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Table C1. Total energy consumption by major fuel, 2018

	All buildings		Total energy consumption (trillion British thermal units [Btu])					
	Number of buildings (thousand)	Total floorspace (million square feet)	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Building floorspace (square feet)								
1,001 to 5,000	2,833	8,025	576	1,075	371	183	21	Q
5,001 to 10,000	1,359	10,204	597	1,064	367	209	14	Q
10,001 to 25,000	981	15,838	921	1,631	563	320	16	Q
25,001 to 50,000	386	13,957	960	1,657	571	365	7	16
50,001 to 100,000	218	15,302	1,075	1,817	627	385	10	53
100,001 to 200,000	93	13,003	959	1,689	582	321	11	45
200,001 to 500,000	40	11,776	1,004	1,732	597	320	14	73
Over 500,000	9	8,317	696	1,169	403	197	7	88
Principal building activity								
Education	437	13,623	854	1,268	437	328	29	60
Food sales	163	1,006	233	530	183	48	Q	N
Food service	286	1,385	365	601	207	151	Q	Q
Health care	137	4,018	581	947	327	207	8	39
Inpatient	9	2,259	436	644	222	170	8	36
Outpatient	129	1,760	144	303	105	36	(*)	Q
Lodging	207	6,976	598	991	342	224	6	26
Mercantile	517	10,781	953	1,785	616	334	4	Q
Retail (other than mall)	350	5,193	333	703	242	87	4	Q
Enclosed and strip malls	167	5,588	620	1,082	373	247	Q	N
Office	970	16,662	1,093	2,247	775	250	12	57
Public assembly	488	7,192	583	864	298	216	7	63
Public order and safety	81	1,538	133	212	73	47	Q	Q
Religious worship	439	5,471	193	263	91	94	6	Q
Service	867	6,240	318	443	153	145	15	Q
Warehouse and storage	1,004	17,483	528	942	325	199	Q	Q
Other	113	2,435	328	693	239	48	4	36
Vacant	208	1,612	27	48	16	10	Q	Q
Year constructed								
Before 1920	329	3,600	233	348	120	81	15	17
1920 to 1945	379	5,646	401	642	221	124	14	41
1946 to 1959	517	6,937	445	656	226	173	12	34
1960 to 1969	685	10,360	764	1,184	408	289	11	56
1970 to 1979	831	13,061	905	1,579	545	303	13	45
1980 to 1989	794	13,465	962	1,790	617	312	7	26
1990 to 1999	921	15,535	958	1,764	608	312	13	24
2000 to 2009	924	17,500	1,392	2,498	861	476	12	43
2010 to 2018	537	10,319	728	1,373	473	232	4	19

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				Primary ^a	Site ^b			
All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Census region and division								
Northeast	793	15,951	1,226	1,873	646	425	69	87
New England	275	3,749	277	430	148	78	31	19
Middle Atlantic	518	12,202	949	1,444	498	346	38	67
Midwest	1,719	25,932	1,930	2,943	1,015	816	11	88
East North Central	1,110	17,561	1,374	2,013	694	603	7	71
West North Central	609	8,372	556	930	321	214	4	18
South	2,143	34,907	2,348	4,719	1,627	616	13	91
South Atlantic	1,034	17,923	1,231	2,531	873	295	10	Q
East South Central	347	5,404	357	648	223	126	1	6
West South Central	762	11,580	760	1,541	531	194	Q	Q
West	1,264	19,633	1,284	2,299	793	444	Q	39
Mountain	484	7,680	570	939	324	232	Q	12
Pacific	780	11,952	713	1,360	469	212	Q	27
Climate zone^c								
Cold or very cold	539	7,044	541	858	296	208	16	21
Cool	1,727	26,768	1,971	2,939	1,013	821	49	88
Mixed mild	1,216	25,096	1,911	3,160	1,090	654	29	138
Warm	1,606	25,085	1,626	3,166	1,092	479	5	50
Hot or very hot	831	12,429	738	1,711	590	138	2	7
Number of floors								
1	4,106	43,576	2,853	5,202	1,794	1,012	30	18
2	1,286	23,300	1,438	2,445	843	529	34	31
3	370	10,516	749	1,253	432	270	13	34
4 to 9	142	13,031	1,184	1,942	670	353	18	143
10 or more	16	6,000	563	992	342	136	6	79
Elevators and escalators (more than one may apply)								
Any elevators	503	36,501	2,965	5,054	1,743	915	41	266
1 elevator	366	14,215	930	1,530	528	329	18	56
2 to 5 elevators	121	13,316	1,114	1,983	684	317	11	102
6 or more elevators	16	8,970	920	1,541	531	269	12	108
Any escalators	14	3,753	324	550	190	89	4	42
Number of workers (main shift)								
Fewer than 5	3,270	21,065	889	1,585	546	296	29	Q
5 to 9	1,116	10,323	664	1,198	413	223	8	20
10 to 19	713	11,348	778	1,263	436	312	11	19
20 to 49	492	16,132	1,233	2,167	747	438	16	32
50 to 99	201	12,961	1,013	1,744	602	349	14	49
100 to 249	90	12,442	1,032	1,781	614	367	10	41
250 or more	37	12,152	1,177	2,096	723	316	12	126

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Weekly operating hours								
Fewer than 40	1,370	10,766	414	684	236	162	8	Q
40 to 48	1,483	18,826	946	1,679	579	327	22	18
49 to 60	1,250	22,845	1,265	2,237	771	440	15	39
61 to 84	645	14,736	1,183	1,983	684	411	21	67
85 to 167	465	10,038	976	1,707	589	339	Q	40
Open continuously	705	19,213	2,003	3,544	1,222	620	27	133
Ownership and occupancy								
Nongovernment owned	4,982	74,728	5,218	9,322	3,215	1,784	61	159
Owner occupied	3,249	45,355	3,190	5,569	1,920	1,089	43	138
Leased to tenant or tenants	1,581	28,382	2,019	3,738	1,289	691	18	21
Unoccupied	152	990	10	15	5	Q	Q	Q
Government owned	937	21,695	1,569	2,512	866	516	40	146
Federal	70	1,946	159	267	92	39	Q	24
State	256	6,888	578	912	314	161	5	98
Local	610	12,861	832	1,333	460	317	32	24
Party responsible for operation of energy systems								
Building owner	4,872	79,282	5,563	9,633	3,322	1,856	90	295
Business owner or tenant	831	12,842	916	1,607	554	353	7	Q
Property management	97	1,994	144	283	98	40	Q	Q
Other	118	2,306	165	311	107	52	Q	Q
Provider of direct input on energy-related equipment purchases								
Building owner	5,127	82,862	5,788	10,035	3,460	1,948	91	288
Business owner or tenant	483	7,585	587	1,025	354	224	4	Q
Property management	49	1,072	85	162	56	24	Q	Q
Other	260	4,904	327	612	211	104	Q	Q
Number of establishments								
1	4,719	65,391	4,468	7,685	2,650	1,524	82	212
2 to 5	811	16,431	1,206	2,106	726	420	13	46
6 to 10	135	5,539	438	791	273	155	1	9
11 to 20	63	3,894	341	618	213	116	1	10
More than 20	19	3,999	319	611	211	79	4	26
Currently unoccupied	170	1,168	15	23	8	7	Q	Q
Predominant exterior wall material								
Brick, stone, or stucco	2,490	46,134	3,593	6,009	2,072	1,291	52	178
Concrete (block or poured)	935	19,357	1,435	2,575	888	480	15	52
Concrete panels	137	8,331	534	950	328	174	2	30
Siding or shingles	948	5,992	384	734	253	105	21	Q
Metal panels	1,250	12,198	498	919	317	170	8	Q
Window glass	19	2,192	186	340	117	41	(*)	27
Other	139	2,219	156	306	106	40	Q	Q

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Predominant roof material								
Metal surfacing	2,198	20,936	1,006	1,913	659	315	17	15
Synthetic or rubber	940	31,563	2,587	4,469	1,541	916	31	99
Built-up	708	19,308	1,544	2,607	899	511	20	113
Slate or tile shingles	376	3,997	273	449	155	98	3	17
Wooden materials (including shingles)	166	1,568	93	159	55	36	Q	N
Asphalt, fiberglass, or other shingles	1,311	14,058	915	1,525	526	330	24	35
Concrete	83	1,968	165	324	112	36	3	Q
Other	136	3,026	204	389	134	59	Q	10
Roof tilt								
Flat	1,914	54,253	4,397	7,651	2,638	1,468	46	245
Shallow pitch	2,313	27,609	1,556	2,751	949	547	24	36
Steeper pitch	1,691	14,561	834	1,433	494	286	31	24
Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	1,285	32,799	2,490	4,474	1,543	829	24	94
White or reflective tiles or shingles	140	2,713	221	428	147	62	2	9
Aluminum coating	528	6,149	344	650	224	107	6	Q
Ballasted roof system	114	6,277	548	889	306	202	4	35
Other cool roof property	35	1,603	128	241	83	32	Q	Q
Renovations since 2000 (more than one may apply)								
Any type of renovation	2,032	45,165	3,474	5,845	2,016	1,204	60	194
Addition or annex	327	10,854	934	1,467	506	364	12	51
Reduction in floorspace	35	1,784	154	264	91	46	Q	Q
Roof replacement	847	20,862	1,619	2,691	928	573	31	88
Interior wall reconfiguration	709	21,283	1,670	2,807	968	550	25	127
Window replacement	484	10,977	865	1,362	469	316	23	56
HVAC equipment upgrade	1,006	27,575	2,202	3,676	1,268	754	38	142
Lighting upgrade	1,012	29,098	2,336	3,917	1,351	800	38	147
Electrical upgrade	565	15,761	1,345	2,193	756	472	22	94
Plumbing system upgrade	584	15,537	1,292	2,129	734	443	20	94
Insulation upgrade	307	7,980	663	1,066	367	239	16	41
Fire, safety, or security upgrade	570	19,985	1,657	2,734	943	583	23	109
Structural upgrade	147	4,203	393	625	216	144	5	28
Other	43	1,168	101	198	68	32	Q	Q
No renovations	3,530	43,832	2,812	5,054	1,743	932	38	99
Buildings constructed 2013 or later	357	7,426	501	935	322	164	3	12

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Energy sources (more than one may apply)								
Electricity	5,613	94,844	6,787	11,834	4,081	2,300	101	305
Natural gas	2,974	67,722	5,442	8,515	2,936	2,300	27	178
Fuel oil	583	21,185	1,958	3,482	1,201	541	101	115
District heat	86	6,745	786	1,124	388	91	2	305
District chilled water	55	4,288	477	731	252	64	1	160
Propane	676	10,157	598	1,179	407	155	28	9
Solar	99	3,820	295	483	167	97	1	30
Wood, coal, and other	180	2,113	145	247	85	56	2	Q
Space-heating energy sources (more than one may apply)								
Electricity	2,563	45,603	3,304	6,621	2,283	943	28	50
Natural gas	2,587	58,042	4,549	6,962	2,401	2,086	18	44
Fuel oil	266	4,134	321	448	155	72	90	Q
District heat	83	6,547	752	1,060	365	84	2	301
Propane	431	3,896	182	391	135	Q	7	Q
Other sources ^d	127	927	34	65	22	9	Q	Q
Primary space-heating energy source								
Electricity	1,856	27,618	1,744	4,141	1,428	306	7	Q
Natural gas	2,344	50,060	3,896	5,713	1,970	1,903	15	8
Fuel oil	222	2,223	138	166	57	Q	76	N
District heat	78	6,090	707	990	341	71	2	293
Propane	338	2,290	73	206	71	Q	Q	N
Other sources ^d	63	380	8	22	8	Q	Q	N
Cooling energy sources (more than one may apply)								
Electricity	4,584	84,526	6,201	10,866	3,747	2,188	87	179
Natural gas	4	400	43	54	18	22	Q	Q
District chilled water	55	4,288	477	731	252	64	1	160
Water-heating energy sources (more than one may apply)								
Electricity	2,785	47,125	3,186	6,293	2,170	909	44	62
Natural gas	1,885	46,652	3,984	6,139	2,117	1,773	19	74
Fuel oil	72	1,807	158	211	73	33	46	Q
District heat	38	4,206	493	698	241	41	1	209
Propane	145	1,947	140	356	123	Q	Q	N
Cooking energy sources (more than one may apply)								
Electricity	1,216	30,509	2,765	4,733	1,632	979	38	116
Natural gas	727	27,705	2,841	4,318	1,489	1,234	17	101
Propane	159	3,101	228	445	153	49	21	Q

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Energy end uses (more than one may apply)								
Buildings with space heating	4,901	88,661	6,567	11,239	3,875	2,287	101	305
Buildings with cooling	4,631	87,506	6,515	11,342	3,911	2,223	89	292
Buildings with water heating	4,595	87,717	6,590	11,369	3,920	2,268	99	303
Buildings with cooking	1,738	43,580	3,953	6,534	2,253	1,484	54	162
Buildings with manufacturing	322	6,871	483	847	292	174	2	15
Buildings with electricity generation	706	29,457	2,719	4,704	1,622	895	47	155
Buildings with lighting	5,503	94,103	6,773	11,812	4,073	2,294	101	305
Percentage of floorspace heated								
Not heated	1,017	7,762	220	596	205	14	1	Q
1% to 50%	693	10,620	442	932	321	114	5	Q
51% to 99%	905	20,174	1,597	2,725	940	537	26	94
100%	3,303	57,867	4,529	7,582	2,615	1,635	70	209
Percentage of floorspace cooled								
Not cooled	1,288	8,917	272	493	170	77	13	Q
1% to 50%	1,111	19,722	858	1,326	457	357	23	22
51% to 99%	998	26,277	2,199	3,751	1,294	735	41	129
100%	2,522	41,507	3,458	6,265	2,160	1,131	24	142
Percentage lit when open								
0%	Q	Q	Q	Q	Q	Q	N	N
1% to 50%	1,280	14,172	601	1,011	348	218	26	8
51% to 99%	1,784	38,847	3,116	5,340	1,841	1,069	40	166
100%	2,272	39,877	3,029	5,412	1,866	999	34	130
Building never open or electricity not used	513	2,998	32	53	18	13	Q	Q
Percentage lit during off hours								
0%	2,062	15,578	658	1,146	395	234	20	Q
1% to 50%	3,246	69,800	5,050	8,707	3,003	1,756	72	220
51% to 100%	240	7,243	826	1,529	527	233	9	57
Building always open with no off hours	64	2,223	254	451	156	78	1	19
Electricity not used	305	1,579	N	N	N	N	N	N
Heating equipment (more than one may apply)								
Packaged heating units	2,187	48,064	3,666	6,556	2,261	1,353	17	35
Furnaces	1,621	17,272	1,186	1,862	642	521	17	Q
Individual space heaters	1,246	21,122	1,521	2,562	884	586	23	29
Boilers	703	28,831	2,447	3,766	1,299	1,052	76	21
Heat pumps	673	15,110	1,159	2,208	761	374	8	16
District heat	83	6,547	752	1,060	365	84	2	301
Duct reheat	134	7,418	630	1,260	434	170	9	17
Other	17	821	143	300	103	36	Q	Q

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	2,565	56,290	4,315	7,604	2,622	1,568	44	81
Residential-type central air conditioners	1,309	18,270	1,325	2,117	730	523	26	46
Individual air conditioners	735	13,619	1,065	1,729	596	402	29	38
Central chillers	202	17,926	1,678	2,843	980	557	28	113
Heat pumps	492	11,098	820	1,514	522	260	10	27
District chilled water	55	4,288	477	731	252	64	1	160
Swamp coolers	85	2,070	163	267	92	66	(*)	Q
Other	Q	Q	Q	Q	Q	Q	Q	N
HVAC features (more than one may apply)								
Economizer cycle	747	34,087	3,016	5,061	1,745	1,026	35	209
Variable air volume (VAV) system	698	29,268	2,521	4,327	1,492	786	26	216
Dedicated outside air system (DOAS)	249	9,027	882	1,511	521	287	15	59
Demand controlled ventilation (DCV)	349	10,474	851	1,396	481	293	28	48
Regular HVAC maintenance	3,554	78,015	6,025	10,462	3,608	2,038	90	289
Building automation system (BAS) controls heating or cooling	933	40,462	3,577	6,252	2,156	1,123	46	252
Internet-connected or smart thermostat	325	5,966	379	703	242	123	5	Q
Programmable thermostat	1,545	20,882	1,297	2,154	743	521	23	Q
Main equipment replaced since 2000 (more than one may apply)								
Heating	1,937	32,451	2,191	3,752	1,294	857	36	5
Cooling	1,269	23,013	1,634	2,655	916	621	37	60
Water-heating equipment								
Centralized system	3,538	59,280	4,418	7,450	2,569	1,558	74	217
Distributed system	782	14,307	1,037	1,897	654	335	16	31
Combination of centralized and distributed systems	274	14,129	1,134	2,022	697	375	8	54
Generation technologies (more than one may apply)								
Reciprocating engine generators	580	25,163	2,370	4,093	1,411	778	46	135
Solar panels	94	3,750	287	473	163	95	1	27
Other generation technology	43	2,055	205	372	128	66	(*)	9

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All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Lighting equipment types (more than one may apply)								
Incandescent	1,100	21,081	1,838	3,076	1,061	652	33	92
Standard fluorescent	4,012	72,912	5,322	9,172	3,163	1,841	79	240
Compact fluorescent	1,130	33,691	2,916	4,921	1,697	982	46	191
High-intensity discharge (HID)	238	11,356	990	1,633	563	354	18	54
Halogen	552	15,012	1,364	2,289	789	496	18	61
LED	2,593	61,849	4,910	8,507	2,934	1,677	71	229
Other	Q	Q	Q	Q	Q	Q	Q	N
Refrigeration equipment (more than one may apply)								
Any refrigeration	3,850	77,589	6,020	10,376	3,578	2,090	88	264
Walk-in units	706	29,384	3,186	5,401	1,862	1,138	41	145
Cases or cabinets	837	28,517	2,899	4,937	1,702	1,054	37	106
Large cold storage areas	69	3,592	441	851	293	122	3	24
Commercial ice makers	872	34,672	3,354	5,625	1,940	1,206	36	172
Residential-type or compact units	3,321	64,735	4,790	8,149	2,810	1,693	67	220
Vending machines	800	42,071	3,550	6,050	2,086	1,214	49	201
No refrigeration	2,068	18,834	767	1,458	503	210	14	41
Office equipment (more than one may apply)								
Desktop computers	3,804	82,012	6,183	10,735	3,702	2,106	90	285
With multiple monitors	1,504	50,844	4,017	6,969	2,403	1,334	45	235
Laptop computers	2,786	69,375	5,215	8,989	3,100	1,772	72	271
Dedicated servers	1,400	51,595	4,119	7,198	2,482	1,393	52	192
Tablets charged in building	1,556	48,778	3,995	6,890	2,376	1,372	50	198
Large floor-standing office devices ^e	1,456	54,088	4,166	7,105	2,450	1,425	53	239
Smaller desktop office devices ^e	3,560	74,467	5,597	9,709	3,348	1,909	82	258
Interactive whiteboards	262	16,939	1,289	2,132	735	449	28	78
Televisions or video displays	2,451	63,618	5,058	8,757	3,020	1,745	63	231
Point-of-sale devices or cash registers	1,420	33,606	3,239	5,556	1,916	1,153	43	127
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	144	10,361	1,003	1,582	545	375	8	75
Fast food or small restaurant	160	9,759	1,023	1,733	598	367	7	51
Cafeteria or large restaurant	129	14,531	1,270	1,966	678	482	28	82
Commercial kitchen or food preparation area	284	17,698	1,741	2,829	975	665	20	80
Small kitchen area	1,018	20,519	1,507	2,442	842	574	24	66

Table C1. Total energy consumption by major fuel, 2018

	All buildings		Total energy consumption (trillion British thermal units [Btu])					
	Number of buildings (thousand)	Total floorspace (million square feet)	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	5,918	96,423	6,787	11,834	4,081	2,300	101	305
Separate computer areas (more than one may apply)								
Server closet	1,237	48,722	3,775	6,488	2,237	1,305	43	190
Data center	116	11,383	1,061	1,828	630	346	14	71
Computer-based training room	228	16,556	1,400	2,281	786	489	21	104
Student or public computer center	236	12,527	1,007	1,518	523	394	22	68
Window and interior lighting features (more than one may apply)								
Multipaned windows	3,527	72,694	5,540	9,544	3,291	1,924	77	248
Tinted window glass	1,679	44,363	3,519	6,163	2,125	1,200	32	162
Reflective window glass	497	17,929	1,553	2,754	950	515	16	71
External overhangs or awnings	1,513	28,718	2,367	4,052	1,397	882	19	69
Skylights or atriums	509	19,815	1,486	2,541	876	507	18	85
Light scheduling	910	33,552	2,913	5,157	1,778	950	31	154
Occupancy sensors	1,025	44,304	3,525	6,054	2,088	1,161	40	237
Multilevel lighting or dimming	332	14,424	1,341	2,203	760	478	14	90
Daylight harvesting	138	7,244	643	1,174	405	195	4	39
Plug-load control	58	1,961	179	357	123	48	1	7
Demand responsive lighting	98	2,045	160	250	86	59	Q	8
Building automation system (BAS) for lighting	317	16,645	1,462	2,656	916	462	13	72
Electric vehicle (EV) charging								
Charging stations associated with the building	132	10,165	735	1,302	449	233	7	46

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 consumption in buildings that have the end use but not the consumption specifically for that end use.

HVAC = Heating, ventilation, and air conditioning.

^aPrimary electricity, which is not included in the sum of major fuels category, is site electricity plus the energy used to produce and deliver that electricity.

^bSite electricity is the amount of electricity that enters a building.

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

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

^eOffice 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.

(*) = Value rounds to zero in the units displayed

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Building floorspace (square feet)								
1,001 to 5,000	4.9	5.3	5.6	6.1	6.1	8.4	31.8	104.2
5,001 to 10,000	5.9	5.8	6.0	6.1	6.1	9.3	33.3	43.6
10,001 to 25,000	5.6	6.1	7.6	10.1	10.1	8.0	28.3	35.2
25,001 to 50,000	5.6	5.6	6.0	7.0	7.0	6.7	30.2	34.0
50,001 to 100,000	5.3	5.3	5.7	5.9	5.9	6.9	26.1	28.1
100,001 to 200,000	5.6	5.5	5.8	5.7	5.7	7.0	32.9	29.7
200,001 to 500,000	5.0	5.0	6.6	7.3	7.3	6.1	34.6	21.5
Over 500,000	7.8	8.6	8.9	8.0	8.0	15.2	18.6	12.7
Principal building activity								
Education	7.8	5.3	6.1	5.9	5.9	6.9	29.7	29.4
Food sales	14.3	17.0	21.4	24.8	24.8	19.1	47.3	0.0
Food service	7.7	8.5	9.1	9.5	9.5	10.6	56.7	88.3
Health care	9.8	5.5	5.9	6.9	6.9	6.6	29.0	15.0
Inpatient	19.4	7.2	7.3	9.5	9.5	7.2	30.0	15.1
Outpatient	10.3	8.0	8.2	8.6	8.6	11.3	38.4	45.0
Lodging	9.4	8.3	10.1	10.3	10.3	12.5	38.0	29.8
Mercantile	7.3	6.0	6.8	6.6	6.6	8.1	44.9	70.4
Retail (other than mall)	10.1	8.6	8.9	8.7	8.7	13.0	46.2	70.4
Enclosed and strip malls	7.6	7.6	8.6	8.3	8.3	9.9	33.7	0.0
Office	7.2	5.5	5.5	5.6	5.6	7.2	32.5	15.1
Public assembly	9.1	5.8	7.3	8.3	8.3	8.5	36.9	18.8
Public order and safety	20.2	15.9	19.5	20.2	20.2	20.8	64.2	64.2
Religious worship	9.5	9.3	9.7	8.5	8.5	12.9	35.1	109.3
Service	7.4	8.1	9.4	8.4	8.4	13.7	35.4	81.5
Warehouse and storage	7.4	7.2	8.3	9.0	9.0	10.2	58.4	85.2
Other	17.1	15.1	15.3	15.5	15.5	22.7	30.9	35.7
Vacant	17.2	14.1	15.3	19.2	19.2	24.5	47.5	63.8
Year constructed								
Before 1920	12.8	10.8	12.3	14.9	14.9	13.1	26.7	47.3
1920 to 1945	10.7	8.8	8.9	9.8	9.8	10.2	38.5	27.0
1946 to 1959	8.1	7.6	8.7	9.6	9.6	9.6	36.9	22.3
1960 to 1969	6.4	5.2	6.8	6.4	6.4	6.9	28.3	29.9
1970 to 1979	7.4	6.0	6.3	7.2	7.2	7.4	30.4	18.2
1980 to 1989	7.0	5.9	7.2	6.2	6.2	11.2	27.0	23.5
1990 to 1999	7.5	6.6	5.2	5.3	5.3	7.4	37.2	20.6
2000 to 2009	8.0	6.3	6.5	7.6	7.6	6.8	28.5	22.2
2010 to 2018	11.0	7.6	7.7	8.4	8.4	8.5	31.9	39.1

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity Primary ^a	Electricity Site ^b	Natural gas	Fuel oil	District heat
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Census region and division								
Northeast	9.9	7.2	5.8	7.1	7.1	6.5	23.1	11.0
New England	17.8	10.8	12.0	13.3	13.3	12.6	38.9	25.7
Middle Atlantic	12.0	8.8	6.6	8.4	8.4	7.4	27.8	12.5
Midwest	10.9	7.4	6.5	7.4	7.4	7.6	14.8	16.4
East North Central	13.1	10.4	8.7	9.5	9.5	9.7	19.0	20.3
West North Central	21.0	7.9	7.7	11.5	11.5	11.8	23.9	20.4
South	7.7	6.1	6.1	5.9	5.9	6.4	16.8	40.2
South Atlantic	11.0	6.8	8.5	8.2	8.2	6.9	15.9	51.0
East South Central	18.0	20.3	16.9	15.8	15.8	20.1	33.4	46.4
West South Central	14.7	11.5	10.5	10.3	10.3	11.4	57.8	78.2
West	8.1	7.1	7.7	6.0	6.0	12.3	61.0	30.4
Mountain	15.9	13.1	15.6	12.8	12.8	21.0	79.0	39.2
Pacific	9.0	8.1	6.1	4.8	4.8	11.9	86.3	40.3
Climate zone^c								
Cold or very cold	18.8	17.0	15.8	16.7	16.7	21.8	17.3	27.1
Cool	11.8	8.3	8.3	8.8	8.8	9.0	31.6	17.7
Mixed mild	15.1	10.5	10.8	9.9	9.9	12.0	18.1	23.7
Warm	11.4	10.0	10.8	10.4	10.4	11.5	38.8	48.5
Hot or very hot	18.8	14.1	12.1	12.4	12.4	13.5	29.4	18.8
Number of floors								
1	4.3	4.5	4.2	5.1	5.1	4.9	23.8	35.0
2	5.8	4.4	5.0	4.6	4.6	6.9	22.5	23.9
3	10.5	7.6	7.6	9.1	9.1	8.1	21.4	26.2
4 to 9	9.4	6.3	7.0	7.2	7.2	6.7	21.3	20.3
10 or more	9.8	11.0	11.4	10.9	10.9	19.9	39.5	17.1
Elevators and escalators (more than one may apply)								
Any elevators	6.5	4.5	4.9	4.9	4.9	5.1	22.7	15.9
One elevator	7.7	6.0	7.0	7.1	7.1	6.5	39.4	30.9
Two to five elevators	6.7	5.2	6.0	6.3	6.3	5.8	23.7	22.5
Six or more elevators	7.8	8.4	8.1	8.1	8.1	12.2	16.1	11.0
Any escalators	28.9	13.7	16.1	13.6	13.6	30.0	29.1	21.9
Number of workers (main shift)								
Fewer than 5	5.5	5.9	5.9	6.5	6.5	7.9	23.8	35.5
5 to 9	6.1	6.9	8.4	11.4	11.4	9.4	22.3	32.2
10 to 19	6.5	7.4	6.0	6.0	6.0	8.3	37.4	30.9
20 to 49	6.3	4.8	4.8	5.4	5.4	5.9	26.2	31.1
50 to 99	6.7	5.9	7.0	7.2	7.2	7.6	41.7	33.3
100 to 249	7.1	5.6	6.1	6.2	6.2	7.3	30.4	21.5
250 or more	7.2	6.4	6.5	6.3	6.3	10.1	15.0	13.0

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Weekly operating hours								
Fewer than 40	6.1	6.6	8.1	9.0	9.0	10.0	33.6	30.6
40 to 48	6.2	5.1	6.4	8.5	8.5	7.0	26.0	30.1
49 to 60	5.2	4.3	5.0	4.9	4.9	7.1	20.8	21.8
61 to 84	7.6	5.3	6.1	6.0	6.0	6.4	30.0	36.3
85 to 167	8.6	6.2	5.8	6.0	6.0	7.9	61.2	20.9
Open continuously	8.1	5.0	5.0	5.2	5.2	6.2	15.0	14.8
Ownership and occupancy								
Nongovernment owned	3.8	3.3	3.1	3.2	3.2	4.0	18.1	17.5
Owner occupied	4.3	3.3	3.5	3.7	3.7	4.7	17.4	19.5
Leased to tenant or tenants	5.5	4.8	4.6	4.9	4.9	5.6	28.3	25.3
Unoccupied	20.3	19.2	26.8	29.9	29.9	42.4	93.2	51.6
Government owned	9.5	6.0	7.0	7.7	7.7	6.0	20.3	19.8
Federal	26.0	16.1	17.6	17.7	17.7	20.1	65.0	36.5
State	12.9	11.8	15.1	15.8	15.8	12.0	31.9	27.9
Local	10.1	6.0	5.3	6.0	6.0	7.2	24.1	18.0
Party responsible for operation of energy systems								
Building owner	4.4	3.2	3.3	3.5	3.5	4.1	17.3	14.8
Business owner or tenant	6.5	7.2	6.6	6.7	6.7	8.6	31.3	27.0
Property management	20.7	11.7	13.3	13.5	13.5	16.7	64.3	43.4
Other	18.8	11.1	11.4	12.6	12.6	14.9	65.5	42.3
Provider of direct input on energy-related equipment purchases								
Building owner	4.4	3.1	3.3	3.4	3.4	4.1	16.9	15.0
Business owner or tenant	8.9	8.8	8.1	8.8	8.8	8.8	36.4	73.0
Property management	25.5	16.2	18.4	17.8	17.8	23.9	66.1	68.0
Other	10.5	8.1	8.8	8.7	8.7	11.4	80.1	54.2
Number of establishments								
1	4.6	3.6	3.6	4.0	4.0	4.1	19.4	18.6
2 to 5	6.0	5.5	6.4	6.0	6.0	9.1	22.7	16.1
6 to 10	11.5	7.9	7.6	7.5	7.5	9.9	35.7	26.4
11 to 20	18.0	8.9	10.4	10.1	10.1	13.2	43.9	49.0
More than 20	18.6	10.1	11.5	11.2	11.2	15.9	38.4	19.1
Currently unoccupied	18.7	16.5	21.2	25.5	25.5	33.1	89.6	74.6
Predominant exterior wall material								
Brick, stone, or stucco	5.3	3.9	4.6	4.7	4.7	4.6	25.5	20.4
Concrete (block or poured)	5.3	4.8	4.1	4.3	4.3	6.4	26.3	24.1
Concrete panels	12.1	8.4	8.5	8.3	8.3	12.7	33.9	25.2
Siding or shingles	7.3	9.3	12.2	17.0	17.0	10.8	22.5	48.1
Metal panels	7.6	6.0	7.0	7.3	7.3	10.1	28.1	39.0
Window glass	21.3	11.4	11.5	12.0	12.0	17.1	18.1	17.4
Other	14.7	13.7	14.2	15.2	15.2	18.1	53.4	59.8

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity Primary ^a	Electricity Site ^b	Natural gas	Fuel oil	District heat
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Predominant roof material								
Metal surfacing	6.2	5.6	6.6	8.4	8.4	7.7	24.2	29.4
Synthetic or rubber	6.0	4.1	4.2	4.8	4.8	4.4	26.3	15.0
Built-up	7.7	4.8	5.9	5.3	5.3	8.1	28.7	22.2
Slate or tile shingles	10.1	10.1	10.7	10.0	10.0	14.5	45.3	35.7
Wooden materials (including shingles)	12.9	17.8	15.8	17.2	17.2	19.3	99.5	0.0
Asphalt, fiberglass, or other shingles	6.2	5.6	6.0	6.8	6.8	7.3	23.0	19.0
Concrete	20.6	11.9	14.1	15.3	15.3	16.5	33.6	50.3
Other	15.6	9.8	10.0	13.0	13.0	12.2	51.2	19.6
Roof tilt								
Flat	4.9	3.3	3.6	3.5	3.5	4.4	20.1	14.0
Shallow pitch	5.0	4.8	4.7	5.4	5.4	5.7	31.1	32.7
Steeper pitch	7.5	5.7	6.7	9.0	9.0	7.1	24.1	22.1
Cool roof characteristics (more than one may apply)								
White or reflective coating or paint	5.8	4.4	5.1	5.2	5.2	6.2	27.8	23.1
White or reflective tiles or shingles	15.4	10.4	12.5	15.9	15.9	13.5	38.1	29.4
Aluminum coating	8.8	9.2	9.8	10.0	10.0	12.6	40.6	45.1
Ballasted roof system	14.8	9.5	10.7	9.4	9.4	14.7	25.9	20.8
Other cool roof property	29.3	19.2	18.5	20.3	20.3	21.2	61.3	39.6
Renovations since 2000 (more than one may apply)								
Any type of renovation	5.0	3.4	3.2	3.3	3.3	4.4	22.4	14.1
Addition or annex	9.4	6.0	5.2	5.0	5.0	7.3	26.8	18.5
Reduction in floorspace	22.2	13.2	15.1	15.0	15.0	19.6	72.1	37.1
Roof replacement	6.8	4.3	4.5	4.7	4.7	6.2	22.6	15.3
Interior wall reconfiguration	6.0	4.2	4.9	4.3	4.3	7.7	21.4	16.6
Window replacement	9.5	5.8	6.5	6.5	6.5	9.1	29.2	21.0
HVAC equipment upgrade	7.0	4.2	4.2	4.1	4.1	5.3	31.7	14.0
Lighting upgrade	5.9	3.9	4.0	4.0	4.0	5.5	28.5	14.0
Electrical upgrade	7.1	5.6	5.5	5.2	5.2	7.7	24.2	15.7
Plumbing system upgrade	7.8	5.2	5.5	5.3	5.3	7.5	20.0	15.1
Insulation upgrade	9.2	7.8	8.5	8.1	8.1	12.1	26.3	18.2
Fire, safety, or security upgrade	6.2	4.4	4.9	4.7	4.7	6.8	22.7	13.5
Structural upgrade	13.9	10.2	12.2	11.1	11.1	17.7	38.3	27.3
Other	29.5	14.9	13.2	13.0	13.0	19.3	75.1	62.9
No renovations	4.3	3.9	4.3	5.0	5.0	4.7	18.6	19.5
Buildings constructed 2013 or later	11.9	8.3	8.4	9.3	9.3	9.9	39.6	33.0

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity Primary ^a	Electricity Site ^b	Natural gas	Fuel oil	District heat
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Energy sources (more than one may apply)								
Electricity	3.9	3.0	3.0	3.1	3.1	3.7	16.7	14.3
Natural gas	4.8	3.4	3.2	3.1	3.1	3.7	15.1	14.6
Fuel oil	9.7	5.4	5.6	6.3	6.3	7.5	16.7	13.2
District heat	14.7	11.4	12.0	12.7	12.7	11.8	28.0	14.3
District chilled water	20.1	13.7	15.7	15.6	15.6	19.1	36.8	20.0
Propane	10.0	7.6	10.7	12.3	12.3	17.4	27.4	30.0
Solar	15.5	11.5	11.5	10.9	10.9	13.4	45.8	29.3
Wood, coal, and other	17.3	14.0	14.9	15.6	15.6	19.3	38.8	68.2
Space-heating energy sources (more than one may apply)								
Electricity	4.7	3.7	3.9	4.4	4.4	5.1	20.4	18.9
Natural gas	5.2	3.6	3.4	3.3	3.3	4.0	11.9	17.8
Fuel oil	13.9	11.6	12.6	15.3	15.3	13.3	18.6	45.0
District heat	15.4	11.6	11.9	12.1	12.1	11.8	29.5	14.5
Propane	13.5	13.1	23.8	18.2	18.2	57.4	30.8	105.8
Other sources ^d	21.3	19.6	22.7	22.3	22.3	27.5	56.3	94.7
Primary space-heating energy source								
Electricity	6.4	5.5	5.9	6.4	6.4	6.5	21.1	54.2
Natural gas	5.5	4.1	3.9	3.8	3.8	4.3	12.5	32.7
Fuel oil	16.1	15.3	18.3	15.3	15.3	50.0	21.3	0.0
District heat	15.8	12.6	13.0	13.3	13.3	12.5	30.0	15.0
Propane	17.5	16.9	24.8	24.7	24.7	48.1	94.0	0.0
Other sources ^d	22.4	30.3	28.5	30.6	30.6	40.5	59.3	0.0
Cooling energy sources (more than one may apply)								
Electricity	3.9	3.0	2.9	3.1	3.1	3.6	18.1	14.6
Natural gas	37.3	24.2	21.4	18.8	18.8	27.0	63.2	62.8
District chilled water	20.1	13.7	15.7	15.6	15.6	19.1	36.8	20.0
Water-heating energy sources (more than one may apply)								
Electricity	4.0	3.6	3.8	4.5	4.5	4.5	21.2	15.0
Natural gas	5.5	3.7	3.6	3.5	3.5	4.3	15.0	16.4
Fuel oil	24.0	15.4	14.7	15.6	15.6	19.7	22.7	31.8
District heat	17.4	12.8	12.9	14.2	14.2	14.6	35.6	14.7
Propane	15.8	14.7	31.6	34.8	34.8	37.3	63.3	0.0
Cooking energy sources (more than one may apply)								
Electricity	5.7	3.9	4.5	4.9	4.9	5.4	19.5	14.8
Natural gas	5.4	3.4	3.6	3.5	3.5	4.1	17.2	12.2
Propane	14.8	11.7	12.3	14.5	14.5	20.2	34.3	42.5

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity Primary ^a	Electricity Site ^b	Natural gas	Fuel oil	District heat
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Energy end uses (more than one may apply)								
Buildings with space heating	4.1	3.0	3.0	3.2	3.2	3.7	16.8	14.3
Buildings with cooling	3.9	3.0	3.0	3.1	3.1	3.6	17.8	14.7
Buildings with water heating	3.9	2.9	3.0	3.1	3.1	3.7	17.1	14.3
Buildings with cooking	5.0	3.1	3.4	3.8	3.8	4.1	17.3	13.3
Buildings with manufacturing	11.3	7.9	11.2	14.8	14.8	10.4	34.6	38.2
Buildings with electricity generation	7.4	4.4	4.4	4.9	4.9	5.3	17.1	14.3
Buildings with lighting	3.9	3.0	3.0	3.1	3.1	3.7	16.7	14.3
Percentage of floorspace heated								
Not heated	8.2	10.0	11.1	10.9	10.9	27.8	31.8	54.9
1% to 50%	8.5	7.1	7.4	8.2	8.2	10.0	36.8	65.2
51% to 99%	6.7	5.3	5.4	5.2	5.2	6.0	29.5	23.0
100%	4.1	3.2	3.4	3.5	3.5	4.6	18.8	15.0
Percentage of floorspace cooled								
Not cooled	7.1	8.0	17.0	24.2	24.2	15.7	40.5	45.6
1% to 50%	5.9	5.2	5.2	5.5	5.5	7.6	27.7	39.9
51% to 99%	6.6	5.1	5.3	5.1	5.1	5.8	23.0	20.1
100%	4.3	3.5	3.5	3.6	3.6	4.7	17.3	18.5
Percentage lit when open								
0%	35.1	38.5	87.3	76.4	76.4	50.4	0.0	0.0
1% to 50%	6.7	6.0	6.1	6.5	6.5	8.2	29.7	31.8
51% to 99%	4.8	3.6	4.2	4.4	4.4	4.8	21.8	17.4
100%	4.7	3.8	3.8	4.0	4.0	4.9	18.0	18.8
Building never open or electricity not used	11.6	12.1	14.5	17.9	17.9	20.9	72.5	74.6
Percentage lit during off hours								
0%	6.5	6.7	7.2	8.2	8.2	9.0	23.4	35.2
1% to 50%	3.8	3.0	3.2	3.3	3.3	4.2	18.3	16.3
51% to 100%	10.6	6.7	7.1	8.7	8.7	6.7	22.7	19.0
Building always open with no off hours	15.2	11.6	11.4	12.8	12.8	13.0	29.1	32.7
Electricity not used	16.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0
Heating equipment (more than one may apply)								
Packaged heating units	4.0	3.6	3.5	3.6	3.6	4.5	16.6	21.1
Furnaces	7.2	5.7	5.9	6.5	6.5	6.1	28.3	51.2
Individual space heaters	5.9	4.8	5.6	5.8	5.8	7.5	21.4	24.6
Boilers	6.2	4.0	4.3	5.2	5.2	5.0	18.3	22.4
Heat pumps	7.7	5.4	6.4	6.1	6.1	8.8	31.5	37.7
District heat	15.4	11.6	11.9	12.1	12.1	11.8	29.5	14.5
Duct reheat	12.6	7.0	7.0	7.2	7.2	8.6	47.1	27.2
Other	46.4	24.1	32.3	40.7	40.7	23.5	78.5	74.7

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Cooling equipment (more than one may apply)								
Packaged air-conditioning units	4.3	3.4	3.1	3.6	3.6	3.6	24.8	14.5
Residential-type central air conditioners	7.6	5.2	5.5	6.1	6.1	5.6	40.1	24.9
Individual air conditioners	6.6	5.3	5.8	6.4	6.4	6.7	19.8	21.3
Central chillers	9.0	5.0	5.0	5.1	5.1	4.7	22.0	20.8
Heat pumps	11.0	6.8	7.8	7.2	7.2	11.6	30.6	27.7
District chilled water	20.1	13.7	15.7	15.6	15.6	19.1	36.8	20.0
Swamp coolers	12.8	13.1	14.9	15.1	15.1	17.0	48.5	47.0
Other	53.2	36.4	38.3	41.3	41.3	50.3	40.9	0.0
HVAC features (more than one may apply)								
Economizer cycle	5.6	3.9	4.1	4.1	4.1	4.9	18.8	12.8
Variable air volume (VAV) system	8.4	4.9	5.5	5.4	5.4	5.9	13.6	17.4
Dedicated outside air system (DOAS)	11.0	7.8	9.6	11.4	11.4	11.4	34.7	19.2
Demand controlled ventilation (DCV)	8.8	5.5	5.3	5.8	5.8	6.4	36.2	21.8
Regular HVAC maintenance	4.2	3.2	3.3	3.3	3.3	3.9	18.8	14.9
Building automation system (BAS) controls heating or cooling	6.4	3.7	4.0	4.2	4.2	4.6	20.5	13.9
Internet-connected or smart thermostat	12.2	10.5	11.0	11.4	11.4	12.9	36.1	67.4
Programmable thermostat	4.7	5.4	5.5	5.4	5.4	7.2	29.9	48.0
Main equipment replaced since 2000 (more than one may apply)								
Heating	4.9	3.8	3.5	3.7	3.7	4.7	30.8	43.0
Cooling	4.8	4.3	5.1	4.8	4.8	6.6	20.6	21.0
Water-heating equipment								
Centralized system	4.4	3.4	4.0	4.2	4.2	4.6	14.4	18.6
Distributed system	8.9	6.4	6.1	7.0	7.0	7.3	42.7	18.1
Combination of centralized and distributed systems	8.8	5.2	5.6	5.8	5.8	6.6	27.3	18.8
Generation technologies (more than one may apply)								
Reciprocating engine generators	8.8	4.8	4.8	5.4	5.4	5.9	17.6	14.6
Solar panels	15.4	11.5	11.1	10.8	10.8	13.4	46.8	27.9
Other generation technology	21.4	14.4	16.6	18.7	18.7	20.4	30.2	28.5

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Lighting equipment types (more than one may apply)								
Incandescent	7.8	4.5	4.9	5.1	5.1	6.1	21.3	18.2
Standard fluorescent	4.2	3.4	3.3	3.5	3.5	3.8	17.2	13.3
Compact fluorescent	5.2	4.2	4.5	4.5	4.5	4.9	25.2	18.0
High-intensity discharge (HID)	9.8	7.1	7.6	7.5	7.5	9.7	26.1	21.6
Halogen	8.0	4.2	5.2	4.7	4.7	7.3	27.6	19.3
LED	3.6	2.9	3.2	3.4	3.4	3.8	16.3	13.1
Other	57.3	24.1	29.0	27.3	27.3	39.7	70.9	0.0
Refrigeration equipment (more than one may apply)								
Any refrigeration	4.1	3.0	3.1	3.2	3.2	3.8	18.2	15.8
Walk-in units	5.4	3.4	3.8	4.2	4.2	4.6	24.8	13.4
Cases or cabinets	5.8	3.7	3.8	4.1	4.1	4.8	24.7	12.1
Large cold storage areas	17.2	11.3	15.0	16.9	16.9	20.6	28.8	31.6
Commercial ice makers	5.5	3.5	3.9	4.0	4.0	4.5	24.8	16.1
Residential-type or compact units	4.3	3.2	3.1	3.2	3.2	3.9	18.0	16.2
Vending machines	6.1	3.8	3.8	3.9	3.9	4.5	18.9	17.8
No refrigeration	5.3	5.3	5.9	6.7	6.7	8.4	21.8	22.8
Office equipment (more than one may apply)								
Desktop computers	4.0	2.9	3.0	3.2	3.2	3.7	17.1	15.0
With multiple monitors	5.0	3.5	3.9	3.9	3.9	4.4	13.7	16.8
Laptop computers	4.0	3.0	3.3	3.2	3.2	4.0	16.7	15.1
Dedicated servers	4.9	3.3	3.0	3.0	3.0	4.0	16.5	15.6
Tablets charged in building	4.4	3.3	4.0	3.9	3.9	4.4	14.5	19.5
Large floor-standing office devices ^e	4.4	3.0	3.4	3.4	3.4	4.1	18.6	16.0
Smaller desktop office devices ^e	4.1	3.1	3.1	3.3	3.3	3.8	17.6	15.6
Interactive whiteboards	8.7	4.5	5.8	6.0	6.0	7.9	28.5	12.2
Televisions or video displays	3.8	3.0	3.2	3.2	3.2	3.9	16.8	15.5
Point-of-sale devices or cash registers	5.2	3.4	3.8	3.8	3.8	5.0	21.3	12.3
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar, concession stand, or coffee shop	11.0	6.7	6.9	6.4	6.4	8.9	14.9	17.3
Fast food or small restaurant	9.4	5.9	6.3	5.7	5.7	8.8	29.0	18.9
Cafeteria or large restaurant	7.7	4.6	5.5	5.2	5.2	7.5	27.9	13.4
Commercial kitchen or food preparation area	8.5	4.4	4.7	4.9	4.9	5.6	21.4	18.3
Small kitchen area	6.5	4.7	5.7	5.5	5.5	7.2	18.5	17.5

Relative standard errors (RSEs) for Table C1. Total energy consumption by major fuel, 2018

	RSEs for all buildings		RSEs for total energy consumption					
	Number of buildings	Total floorspace	Sum of major fuels	Electricity		Natural gas	Fuel oil	District heat
				Primary ^a	Site ^b			
All buildings	3.9	3.1	3.0	3.1	3.1	3.7	16.7	14.3
Separate computer areas (more than one may apply)								
Server closet	5.3	3.4	3.4	3.2	3.2	4.5	19.1	16.7
Data center	13.1	6.7	7.0	6.9	6.9	9.9	36.6	17.9
Computer-based training room	8.4	4.6	5.6	4.9	4.9	7.5	26.1	19.1
Student or public computer center	8.0	4.6	6.2	5.5	5.5	8.4	30.3	17.6
Window and interior lighting features (more than one may apply)								
Multipaned windows	4.2	3.2	3.2	3.4	3.4	4.0	19.7	14.6
Tinted window glass	4.2	3.4	3.6	3.8	3.8	4.5	29.4	12.6
Reflective window glass	7.0	5.6	6.3	5.8	5.8	7.9	39.0	34.7
External overhangs or awnings	5.0	4.5	4.4	4.7	4.7	5.2	19.5	15.7
Skylights or atriums	7.1	4.5	5.0	4.8	4.8	6.9	17.9	14.7
Light scheduling	5.2	4.1	4.6	4.5	4.5	5.5	21.1	19.8
Occupancy sensors	6.5	3.8	4.2	4.1	4.1	5.2	20.2	14.5
Multilevel lighting or dimming	10.0	6.6	8.2	8.1	8.1	8.9	38.3	24.0
Daylight harvesting	12.0	6.3	7.4	8.1	8.1	8.4	24.2	19.9
Plug-load control	18.4	12.2	16.9	20.7	20.7	13.0	46.3	30.3
Demand responsive lighting	30.7	15.2	13.3	12.8	12.8	20.7	72.6	35.7
Building automation system (BAS) for lighting	9.3	5.2	5.6	5.1	5.1	8.5	39.5	13.2
Electric vehicle (EV) charging								
Charging stations associated with the building	11.5	7.2	8.7	8.4	8.4	12.8	24.1	22.9

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>.

^aPrimary electricity, which is not included in the sum of major fuels category, is site electricity plus the energy used to produce and deliver that electricity.

^bSite electricity is the amount of electricity that enters a building.

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

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

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