

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Building floorspace (square feet)												
1,001 to 5,000	\$2,112	\$3,839	\$5,307	\$2,974	\$27.07	\$23.29	\$23.83	\$27.04	\$1.90	\$1.80	\$1.97	\$1.95
5,001 to 10,000	\$1,905	\$3,458	\$4,804	\$3,438	\$24.78	\$19.53	\$22.69	\$26.10	\$1.70	\$1.18	\$1.43	\$1.54
10,001 to 25,000	\$3,623	\$6,127	\$5,846	\$4,897	\$25.27	\$19.21	\$21.30	\$26.64	\$1.58	\$1.44	\$1.04	\$1.49
25,001 to 50,000	\$4,230	\$5,302	\$5,742	\$4,955	\$23.98	\$18.15	\$20.35	\$23.72	\$1.98	\$1.30	\$1.22	\$1.63
50,001 to 100,000	\$3,443	\$5,011	\$8,242	\$4,277	\$20.22	\$17.51	\$18.97	\$23.28	\$1.57	\$1.28	\$1.31	\$1.50
100,001 to 200,000	\$3,981	\$3,691	\$6,745	\$4,269	\$19.83	\$17.39	\$18.79	\$22.83	\$1.50	\$1.34	\$1.35	\$1.65
200,001 to 500,000	\$4,532	\$4,416	\$6,464	\$4,210	\$20.82	\$16.04	\$18.29	\$26.66	\$1.90	\$1.44	\$1.54	\$1.99
Over 500,000	\$3,602	\$3,662	\$4,047	\$2,088	\$22.13	\$18.02	\$19.30	\$17.32	\$1.89	\$1.56	\$1.62	\$1.34
Principal building activity												
Education	\$3,127	\$3,962	\$5,969	\$2,817	\$16.78	\$15.69	\$19.82	\$24.74	\$1.23	\$1.03	\$1.20	\$1.24
Food sales	Q	\$2,717	\$1,250	Q	Q	\$23.69	\$23.63	Q	Q	\$6.73	\$5.01	Q
Food service	\$680	\$1,618	\$2,947	\$1,869	\$24.12	\$18.18	\$19.18	\$19.94	\$4.93	\$5.79	\$5.24	\$4.62
Health care	\$2,093	\$2,812	\$3,137	\$2,810	\$19.87	\$16.31	\$17.67	\$22.38	\$2.69	\$2.61	\$2.67	\$2.84
Inpatient	\$1,211	\$2,062	\$2,303	\$1,606	\$17.37	\$14.97	\$16.25	\$18.39	\$3.30	\$2.89	\$3.21	\$3.47
Outpatient	\$882	\$750	\$834	\$1,205	\$24.74	\$21.65	\$23.31	\$31.49	\$2.14	\$2.06	\$1.83	\$2.29
Lodging	\$2,337	\$2,746	\$3,571	\$2,859	\$20.89	\$18.04	\$19.36	\$19.14	\$1.94	\$1.65	\$1.50	\$1.65
Mercantile	\$2,619	\$4,434	\$7,072	\$4,689	\$21.31	\$18.11	\$18.90	\$22.23	\$1.89	\$1.69	\$1.58	\$2.04
Retail (other than mall)	\$954	\$2,064	\$3,077	\$1,421	\$27.62	\$20.40	\$22.04	\$24.74	\$1.59	\$1.39	\$1.42	\$1.51
Enclosed and strip malls	\$1,665	\$2,370	\$3,996	\$3,268	\$18.84	\$16.49	\$17.02	\$21.30	\$2.11	\$2.07	\$1.74	\$2.41
Office	\$6,121	\$6,128	\$8,780	\$6,174	\$25.77	\$21.78	\$23.56	\$30.61	\$1.92	\$1.41	\$1.54	\$1.80
Public assembly	\$1,827	\$3,121	\$3,905	\$1,984	\$19.19	\$16.71	\$19.32	\$20.05	\$1.65	\$1.65	\$1.44	\$1.34
Public order and safety	Q	Q	\$1,050	\$573	Q	Q	\$17.38	\$24.07	Q	Q	\$1.56	\$1.78
Religious worship	\$622	\$941	\$1,727	\$652	\$19.38	\$16.87	\$21.97	\$24.50	\$1.06	\$0.65	\$0.67	\$0.75
Service	\$1,625	\$1,782	\$1,933	\$1,226	\$24.53	\$18.52	\$19.13	\$22.60	\$1.28	\$0.81	\$1.15	\$1.15
Warehouse and storage	\$2,067	\$3,051	\$3,848	\$2,786	\$24.60	\$17.26	\$21.68	\$30.93	\$0.90	\$0.69	\$0.65	\$0.75
Other	\$3,030	\$1,396	\$1,777	\$1,730	\$28.86	\$20.74	\$17.57	\$31.60	\$4.07	\$2.34	\$2.23	\$6.45
Vacant	Q	\$234	\$231	Q	Q	\$24.20	\$22.52	Q	Q	\$0.51	\$0.49	Q
Year constructed												
Before 1920	\$1,828	\$1,176	\$1,076	\$682	\$21.64	\$19.31	\$19.82	\$20.61	\$1.42	\$1.07	\$1.36	\$1.74
1920 to 1945	\$2,862	\$2,341	\$1,926	\$1,605	\$21.82	\$18.90	\$22.60	\$26.56	\$1.86	\$1.22	\$1.56	\$1.80
1946 to 1959	\$2,176	\$1,927	\$2,952	\$1,379	\$18.74	\$17.00	\$19.08	\$22.86	\$1.41	\$1.15	\$1.23	\$1.15
1960 to 1969	\$3,297	\$3,793	\$4,908	\$3,060	\$20.79	\$17.08	\$17.92	\$27.97	\$1.61	\$1.38	\$1.32	\$1.75
1970 to 1979	\$3,897	\$5,572	\$5,536	\$3,969	\$20.79	\$19.01	\$20.91	\$24.80	\$1.73	\$1.44	\$1.32	\$1.54
1980 to 1989	\$4,763	\$4,475	\$6,964	\$5,447	\$27.02	\$19.06	\$21.16	\$24.51	\$2.40	\$1.54	\$1.35	\$1.68
1990 to 1999	\$3,025	\$4,658	\$7,837	\$4,990	\$22.02	\$18.38	\$21.01	\$25.76	\$1.55	\$1.19	\$1.31	\$1.55
2000 to 2009	\$3,707	\$8,125	\$10,400	\$6,200	\$24.02	\$18.59	\$19.80	\$22.53	\$1.77	\$1.70	\$1.49	\$1.82
2010 to 2018	\$1,872	\$3,440	\$5,598	\$3,775	\$23.31	\$17.99	\$19.49	\$22.31	\$1.68	\$1.34	\$1.43	\$1.51
Climate zone^a												
Cold or very cold	\$2,004	\$6,983	N	\$1,474	\$29.64	\$18.13	N	\$16.76	\$1.84	\$1.46	N	\$1.39
Cool	\$11,240	\$19,951	N	\$5,975	\$22.10	\$17.97	N	\$16.95	\$1.62	\$1.33	N	\$1.36
Mixed mild	\$14,184	\$8,572	\$11,807	\$5,081	\$21.83	\$19.72	\$20.47	\$20.31	\$1.82	\$1.50	\$1.55	\$1.40
Warm	N	N	\$22,985	\$14,417	N	N	\$19.38	\$32.75	N	N	\$1.35	\$1.89
Hot or very hot	N	N	\$12,406	\$4,160	N	N	\$21.21	\$27.23	N	N	\$1.27	\$1.67
Number of floors												
1	\$7,843	\$15,725	\$22,723	\$14,566	\$24.16	\$18.67	\$20.63	\$24.90	\$1.80	\$1.40	\$1.32	\$1.55
2	\$5,844	\$8,438	\$9,211	\$6,748	\$21.96	\$18.71	\$20.41	\$25.05	\$1.47	\$1.23	\$1.18	\$1.51
3	\$4,378	\$4,521	\$4,172	\$2,041	\$22.88	\$18.75	\$18.43	\$22.60	\$1.82	\$1.30	\$1.32	\$1.44
4 to 9	\$5,263	\$4,651	\$7,650	\$5,434	\$19.67	\$16.52	\$18.45	\$24.73	\$1.59	\$1.76	\$1.73	\$2.06
10 or more	\$4,099	\$2,171	\$3,443	\$2,318	\$23.25	\$19.09	\$22.34	\$19.44	\$2.34	\$1.81	\$1.93	\$1.84

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Elevators and escalators (more than one may apply)												
Any elevators	\$14,630	\$13,810	\$18,773	\$12,701	\$21.40	\$17.80	\$19.38	\$23.66	\$1.78	\$1.47	\$1.56	\$1.85
1 elevator	\$4,439	\$4,928	\$5,985	\$3,487	\$21.12	\$17.84	\$20.00	\$24.10	\$1.43	\$1.21	\$1.29	\$1.46
2 to 5 elevators	\$5,482	\$4,953	\$7,170	\$5,430	\$21.42	\$18.32	\$18.90	\$26.01	\$1.82	\$1.49	\$1.61	\$2.15
6 or more elevators	\$4,709	\$3,929	\$5,618	\$3,785	\$21.66	\$17.14	\$19.35	\$20.63	\$2.26	\$1.98	\$1.92	\$1.92
Any escalators	\$1,662	\$1,265	\$2,135	\$1,309	\$21.61	\$19.22	\$20.19	\$17.29	\$1.87	\$1.65	\$1.65	\$1.63
Number of workers (main shift)												
Fewer than 5	\$3,950	\$6,137	\$6,654	\$4,117	\$24.45	\$21.25	\$22.76	\$28.12	\$1.33	\$1.05	\$0.93	\$1.14
5 to 9	\$1,874	\$4,271	\$5,393	\$2,988	\$23.42	\$19.48	\$21.57	\$25.98	\$1.46	\$1.55	\$1.31	\$1.40
10 to 19	\$2,208	\$4,450	\$5,077	\$4,014	\$21.63	\$17.89	\$20.49	\$22.38	\$1.50	\$1.26	\$1.30	\$1.66
20 to 49	\$4,303	\$6,906	\$8,249	\$5,908	\$23.15	\$18.01	\$20.18	\$23.16	\$1.87	\$1.53	\$1.41	\$1.70
50 to 99	\$4,578	\$4,052	\$7,401	\$4,400	\$21.81	\$17.18	\$18.81	\$25.28	\$1.95	\$1.29	\$1.53	\$1.67
100 to 249	\$4,481	\$4,580	\$6,742	\$4,359	\$20.45	\$16.95	\$18.60	\$24.13	\$1.70	\$1.45	\$1.52	\$1.97
250 or more	\$6,032	\$5,111	\$7,682	\$5,321	\$22.55	\$18.02	\$19.56	\$22.84	\$2.15	\$1.98	\$1.88	\$1.97
Weekly operating hours												
Fewer than 40	\$1,271	\$2,791	\$3,046	\$1,963	\$18.58	\$20.74	\$22.70	\$25.56	\$0.95	\$0.89	\$0.80	\$1.03
40 to 48	\$2,832	\$5,377	\$7,504	\$5,022	\$22.04	\$18.18	\$22.22	\$27.26	\$1.22	\$1.10	\$1.01	\$1.22
49 to 60	\$5,017	\$6,395	\$9,351	\$6,347	\$23.05	\$18.10	\$20.51	\$26.64	\$1.26	\$1.12	\$1.12	\$1.35
61 to 84	\$5,101	\$5,726	\$7,912	\$5,739	\$21.73	\$18.05	\$19.78	\$24.91	\$1.86	\$1.41	\$1.61	\$1.98
85 to 167	\$3,805	\$5,397	\$6,344	\$4,203	\$21.98	\$18.92	\$19.70	\$21.49	\$2.09	\$1.86	\$2.07	\$2.08
Open continuously	\$9,401	\$9,821	\$13,040	\$7,833	\$23.30	\$18.07	\$18.69	\$21.86	\$2.61	\$2.06	\$1.92	\$2.19
Ownership and occupancy												
Nongovernment owned	\$22,856	\$28,736	\$35,172	\$24,258	\$23.69	\$18.79	\$20.30	\$24.46	\$1.82	\$1.43	\$1.37	\$1.63
Owner occupied	\$13,524	\$18,378	\$22,480	\$12,105	\$23.56	\$18.72	\$20.37	\$22.85	\$1.77	\$1.46	\$1.36	\$1.54
Leased to tenant or tenants	\$9,292	\$10,278	\$12,599	\$12,139	\$23.97	\$18.88	\$20.14	\$26.32	\$1.94	\$1.41	\$1.41	\$1.75
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government owned	\$4,571	\$6,770	\$12,026	\$6,848	\$17.49	\$16.90	\$19.56	\$23.46	\$1.40	\$1.25	\$1.39	\$1.59
Federal	\$589	\$712	\$1,543	\$441	\$22.37	\$16.99	\$22.24	\$20.86	\$2.04	\$1.75	\$1.69	\$1.31
State	\$1,353	\$1,826	\$4,658	\$2,430	\$16.13	\$17.54	\$16.98	\$21.02	\$1.47	\$1.41	\$1.45	\$1.71
Local	\$2,629	\$4,232	\$5,825	\$3,977	\$17.40	\$16.62	\$21.48	\$25.64	\$1.28	\$1.13	\$1.29	\$1.56
Party responsible for operation of energy systems												
Building owner	\$22,659	\$29,780	\$38,431	\$24,100	\$22.14	\$18.52	\$20.11	\$23.63	\$1.70	\$1.39	\$1.36	\$1.60
Business owner or tenant	\$3,813	\$4,047	\$6,422	\$5,234	\$23.75	\$16.91	\$19.81	\$27.27	\$1.91	\$1.43	\$1.43	\$1.62
Property management	\$475	\$646	\$1,126	\$967	\$24.72	\$20.94	\$21.14	\$23.71	\$1.79	\$1.50	\$1.55	\$1.83
Other	\$480	\$1,033	\$1,219	\$805	\$21.10	\$19.94	\$20.67	\$25.93	\$2.35	\$1.29	\$1.48	\$1.99
Provider of direct input on energy-related equipment purchases												
Building owner	\$23,286	\$30,793	\$40,426	\$24,968	\$21.94	\$18.48	\$20.12	\$23.74	\$1.68	\$1.38	\$1.36	\$1.60
Business owner or tenant	\$2,633	\$2,437	\$3,880	\$3,522	\$27.05	\$16.35	\$19.39	\$25.04	\$2.20	\$1.41	\$1.49	\$1.90
Property management	Q	Q	\$604	Q	Q	Q	\$20.40	Q	Q	Q	\$1.54	Q
Other	\$1,290	\$1,822	\$2,287	\$2,040	\$22.02	\$19.63	\$20.95	\$30.65	\$2.09	\$1.44	\$1.47	\$1.42
Number of establishments												
1	\$17,764	\$24,577	\$31,687	\$19,384	\$22.44	\$18.40	\$20.29	\$24.87	\$1.75	\$1.34	\$1.36	\$1.56
2 to 5	\$4,128	\$6,119	\$7,876	\$6,170	\$21.22	\$18.75	\$19.58	\$21.85	\$1.48	\$1.59	\$1.33	\$1.63
6 to 10	\$2,073	\$1,851	\$2,815	\$2,499	\$23.89	\$17.43	\$19.92	\$24.11	\$1.77	\$1.41	\$1.48	\$2.19
11 to 20	\$1,795	\$1,231	\$2,480	\$1,650	\$22.65	\$16.65	\$20.23	\$25.23	\$2.37	\$1.67	\$1.62	\$1.90
More than 20	\$1,620	\$1,605	\$2,223	\$1,377	\$23.22	\$19.30	\$19.34	\$26.88	\$2.09	\$1.66	\$1.57	\$1.65
Currently unoccupied	Q	Q	\$117	Q	Q	Q	\$23.47	Q	Q	Q	\$0.48	Q

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Predominant exterior wall material												
Brick, stone, or stucco	\$12,996	\$17,412	\$26,535	\$14,127	\$20.12	\$17.68	\$19.71	\$22.94	\$1.62	\$1.51	\$1.46	\$1.78
Concrete (block or poured)	\$6,512	\$6,888	\$9,286	\$7,322	\$22.66	\$18.09	\$20.48	\$23.34	\$1.83	\$1.47	\$1.49	\$1.56
Concrete panels	\$1,800	\$2,488	\$4,014	\$3,305	\$26.50	\$17.25	\$19.25	\$29.18	\$2.04	\$1.18	\$1.33	\$1.42
Siding or shingles	\$2,597	\$3,395	\$1,514	\$1,747	\$29.08	\$21.10	\$23.33	\$25.19	\$2.02	\$1.59	\$1.37	\$1.37
Metal panels	\$1,560	\$3,686	\$4,076	\$1,850	\$26.71	\$20.52	\$21.23	\$27.04	\$1.37	\$0.90	\$0.89	\$1.13
Window glass	\$1,007	\$807	\$1,058	\$1,483	\$24.82	\$18.33	\$21.12	\$28.89	\$2.54	\$1.80	\$1.54	\$2.25
Other	\$956	\$830	\$716	\$1,273	\$26.19	\$23.33	\$22.34	\$24.60	\$1.77	\$1.70	\$1.42	\$1.97
Predominant roof material												
Metal surfacing	\$1,928	\$5,764	\$10,368	\$3,820	\$23.91	\$20.05	\$21.61	\$24.20	\$1.07	\$1.07	\$1.11	\$1.14
Synthetic or rubber	\$13,205	\$13,738	\$15,192	\$9,811	\$21.83	\$18.13	\$19.40	\$22.24	\$1.89	\$1.59	\$1.55	\$1.63
Built-up	\$4,913	\$7,793	\$10,893	\$7,806	\$21.03	\$17.49	\$19.72	\$24.99	\$1.59	\$1.52	\$1.57	\$1.88
Slate or tile shingles	\$1,054	\$1,428	\$1,572	\$2,052	\$23.29	\$18.00	\$20.30	\$28.95	\$1.48	\$1.60	\$1.20	\$1.92
Wooden materials (including shingles)	Q	Q	\$448	\$1,057	Q	Q	\$21.27	\$26.37	Q	Q	\$1.98	\$1.45
Asphalt, fiberglass, or other shingles	\$4,554	\$5,219	\$5,717	\$4,037	\$24.24	\$18.89	\$20.16	\$24.07	\$1.97	\$1.18	\$1.25	\$1.59
Concrete	\$339	Q	\$1,553	\$1,299	\$18.59	Q	\$20.71	\$24.47	\$1.36	Q	\$1.57	\$2.54
Other	Q	\$819	\$1,454	\$1,224	\$25.18	\$18.21	\$19.36	\$30.33	Q	\$1.42	\$1.19	\$1.49
Roof tilt												
Flat	\$19,268	\$21,212	\$28,437	\$20,599	\$21.78	\$17.76	\$19.37	\$24.23	\$1.82	\$1.59	\$1.56	\$1.78
Shallow pitch	\$4,601	\$9,145	\$12,171	\$7,529	\$24.15	\$18.99	\$21.01	\$24.74	\$1.75	\$1.14	\$1.15	\$1.39
Steeper pitch	\$3,558	\$5,150	\$6,589	\$2,978	\$23.56	\$20.27	\$21.94	\$23.09	\$1.37	\$1.26	\$1.19	\$1.38
Cool roof characteristics (more than one may apply)												
White or reflective coating or paint	\$6,876	\$11,596	\$18,124	\$14,581	\$20.96	\$18.28	\$19.51	\$24.38	\$1.83	\$1.57	\$1.46	\$1.65
White or reflective tiles or shingles	\$975	\$860	\$1,966	\$933	\$22.75	\$19.60	\$19.43	\$28.48	\$2.16	\$1.67	\$1.64	\$1.75
Aluminum coating	\$1,379	\$1,157	\$3,534	\$1,404	\$24.78	\$18.95	\$21.06	\$23.71	\$1.24	\$1.28	\$1.18	\$1.57
Ballasted roof system	\$2,459	\$3,601	\$2,617	\$1,501	\$20.36	\$18.07	\$19.98	\$15.41	\$1.93	\$1.57	\$1.61	\$1.38
Other cool roof property	\$649	Q	\$991	\$599	\$23.82	Q	\$19.44	\$25.30	\$1.68	Q	\$1.42	\$2.49
Renovations since 2000 (more than one may apply)												
Any type of renovation	\$15,517	\$18,450	\$22,848	\$13,627	\$21.90	\$18.27	\$19.79	\$22.67	\$1.85	\$1.47	\$1.44	\$1.69
Addition or annex	\$3,197	\$6,166	\$5,683	\$2,529	\$19.45	\$17.82	\$19.48	\$19.18	\$1.69	\$1.53	\$1.67	\$1.65
Reduction in floorspace	\$832	\$941	\$959	\$368	\$19.03	\$19.12	\$22.30	\$20.65	\$1.97	\$1.75	\$1.64	\$1.54
Roof replacement	\$7,630	\$8,821	\$10,039	\$5,669	\$21.08	\$17.94	\$19.92	\$21.67	\$1.74	\$1.50	\$1.39	\$1.74
Interior wall reconfiguration	\$8,201	\$9,329	\$10,415	\$5,934	\$22.88	\$18.50	\$19.59	\$21.56	\$1.95	\$1.48	\$1.47	\$1.62
Window replacement	\$4,505	\$5,408	\$4,179	\$2,831	\$20.34	\$19.16	\$20.41	\$18.12	\$1.70	\$1.66	\$1.34	\$1.47
HVAC equipment upgrade	\$11,571	\$11,177	\$13,721	\$8,187	\$21.99	\$18.03	\$19.82	\$22.53	\$1.97	\$1.54	\$1.43	\$1.73
Lighting upgrade	\$11,202	\$12,760	\$13,788	\$9,737	\$22.09	\$18.31	\$19.69	\$22.57	\$1.88	\$1.52	\$1.48	\$1.81
Electrical upgrade	\$7,697	\$7,047	\$7,584	\$4,382	\$21.86	\$17.86	\$19.33	\$21.31	\$1.99	\$1.57	\$1.55	\$1.77
Plumbing system upgrade	\$7,322	\$6,779	\$7,608	\$4,259	\$22.18	\$18.22	\$19.88	\$20.58	\$1.95	\$1.63	\$1.56	\$1.60
Insulation upgrade	\$4,312	\$3,251	\$3,362	\$1,807	\$22.11	\$17.93	\$18.87	\$16.61	\$1.91	\$1.58	\$1.40	\$1.43
Fire, safety, or security upgrade	\$8,616	\$9,183	\$9,491	\$5,900	\$21.62	\$18.09	\$19.41	\$22.50	\$1.96	\$1.62	\$1.44	\$1.76
Structural upgrade	\$2,115	\$1,925	\$1,852	\$1,697	\$21.33	\$18.42	\$19.30	\$18.25	\$2.02	\$1.67	\$1.66	\$1.92
Other	Q	Q	\$1,109	\$410	Q	Q	\$18.65	\$29.66	Q	Q	\$1.83	\$1.99
No renovations	\$10,751	\$14,686	\$20,695	\$14,836	\$23.07	\$18.76	\$20.56	\$26.68	\$1.65	\$1.33	\$1.30	\$1.63
Buildings constructed 2013 or later	\$1,159	\$2,370	\$3,654	\$2,643	\$22.50	\$17.34	\$19.59	\$20.90	\$1.33	\$1.27	\$1.46	\$1.32

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Energy sources (more than one may apply)												
Electricity	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Natural gas	\$19,734	\$29,035	\$31,620	\$23,879	\$20.63	\$17.26	\$18.16	\$22.49	\$1.74	\$1.42	\$1.44	\$1.70
Fuel oil	\$12,652	\$8,565	\$11,828	\$7,985	\$24.44	\$18.09	\$19.84	\$21.52	\$2.13	\$1.87	\$1.74	\$2.06
District heat	\$4,513	\$3,174	\$4,473	\$3,096	\$21.78	\$16.77	\$17.93	\$22.13	\$2.48	\$2.11	\$2.10	\$2.41
District chilled water	\$1,313	\$1,744	\$3,463	\$2,388	\$20.21	\$16.59	\$16.77	\$23.67	\$2.53	\$2.34	\$1.68	\$2.48
Propane	\$3,673	\$3,176	\$4,030	\$2,929	\$24.55	\$21.36	\$23.41	\$22.93	\$1.49	\$1.33	\$1.20	\$1.50
Solar	\$2,004	\$917	\$828	\$2,933	\$23.50	\$16.93	\$19.14	\$26.12	\$1.65	\$1.41	\$1.56	\$2.08
Wood, coal, and other	\$501	\$677	\$983	\$728	\$23.37	\$17.34	\$19.09	\$21.75	\$1.21	\$1.10	\$1.45	\$1.80
Space-heating energy sources (more than one may apply)												
Electricity	\$11,488	\$16,204	\$28,417	\$15,553	\$23.23	\$19.74	\$21.16	\$24.10	\$1.80	\$1.68	\$1.43	\$1.61
Natural gas	\$16,247	\$25,581	\$24,050	\$19,821	\$20.15	\$17.05	\$17.87	\$22.10	\$1.63	\$1.36	\$1.38	\$1.68
Fuel oil	\$3,825	\$1,340	\$826	\$465	\$22.97	\$14.61	\$20.02	\$21.47	\$1.52	\$1.89	\$1.13	\$2.58
District heat	\$4,422	\$2,951	\$4,447	\$2,991	\$22.21	\$17.25	\$17.92	\$22.32	\$2.49	\$2.07	\$2.13	\$2.40
Propane	\$1,329	\$898	\$1,430	\$874	\$33.99	\$28.12	\$24.49	Q	\$1.44	\$0.81	\$1.13	\$1.46
Other sources ^b	Q	\$305	Q	Q	Q	\$20.44	Q	Q	Q	\$0.81	Q	Q
Primary space-heating energy source												
Electricity	\$4,583	\$8,680	\$20,195	\$8,932	\$27.20	\$23.10	\$22.81	\$28.39	\$1.73	\$1.86	\$1.42	\$1.48
Natural gas	\$14,157	\$22,540	\$18,769	\$16,155	\$19.79	\$16.77	\$17.43	\$21.27	\$1.59	\$1.32	\$1.33	\$1.63
Fuel oil	\$2,529	Q	\$425	Q	\$24.34	Q	\$22.64	Q	\$1.55	Q	\$1.04	Q
District heat	\$4,241	\$2,806	\$4,124	\$2,849	\$22.39	\$17.16	\$18.03	\$22.66	\$2.50	\$2.06	\$2.20	\$2.46
Propane	Q	\$560	\$807	Q	\$43.15	\$34.36	\$29.42	Q	\$1.74	\$0.70	\$1.07	Q
Other sources ^b	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources (more than one may apply)												
Electricity	\$24,920	\$31,799	\$44,520	\$27,530	\$22.33	\$18.22	\$20.27	\$24.08	\$1.77	\$1.43	\$1.40	\$1.68
Natural gas	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
District chilled water	\$1,313	\$1,744	\$3,463	\$2,388	\$20.21	\$16.59	\$16.77	\$23.67	\$2.53	\$2.34	\$1.68	\$2.48
Water-heating energy sources (more than one may apply)												
Electricity	\$13,851	\$15,980	\$26,885	\$13,649	\$24.13	\$19.86	\$21.48	\$24.56	\$1.81	\$1.47	\$1.36	\$1.56
Natural gas	\$11,565	\$20,964	\$22,450	\$19,624	\$19.23	\$16.88	\$17.69	\$22.52	\$1.66	\$1.48	\$1.51	\$1.83
Fuel oil	\$2,100	\$413	\$461	Q	\$23.74	\$14.45	\$18.56	Q	\$1.82	\$2.13	\$1.43	Q
District heat	\$3,555	\$2,081	\$2,578	\$1,563	\$22.06	\$16.98	\$19.27	\$20.80	\$2.58	\$2.17	\$2.21	\$2.23
Propane	Q	Q	\$1,316	Q	\$35.81	Q	\$24.75	Q	\$2.07	Q	\$1.53	Q
Cooking energy sources (more than one may apply)												
Electricity	\$10,190	\$15,868	\$17,662	\$10,416	\$21.23	\$18.09	\$19.50	\$20.72	\$1.96	\$1.73	\$1.67	\$1.89
Natural gas	\$10,210	\$13,516	\$16,032	\$11,945	\$19.05	\$16.57	\$17.73	\$20.43	\$1.96	\$1.76	\$1.74	\$2.13
Propane	\$1,949	\$430	\$1,862	\$1,303	\$23.74	\$19.60	\$24.79	\$26.85	\$1.92	\$1.48	\$1.52	\$2.30

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Cooling equipment (more than one may apply)												
Packaged air-conditioning units	\$17,433	\$21,482	\$30,138	\$20,481	\$22.35	\$17.79	\$19.93	\$25.12	\$1.86	\$1.53	\$1.41	\$1.77
Residential-type central air conditioners	\$5,057	\$8,594	\$8,723	\$4,051	\$21.16	\$18.06	\$19.99	\$23.31	\$1.81	\$1.29	\$1.40	\$1.58
Individual air conditioners	\$6,384	\$5,094	\$5,636	\$3,947	\$20.50	\$17.23	\$19.78	\$22.74	\$1.75	\$1.50	\$1.27	\$1.84
Central chillers	\$7,187	\$7,488	\$11,273	\$7,394	\$20.77	\$17.62	\$19.05	\$23.47	\$1.93	\$1.64	\$1.73	\$2.38
Heat pumps	\$4,299	\$3,072	\$5,619	\$4,586	\$23.95	\$18.91	\$21.49	\$21.22	\$1.80	\$1.51	\$1.35	\$1.83
District chilled water	\$1,313	\$1,744	\$3,463	\$2,388	\$20.21	\$16.59	\$16.77	\$23.67	\$2.53	\$2.34	\$1.68	\$2.48
Swamp coolers	Q	Q	\$594	\$2,178	Q	Q	\$17.90	\$21.17	Q	Q	\$1.35	\$1.66
Other	Q	N	Q	Q	Q	N	Q	Q	Q	N	Q	Q
HVAC features (more than one may apply)												
Economizer cycle	\$13,637	\$16,264	\$15,877	\$14,434	\$21.91	\$17.74	\$18.76	\$22.89	\$1.96	\$1.63	\$1.68	\$1.87
Variable air volume (VAV) system	\$10,809	\$12,315	\$16,490	\$11,302	\$22.57	\$17.71	\$19.57	\$22.43	\$2.08	\$1.55	\$1.62	\$1.90
Dedicated outside air system (DOAS)	\$3,649	\$4,196	\$5,567	\$3,611	\$20.23	\$17.56	\$18.39	\$22.59	\$2.09	\$1.91	\$1.63	\$2.18
Demand controlled ventilation (DCV)	\$5,317	\$3,123	\$4,891	\$3,761	\$21.97	\$16.37	\$18.64	\$24.21	\$1.92	\$1.28	\$1.44	\$2.02
Regular HVAC maintenance	\$24,745	\$29,630	\$42,013	\$27,369	\$22.24	\$18.05	\$19.86	\$23.71	\$1.85	\$1.49	\$1.46	\$1.72
Building automation system (BAS) controls heating or cooling	\$15,906	\$17,321	\$23,128	\$15,837	\$22.42	\$17.74	\$19.33	\$22.80	\$2.08	\$1.72	\$1.61	\$1.89
Internet-connected or smart thermostat	\$1,073	\$1,570	\$3,277	\$2,066	\$22.81	\$18.68	\$20.17	\$24.08	\$1.65	\$1.28	\$1.13	\$1.74
Programmable thermostat	\$5,356	\$7,136	\$7,937	\$6,943	\$21.73	\$18.45	\$20.62	\$24.87	\$1.43	\$1.22	\$1.23	\$1.43
Main equipment replaced since 2000 (more than one may apply)												
Heating	\$10,797	\$12,072	\$14,099	\$9,057	\$22.23	\$18.33	\$20.45	\$25.35	\$1.80	\$1.27	\$1.25	\$1.59
Cooling	\$8,621	\$8,155	\$10,156	\$6,265	\$20.96	\$18.05	\$20.53	\$22.71	\$1.62	\$1.32	\$1.33	\$1.61
Water-heating equipment												
Centralized system	\$16,585	\$24,847	\$30,215	\$18,839	\$21.53	\$18.55	\$20.23	\$23.13	\$1.68	\$1.46	\$1.43	\$1.66
Distributed system	\$5,746	\$4,651	\$6,908	\$4,646	\$23.52	\$17.57	\$19.78	\$25.94	\$1.99	\$1.44	\$1.35	\$1.50
Combination of centralized and distributed systems	\$4,397	\$4,998	\$8,243	\$5,536	\$23.67	\$17.40	\$19.22	\$23.82	\$1.97	\$1.45	\$1.48	\$1.91
Generation technologies (more than one may apply)												
Reciprocating engine generators	\$12,271	\$11,486	\$14,943	\$8,489	\$22.87	\$17.46	\$19.40	\$20.93	\$2.13	\$1.81	\$1.68	\$2.04
Solar panels	\$1,976	\$904	\$810	\$2,801	\$23.59	\$16.83	\$19.22	\$26.05	\$1.63	\$1.42	\$1.56	\$2.05
Other generation technology	\$1,218	\$1,086	\$840	\$1,114	\$21.94	\$18.37	\$20.04	\$23.21	\$2.59	\$2.01	\$1.53	\$2.24
Lighting equipment types (more than one may apply)												
Incandescent	\$7,580	\$9,244	\$11,602	\$8,277	\$20.57	\$18.13	\$19.24	\$23.21	\$1.83	\$1.56	\$1.59	\$2.21
Standard fluorescent	\$21,823	\$26,641	\$37,017	\$24,070	\$22.20	\$18.13	\$19.94	\$23.76	\$1.77	\$1.39	\$1.39	\$1.63
Compact fluorescent	\$11,795	\$14,710	\$18,319	\$13,729	\$20.91	\$17.92	\$19.38	\$23.45	\$1.87	\$1.63	\$1.59	\$2.00
High-intensity discharge (HID)	\$3,521	\$5,072	\$6,289	\$3,907	\$19.85	\$17.18	\$18.90	\$21.20	\$1.68	\$1.66	\$1.48	\$1.99
Halogen	\$5,343	\$5,443	\$8,853	\$7,102	\$20.46	\$17.02	\$18.76	\$22.82	\$2.07	\$1.65	\$1.49	\$2.22
LED	\$21,214	\$25,579	\$31,133	\$22,760	\$21.99	\$18.24	\$19.73	\$23.57	\$1.82	\$1.54	\$1.51	\$1.76
Other	N	Q	Q	Q	N	Q	Q	Q	N	Q	Q	Q

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Refrigeration equipment (more than one may apply)												
Any refrigeration	\$23,195	\$31,111	\$42,229	\$26,224	\$21.86	\$18.03	\$19.87	\$23.68	\$1.79	\$1.48	\$1.47	\$1.76
Walk-in units	\$12,403	\$16,327	\$20,352	\$12,643	\$21.22	\$17.69	\$19.01	\$20.79	\$2.26	\$2.03	\$1.96	\$2.31
Cases or cabinets	\$11,354	\$14,531	\$19,019	\$11,842	\$21.55	\$17.56	\$19.11	\$21.53	\$2.13	\$1.90	\$1.86	\$2.22
Large cold storage areas	\$1,718	\$2,378	\$2,774	\$2,131	\$24.32	\$20.19	\$19.21	\$19.64	\$3.18	\$3.37	\$2.07	\$2.12
Commercial ice makers	\$10,645	\$16,404	\$23,723	\$13,645	\$21.00	\$17.66	\$18.86	\$20.69	\$2.06	\$1.87	\$1.70	\$2.00
Residential-type or compact units	\$18,905	\$24,034	\$33,453	\$21,040	\$21.73	\$17.74	\$19.94	\$23.74	\$1.76	\$1.35	\$1.41	\$1.68
Vending machines	\$12,591	\$17,294	\$25,459	\$13,679	\$20.55	\$17.40	\$19.19	\$22.17	\$1.76	\$1.52	\$1.59	\$1.83
No refrigeration	\$4,232	\$4,396	\$4,969	\$4,882	\$25.65	\$21.52	\$22.36	\$27.75	\$1.49	\$0.98	\$0.88	\$1.14
Office equipment (more than one may apply)												
Desktop computers	\$24,713	\$31,403	\$43,023	\$27,960	\$22.18	\$17.96	\$19.96	\$24.00	\$1.78	\$1.47	\$1.43	\$1.70
With multiple monitors	\$16,850	\$18,710	\$27,170	\$18,971	\$22.42	\$17.78	\$19.27	\$23.61	\$1.89	\$1.45	\$1.48	\$1.77
Laptop computers	\$21,640	\$26,481	\$35,619	\$22,798	\$21.96	\$17.91	\$19.81	\$23.92	\$1.80	\$1.41	\$1.42	\$1.69
Dedicated servers	\$18,285	\$20,291	\$26,737	\$19,363	\$22.63	\$17.84	\$19.65	\$23.83	\$1.93	\$1.48	\$1.51	\$1.81
Tablets charged in building	\$16,126	\$19,436	\$27,137	\$17,454	\$22.15	\$17.81	\$19.23	\$22.83	\$1.91	\$1.52	\$1.53	\$1.78
Large floor-standing office devices ^c	\$18,253	\$19,550	\$28,144	\$18,355	\$21.45	\$17.63	\$19.60	\$23.85	\$1.85	\$1.39	\$1.44	\$1.73
Smaller desktop office devices ^c	\$23,238	\$28,069	\$38,758	\$25,150	\$22.17	\$18.11	\$19.87	\$23.98	\$1.77	\$1.46	\$1.41	\$1.71
Interactive whiteboards	\$5,973	\$6,259	\$8,160	\$4,670	\$20.23	\$17.13	\$19.43	\$22.37	\$1.69	\$1.34	\$1.38	\$1.65
Televisions or video displays	\$20,755	\$24,885	\$34,942	\$21,847	\$21.84	\$17.97	\$19.61	\$23.19	\$1.83	\$1.54	\$1.48	\$1.75
Point-of-sale devices or cash registers	\$12,808	\$16,456	\$20,993	\$13,881	\$22.03	\$18.02	\$19.29	\$21.16	\$2.09	\$1.81	\$1.82	\$2.03
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar, concession stand, or coffee shop	\$3,429	\$4,691	\$5,813	\$4,669	\$19.53	\$16.78	\$18.61	\$19.81	\$2.12	\$1.60	\$1.73	\$1.91
Fast food or small restaurant	\$3,705	\$5,388	\$5,451	\$4,702	\$19.78	\$18.00	\$18.04	\$20.07	\$2.24	\$2.09	\$1.72	\$2.00
Cafeteria or large restaurant	\$5,891	\$6,163	\$7,247	\$4,114	\$20.28	\$16.90	\$18.19	\$19.01	\$1.86	\$1.45	\$1.50	\$1.80
Commercial kitchen or food preparation area	\$7,070	\$8,481	\$10,712	\$6,174	\$20.30	\$16.76	\$18.64	\$19.79	\$2.15	\$1.72	\$1.72	\$1.90
Small kitchen area	\$6,150	\$8,693	\$8,809	\$5,932	\$20.40	\$17.95	\$19.91	\$21.29	\$1.63	\$1.40	\$1.32	\$1.54
Separate computer areas (more than one may apply)												
Server closet	\$15,787	\$18,854	\$24,753	\$16,977	\$21.60	\$17.98	\$19.58	\$23.21	\$1.80	\$1.50	\$1.41	\$1.72
Data center	\$5,442	\$4,739	\$5,814	\$5,351	\$22.88	\$17.13	\$18.84	\$22.51	\$2.12	\$1.56	\$1.71	\$2.26
Computer-based training room	\$4,880	\$6,898	\$8,944	\$5,889	\$18.99	\$17.12	\$19.58	\$20.76	\$1.66	\$1.53	\$1.56	\$1.75
Student or public computer center	\$3,434	\$4,257	\$6,158	\$3,970	\$17.28	\$16.00	\$18.39	\$19.14	\$1.51	\$1.33	\$1.33	\$1.64

Table C6. Expenditures by census region for sum of major fuels, 2018

	Sum of major fuels expenditures (million dollars)				Sum of major fuel expenditures (dollars)							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	\$27,427	\$35,506	\$47,198	\$31,106	\$22.37	\$18.40	\$20.10	\$24.23	\$1.73	\$1.39	\$1.37	\$1.62
Window and interior lighting features (more than one may apply)												
Multipaned windows	\$22,962	\$29,577	\$37,012	\$22,609	\$22.27	\$18.16	\$19.88	\$22.21	\$1.80	\$1.43	\$1.48	\$1.62
Tinted window glass	\$12,031	\$17,161	\$24,745	\$17,719	\$21.59	\$18.07	\$19.38	\$24.11	\$1.93	\$1.58	\$1.45	\$1.75
Reflective window glass	\$5,764	\$7,905	\$8,931	\$8,759	\$23.09	\$17.85	\$18.99	\$22.46	\$2.21	\$1.66	\$1.64	\$1.72
External overhangs or awnings	\$7,263	\$10,852	\$16,313	\$12,750	\$21.65	\$17.61	\$19.10	\$22.73	\$2.11	\$1.55	\$1.46	\$1.81
Skylights or atriums	\$5,513	\$7,804	\$8,657	\$7,687	\$21.22	\$17.37	\$19.16	\$23.68	\$1.73	\$1.49	\$1.36	\$1.54
Light scheduling	\$12,563	\$13,117	\$18,114	\$15,185	\$22.11	\$17.72	\$18.94	\$23.43	\$1.99	\$1.62	\$1.57	\$1.99
Occupancy sensors	\$17,182	\$16,961	\$21,548	\$16,730	\$22.56	\$17.49	\$19.60	\$24.08	\$1.91	\$1.44	\$1.53	\$1.76
Multilevel lighting or dimming	\$4,990	\$7,075	\$7,333	\$6,137	\$22.66	\$16.37	\$18.77	\$20.59	\$2.28	\$1.60	\$1.63	\$1.85
Daylight harvesting	\$2,523	\$2,617	\$3,936	\$3,741	\$22.09	\$16.84	\$18.89	\$22.61	\$1.87	\$1.88	\$1.58	\$1.85
Plug-load control	\$438	\$902	\$1,084	\$1,309	\$23.51	\$16.32	\$21.91	\$23.52	\$2.41	\$1.59	\$1.42	\$2.94
Demand responsive lighting	\$703	\$917	\$776	\$950	\$22.82	\$16.87	\$20.52	\$25.84	\$1.99	\$1.34	\$1.44	\$2.03
Building automation system (BAS) for lighting	\$5,133	\$6,704	\$9,720	\$7,867	\$21.94	\$17.85	\$19.37	\$22.44	\$1.89	\$1.83	\$1.61	\$1.87
Electric vehicle (EV) charging												
Charging stations associated with the building	\$2,513	\$3,062	\$4,713	\$4,983	\$22.61	\$17.85	\$20.73	\$22.21	\$1.52	\$1.47	\$1.41	\$1.62

Data source: U.S. Energy Information Administration, Forms EIA-871A, C, D, E, and F 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.

Estimates in the *energy end uses* category represent total expenditures in buildings that have the end use but not the expenditures specifically for that end use.

HVAC = Heating, ventilation, and air conditioning.

^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.

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
					Per million British thermal units				Per square foot			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Building floorspace (square feet)												
1,001 to 5,000	17.8	11.8	11.0	10.1	4.6	3.6	4.6	6.1	9.6	10.6	5.6	6.8
5,001 to 10,000	17.3	10.9	12.0	12.2	5.2	4.2	3.5	6.5	12.1	13.2	8.6	10.2
10,001 to 25,000	19.2	20.7	11.6	10.1	6.5	4.5	3.2	5.9	15.6	12.9	6.9	9.4
25,001 to 50,000	20.9	12.6	10.0	11.0	8.0	3.6	3.9	4.0	15.4	5.8	5.1	8.7
50,001 to 100,000	10.8	13.1	10.2	11.5	3.4	4.1	2.7	4.8	6.4	6.5	5.9	6.3
100,001 to 200,000	11.9	10.6	9.2	14.3	3.0	3.0	2.3	4.0	6.8	4.3	4.5	9.6
200,001 to 500,000	16.2	13.2	11.1	15.4	4.6	3.5	3.2	5.3	9.1	8.2	6.5	10.6
Over 500,000	10.4	12.8	16.9	27.9	5.2	3.6	6.3	20.9	7.6	7.8	9.6	10.8
Principal building activity												
Education	9.9	11.2	13.1	11.0	3.3	2.4	3.6	5.3	4.9	3.2	4.5	6.3
Food sales	64.5	36.8	24.1	31.8	27.9	5.0	6.8	12.2	13.7	13.7	11.0	9.4
Food service	24.4	16.9	12.5	20.4	9.3	3.5	3.7	4.3	15.8	9.1	7.0	10.0
Health care	14.7	12.4	9.4	13.4	7.6	5.1	3.3	6.0	8.3	3.2	3.7	9.4
Inpatient	18.7	14.5	11.3	19.1	9.2	4.4	3.5	8.1	9.2	3.3	3.5	13.6
Outpatient	19.3	21.0	15.7	16.7	6.9	6.0	4.3	6.0	11.4	7.1	4.2	11.1
Lodging	16.0	16.8	16.6	18.8	4.4	4.4	3.7	15.6	6.9	9.8	5.5	6.9
Mercantile	20.8	16.3	10.6	10.1	4.3	2.4	2.7	3.1	9.4	9.3	4.3	5.0
Retail (other than mall)	17.9	21.4	12.4	18.4	5.0	4.1	2.5	10.5	11.7	14.0	7.4	9.2
Enclosed and strip malls	29.1	18.3	15.4	14.4	3.9	3.6	3.6	4.7	9.0	6.4	4.1	6.6
Office	10.3	12.5	12.0	10.0	2.9	2.6	2.8	4.9	4.2	5.4	4.5	5.8
Public assembly	13.2	13.1	14.5	11.8	5.0	2.9	4.2	6.2	8.5	9.0	6.4	7.8
Public order and safety	26.5	53.4	30.4	30.9	8.4	12.0	12.9	13.9	8.0	23.8	7.6	14.8
Religious worship	22.2	18.8	13.5	22.2	7.5	3.6	3.4	9.9	15.4	10.9	6.6	8.1
Service	18.2	19.4	17.4	17.1	5.9	7.3	6.1	9.7	14.6	11.3	14.0	7.5
Warehouse and storage	17.5	16.7	14.8	18.9	5.2	5.6	3.5	7.6	5.3	8.6	7.9	13.7
Other	30.6	27.7	28.1	32.7	8.5	5.4	5.3	15.8	23.9	24.8	14.4	17.5
Vacant	32.2	33.6	23.1	43.5	30.3	10.2	6.3	13.5	38.2	15.8	19.4	44.5
Year constructed												
Before 1920	19.4	14.9	24.9	48.0	6.3	6.2	5.1	6.6	11.3	8.8	13.2	42.2
1920 to 1945	16.5	20.0	24.6	20.4	4.8	4.5	6.8	10.3	8.3	8.8	16.4	18.9
1946 to 1959	17.9	17.9	17.6	12.3	4.2	5.1	3.0	9.9	7.2	9.0	10.4	13.1
1960 to 1969	9.9	15.4	11.2	13.9	4.1	4.3	3.8	3.9	9.8	12.1	7.1	10.0
1970 to 1979	15.5	14.4	10.7	17.1	4.2	3.9	2.9	7.1	5.9	8.0	8.1	15.8
1980 to 1989	14.9	13.5	7.9	14.4	6.2	2.3	2.8	14.4	14.3	4.9	6.9	7.5
1990 to 1999	12.9	13.0	8.7	12.3	4.6	4.5	2.8	5.2	8.6	11.1	5.0	7.5
2000 to 2009	17.8	12.8	12.0	12.8	7.3	3.3	2.2	4.7	13.6	10.1	4.1	6.5
2010 to 2018	28.2	14.3	13.2	14.8	8.4	4.1	3.8	5.5	21.0	10.7	6.9	8.7
Climate zone^a												
Cold or very cold	23.4	18.6	0.0	41.9	14.3	3.2	0.0	9.1	22.2	11.1	0.0	12.9
Cool	14.4	11.9	0.0	15.5	4.2	2.4	0.0	2.5	5.1	3.3	0.0	6.0
Mixed mild	10.3	26.6	20.6	37.2	2.6	3.2	4.9	17.1	8.4	6.2	4.1	9.3
Warm	0.0	0.0	13.8	9.7	0.0	0.0	2.0	4.3	0.0	0.0	3.8	8.5
Hot or very hot	0.0	0.0	14.3	31.4	0.0	0.0	3.5	8.2	0.0	0.0	6.5	3.2
Number of floors												
1	11.1	9.5	9.1	7.5	5.7	2.7	2.5	3.9	13.3	5.2	3.9	4.5
2	11.1	11.8	6.9	11.2	3.1	2.8	2.6	4.1	5.8	5.1	5.1	8.5
3	18.1	13.3	17.4	14.4	5.5	3.1	4.2	8.4	10.5	5.9	6.3	12.7
4 to 9	10.5	11.9	14.4	14.6	3.8	4.0	3.0	6.0	4.3	6.3	4.5	11.2
10 or more	8.9	21.2	24.8	26.3	2.4	4.4	7.1	23.2	6.6	7.3	9.4	14.4

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Elevators and escalators (more than one may apply)												
Any elevators	7.7	7.8	11.0	10.0	2.7	2.4	2.9	6.8	4.9	3.9	3.2	7.2
1 elevator	11.4	10.1	16.5	10.4	3.8	2.7	3.5	5.9	6.7	4.5	4.7	9.7
2 to 5 elevators	11.9	13.6	12.3	11.3	4.8	4.0	2.7	4.6	8.5	7.1	4.5	8.5
6 or more elevators	8.5	12.3	16.1	20.6	4.4	3.7	5.7	16.5	6.4	5.7	6.0	12.0
Any escalators	23.1	19.9	26.2	38.3	8.8	4.3	9.5	40.1	13.6	6.8	14.2	13.3
Number of workers (main shift)												
Fewer than 5	16.6	13.0	12.2	9.8	4.0	2.7	3.5	6.5	7.6	8.7	4.9	12.5
5 to 9	15.6	22.2	10.5	14.5	7.7	4.5	4.5	6.4	10.4	19.5	4.9	8.9
10 to 19	12.6	15.0	10.7	13.2	4.6	4.5	4.2	7.4	9.9	12.0	6.8	11.7
20 to 49	14.2	9.9	9.7	10.3	7.1	3.3	2.1	3.5	12.2	6.3	5.3	7.4
50 to 99	18.5	10.5	13.1	15.2	7.5	3.6	2.4	5.0	15.3	6.2	4.6	8.0
100 to 249	13.4	12.2	9.8	14.5	3.0	3.2	2.4	6.5	7.4	7.0	3.2	7.5
250 or more	9.0	10.1	11.6	16.2	3.0	3.3	4.3	13.6	4.5	4.6	5.2	9.7
Weekly operating hours												
Fewer than 40	17.7	19.4	14.3	13.3	5.3	4.2	3.2	5.2	8.6	13.6	7.1	10.4
40 to 48	13.9	19.4	8.1	9.6	5.0	4.3	3.0	4.9	6.9	15.0	6.0	6.1
49 to 60	9.2	12.4	7.6	8.4	3.0	4.0	2.2	4.2	5.1	4.5	4.3	5.1
61 to 84	11.5	10.4	12.7	12.8	5.5	3.1	3.2	6.5	11.0	7.3	5.1	6.6
85 to 167	17.6	11.3	9.9	14.8	7.9	2.8	3.3	4.8	11.4	7.8	7.4	12.0
Open continuously	9.5	9.2	9.7	10.2	3.8	2.6	2.9	8.5	8.6	4.7	5.4	6.5
Ownership and occupancy												
Nongovernment owned	7.7	7.2	5.6	6.3	2.6	1.9	1.6	4.2	5.8	3.9	3.1	4.7
Owner occupied	10.5	6.6	6.2	7.6	3.2	1.9	2.2	6.3	5.5	6.2	3.6	5.5
Leased to tenant or tenants	11.4	12.6	7.5	7.9	4.2	3.5	2.0	3.0	9.7	3.7	4.1	6.4
Unoccupied	43.0	44.6	43.4	36.4	51.3	18.2	7.8	22.7	17.7	33.8	28.9	48.3
Government owned	11.1	13.0	14.3	12.2	3.5	3.4	3.7	5.9	3.7	5.7	4.6	6.9
Federal	30.1	32.0	35.7	33.8	10.7	6.5	8.7	21.7	17.9	15.6	16.3	12.8
State	24.5	23.7	25.8	20.3	7.1	4.4	4.9	7.7	7.0	13.9	7.3	8.3
Local	10.3	12.0	11.4	11.3	3.6	3.9	3.4	7.7	4.2	5.4	3.5	9.8
Party responsible for operation of energy systems												
Building owner	7.2	7.8	6.9	6.9	2.6	2.0	2.0	4.3	5.0	4.3	3.3	5.1
Business owner or tenant	17.6	13.7	10.0	13.4	8.2	4.4	2.5	4.9	12.2	8.7	5.9	9.5
Property management	25.6	32.9	21.3	26.6	8.9	8.3	7.3	7.3	12.9	16.1	10.3	16.5
Other	37.8	20.2	17.8	18.1	11.7	6.6	5.7	8.6	17.6	11.1	9.1	12.4
Provider of direct input on energy-related equipment purchases												
Building owner	7.2	8.1	6.9	6.8	2.4	2.1	1.9	4.3	4.9	4.1	3.5	4.9
Business owner or tenant	24.8	16.5	11.1	15.3	8.4	4.4	2.7	4.5	15.6	9.2	7.7	8.7
Property management	32.3	40.5	30.9	23.5	6.6	10.2	7.3	11.3	12.4	17.1	17.6	21.5
Other	19.3	18.8	13.6	16.1	6.3	3.7	4.3	8.7	13.3	11.0	7.3	14.2
Number of establishments												
1	7.7	7.6	8.3	7.4	2.9	2.3	2.0	3.3	6.1	4.4	3.9	5.2
2 to 5	12.0	11.9	9.6	14.3	4.3	3.6	3.1	9.6	8.2	6.8	3.9	7.0
6 to 10	16.4	18.9	12.1	19.4	4.3	5.8	3.9	9.8	8.0	9.9	6.6	11.3
11 to 20	24.6	20.6	16.0	12.5	5.9	3.0	4.8	5.7	10.2	9.7	6.4	6.0
More than 20	24.2	31.9	13.2	15.2	5.4	5.7	4.0	7.7	11.1	6.4	8.6	11.1
Currently unoccupied	39.5	39.5	34.2	51.1	27.2	13.3	8.2	13.0	17.2	25.8	23.3	53.4

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Predominant exterior wall material												
Brick, stone, or stucco	8.3	7.9	8.9	8.1	2.3	2.0	2.0	5.3	4.7	3.5	3.7	6.1
Concrete (block or poured)	10.9	13.2	6.8	8.2	4.6	4.4	2.3	4.4	13.2	11.1	4.6	8.0
Concrete panels	21.3	18.3	13.1	18.8	5.3	4.3	4.6	6.7	17.6	11.3	9.7	12.7
Siding or shingles	24.8	26.2	15.6	20.9	6.8	3.6	3.3	5.3	18.9	22.6	9.6	14.9
Metal panels	27.2	14.4	11.0	13.3	13.7	4.9	4.0	11.8	24.7	7.5	6.7	15.5
Window glass	26.4	19.7	18.3	25.2	4.4	6.5	5.4	13.5	11.1	10.2	6.8	15.4
Other	34.3	40.0	24.5	18.6	13.8	11.9	4.4	7.7	18.5	20.1	18.0	13.1
Predominant roof material												
Metal surfacing	10.0	15.5	11.3	10.9	5.8	3.4	2.7	7.1	6.5	13.6	4.8	11.4
Synthetic or rubber	9.9	8.7	8.4	8.1	3.4	2.7	2.3	3.8	7.0	5.1	3.5	5.0
Built-up	11.7	11.9	9.5	13.2	3.3	2.8	3.4	10.6	4.2	5.6	6.8	6.7
Slate or tile shingles	20.8	21.3	17.8	21.3	9.1	4.7	4.1	5.1	8.6	14.1	11.2	7.8
Wooden materials (including shingles)	52.8	40.6	22.3	25.0	10.1	10.4	6.2	10.8	9.6	26.0	18.5	11.8
Asphalt, fiberglass, or other shingles	15.8	16.3	9.3	14.7	5.3	4.3	2.8	6.4	11.4	7.5	5.4	11.2
Concrete	25.9	34.2	19.2	23.8	10.9	10.5	5.9	9.4	12.1	14.6	10.1	16.4
Other	54.1	17.0	14.8	19.4	24.1	10.1	4.6	8.3	53.6	14.7	9.9	20.0
Roof tilt												
Flat	7.5	8.2	6.0	7.3	2.3	2.4	2.0	5.1	5.6	4.2	3.5	4.2
Shallow pitch	17.8	11.2	9.4	9.0	7.0	3.4	2.2	4.9	13.0	4.4	4.1	11.0
Steeper pitch	11.8	16.6	10.4	17.5	4.5	2.0	2.8	4.9	7.6	16.2	4.4	6.6
Cool roof characteristics (more than one may apply)												
White or reflective coating or paint	12.2	10.5	7.4	8.9	4.1	3.3	2.2	6.9	6.8	7.3	3.4	3.7
White or reflective tiles or shingles	36.7	26.7	22.1	18.8	20.2	5.7	3.0	8.0	35.7	15.6	7.9	17.9
Aluminum coating	16.8	20.8	14.4	18.5	8.3	6.6	5.0	11.1	13.7	16.2	8.7	21.0
Ballasted roof system	12.8	19.1	14.7	32.7	4.1	3.9	5.4	18.5	6.8	5.3	8.7	11.3
Other cool roof property	27.9	28.2	34.0	33.0	7.7	20.3	6.0	14.8	13.1	17.8	12.5	20.1
Renovations since 2000 (more than one may apply)												
Any type of renovation	9.3	6.4	5.9	7.8	3.3	2.1	1.8	5.1	5.5	4.7	3.0	5.9
Addition or annex	14.1	9.6	9.8	12.1	5.4	2.7	3.4	3.9	6.8	6.1	7.4	9.2
Reduction in floorspace	33.0	29.5	22.0	31.2	7.7	4.4	4.8	28.9	19.4	11.5	13.0	11.4
Roof replacement	11.1	8.0	7.3	12.3	4.0	3.5	2.4	9.9	6.4	4.7	4.2	8.3
Interior wall reconfiguration	10.9	7.2	7.2	14.5	4.3	2.8	1.9	10.8	7.4	6.1	4.0	6.8
Window replacement	12.7	9.6	11.7	19.0	4.1	2.2	2.9	12.6	7.0	7.1	7.3	6.3
HVAC equipment upgrade	11.0	7.8	7.2	11.3	3.9	3.0	2.0	7.8	7.0	7.2	4.3	7.1
Lighting upgrade	10.1	6.9	6.6	9.5	3.2	2.5	1.9	6.7	5.2	5.0	2.6	6.9
Electrical upgrade	10.0	8.4	9.6	15.9	4.1	3.5	2.2	12.4	5.5	8.7	5.2	11.0
Plumbing system upgrade	11.4	11.3	9.1	13.6	4.5	3.6	2.6	10.9	7.0	6.6	5.5	5.4
Insulation upgrade	17.1	12.2	12.2	27.6	6.1	4.5	3.3	19.3	10.8	8.8	8.1	8.3
Fire, safety, or security upgrade	12.3	6.7	6.9	13.1	3.8	2.8	2.5	10.3	6.6	6.2	4.5	7.5
Structural upgrade	27.0	14.5	17.1	27.2	12.7	3.8	5.1	25.6	20.1	10.3	7.6	16.4
Other	34.2	45.1	17.4	32.2	10.7	9.7	4.8	12.0	14.0	62.5	7.0	18.0
No renovations	8.9	10.0	8.8	7.1	3.3	2.1	2.0	3.3	8.8	5.6	4.6	5.0
Buildings constructed 2013 or later	20.3	20.5	12.5	13.4	6.0	6.5	4.5	4.4	9.9	14.7	8.0	8.5

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Energy sources (more than one may apply)												
Electricity	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Natural gas	6.7	7.5	6.3	6.6	2.5	1.8	1.6	4.0	6.0	3.5	3.0	3.9
Fuel oil	10.8	13.4	8.0	14.5	3.6	3.7	3.0	8.8	8.7	8.8	4.3	9.9
District heat	8.6	18.5	30.7	19.7	2.8	3.8	6.0	8.3	4.2	8.3	6.8	10.8
District chilled water	18.7	24.9	31.2	23.1	6.9	7.4	2.9	9.3	6.5	7.5	7.4	12.6
Propane	15.0	25.8	15.0	23.4	8.6	3.1	4.1	22.7	13.0	22.0	6.6	10.5
Solar	24.9	19.9	22.5	15.6	4.7	4.5	5.2	10.8	9.8	11.7	13.7	8.9
Wood, coal, and other	37.1	28.4	25.8	37.3	12.5	7.7	12.3	23.1	22.8	21.3	24.7	29.6
Space-heating energy sources (more than one may apply)												
Electricity	10.0	10.0	6.6	5.9	3.6	2.1	2.1	5.0	5.6	5.2	3.0	5.1
Natural gas	6.6	8.2	6.0	7.3	2.3	1.9	1.7	4.5	6.6	3.3	3.2	4.2
Fuel oil	19.0	21.8	19.5	47.0	4.5	5.0	6.1	9.6	9.9	9.2	8.4	11.7
District heat	9.3	16.0	30.9	19.9	2.7	2.4	6.0	8.2	4.2	8.1	6.9	11.2
Propane	33.8	23.2	30.0	49.1	10.0	7.7	5.9	62.3	26.3	10.1	13.6	13.7
Other sources ^b	55.2	31.8	54.9	45.0	13.0	4.3	7.6	9.2	42.0	17.7	14.4	33.3
Primary space-heating energy source												
Electricity	13.7	16.2	8.9	7.9	3.9	2.9	2.0	4.7	6.1	8.9	3.5	5.8
Natural gas	7.3	9.2	6.5	8.7	2.7	2.3	1.8	4.9	7.3	3.6	3.8	4.8
Fuel oil	21.5	41.6	27.8	76.3	5.8	2.9	4.1	9.1	11.1	28.1	10.6	9.2
District heat	10.3	16.8	32.9	21.2	3.0	2.5	6.5	8.5	4.5	8.6	7.0	11.3
Propane	54.4	26.4	46.3	50.6	3.6	4.2	5.4	14.1	42.2	8.6	25.6	38.7
Other sources ^b	38.1	34.3	94.5	40.7	11.7	6.9	40.3	17.6	19.7	28.8	33.1	24.0
Cooling energy sources (more than one may apply)												
Electricity	6.9	6.8	6.2	5.5	2.4	1.9	1.8	4.0	5.3	3.5	2.9	3.8
Natural gas	23.3	40.4	45.9	52.3	15.5	11.6	17.9	28.2	17.2	20.9	9.7	38.0
District chilled water	18.7	24.9	31.2	23.1	6.9	7.4	2.9	9.3	6.5	7.5	7.4	12.6
Water-heating energy sources (more than one may apply)												
Electricity	8.8	9.9	6.3	5.8	3.2	2.3	1.9	3.5	8.2	5.1	3.2	5.1
Natural gas	8.0	8.9	6.9	6.6	2.3	1.9	1.6	4.4	4.6	4.5	2.7	4.7
Fuel oil	19.7	28.3	31.8	42.4	6.9	7.3	5.9	12.0	9.7	16.0	19.7	20.2
District heat	10.2	27.1	33.5	24.9	3.3	6.2	7.9	10.2	4.6	15.7	9.2	9.2
Propane	50.4	82.5	26.4	41.3	17.2	12.0	5.3	28.9	33.4	72.9	12.8	30.3
Cooking energy sources (more than one may apply)												
Electricity	8.4	9.2	7.8	9.9	3.6	2.1	2.4	6.1	5.8	5.5	3.3	4.5
Natural gas	8.7	7.4	5.7	8.6	2.3	2.1	1.6	5.2	5.6	4.5	2.9	5.3
Propane	27.0	26.1	23.8	26.1	14.3	5.3	6.6	14.2	18.3	15.8	11.1	14.8

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
					Per million British thermal units				Per square foot			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Energy end uses (more than one may apply)												
Buildings with space heating	6.4	6.8	6.6	6.1	2.2	1.9	1.9	3.7	4.8	3.8	2.8	3.9
Buildings with cooling	6.7	6.6	6.3	5.7	2.3	2.0	1.8	3.8	5.1	3.4	2.9	3.9
Buildings with water heating	6.5	7.0	6.2	5.9	2.3	1.9	1.8	3.8	5.0	3.8	2.7	4.0
Buildings with cooking	7.3	7.5	6.2	7.9	2.6	1.9	1.9	4.9	4.4	4.4	2.6	4.3
Buildings with manufacturing	27.4	24.2	17.0	19.6	13.2	4.9	6.7	6.9	21.3	21.8	13.5	15.0
Buildings with electricity generation	8.8	8.5	7.6	10.6	3.5	2.7	2.3	6.8	7.6	6.2	3.7	7.4
Buildings with lighting	6.6	7.0	6.2	5.9	2.2	2.0	1.8	3.9	4.9	3.4	3.0	4.3
Percentage of floorspace heated												
Not heated	39.0	26.5	20.1	17.0	5.3	6.7	4.7	8.0	36.9	18.3	15.2	23.4
1% to 50%	18.2	18.4	9.8	15.9	10.9	5.1	3.6	7.1	14.3	17.3	6.3	9.9
51% to 99%	13.2	10.7	9.8	7.7	5.1	3.4	3.3	3.1	8.9	6.5	3.8	5.8
100%	6.9	7.8	6.7	8.4	2.3	2.3	1.8	4.9	5.3	4.1	3.3	5.1
Percentage of floorspace cooled												
Not cooled	22.1	33.8	18.9	25.7	5.5	7.7	7.1	12.5	8.6	28.6	13.6	23.2
1% to 50%	14.3	10.5	8.3	10.7	7.0	3.3	3.8	6.4	16.0	7.7	6.2	4.9
51% to 99%	10.3	10.2	10.2	10.7	3.9	3.0	2.7	4.7	8.0	6.0	4.3	7.2
100%	9.0	7.0	7.0	7.3	3.3	2.2	1.6	5.3	4.5	4.6	2.7	4.6
Percentage lit when open												
0%	0.0	50.7	101.1	96.5	0.0	19.8	30.8	60.5	0.0	11.7	85.0	81.8
1% to 50%	16.2	14.6	10.6	14.7	5.5	3.6	3.7	7.3	11.8	7.5	6.3	12.6
51% to 99%	8.5	8.7	6.6	7.6	3.7	2.1	2.1	4.9	6.7	5.6	3.2	5.9
100%	8.1	9.8	7.8	6.4	3.4	3.1	2.2	3.6	6.6	4.5	4.2	5.2
Building never open or electricity not used	31.6	27.1	28.1	45.3	33.1	9.0	6.4	30.7	23.5	9.1	17.6	32.8
Percentage lit during off hours												
0%	18.2	19.6	14.1	14.2	8.1	6.2	2.6	7.6	15.0	12.6	5.6	7.7
1% to 50%	7.4	7.2	6.0	6.2	2.7	1.7	1.8	4.4	5.3	4.4	3.1	4.0
51% to 100%	20.2	15.0	11.8	16.5	7.5	5.8	3.9	8.2	13.0	9.2	8.3	12.4
Building always open with no off hours	25.2	29.3	18.3	34.4	8.0	5.1	6.7	7.6	12.4	10.3	12.3	14.6
Electricity not used	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heating equipment (more than one may apply)												
Packaged heating units	8.9	8.4	7.2	6.3	3.3	2.7	2.3	4.6	8.0	3.5	3.2	3.9
Furnaces	15.6	10.2	10.7	11.7	5.6	2.5	2.7	3.5	9.4	5.7	4.8	6.5
Individual space heaters	13.1	11.9	9.3	12.3	5.4	3.6	3.0	8.5	8.6	7.0	4.7	9.1
Boilers	7.8	10.8	6.1	10.6	1.8	2.7	2.3	6.9	3.8	6.4	3.9	6.1
Heat pumps	10.8	11.7	8.7	13.2	3.1	3.5	2.0	10.1	6.3	8.2	5.2	7.1
District heat	9.3	16.0	30.9	19.9	2.7	2.4	6.0	8.2	4.2	8.1	6.9	11.2
Duct reheat	24.4	15.5	9.3	18.9	11.3	3.9	3.6	4.8	18.4	4.4	3.5	9.3
Other	74.3	94.9	36.0	33.5	38.8	21.9	3.5	9.8	34.4	72.1	8.1	15.2

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
	North-east	Mid-west	South	West	Per million British thermal units				Per square foot			
					North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Cooling equipment (more than one may apply)												
Packaged air-conditioning units	7.3	7.9	6.9	6.1	3.1	2.5	2.1	3.2	7.3	3.4	3.5	3.8
Residential-type central air conditioners	11.4	6.8	11.3	17.8	5.1	1.8	2.5	7.3	8.3	5.1	5.1	14.3
Individual air conditioners	11.4	12.8	10.8	16.3	3.8	3.3	2.4	4.3	6.4	5.4	5.4	10.5
Central chillers	7.5	10.4	10.8	9.9	3.3	2.8	3.4	3.9	6.4	4.4	3.8	8.6
Heat pumps	16.0	15.4	10.3	16.2	5.8	4.1	3.4	11.6	11.9	10.0	6.6	8.1
District chilled water	18.7	24.9	31.2	23.1	6.9	7.4	2.9	9.3	6.5	7.5	7.4	12.6
Swamp coolers	52.2	28.2	38.8	16.5	10.2	6.8	17.8	6.3	59.3	11.1	9.4	7.7
Other	70.2	0.0	59.3	63.7	0.0	0.0	16.6	17.3	0.0	0.0	47.3	63.3
HVAC features (more than one may apply)												
Economizer cycle	7.5	7.3	8.4	9.3	3.3	2.2	2.7	5.8	6.5	2.8	3.3	6.2
Variable air volume (VAV) system	9.5	6.5	11.7	10.7	3.5	2.1	3.0	7.0	10.6	4.4	4.5	6.4
Dedicated outside air system (DOAS)	15.5	21.6	16.4	20.0	7.7	6.1	3.5	19.2	10.2	20.6	5.4	13.3
Demand controlled ventilation (DCV)	12.0	11.2	8.9	16.3	4.0	4.0	3.3	6.0	8.3	8.5	5.6	15.0
Regular HVAC maintenance	6.6	7.2	6.8	6.5	2.3	2.1	1.9	4.0	5.7	2.9	3.2	4.0
Building automation system (BAS) controls heating or cooling	7.2	7.6	7.6	9.2	3.2	1.9	2.4	5.9	7.6	4.9	2.1	6.0
Internet-connected or smart thermostat	18.1	25.0	16.6	21.9	5.4	4.8	3.2	9.9	13.3	12.2	9.2	9.7
Programmable thermostat	13.0	13.4	12.3	6.8	5.3	4.3	3.0	3.4	8.1	6.7	5.8	6.4
Main equipment replaced since 2000 (more than one may apply)												
Heating	11.2	7.3	7.8	7.7	3.8	2.4	2.4	3.1	7.9	4.8	4.0	7.8
Cooling	11.5	11.8	6.5	11.9	3.4	3.5	2.3	10.4	4.0	5.7	4.5	7.4
Water-heating equipment												
Centralized system	8.6	8.0	7.8	7.5	2.9	2.3	2.0	5.1	5.2	5.0	3.3	4.7
Distributed system	15.8	15.8	11.0	11.1	5.4	4.3	2.6	4.8	15.3	8.2	5.5	7.5
Combination of centralized and distributed systems	14.8	9.4	10.8	11.3	5.6	3.0	2.8	4.4	10.2	4.4	4.5	9.0
Generation technologies (more than one may apply)												
Reciprocating engine generators	9.3	10.4	7.8	13.4	3.9	3.0	2.5	8.2	8.5	6.8	3.8	9.6
Solar panels	25.2	20.2	23.2	15.1	4.7	4.5	5.3	9.8	9.9	11.9	14.0	9.5
Other generation technology	35.0	41.5	23.7	29.0	15.5	14.3	6.9	16.3	28.4	25.0	14.2	21.3
Lighting equipment types (more than one may apply)												
Incandescent	10.4	9.1	7.3	10.2	2.6	1.8	2.2	8.4	5.4	6.4	4.0	7.3
Standard fluorescent	7.3	8.0	6.7	6.1	2.4	2.3	1.9	4.1	6.2	3.4	3.3	4.5
Compact fluorescent	9.0	9.5	8.8	8.6	2.4	1.5	2.5	5.6	4.7	3.9	3.4	5.7
High-intensity discharge (HID)	11.2	13.9	10.3	17.5	4.3	3.6	3.6	15.8	6.6	4.6	6.4	12.6
Halogen	11.9	11.1	6.6	11.8	3.4	3.5	2.5	8.9	7.5	7.8	5.4	7.1
LED	5.7	6.6	6.4	6.8	2.2	1.7	2.2	4.5	5.2	4.5	3.0	5.3
Other	0.0	30.5	52.4	51.3	0.0	16.3	15.8	0.0	0.0	4.5	2.6	0.0

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
					Per million British thermal units				Per square foot			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Refrigeration equipment (more than one may apply)												
Any refrigeration	6.0	6.9	6.4	6.1	2.2	2.1	1.7	4.1	5.5	4.2	3.2	3.9
Walk-in units	8.1	7.7	6.2	8.5	3.2	1.8	2.1	5.1	7.2	5.4	2.8	4.8
Cases or cabinets	9.6	8.4	6.8	8.4	3.8	2.2	2.2	5.8	7.5	5.8	3.7	5.4
Large cold storage areas	35.8	37.4	14.7	27.1	14.1	4.0	4.7	23.5	34.0	25.2	6.5	16.7
Commercial ice makers	7.8	7.3	7.5	7.9	2.2	2.5	2.3	4.6	4.7	4.3	3.1	4.9
Residential-type or compact units	5.8	7.1	6.4	6.3	2.2	2.2	1.9	4.3	6.5	3.7	3.6	4.4
Vending machines	7.5	6.7	7.7	9.4	2.4	2.5	2.3	5.5	5.8	3.7	3.4	6.5
No refrigeration	12.1	14.1	10.0	15.5	3.6	4.3	4.1	6.0	9.7	6.8	5.3	14.0
Office equipment (more than one may apply)												
Desktop computers	6.3	6.9	6.3	5.8	2.3	2.1	1.9	3.7	5.3	3.7	3.2	4.0
With multiple monitors	7.1	6.4	7.3	8.7	2.3	2.4	2.2	4.9	6.7	3.2	3.5	4.9
Laptop computers	6.9	6.6	6.4	6.5	2.1	2.0	2.0	4.3	5.5	3.5	3.2	5.1
Dedicated servers	7.5	6.8	5.5	7.0	2.5	2.5	2.0	4.8	6.5	3.7	3.2	5.6
Tablets charged in building	7.2	7.3	7.4	7.0	2.5	2.3	2.0	4.9	5.9	4.3	3.0	4.8
Large floor-standing office devices ^c	7.1	5.6	6.9	8.2	2.6	2.2	2.2	5.0	5.8	3.1	3.5	5.4
Smaller desktop office devices ^c	6.2	7.8	6.4	6.1	2.3	2.2	2.0	4.0	5.7	4.6	2.9	4.1
Interactive whiteboards	10.9	10.2	9.2	15.7	4.7	2.7	3.1	14.5	10.6	6.0	3.3	8.4
Televisions or video displays	6.8	7.0	6.1	6.5	2.3	1.9	2.2	4.1	5.9	4.1	3.0	5.0
Point-of-sale devices or cash registers	8.8	8.4	6.4	8.8	3.4	2.0	1.9	5.3	7.9	4.5	2.8	4.6
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar, concession stand, or coffee shop	14.6	11.9	9.1	15.0	5.0	2.6	3.2	11.1	10.0	4.5	5.1	8.1
Fast food or small restaurant	14.9	9.7	8.9	15.0	3.8	3.7	3.5	9.8	7.6	5.7	5.3	7.8
Cafeteria or large restaurant	8.6	9.4	6.9	16.6	3.0	2.9	3.3	12.5	5.2	5.4	2.9	7.7
Commercial kitchen or food preparation area	12.1	9.6	7.3	11.6	6.1	2.8	2.2	7.7	8.9	4.6	4.0	5.8
Small kitchen area	10.4	10.4	9.1	11.8	2.7	2.3	2.4	10.0	4.3	3.9	4.3	6.5
Separate computer areas (more than one may apply)												
Server closet	7.9	7.5	6.2	8.1	2.5	2.8	1.8	5.0	4.8	2.9	3.1	4.7
Data center	10.8	9.0	11.3	18.9	5.0	2.9	4.5	13.2	16.4	6.0	6.0	12.1
Computer-based training room	8.6	9.9	10.1	14.1	3.6	3.0	3.1	11.0	5.5	5.7	4.5	6.1
Student or public computer center	8.8	9.6	7.8	17.0	2.5	2.8	3.4	11.9	3.7	4.8	2.6	8.4

Relative standard errors (RSEs) for Table C6. Expenditures by census region for sum of major fuels, 2018

	RSEs for sum of major fuels expenditures				RSEs for sum of major fuel expenditures							
					Per million British thermal units				Per square foot			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.6	7.1	6.3	5.9	2.2	2.0	1.8	3.8	4.9	3.5	3.0	4.4
Window and interior lighting features (more than one may apply)												
Multipaned windows	7.1	7.0	7.1	7.3	2.7	2.1	1.9	4.1	5.9	3.8	2.8	4.2
Tinted window glass	9.3	8.3	5.9	6.5	2.9	2.1	2.4	4.8	5.8	4.1	3.3	5.4
Reflective window glass	14.0	11.0	11.1	11.0	4.3	2.7	2.1	7.4	11.9	5.0	4.3	5.3
External overhangs or awnings	13.3	8.5	8.2	8.2	5.6	2.4	2.3	5.5	9.6	5.3	3.3	5.4
Skylights or atriums	11.5	8.3	5.8	10.3	4.1	3.6	2.1	9.2	5.0	5.1	4.0	5.7
Light scheduling	10.3	8.8	8.0	8.4	2.8	2.1	2.2	5.6	5.9	4.4	2.8	6.3
Occupancy sensors	7.4	7.6	8.3	8.7	2.6	2.3	2.6	5.9	6.7	3.8	3.5	5.0
Multilevel lighting or dimming	11.5	8.8	16.7	13.5	5.5	2.9	3.3	10.3	9.8	5.9	6.1	6.1
Daylight harvesting	16.8	16.4	10.3	13.7	5.3	4.6	3.2	5.0	8.2	6.2	6.6	8.9
Plug-load control	23.9	36.4	19.3	28.2	7.0	12.3	5.1	8.5	11.1	21.9	16.0	18.8
Demand responsive lighting	27.3	28.9	25.8	22.2	13.2	6.0	7.4	8.0	18.9	13.9	5.7	17.3
Building automation system (BAS) for lighting	13.8	9.0	6.5	12.7	5.7	2.6	2.4	9.0	9.9	4.9	4.8	7.0
Electric vehicle (EV) charging												
Charging stations associated with the building	17.8	18.8	16.0	11.3	5.9	5.6	5.9	11.1	9.4	13.6	8.1	4.4

Data source: U.S. Energy Information Administration, Forms EIA-871A, C, D, E, and F 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.