22.3	58.8
Plumbing system upgrade	5.2	17.3	23.8	38.6	10.2	11.2	21.7	31.4
Insulation upgrade	7.8	26.4	43.7	42.1	14.7	16.0	28.1	32.9
Fire, safety, or security upgrade	4.4	18.6	17.9	33.5	9.7	10.3	19.0	38.4
Structural upgrade	10.2	37.3	52.1	50.1	20.6	23.5	38.4	59.9
Other	14.9	63.5	95.5	0.0	3.2	0.0	3.2	65.0
No renovations	3.9	11.1	10.2	24.9	12.7	25.3	13.4	25.0
Buildings constructed 2013 or later	8.3	26.6	22.4	40.0	24.6	48.0	25.5	56.9
Energy sources (more than one may apply)								
Electricity	3.0	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Natural gas	3.4	10.4	8.7	17.1	6.3	7.5	10.3	16.9
Fuel oil	5.4	38.5	18.8	49.6	7.1	8.0	16.4	18.7
District heat	11.4	81.8	24.8	0.0	16.4	15.9	53.1	47.5
District chilled water	13.7	88.1	26.5	0.0	20.2	20.0	58.4	66.8
Propane	7.6	18.7	27.8	46.2	28.2	35.4	43.0	49.7
Solar	11.5	72.3	40.4	78.4	47.1	50.6	53.7	39.5
Wood, coal, and other	14.0	58.3	63.6	65.7	54.0	70.2	59.8	0.0
Space-heating energy sources (more than one may apply)								
Electricity	3.7	10.6	9.9	24.7	9.7	15.8	10.9	29.7
Natural gas	3.6	12.1	11.1	18.1	7.1	9.3	10.2	17.1
Fuel oil	11.6	82.1	36.4	67.2	23.6	23.4	85.8	56.3
District heat	11.6	81.8	24.9	0.0	15.5	13.9	53.4	47.5
Propane	13.1	31.1	72.5	84.3	42.8	60.3	63.0	87.3
Other sources ^b	19.6	0.0	49.8	62.8	62.5	49.5	71.0	0.0

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Health care			Public order and safety	
				Food sales	All health care	In-patient		Out-patient
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Primary space-heating energy source								
Electricity	5.5	12.9	10.3	38.6	11.0	26.4	12.0	32.9
Natural gas	4.1	12.8	14.4	18.3	7.8	10.4	11.0	18.2
Fuel oil	15.3	82.1	51.6	67.2	56.6	59.0	70.9	80.9
District heat	12.6	81.8	24.9	0.0	15.6	13.9	53.4	51.9
Propane	16.9	39.1	70.6	89.6	56.7	51.2	63.0	51.4
Other sources ^b	30.3	0.0	0.0	64.3	49.5	49.5	0.0	0.0
Cooling energy sources (more than one may apply)								
Electricity	3.0	8.2	8.7	16.1	5.4	6.7	8.3	16.2
Natural gas	24.2	50.2	66.8	0.0	31.5	35.4	69.6	0.0
District chilled water	13.7	88.1	26.5	0.0	20.2	20.0	58.4	66.8
Water-heating energy sources (more than one may apply)								
Electricity	3.6	11.0	12.5	23.7	10.1	18.7	10.8	28.2
Natural gas	3.7	12.8	9.3	19.1	6.2	7.1	11.1	19.1
Fuel oil	15.4	83.5	40.0	50.1	28.4	27.0	85.8	92.7
District heat	12.8	51.1	26.8	0.0	22.4	24.2	32.2	66.5
Propane	14.7	35.2	38.4	70.2	61.9	104.2	72.8	72.4
Cooking energy sources (more than one may apply)								
Electricity	3.9	12.1	11.7	23.9	8.2	8.8	19.5	23.6
Natural gas	3.4	10.8	11.2	21.6	7.2	7.4	32.8	24.4
Propane	11.7	21.9	25.0	61.6	55.0	55.0	0.0	62.3
Energy end uses (more than one may apply)								
Buildings with space heating	3.0	8.4	8.5	18.1	5.6	7.3	8.0	16.2
Buildings with cooling	3.0	8.4	8.4	16.1	5.5	7.2	8.0	16.1
Buildings with water heating	2.9	8.5	8.2	17.3	5.6	7.2	8.0	16.0
Buildings with cooking	3.1	8.6	8.8	19.4	6.2	6.5	18.1	18.8
Buildings with manufacturing	7.9	31.3	40.3	41.4	44.9	61.2	58.1	50.4
Buildings with electricity generation	4.4	33.4	15.3	34.2	6.4	7.3	13.9	18.1
Buildings with lighting	3.0	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Percentage of floorspace heated								
Not heated	10.0	31.7	34.6	35.7	87.0	101.1	80.8	72.7
1 to 50%	7.1	25.7	29.0	81.3	36.9	37.1	56.6	71.1
51 to 99%	5.3	21.9	13.6	32.0	14.4	18.5	18.0	34.3
100%	3.2	10.9	9.8	23.2	6.3	8.6	9.3	18.3

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Percentage of floorspace cooled								
Not cooled	8.0	58.7	46.9	93.3	50.1	0.0	50.1	79.4
1 to 50%	5.2	18.5	26.1	47.6	49.4	71.0	52.9	36.4
51 to 99%	5.1	18.2	12.7	24.0	13.3	15.6	18.5	18.3
100%	3.5	11.4	10.6	21.3	6.7	9.4	9.7	19.4
Percentage lit when open								
0%	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 to 50%	6.0	20.3	14.5	42.3	35.6	0.0	35.6	32.3
51 to 99%	3.6	17.9	12.6	31.8	8.4	10.4	13.3	28.2
100%	3.8	10.7	11.0	17.3	8.5	12.1	9.9	23.5
Building never open or electricity not used	12.1	0.0	0.0	0.0	0.0	0.0	0.0	62.9
Percentage lit during off hours								
0%	6.7	17.4	47.4	40.9	31.4	0.0	31.4	46.3
1 to 50%	3.0	10.3	9.7	26.5	8.0	12.5	8.9	16.6
51 to 100%	6.7	38.6	15.2	26.2	10.0	10.9	25.5	38.2
Building always open with no off hours	11.6	47.7	19.6	35.7	20.1	21.5	59.4	49.2
Electricity not used	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heating equipment (more than one may apply)								
Packaged heating units	3.6	10.5	12.3	19.6	8.3	13.3	10.0	21.2
Furnaces	5.7	18.4	18.4	26.9	25.1	59.3	25.1	41.2
Individual space heaters	4.8	27.7	15.7	47.0	19.5	28.7	23.2	42.2
Boilers	4.0	27.3	14.0	69.4	8.0	9.5	13.5	19.4
Heat pumps	5.4	26.0	19.8	44.2	12.7	18.8	15.3	33.3
District heat	11.6	81.8	24.9	0.0	15.5	13.9	53.4	47.5
Duct reheat	7.0	35.4	23.0	84.1	17.6	20.0	33.9	61.3
Other	24.1	0.0	49.7	45.0	49.5	49.5	0.0	0.0
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	3.4	9.5	9.7	19.8	6.2	8.4	9.3	22.8
Residential-type central air conditioners	5.2	18.6	13.6	23.4	12.3	14.2	17.0	32.5
Individual air conditioners	5.3	21.9	10.3	50.3	12.6	13.8	30.5	45.9
Central chillers	5.0	49.3	13.4	71.8	7.3	7.4	17.1	22.9
Heat pumps	6.8	31.2	26.8	48.9	12.6	15.6	20.3	32.6
District chilled water	13.7	88.1	26.5	0.0	20.2	20.0	58.4	66.8
Swamp coolers	13.1	54.3	27.2	64.8	35.5	39.8	70.4	81.9
Other	36.4	50.8	0.0	0.0	79.4	88.1	99.6	0.0

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
HVAC features (more than one may apply)								
Economizer cycle	3.9	19.4	16.2	32.0	6.6	8.1	10.3	23.8
Variable air volume (VAV) system	4.9	25.9	20.8	31.9	6.6	7.9	12.5	20.7
Dedicated outside air system (DOAS)	7.8	31.6	29.3	47.4	13.1	14.5	27.6	47.5
Demand controlled ventilation (DCV)	5.5	33.8	23.1	50.5	14.8	16.4	31.0	44.9
Regular HVAC maintenance	3.2	9.9	8.9	18.3	5.8	7.3	8.7	17.3
Building automation system (BAS) controls heating or cooling	3.7	21.1	17.4	30.5	6.2	7.3	11.8	20.4
Internet-connected or smart thermostat	10.5	34.9	23.9	39.3	33.8	66.1	38.7	48.8
Programmable thermostat	5.4	13.2	15.3	30.2	15.8	62.6	16.4	32.6
Main equipment replaced since 2000 (more than one may apply)								
Heating	3.8	13.9	12.6	26.1	12.5	19.6	16.1	23.8
Cooling	4.3	20.0	15.1	32.4	12.3	14.5	18.8	24.6
Water-heating equipment								
Centralized system	3.4	10.6	9.0	20.4	7.0	10.4	10.0	17.1
Distributed system	6.4	16.5	30.6	40.5	16.3	24.3	21.0	53.5
Combination of centralized and distributed systems	5.2	29.9	24.6	47.2	14.0	16.8	26.5	39.8
Generation technologies (more than one may apply)								
Reciprocating engine generators	4.8	44.0	16.8	36.6	6.5	7.1	15.1	18.7
Solar panels	11.5	62.0	42.6	78.4	49.6	52.8	58.9	42.4
Other generation technology	14.4	56.8	35.9	0.0	38.5	48.7	43.9	80.7
Lighting equipment types (more than one may apply)								
Incandescent	4.5	15.4	16.2	28.5	9.7	12.0	14.9	38.2
Standard fluorescent	3.4	10.3	10.1	20.3	6.5	7.9	10.2	19.3
Compact fluorescent	4.2	18.3	10.7	36.3	7.3	7.8	13.2	21.4
High-intensity discharge (HID)	7.1	72.1	29.7	62.6	12.8	14.2	31.0	38.4
Halogen	4.2	20.7	26.0	60.4	10.2	12.1	21.1	56.6
LED	2.9	11.5	9.2	19.5	6.0	7.8	10.0	19.4
Other	24.1	51.3	0.0	0.0	0.0	0.0	0.0	0.0

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Refrigeration equipment (more than one may apply)								
Any refrigeration	3.0	8.5	8.5	17.0	5.6	7.2	8.0	15.7
Walk-in units	3.4	9.8	12.1	18.3	7.1	7.5	29.0	30.6
Cases or cabinets	3.7	11.4	13.6	16.8	7.2	8.0	17.0	37.3
Large cold storage areas	11.3	30.1	57.3	39.7	19.7	19.5	62.7	66.1
Commercial ice makers	3.5	9.9	9.5	18.9	6.6	7.5	13.2	24.0
Residential-type or compact units	3.2	12.2	9.0	19.7	6.0	7.9	8.4	14.7
Vending machines	3.8	29.0	10.5	20.7	6.5	7.5	12.3	17.0
No refrigeration	5.3	0.0	29.1	0.0	38.7	0.0	38.7	56.8
Office equipment (more than one may apply)								
Desktop computers	2.9	10.8	9.0	18.2	5.6	7.4	8.0	16.2
With multiple monitors	3.5	25.5	16.2	30.2	6.4	7.7	10.3	17.5
Laptop computers	3.0	17.5	9.9	21.5	5.7	7.4	8.9	17.4
Dedicated servers	3.3	18.3	12.8	29.3	6.4	7.9	9.5	19.0
Tablets charged in building	3.3	14.7	13.1	23.9	6.6	8.0	10.4	22.0
Large floor-standing office devices ^c	3.0	35.1	13.4	34.5	6.3	7.5	9.8	19.0
Smaller desktop office devices ^c	3.1	10.2	9.3	20.8	5.7	7.6	8.5	16.7
Interactive whiteboards	4.5	55.1	43.3	71.5	14.0	15.1	33.8	30.3
Televisions or video displays	3.0	11.7	9.3	21.7	6.0	7.5	8.9	16.4
Point-of-sale devices or cash registers	3.4	8.9	17.8	16.8	6.9	8.5	12.7	30.4
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	6.7	0.0	23.0	24.5	11.8	12.6	28.9	50.5
Fast food or small restaurant	5.9	0.0	27.7	23.8	16.0	16.6	42.9	106.3
Cafeteria or large restaurant	4.6	0.0	25.2	84.6	7.7	7.9	35.6	46.4
Commercial kitchen or food preparation area	4.4	0.0	13.2	29.5	7.5	7.4	52.6	28.9
Small kitchen area	4.7	0.0	12.0	29.6	11.9	13.4	21.6	22.6
Separate computer areas (more than one may apply)								
Server closet	3.4	26.0	12.8	25.8	6.8	8.0	10.9	19.4
Data center	6.7	0.0	36.1	53.8	10.2	11.3	22.7	36.1
Computer-based training room	4.6	100.0	36.4	46.8	8.5	8.8	23.4	31.0
Student or public computer center	4.6	0.0	24.8	6.5	16.6	17.6	49.3	44.5

Relative standard errors (RSEs) for Table B14. Selected principal building activity: part 2, floorspace, 2018

RSEs for total floorspace

	Principal building activity							
	All buildings	Food service	Lodging	Food sales	Health care			Public order and safety
					All health care	In-patient	Out-patient	
All buildings	3.1	8.5	8.3	17.0	5.5	7.2	8.0	15.9
Window and interior lighting features (more than one may apply)								
Multipaned windows	3.2	10.5	8.8	20.1	6.1	7.5	9.3	16.4
Tinted window glass	3.4	16.7	18.0	23.8	6.6	8.6	10.2	21.2
Reflective window glass	5.6	34.5	23.6	31.3	10.5	12.7	16.0	26.8
External overhangs or awnings	4.5	12.2	15.7	25.2	12.0	14.1	18.3	27.2
Skylights or atriums	4.5	39.2	22.1	28.5	11.1	12.0	18.9	28.7
Light scheduling	4.1	18.3	14.8	27.4	9.5	11.6	14.7	27.4
Occupancy sensors	3.8	24.9	14.6	30.6	6.4	7.7	11.6	18.1
Multilevel lighting or dimming	6.6	27.8	24.2	42.4	11.2	12.8	21.2	34.0
Daylight harvesting	6.3	79.3	18.2	45.6	19.9	22.8	33.2	56.6
Plug-load control	12.2	38.2	31.3	91.6	43.4	61.8	49.4	48.6
Demand responsive lighting	15.2	72.8	38.5	5.6	39.1	37.4	69.2	71.7
Building automation system (BAS) for lighting	5.2	32.9	36.6	30.7	13.0	15.4	22.2	31.5
Electric vehicle (EV) charging								
Charging stations associated with the building	7.2	0.0	26.1	70.1	17.1	18.5	31.9	37.5

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>.

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

^bOther sources includes wood, coal, solar, and all other energy sources.

^cOffice devices refers to any combination of printers, copiers, scanners, or FAX machines.