	Number of bu	ildings (thousa	nd)					
	Р	rincipal buildin	g activity					
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Building floorspace (square feet)								
1,001 to 5,000	2,833	437	518	517	181	215	167	148
5,001 to 10,000	1,359	255	198	216	105	115	103	98
10,001 to 25,000	981	194	137	100	141	95	121	63
25,001 to 50,000	386	60	53	24	48	44	39	39
50,001 to 100,000	218	33	35	9	23	14	8	57
100,001 to 200,000	93	15	17	Q	13	3	Q	25
200,001 to 500,000	40	8	9	Q	5	1	Q	7
Over 500,000	9	2	2	Q	1	1	N	0
Year constructed								
Before 1920	329	Q	85	Q	Q	64	57	Q
1920 to 1945	379	22	78	57	Q	40	Q	22
1946 to 1959	517	113	54	68	48	33	44	65
1960 to 1969	685	68	82	135	95	61	59	51
1970 to 1979	831	121	159	143	65	63	74	59
1980 to 1989	794	150	164	108	63	35	34	55
1990 to 1999	921	235	130	125	49	70	58	86
2000 to 2009	924	162	152	139	100	78	55	60
2010 to 2018	537	117	67	82	52	43	Q	26
Census region and division								
Northeast	793	119	138	144	60	91	61	44
New England	275	50	23	45	Q	47	Q	21
Middle Atlantic	518	70	115	99	37	44	48	23
Midwest	1,719	307	265	305	139	141	122	90
East North Central	1,110	206	172	184	76	96	80	53
West North Central	609	101	93	120	62	44	42	37
South	2,143	366	375	237	207	168	201	153
South Atlantic	1,034	154	184	110	94	101	106	76
East South Central	347	75	47	29	38	Q	44	24
West South Central	762	136	143	98	75	56	50	53
West	1,264	212	193	181	112	88	55	150
Mountain	484	81	65	77	56	31	Q	38
Pacific	780	131	129	104	56	57	36	112
Climate zone <sup>a</sup>								
Cold or very cold	539	117	83	111	37	24	Q	35
Cool	1,727	288	239	330	147	157	115	101
Mixed mild	1,216	220	215	131	99	118	98	76
Warm	1,606	239	285	206	155	122	136	143
Hot or very hot	831	140	149	90	80	68	60	82

	Number of buil	dings (thousa	nd)					
	Pr	incipal buildin	g activity					
		Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Number of floors								
1	4,106	846	544	708	406	307	213	278
2	1,286	137	273	144	79	116	182	111
3	370	19	105	Q	32	47	37	26
4 to 9	142	Q	38	Q	Q	18	Q	23
10 or more	16	N	9	N	N	Q	N	Q
Elevators and escalators								
(more than one may apply)								
Any elevators	503	27	150	Q	16	50	47	78
1 elevator	366	24	98	Q	14	37	44	62
2 to 5 elevators	121	3	44	Q	Q	12	Q	15
6 or more elevators	16	Q	8	Q	Q	1	Q	0
Any escalators	14	Q	2	Q	1	2	Q	Q
Number of workers (main shift)								
Fewer than 5	3,270	717	340	595	231	325	329	113
5 to 9	1,116	125	254	160	81	94	50	132
10 to 19	713	69	152	70	85	39	43	58
20 to 49	492	68	103	34	77	21	13	64
50 to 99	201	17	66	Q	26	8	Q	50
100 to 249	90	7	32	Q	15	2	N	19
250 or more	37	1	24	Q	1	1	N	2
Weekly operating hours								
Fewer than 40	1,370	211	96	142	Q	182	324	88
40 to 48	1,483	230	469	335	106	76	38	117
49 to 60	1,250	200	266	217	172	95	29	173
61 to 84	645	84	66	97	115	57	26	48
85 to 167	465	94	25	34	64	48	Q	9
Open continuously	705	185	48	42	19	30	Q	Q
Ownership and occupancy	4.000	063	700	720	F4F	227	420	4.00
Nongovernment owned	4,982	963	796	726	515	327	439	166
Owner occupied	3,249	633	485	465	236	278	412	142
Leased to tenant or tenants	1,581	330	311	261	279	48	Q	24
Unoccupied	152	N	N	N	N	N	N	N
Government owned	937	42	175	141	Q	162	N	271
Federal	70	3	11	33	Q	Q	N	Q
State	256	Q	34	Q	Q	36	N	92
Local	610	Q	129	75	Q	120	N	169
Party responsible for operation of energy systems								
Building owner	4,872	761	816	698	298	441	423	421
Business owner or tenant	831	191	109	153	191	26	423 Q	
	97							Q
Property management Other		Q 21	24 22	Q	Q 0	Q	Q	Q 12
	118	21	22	Q	Q	Q	Q	12

Number of buildings (thousand)

	Pr	incipal buildin	g activity					
		Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Provider of direct input on energy-								
related equipment purchases								
Building owner	5,127	862	866	709	372	439	428	420
Business owner or tenant	483	77	56	118	96	Q	Q	Q
Property management	49	Q	Q	Q	Q	Q	Ν	Q
Other	260	49	46	Q	40	30	Q	13
Number of establishments								
1	4,719	826	670	787	282	433	416	413
2 to 5	811	155	211	78	151	50	Q	24
6 to 10	135	15	44	Q	60	Q	Ν	Q
11 to 20	63	Q	32	Q	19	Q	N	Q
More than 20	19	Q	12	N	5	Q	N	Q
Currently unoccupied	170	N	N	N	N	N	N	N
Campus or complex activity								
Not part of a campus or complex	3,622	410	629	593	408	286	267	170
Primary or secondary school	247	N	Q	N	N	36	N	179
College or university	103	Q	9	Q	Q	9	N	49
Office complex	141	Q	106	Q	Q	Q	Q	Q
Retail complex	250	62	Q	Q	94	Q	N	N
Storage complex	418	339	Q	Q	Q	Q	N	N
Religious campus or complex	253	Q	Q	Q	N	Q	166	25
Health care complex	60	Q	Q	Q	N	Q	N	Q
Lodging or resort complex	102	Q	Q	N	Q	Q	N	N
Transportation complex	36	Q	Q	Q	N	2	N	Q
Government complex	124	Q	27	48	N	Q	N	N
Other	563	125	100	143	Q	82	Q	Q
Predominant exterior wall material								
Brick, stone, or stucco	2,490	171	565	243	237	215	266	226
Concrete (block or poured)	935	151	85	158	119	74	51	66
Concrete panels	137	43	31	Q	18	10	Q	3
Siding or shingles	948	90	199	90	51	114	93	92
Metal panels	1,250	527	48	361	65	64	Q	Q
Window glass	19	N	10	N	Q	2	N	Q
Other	139	Q	32	Q	Q	Q	Q	Q

	Number of buil	dings (thousa	nd)					
	Pr	incipal buildin	g activity					
		Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Predominant roof material								
Metal surfacing	2,198	662	207	499	135	162	94	111
Synthetic or rubber	940	131	180	72	136	62	20	103
Built-up	708	59	160	91	94	37	27	79
Slate or tile shingles	376	Q	78	Q	Q	56	54	Q
Wooden materials (including								
shingles)	166	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or								
other shingles	1,311	78	280	144	99	143	213	85
Concrete	83	Q	16	Q	Q	Q	Q	Q
Other	136	27	28	Q	Q	Q	Q	7
Roof tilt								
Flat	1,914	227	393	260	245	99	50	190
Shallow pitch	2,313	578	317	384	204	166	99	161
Steeper pitch	1,691	199	261	223	68	224	290	87
Cool roof characteristics (more than o	ne							
may apply)								
White or reflective coating or paint	1,285	253	200	169	144	74	40	127
White or reflective tiles or shingles	140	Q	13	Q	Q	Q	Q	12
Aluminum coating	528	109	42	140	51	41	Q	29
Ballasted roof system	114	Q	33	Q	7	9	Q	10
Other cool roof property	35	N	Q	Q	Q	Q	Q	Q
Renovations since 2000								
(more than one may apply)								
Any type of renovation	2,032	198	391	235	203	184	203	180
Addition or annex	327	24	39	41	23	23	44	55
Reduction in floorspace	35	Q	2	Q	Q	Q	Q	Q
Roof replacement	847	97	147	54	94	73	99	85
Interior wall reconfiguration	709	57	187	73	69	59	40	82
Window replacement	484	44	91	55	51	46	46	41
HVAC equipment upgrade	1,006	81	196	77	113	90	121	94
Lighting upgrade	1,012	93	204	120	113	91	54	95
Electrical upgrade	565	45	89	56	69	58	37	62
Plumbing system upgrade	584	28	99	51	48	62	52	66
Insulation upgrade	307	43	55	41		32	Q	28
Fire, safety, or security upgrade	570	31	87	54	40	57	37	89
Structural upgrade	147	Q	18	Q	40 Q	18	Q	16
Other	43	Q	18 Q	Q Q	<u>ر</u> 4	Q	<u>ر</u> م	
No renovations	3,530	717	533	576	280	277	227	Q 241
Buildings constructed 2013 or later	357	89	46	56	34	27	Q	17

	Number of build	dings (thousai	nd)					
	Pri	incipal buildin	g activity					
		Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Energy sources								
(more than one may apply)			070					
Electricity	5,613	792	970	866	513	488	439	437
Natural gas	2,974	320	549	382	328	275	259	216
Fuel oil	583	52	102	153	29	44	32	34
District heat	86	Q	10	Q	Q	13	Q	39
District chilled water	55	Q	7	N	N	8	Q	29
Propane	676	83	59	107	51	75	96	51
Solar	99	Q	17	Q	10	16	Q	14
Wood, coal, and other	180	Q	Q	94	Q	Q	Q	Q
Space-heating energy sources (more than one may apply)								
Electricity	2,563	290	527	289	317	194	183	214
Natural gas	2,587	283	489	351	313	244	227	190
Fuel oil	266	Q	37	87	Q	Q	Q	19
District heat	83	Q	10	Q	Q	11	Q	37
Propane	431	48	Q	78	35	33	82	35
Other sources <sup>b</sup>	127	Q	Q	83	Q	Q	N	Q
Primary space-heating								
energy source	4.050							
Electricity	1,856	200	389	193	203	157	125	161
Natural gas	2,344	274	458	316	250	231	207	171
Fuel oil	222	Q	35	66	Q	Q	Q	14
District heat	78	Q	9	Q	Q	10	Q	34
Propane	338	45	Q	62	Q	Q	73	Q
Other sources <sup>b</sup>	63	Q	Q	Q	N	Q	N	Q
Cooling energy sources								
(more than one may apply)								
Electricity	4,584	470	934	512	479	406	420	389
Natural gas	4	Q	Q	N	Q	Q	Q	Q 20
District chilled water	55	Q	7	N	N	8	Q	29
Water-heating energy sources (more than one may apply)								
Electricity	2,785	285	575	376	357	229	241	211
Natural gas	1,885	143	375	199	218	229	158	158
Fuel oil	72		16	199 Q			Q	9
District heat	38	Q N	6	Q Q	Q N	Q 6	QN	15
	145	Q	Q	Q Q	Q	Q	Q	7
Propane	143	ч	ų	<u>ر</u>	ч	ų	ų	/
Cooking energy sources (more than one may apply)								
Electricity	1,216	54	166	45	117	113	189	125
Natural gas	727	Q	40	Q	98	80	108	80
i tatara bas				-				

	Number of buildings (thousand)											
	Pr	incipal buildin	g activity									
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education				
All buildings	5,918	1,004	970	867	517	488	439	437				
Energy end uses (more than one may apply)												
Buildings with space heating	4,901	549	925	686	486	444	426	413				
Buildings with cooling	4,631	473	939	512	479	412	421	413				
Buildings with water heating	4,595	425	902	590	452	449	409	378				
Buildings with cooking	1,738	60	198	49	149	197	275	176				
Buildings with manufacturing	322	113	24	100	21	Q	Q	3				
Buildings with electricity												
generation	706	70	139	106	44	68	19	62				
Buildings with lighting	5,503	707	970	853	513	488	439	437				
Percent of floorspace heated												
Not heated	1,017	455	45	181	Q	44	Q	Q				
1 to 50%	693	239	91	167	73	23	Q	Q				
51 to 99%	905	76	159	97	149	99	72	73				
100%	3,303	234	676	422	265	322	339	331				
Percent of floorspace cooled												
Not cooled	1,288	532	Q	355	Q	76	Q	24				
1 to 50%	1,111	313	101	322	84	64	38	40				
51 to 99%	998	76	193	46	155	106	104	91				
100%	2,522	84	645	145	240	242	280	283				
Percent lit when open												
0%	Q	Q	Ν	Q	N	Ν	N	N				
1 to 50%	1,280	294	188	237	58	131	140	50				
51 to 99%	1,784	120	401	198	267	177	161	137				
100%	2,272	267	381	405	187	159	137	251				
Building never open or electricity												
not used	513	259	N	Q	Q	Q	N	N				
Percent lit during off hours												
0%	2,062	437	267	458	98	201	232	148				
1 to 50%	3,246	326	670	378	399	259	205	282				
51 to 100%	240	25	32	Q	15	24	Q	8				
Building always open with												
no off hours	64	Q	Q	Q	Q	Q	N	Q				
Electricity not used	305	213	N	Q	Q	N	N	N				

	Number of buil	dings (thousa	nd)					
	Pr	incipal buildin	g activity					
		Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Heating equipment (more than one may apply)								
Packaged heating units	2,187	200	419	214	362	178	162	157
Furnaces	1,621	187	313	268	176	168	178	76
Individual space heaters	1,246	220	184	337	124	58	79	63
Boilers	703	34	133	69	49	69	70	133
Heat pumps	673	48	132	36	82	51	72	89
District heat	83	Q	10	Q	Q	11	Q	37
Duct reheat	134	Q	21	Q	29	13	Q	20
Other	17	Q	Q	N N	23 Q	Q	۹ N	Q
Cooling equipment		<b>~</b>	~		~	<u> </u>		
(more than one may apply)								
Packaged air-conditioning units	2,565	230	504	220	381	227	224	217
Residential-type central air	2,305	230	504	220	501	221	224	217
conditioners	1,309	161	321	137	108	125	127	100
Individual air conditioners	735	79	60	134	73	64	69	65
Central chillers	202	Q	53	Q	15	18	15	47
Heat pumps	492	36	85	38	52	40	68	
District chilled water	55	Q	7	38 N	N		Q	29
Swamp coolers	85	Q 17	3	Q	Q	Q	Q	Q
Other	Q	Q	Q	N N	Q N	QN	Q N	N
	~	~	~					
HVAC features (more than one may apply)								
Economizer cycle	747	37	152	23	93	73	42	133
Variable air volume (VAV) system	698	69	178	46	35	65	42	109
Dedicated outside air system (DOAS)	249	15	43	40 Q	Q	34	42 Q	44
Demand controlled ventilation (DCV)	349	40	43	42	19	28	37	72
Regular HVAC maintenance	3,554	354	719	356	342	331	284	400
Building automation system (BAS)		554	719	330	542	331	204	400
controls heating or cooling	933	46	188	30	112	83	92	184
Internet-connected or smart			100	50			J2	101
thermostat	325	31	42	Q	30	39	62	27
Programmable thermostat	1,545	176	406	206	108	118	112	114
Main equipment replaced since								
2000 (more than one may apply)								
Heating	1,937	247	377	264	205	143	223	124
Cooling	1,269	158	212	197	77	103	146	118
Water-heating equipment								
Centralized system	3,538	321	727	457	273	368	322	284
Distributed system	782	94	122	122	125	52	52	58
Combination of centralized and								
distributed systems	274	10	54	Q	55	30	35	37

	Number of bu	ildings (thousa	nd)					
	F	Principal buildin	ng activity					
	All buildings	Warehouse and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	5,918	1,004	970	867	517	488	439	437
Generation technologies (more than one may apply)								
Reciprocating engine generators	580	55	120	100	32	48	16	47
Solar panels	94	Q	17	Q	10	16	Q	14
Other generation technology	43	Q	Q	Q	Q	Q	Q	Q
Lighting equipment types (more than one may apply)								
Incandescent	1,100	117	196	79	137	120	176	41
Standard fluorescent	4,012	497	756	615	395	334	334	340
Compact fluorescent	1,130	114	217	99	172	124	91	66
High-intensity discharge (HID)	238	58	26	47	23	21	16	18
Halogen	552	52	74	46	122	53	75	26
LED	2,593	255	457	328	286	238	222	200
Other	Q	N	Q	N	Q	Q	N	N
Refrigeration equipment (more than one may apply)								
Any refrigeration	3,850	337	738	458	401	383	365	272
Walk-in units	706	8	19	Q	131	58	10	78
Cases or cabinets	837	25	43	Q	152	93	38	65
Large cold storage areas	69	7	Q	N	13	Q	N	2
Commercial ice makers	872	37	70	42	96	114	59	61
Residential-type or compact units	3,321	305	709	423	337	331	349	238
Vending machines	800	67	127	106	132	58	26	89
No refrigeration	2,068	667	233	409	116	105	74	165
Office equipment (more than one may apply)								
Desktop computers	3,804	369	907	431	456	301	233	384
With multiple monitors	1,504	174	537	121	149	80	86	146
Laptop computers	2,786	281	666	304	291	212	233	319
Dedicated servers	1,400	143	455	91	194	68	36	150
Tablets charged in building	1,556	130	353	125	215	110	96	197
Large floor-standing office devices <sup>c</sup>	1,456	107	496	88	129	111	130	201
Smaller desktop office devices <sup>c</sup>	3,560	371	791	456	438	273	239	327
Interactive whiteboards	262	5	43	Q	13	7	Q	150
Televisions or video displays	2,451	180	452	210	291	251	229	255
Point-of-sale devices or cash registers	1,420	50	126	178	378	128	Q	62

#### Number of buildings (thousand)

Pr	incipal buildin	g activity					
	Warehouse						
All	and				Public	Religious	
buildings	storage	Office	Service	Mercantile	assembly	worship	Education
5,918	1,004	970	867	517	488	439	437
144	Q	13	N	25	42	Q	14
160	Q	8	Q	56	21	Q	5
129	Q	7	Q	3	26	Q	68
284	Q	7	Q	39	48	58	42
1,018	58	182	45	69	119	209	109
1,237	132	445	81	137	63	32	144
116	Q	32	Q	4	4	Q	19
228	16	47	Q	18	16	Q	88
236	Q	25	Q	31	32	Q	115
3,527	344	692	443	354	285	303	291
1,679	156	371	163	239	110	161	146
497	39	110	49	85	31	30	45
1,513	119	269	134	288	132	95	130
509	86	93	69	37	49	28	45
910	76	164	62	160	78	58	83
1,025	123	196	94	119	75	52	180
332	16	59	Q	32	56	51	36
138	14	16	Q	32	7	Q	11
58	Q	Q	N	Q	Q	Q	Q
98	Q	8	Q	Q	Q	Q	Q
317	Q	47	Q	76	23	Q	66
132	26		32				
	All buildings 5,918 144 160 129 284 1,018 1,237 1,018 1,237 116 228 236 3,527 1,679 497 1,513 3,527 1,679 497 1,513 509 910 1,025 332 138 58 98 317	All buildings         Warehouse and storage           5,918         1,004           5,918         1,004           144         Q           160         Q           129         Q           284         Q           1,018         58           1,018         58           1,237         132           116         Q           228         16           236         Q           3,527         344           1,679         156           497         39           1,513         119           509         86           910         76           1,025         123           332         16           138         14           58         Q           98         Q           317         Q	All buildingsand storageOffice5,9181,004970144Q13160Q8129Q7284Q71,018581821,237132445116Q322281647236Q253,5273446921,679156371497391101,5131192695098693910761641,0251231963321659138141658Q8317Q47	Warehouse All buildings         and storage         Office         Service           5,918         1,004         970         867           144         Q         13         N           160         Q         8         Q           129         Q         7         Q           1,018         58         182         45           1,237         132         445         81           116         Q         32         Q           228         16         47         Q           236         Q         25         Q           3,527         344         692         443           1,679         156         371         163           497         39         110         49           1,513         119         269         134           509         86         93         69           910         76         164         62           1,025         123         196         94           332         16         59         Q           138         14         16         Q           317         Q         47         Q <td>Warehouse all buildings         and storage         Office         Service         Mercantile           5,918         1,004         970         867         517           144         Q         13         N         25           160         Q         8         Q         56           129         Q         7         Q         3           284         Q         7         Q         39           1,018         58         182         45         69           1,237         132         445         81         137           116         Q         32         Q         4           228         16         47         Q         18           236         Q         25         Q         31           3,527         344         692         443         354           1,679         156         371         163         239           447         39         110         49         85           1,513         119         269         134         288           509         86         93         69         37           910         76         <td< td=""><td>Warehouse and buildings         All storage         Office         Service         Mercantile         Public assembly           5,918         1,004         970         867         517         488           144         Q         13         N         25         42           160         Q         8         Q         56         21           129         Q         7         Q         3         26           284         Q         7         Q         39         48           1,018         58         182         45         69         119           123         132         445         81         137         63           116         Q         32         Q         4         4           228         16         47         Q         18         16           236         Q         25         Q         31         32           3,527         344         692         443         354         285           1,679         156         371         163         239         110           497         39         110         49         85         31</td><td>Warehouse All buildings         warehouse and storage         Office         Service         Mercantile         Public assembly         Religious worship           5,918         1,004         970         867         517         488         439           144         Q         13         N         25         42         Q           160         Q         8         Q         56         21         Q           129         Q         7         Q         3         26         Q           284         Q         7         Q         39         48         58           1,018         58         182         45         69         119         209           1         237         132         445         81         137         63         32           116         Q         32         Q         4         4         Q           236         Q         25         Q         31         32         Q           3,527         344         692         443         354         285         303           1,679         156         371         163         239         110         161</td></td<></td>	Warehouse all buildings         and storage         Office         Service         Mercantile           5,918         1,004         970         867         517           144         Q         13         N         25           160         Q         8         Q         56           129         Q         7         Q         3           284         Q         7         Q         39           1,018         58         182         45         69           1,237         132         445         81         137           116         Q         32         Q         4           228         16         47         Q         18           236         Q         25         Q         31           3,527         344         692         443         354           1,679         156         371         163         239           447         39         110         49         85           1,513         119         269         134         288           509         86         93         69         37           910         76 <td< td=""><td>Warehouse and buildings         All storage         Office         Service         Mercantile         Public assembly           5,918         1,004         970         867         517         488           144         Q         13         N         25         42           160         Q         8         Q         56         21           129         Q         7         Q         3         26           284         Q         7         Q         39         48           1,018         58         182         45         69         119           123         132         445         81         137         63           116         Q         32         Q         4         4           228         16         47         Q         18         16           236         Q         25         Q         31         32           3,527         344         692         443         354         285           1,679         156         371         163         239         110           497         39         110         49         85         31</td><td>Warehouse All buildings         warehouse and storage         Office         Service         Mercantile         Public assembly         Religious worship           5,918         1,004         970         867         517         488         439           144         Q         13         N         25         42         Q           160         Q         8         Q         56         21         Q           129         Q         7         Q         3         26         Q           284         Q         7         Q         39         48         58           1,018         58         182         45         69         119         209           1         237         132         445         81         137         63         32           116         Q         32         Q         4         4         Q           236         Q         25         Q         31         32         Q           3,527         344         692         443         354         285         303           1,679         156         371         163         239         110         161</td></td<>	Warehouse and buildings         All storage         Office         Service         Mercantile         Public assembly           5,918         1,004         970         867         517         488           144         Q         13         N         25         42           160         Q         8         Q         56         21           129         Q         7         Q         3         26           284         Q         7         Q         39         48           1,018         58         182         45         69         119           123         132         445         81         137         63           116         Q         32         Q         4         4           228         16         47         Q         18         16           236         Q         25         Q         31         32           3,527         344         692         443         354         285           1,679         156         371         163         239         110           497         39         110         49         85         31	Warehouse All buildings         warehouse and storage         Office         Service         Mercantile         Public assembly         Religious worship           5,918         1,004         970         867         517         488         439           144         Q         13         N         25         42         Q           160         Q         8         Q         56         21         Q           129         Q         7         Q         3         26         Q           284         Q         7         Q         39         48         58           1,018         58         182         45         69         119         209           1         237         132         445         81         137         63         32           116         Q         32         Q         4         4         Q           236         Q         25         Q         31         32         Q           3,527         344         692         443         354         285         303           1,679         156         371         163         239         110         161

Data source: U.S. Energy Information Administration, Form EIA-871A of the 2018 Commercial Buildings Energy Consumption Survey

Notes: Because of rounding, data may not sum to totals. The *Guide to the 2018 CBECS Tables* and *CBECS Terminology* contain definitions of terms used in these tables and comparisons between previous CBECS tables. You can access both references from http://www.eia.gov/consumption/commercial/data/2018/. Data are sample survey estimates with relative standard errors published in a tab on the Excel worksheet for this table.

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

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

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

Q = Data withheld either because the relative standard error was greater than 50% or the reporting sample had fewer than 20 buildings.

N = No buildings in reporting sample.

	RSEs for number of buildings									
	Pri	incipal buildin	g activity							
		Warehouse								
	All buildings	and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education		
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8		
	5.5	7.4	1.2	7.4	7.5	5.1		7.0		
Building floorspace (square feet)										
1,001 to 5,000	4.9	11.1	11.3	9.2	12.3	17.8	15.9	16.2		
5,001 to 10,000	5.9	14.8	11.7	15.3	20.7	13.7	22.7	20.5		
10,001 to 25,000	5.6	13.2	14.9	16.9	13.8	14.8	12.4	17.7		
25,001 to 50,000	5.6	17.9	13.9	21.7	12.8	13.6	18.6	11.4		
50,001 to 100,000	5.3	15.1	14.1	21.1	17.5	12.5	21.8	8.9		
100,001 to 200,000	5.6	15.3	10.7	52.6	13.1	18.5	37.5	10.7		
200,001 to 500,000	5.0	13.4	9.9	86.2	13.7	21.9	46.8	7.4		
Over 500,000	7.8	18.7	12.6	70.6	21.7	22.9	0.0	23.8		
Year constructed										
Before 1920	12.8	39.4	17.9	43.7	35.7	24.9	25.2	53.5		
1920 to 1945	10.7	36.4	25.0	21.9	31.3	23.4	35.7	24.3		
1946 to 1959	8.1	19.4	20.6	21.4	27.6	19.9	21.5	20.7		
1960 to 1969	6.4	20.1	15.9	16.8	21.5	22.9	20.2	24.3		
1970 to 1979	7.4	16.6	13.3	16.2	19.0	20.4	22.5	28.8		
1980 to 1989	7.0	18.9	12.3	18.5	17.5	26.9	23.2	24.6		
1990 to 1999	7.5	15.6	15.1	22.5	21.7	19.3	26.4	16.4		
2000 to 2009	8.0	19.5	16.8	18.5	13.6	21.8	19.5	23.5		
2010 to 2018	11.0	21.7	25.5	25.3	26.5	27.3	36.3	32.4		
Census region and division										
Northeast	9.9	18.8	21.4	15.1	19.1	22.7	22.8	17.4		
New England	17.8	32.5	32.8	31.2	22.3	20.7	53.3	30.0		
Middle Atlantic	17.8	23.8	25.1	16.7	27.3	42.3	24.9	18.3		
Midwest	10.9	15.9	18.4	16.9	21.3	16.6	15.3	20.2		
East North Central	13.1	21.9	21.1	17.0	25.5	13.8	19.5	20.2		
West North Central	21.0	19.8	36.1	34.5	36.8	43.9	24.3	30.0		
South	7.7	13.6	11.9	14.6	11.5	17.8	16.2	14.5		
South Atlantic	11.0	24.6	16.6	17.2	15.5	26.8	20.8	21.6		
East South Central	18.0	29.7	14.7	28.7	33.7	35.6	45.4	31.2		
West South Central	14.7	19.0	22.8	28.8	17.0	21.3	24.2	24.9		
West	8.1	15.1	13.1	12.7	12.6	13.3	25.8	13.1		
Mountain	15.9	30.6	21.5	19.4	18.0	30.4	25.9	30.0		
Pacific	9.0	15.7	16.7	17.3	18.3	12.3	37.4	14.2		
Climate zone <sup>a</sup>										
Cold or very cold	18.8	24.5	17.9	36.2	31.4	21.7	31.8	30.0		
Cool	11.8	18.7	20.9	14.0	18.2	18.2	21.4	19.3		
Mixed mild	15.1	19.8	18.7	19.3	21.3	20.5	19.0	21.6		
Warm	11.4	15.4	14.3	18.3	15.2	23.9	21.5	15.7		
Hot or very hot	18.8	35.8	26.5	23.7	17.5	20.5	21.2	24.4		

	RSEs for numbe	er of buildings						
	Pr	incipal buildin	g activity					
		Warehouse						
	All buildings	and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
		_				-	-	
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8
Number of floors								
1	4.3	7.7	9.9	8.0	8.5	10.5	13.6	11.8
2	5.8	16.8	12.2	13.1	17.2	12.3	13.2	15.4
3	10.5	30.0	17.1	33.3	27.3	26.2	22.3	15.0
4 to 9	9.4	39.9	12.0	52.6	47.9	34.0	51.0	24.3
10 or more	9.8	0.0	10.7	0.0	0.0	60.8	0.0	30.8
Elevators and escalators								
(more than one may apply)	6 5	10.2	10.2	25.5		14.6	10.7	11 Г
Any elevators	6.5	28.3	10.3	35.5	32.3	14.6	19.7	11.5
1 elevator	7.7	32.2	13.0	36.8	35.7	18.8	20.1	14.1
2 to 5 elevators	6.7	30.9	10.9	93.4	63.0	17.0	34.8	13.2
6 or more elevators	7.8	54.4	12.7	100.4	27.6	22.1	74.2	30.1
Any escalators	28.9	32.0	27.2	100.4	29.5	28.0	97.8	39.7
Number of workers (main shift)								
Fewer than 5	5.5	9.6	12.3	10.1	13.6	11.0	10.6	15.8
5 to 9	6.1	16.8	14.8	13.6	16.0	17.8	22.7	19.6
10 to 19	6.5	21.3	12.9	18.9	18.7	24.7	25.5	19.7
20 to 49	6.3	20.1	17.5	20.2	13.7	19.1	34.8	14.8
50 to 99	6.7	15.6	14.6	34.2	14.6	27.8	61.7	9.6
100 to 249	7.1	18.6	12.9	45.7	12.8	33.2	0.0	10.5
250 or more	7.2	18.2	8.9	70.6	28.3	20.7	0.0	21.5
Weekly operating hours								
Fewer than 40	6.1	14.5	17.5	14.5	32.5	15.9	12.2	16.8
40 to 48	6.2	12.4	8.7	11.8	17.7	22.4	23.6	17.9
49 to 60	5.2	12.6	9.8	13.4	13.2	17.7	25.5	14.5
61 to 84	7.6	26.5	26.0	20.1	14.3	16.6	43.2	20.7
85 to 167	8.6	28.2	33.7	22.9	22.4	20.0	42.1	15.0
Open continuously	8.1	21.3	19.7	29.9	31.8	21.7	72.0	45.5
Ownership and occupancy								
Nongovernment owned	3.8	7.4	6.8	6.8	7.4	8.8	9.5	12.9
Owner occupied	4.3	8.6	8.4	8.7	13.8	9.9	9.8	15.5
Leased to tenant or tenants	5.5	14.1	9.7	13.4	8.3	24.3	31.6	28.8
Unoccupied	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Government owned	9.5	33.7	21.1	21.6	59.0	18.4	0.0	9.8
Federal	26.0	40.9	42.4	40.1	51.5	73.9	0.0	66.4
State	12.9	66.8	37.7	36.2	68.7	45.0	0.0	16.8
Local	10.1	40.2	20.8	27.6	25.3	17.8	0.0	10.9
Party responsible for operation								
of energy systems								
Building owner	4.4	8.4	7.7	8.5	12.1	9.4	9.6	8.2
Business owner or tenant	6.5	14.8	17.0	14.5	11.5	26.3	47.1	44.1
Property management	20.7	50.2	35.0	50.2	36.9	56.1	49.6	82.4
Other	18.8	49.6	31.0	79.9	47.1	46.9	81.1	47.3

	Pr	incipal buildin	g activity					
	,	Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8
Provider of direct input on energy-								
related equipment purchases								
Building owner	4.4	8.1	6.9	8.4	10.2	9.4	9.7	8.1
Business owner or tenant	8.9	24.3	25.1	17.3	16.0	32.4	52.6	44.0
Property management	25.5	53.5	57.9	71.2	41.0	77.9	0.0	66.5
Other	10.5	29.6	21.7	39.4	23.5	29.2	81.1	43.6
Number of establishments								
1	4.6	8.0	9.3	8.0	12.5	9.7	10.0	8.4
2 to 5	6.0	15.6	11.2	23.4	12.3	26.3	34.0	27.3
6 to 10	11.5	45.6	18.2	56.7	18.4	37.4	0.0	84.1
11 to 20	18.0	56.8	31.6	77.1	15.1	87.4	0.0	60.7
More than 20	18.6	65.6	24.2	0.0	19.5	24.7	0.0	71.0
Currently unoccupied	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campus or complex activity								
Not part of a campus or complex	4.3	9.5	7.5	8.8	8.7	13.1	12.1	13.7
Primary or secondary school	12.1	0.0	54.4	0.0	0.0	30.7	0.0	12.5
College or university	21.8	109.8	36.1	84.3	88.6	28.3	0.0	21.6
Office complex	12.7	45.1	15.0	56.7	51.6	99.7	71.0	81.5
Retail complex	13.2	35.5	48.4	29.0	13.9	48.3	0.0	0.0
Storage complex	14.4	16.2	49.3	39.4	44.9	70.6	0.0	0.0
Religious campus or complex	11.5	59.4	39.6	48.6	0.0	27.2	15.2	31.1
Health care complex	18.0	75.7	38.5	99.7	0.0	87.1	0.0	102.3
Lodging or resort complex	15.1	65.8	78.8	0.0	63.2	35.8	0.0	0.0
Transportation complex	34.3	105.5	83.4	72.1	0.0	45.2	0.0	51.5
Government complex	18.1	58.3	42.1	30.9	0.0	32.6	0.0	0.0
Other	9.2	21.4	18.5	19.1	43.2	19.7	59.7	39.2
Predominant exterior wall material								
Brick, stone, or stucco	5.3	15.6	9.1	11.8	11.9	12.5	12.3	10.1
Concrete (block or poured)	5.3	18.1	16.0	15.6	11.7	14.6	26.9	25.9
Concrete panels	12.1	23.1	21.3	52.6	44.8	37.9	61.6	27.7
Siding or shingles	7.3	19.1	14.8	16.1	31.1	19.1	19.0	18.3
Metal panels	7.6	11.4	19.2	12.1	23.2	22.6	25.9	31.1
Window glass	21.3	0.0	22.0	0.0	90.1	42.9	0.0	81.0
Other	14.7	33.6	32.7	62.0	27.3	28.5	56.4	74.3

	RSES for num	ber of buildings						
	-	Principal buildin	g activity					
		Warehouse						
	All buildings	and storage	Office	Service	Mercantile	Public assembly	Religious worship	Education
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8
Predominant roof material								
Metal surfacing	6.2	9.6	14.3	10.2	16.1	15.8	22.7	17.4
Synthetic or rubber	6.0	17.0	12.3	22.1	12.0	16.5	31.0	13.9
Built-up	7.7	18.3	15.7	23.3	16.4	22.8	26.6	17.8
Slate or tile shingles	10.1	30.0	19.0	33.1	28.3	32.5	19.7	50.3
Wooden materials (including								
shingles)	12.9	60.6	40.3	42.6	37.4	38.4	47.9	52.3
Asphalt, fiberglass, or								
other shingles	6.2	25.9	12.8	14.4	19.2	14.4	14.6	21.8
Concrete	20.6	56.2	28.9	66.1	47.4	49.4	104.5	84.3
Other	15.6	34.8	29.7	39.8	50.7	34.7	49.8	39.3
Roof tilt								
Flat	4.9	14.6	8.6	10.2	8.7	12.1	27.8	12.6
Shallow pitch	5.0	9.8	11.6	10.3	12.8	13.9	19.4	16.6
Steeper pitch	7.5	18.0	11.8	14.4	21.6	13.9	11.7	16.8
Cool roof characteristics (more than one								
may apply)								
White or reflective coating or paint	5.8	13.0	15.2	13.5	10.9	12.0	28.5	17.0
White or reflective tiles or shingles	15.4	78.8	39.5	36.2	33.2	38.9	48.5	41.1
Aluminum coating	8.8	20.6	25.6	22.2	31.3	31.7	44.4	32.0
Ballasted roof system	14.8	51.4	30.6	40.0	36.3	33.5	61.7	23.6
Other cool roof property	29.3	0.0	55.0	87.1	66.2	70.4	5.6	42.5
Renovations since 2000 (more than one may apply)								
Any type of renovation	5.0	14.5	9.0	15.3	10.6	11.8	12.0	11.4
Addition or annex	9.4	32.6	23.5	32.4	27.5	22.3	27.9	17.9
Reduction in floorspace	22.2	74.2	38.7	49.5	54.6	86.8	85.9	37.7
Roof replacement	6.8	19.7	13.2	22.8	12.8	19.4	19.0	17.0
Interior wall reconfiguration	6.0	23.8	11.2	22.8	19.2	19.4	26.6	20.6
Window replacement	9.5	26.5	22.1	26.8	23.9	22.2	32.4	20.0
HVAC equipment upgrade	7.0	20.5	10.0	33.4	16.6	15.1	16.9	16.1
Lighting upgrade	5.9	19.1	11.3	18.8	13.7	13.1	18.9	15.2
Electrical upgrade	7.1	29.1	15.8	22.4	18.8	20.4	25.7	21.3
Plumbing system upgrade	7.1	36.6	13.9	31.0	23.2	15.5	25.9	21.3
Insulation upgrade	9.2	34.2	23.5	31.0	23.2	23.3	60.6	20.4
Fire, safety, or security upgrade	6.2	26.6	13.1	27.5	21.7	18.2	21.7	17.6
Structural upgrade	13.9	50.0	27.7	38.5	57.6	38.1	53.4	45.4
Other	29.5	83.1	65.5	111.6	22.9	73.5	74.4	78.5
No renovations	4.3	8.1	9.7	8.1	9.6	11.5	13.1	11.3
Buildings constructed 2013 or later	4.3	24.2	23.7	29.5	24.6	38.0	46.1	39.6
Bununigs constructed 2013 Of Idter	11.9	۲4.۷	23./	29.3	24.0	5ð.U	40.1	39.0

	RSEs for number of buildings									
	Pr	incipal buildin	g activity							
		Warehouse								
	All	and				Public	Religious			
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education		
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8		
Energy sources										
(more than one may apply)	2.0		7.2	7 4	7.0	0.1	0.5	7.0		
Electricity	3.9	7.7	7.2	7.4	7.3	9.1	9.5	7.8		
Natural gas	4.8 9.7	9.3	8.0	9.8	8.7	10.6	12.1	10.9		
Fuel oil		25.6	19.1	21.2	23.0	28.9	28.7	21.0		
District heat	14.7	69.7	27.0	74.4	70.4	28.9	110.3	24.5		
District chilled water	20.1	45.5	28.9	0.0	0.0	33.5	93.8	28.1		
Propane	10.0	17.6	23.8	24.1	23.2	24.3	18.6	26.3		
Solar	15.5	59.1	26.8	87.8	33.8	36.1	2.8	34.2		
Wood, coal, and other	17.3	42.2	71.8	24.4	34.3	61.6	52.2	82.3		
Space-heating energy sources (more than one may apply)										
Electricity	4.7	11.1	8.1	10.4	7.3	12.8	14.1	12.6		
Natural gas	5.2	9.8	8.4	10.3	8.8	11.1	12.9	12.2		
Fuel oil	13.9	34.6	41.1	23.9	27.2	39.8	33.6	34.8		
District heat	15.4	69.7	27.5	74.4	70.4	29.2	110.3	25.4		
Propane	13.5	25.0	29.1	31.7	32.2	29.9	20.3	33.2		
Other sources <sup>b</sup>	21.3	43.1	75.4	26.5	81.8	65.7	0.0	99.2		
Primary space-heating										
energy source										
Electricity	6.4	15.5	10.5	13.8	11.1	14.1	15.5	17.2		
Natural gas	5.5	10.0	8.6	10.9	10.9	12.4	14.2	12.5		
Fuel oil	16.1	39.6	42.7	28.0	28.6	44.1	39.6	44.0		
District heat	15.8	69.7	28.5	74.4	70.4	31.2	110.3	26.7		
Propane	17.5	26.5	37.8	41.5	48.0	33.0	23.3	36.8		
Other sources <sup>b</sup>	22.4	60.5	52.2	23.0	0.0	47.7	0.0	50.4		
Cooling energy sources (more than one may apply)										
Electricity	3.9	8.6	6.9	8.6	6.9	9.6	9.9	8.7		
Natural gas	37.3	70.5	60.9	0.0	70.7	2.8	96.2	62.2		
District chilled water	20.1	45.5	28.9	0.0	0.0	33.5	93.8	28.1		
Water-heating energy sources										
(more than one may apply)										
Electricity	4.0	10.9	7.5	8.0	7.6	11.0	12.7	10.7		
Natural gas	5.5	13.1	9.9	12.5	9.1	13.3	14.3	12.4		
Fuel oil	24.0	102.2	38.0	78.1	57.0	45.7	60.0	42.9		
District heat	17.4	0.0	35.9	98.5	0.0	43.9	0.0	31.3		
Propane	15.8	42.3	61.4	47.5	41.9	39.8	39.2	34.4		
Cooking energy sources										
(more than one may apply)		26.0	42.0	26.2		42.0	44.0	40.4		
Electricity	5.7	26.0	12.8	26.2	11.1	13.8	14.6	13.1		
Natural gas	5.4	41.3	29.9	81.9	12.9	12.8	15.9	10.6		
Propane	14.8	94.8	72.9	80.2	40.6	28.4	33.8	45.9		

	RSEs for numbe	er of buildings						
	Pr	incipal buildin	g activity					
	,	Warehouse						
	All	and				Public	Religious	
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8
Energy end uses								
(more than one may apply)								
Buildings with space heating	4.1	7.3	7.1	8.7	7.4	9.8	9.8	8.2
Buildings with cooling	3.9	8.6	6.9	8.6	6.9	9.5	9.8	8.2
Buildings with water heating	3.9	8.6	6.8	7.8	7.5	8.8	9.5	8.1
Buildings with cooking	5.0	22.4	12.7	25.0	9.9	10.6	11.6	10.6
Buildings with manufacturing	11.3	16.7	40.5	19.3	29.9	68.0	49.2	29.0
Buildings with electricity								
generation	7.4	21.0	13.4	23.6	16.9	18.3	33.1	22.8
Buildings with lighting	3.9	6.8	7.2	7.3	7.3	9.1	9.5	7.8
Percent of floorspace heated								
Not heated	8.2	11.7	29.7	16.8	34.0	23.7	50.4	25.7
1 to 50%	8.5	14.6	20.7	13.2	21.1	22.6	30.9	61.1
51 to 99%	6.7	23.2	13.1	20.1	13.1	16.9	21.8	20.8
100%	4.1	11.2	7.5	10.7	11.4	11.2	10.4	9.4
Percent of floorspace cooled								
Not cooled	7.1	10.4	39.4	10.1	38.7	19.7	46.6	35.3
1 to 50%	5.9	12.5	17.2	10.5	21.5	17.5	22.5	15.2
51 to 99%	6.6	24.2	12.7	21.7	14.1	16.6	14.0	15.5
100%	4.3	22.9	7.8	13.4	9.6	11.7	12.4	10.4
Percent lit when open								
0%	35.1	37.0	0.0	50.3	0.0	0.0	0.0	0.0
1 to 50%	6.7	11.0	11.9	15.7	21.9	13.5	14.4	27.4
51 to 99%	4.8	16.6	9.5	17.2	8.6	12.1	14.9	12.7
100%	4.7	9.9	10.1	9.7	15.8	13.5	15.5	12.0
Building never open or electricity								
not used	11.6	17.4	0.0	43.8	68.2	60.7	0.0	0.0
Percent lit during off hours								
0%	6.5	12.9	13.6	8.7	18.7	12.9	13.9	16.6
1 to 50%	3.8	9.4	7.3	10.2	7.5	11.5	13.8	9.3
51 to 100%	10.6	34.5	36.3	48.6	29.4	48.8	109.0	31.1
Building always open with no off hours	15.2	61.4	43.2	40.7	78.4	49.5	0.0	49.1
Electricity not used	16.0	19.2	0.0	54.4	68.2	0.0	0.0	49.1 0.0
	TO'O	±J.2	0.0	J <del>.</del> +	00.2	0.0	0.0	0.0

	RSEs for number of buildings								
	Pri	incipal buildin	g activity						
		Warehouse							
	All	and				Public	Religious		
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education	
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8	
Heating equipment									
(more than one may apply)									
Packaged heating units	4.0	12.7	7.9	11.2	8.8	11.2	16.8	14.0	
Furnaces	7.2	13.3	12.5	18.1	10.5	20.8	15.7	21.0	
Individual space heaters	5.9	12.5	14.5	10.9	12.5	17.5	16.5	20.3	
Boilers	6.2	22.9	14.4	17.8	21.1	17.1	16.0	13.8	
Heat pumps	7.7	28.6	15.6	20.5	14.8	20.5	22.0	20.0	
District heat	15.4	69.7	27.5	74.4	70.4	29.2	110.3	25.4	
Duct reheat	12.6	60.7	20.0	65.7	22.4	47.7	48.8	34.3	
Other	46.4	55.7	48.5	0.0	29.5	75.8	0.0	98.8	
Cooling equipment									
(more than one may apply)									
Packaged air-conditioning units	4.3	10.2	8.0	11.2	8.0	9.8	14.4	13.1	
Residential-type central air									
conditioners	7.6	13.8	12.9	18.4	16.9	22.0	15.5	18.3	
Individual air conditioners	6.6	21.5	19.6	17.3	19.6	20.0	19.4	20.6	
Central chillers	9.0	53.0	20.5	55.1	33.0	26.0	34.8	9.3	
Heat pumps	11.0	44.7	19.0	18.8	22.3	23.1	22.8	23.9	
District chilled water	20.1	45.5	28.9	0.0	0.0	33.5	93.8	28.1	
Swamp coolers	12.8	40.5	38.0	36.6	72.1	55.7	71.4	41.1	
Other	53.2	80.4	99.2	0.0	0.0	0.0	0.0	0.0	
HVAC features									
(more than one may apply)									
Economizer cycle	5.6	28.7	11.4	35.3	13.7	14.4	20.8	13.6	
Variable air volume (VAV) system	8.4	25.3	12.7	20.8	23.3	17.7	28.4	16.8	
Dedicated outside air system (DOAS)	11.0	34.3	28.0	58.6	47.3	19.0	37.3	25.2	
Demand controlled ventilation (DCV)	8.8	34.5	16.6	27.9	28.2	28.9	24.3	19.1	
Regular HVAC maintenance									
Building automation system (BAS)	4.2	10.2	7.4	8.8	8.5	9.4	11.6	8.2	
controls heating or cooling	6.4	31.3	12.7	28.6	14.3	12.5	16.5	9.4	
Internet-connected or smart	0.4	51.5	12.7	20.0	14.5	12.5	10.5	5.4	
thermostat	12.2	23.2	21.8	31.9	29.3	30.1	25.0	38.3	
Programmable thermostat	4.7	14.5	8.9	11.2	15.3	13.6	17.0	17.4	
Main againment variand since									
Main equipment replaced since 2000 (more than one may apply)									
Heating	4.9	11.0	8.3	17.1	11.9	13.3	13.2	14.6	
Cooling	4.9	11.0	11.3	17.1	19.8	13.3	13.2	14.0	
Water-heating equipment									
Centralized system	4.4	9.4	8.3	9.0	9.8	10.4	10.5	9.9	
Distributed system	8.9	20.1	15.5	18.5	17.0	20.8	25.8	23.5	
Combination of centralized and	~ ~	20 -	45.0						
distributed systems	8.8	28.7	15.2	42.4	16.6	23.9	24.7	23.3	

	RSEs for numbe								
	Principal building activity								
		Warehouse							
	All	and	011	<u> </u>		Public	Religious		
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education	
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8	
Generation technologies (more than one may apply)									
Reciprocating engine generators	8.8	22.8	14.6	26.8	21.3	22.7	34.7	28.1	
Solar panels	15.4	59.1	26.8	87.8	33.8	36.1	2.8	34.4	
Other generation technology	21.4	58.7	51.7	85.5	37.7	66.4	2.7	44.6	
Lighting equipment types									
(more than one may apply)									
Incandescent	7.8	22.4	14.5	28.3	15.8	15.3	13.0	21.1	
Standard fluorescent	4.2	8.2	7.7	8.5	7.0	10.3	10.3	9.1	
Compact fluorescent	5.2	21.0	10.1	18.4	10.4	14.4	16.6	14.9	
High-intensity discharge (HID)	9.8	25.4	33.8	28.4	24.1	29.9	40.5	18.4	
Halogen	8.0	20.4	18.1	30.5	15.9	16.7	18.4	22.6	
LED	3.6	13.8	9.2	9.3	8.3	10.2	10.9	10.9	
Other	57.3	0.0	70.9	0.0	69.0	60.4	0.0	0.0	
Refrigeration equipment (more than one may apply) Any refrigeration	4.1	9.1	7.7	8.1	8.2	9.8	10.0	9.3	
Walk-in units	5.4	25.6	18.5	73.1	10.4	17.0	32.0	8.3	
Cases or cabinets	5.8	23.8	21.9	32.7	11.6	14.1	35.9	14.6	
Large cold storage areas	17.2	23.6	85.2	0.0	33.9	42.0	0.0	31.0	
Commercial ice makers	5.5	30.8	15.8	31.9	12.8	12.6	18.9	8.8	
Residential-type or compact units	4.3	9.6	8.0	8.2	9.2	10.8	10.3	10.6	
Vending machines	6.1	13.2	12.4	18.4	14.7	15.5	32.1	8.8	
No refrigeration	5.3	9.9	11.3	12.2	16.0	16.6	25.9	14.3	
Office equipment									
(more than one may apply)	4.0	0.6	7.4	0.0	7 4	0.5	17.4	0.4	
Desktop computers With multiple monitors	4.0 5.0	9.6 12.2	7.4 7.8	8.2 17.8	7.4	9.5 18.8	12.4 18.2	8.4	
	5.0 4.0								
Laptop computers Dedicated servers	4.0	10.4 13.9	8.0 8.1	9.6 19.1	9.6 9.9	12.4 14.7	12.5 20.2	8.7	
Tablets charged in building	4.9	13.9	7.9	19.1	8.9	14.7	17.2	10.3	
Large floor-standing office devices <sup>c</sup>	4.4	10.4	8.2	13.0	11.8	13.2	17.2	10.3	
Smaller desktop office devices									
Interactive whiteboards	4.1	10.4	7.1	9.4	7.6	10.2	12.4	8.0	
	8.7	28.8	17.4	47.6	34.4	37.9	66.5	10.9	
Televisions or video displays	3.8	12.1	6.9	10.1	9.5	10.4	11.3	9.9	
Point-of-sale devices or cash	5.0	20 E		40.5	0.0	177	20.7		

5.2

registers

20.5

16.4

13.5

8.3

12.7

39.7

14.0

RSEs for number of	of buildings
--------------------	--------------

	Principal building activity								
		Warehouse							
	All	and				Public	Religious		
	buildings	storage	Office	Service	Mercantile	assembly	worship	Education	
All buildings	3.9	7.4	7.2	7.4	7.3	9.1	9.5	7.8	
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar, concession stand, or coffee									
shop	11.0	81.1	22.3	0.0	23.5	18.4	30.9	16.6	
Fast food or small restaurant	9.4	51.5	20.8	71.5	14.0	31.3	28.9	37.5	
Cafeteria or large restaurant	7.7	62.8	17.5	111.3	28.6	27.6	60.7	8.1	
food preparation area	8.5	50.3	32.3	50.4	21.2	19.8	20.3	10.6	
Small kitchen area	6.5	23.5	13.5	27.0	17.0	14.0	14.7	16.0	
Separate computer areas (more than one may apply)									
Server closet	5.3	12.9	8.0	15.7	12.1	15.7	18.2	9.8	
Data center	13.1	51.9	17.2	68.2	31.8	32.4	47.9	21.4	
Computer-based training room	8.4	28.7	20.1	55.8	18.5	43.7	43.5	12.8	
Student or public computer center	8.0	47.9	20.1	74.0	32.4	25.9	62.9	9.1	
Window and interior lighting									
features (more than one may									
apply)									
Multipaned windows	4.2	9.0	7.8	11.9	8.3	9.0	10.5	9.8	
Tinted window glass	4.2	13.2	8.4	12.9	7.5	11.1	13.7	13.1	
Reflective window glass	7.0	26.8	13.5	24.6	13.4	23.4	38.5	23.8	
External overhangs or awnings	5.0	16.0	8.9	13.9	9.2	11.8	17.6	16.6	
Skylights or atriums	7.1	22.6	14.0	28.1	21.7	19.5	25.5	18.9	
Light scheduling	5.2	19.0	11.8	25.1	9.6	15.9	19.4	17.0	
Occupancy sensors	6.5	16.7	10.4	19.7	11.2	11.1	25.7	11.1	
Multilevel lighting or dimming	10.0	48.8	19.1	58.2	37.4	19.0	19.6	22.7	
Daylight harvesting	12.0	37.5	24.9	46.4	28.3	36.7	48.2	45.2	
Plug-load control	18.4	40.6	51.1	0.0	57.4	75.7	99.4	59.3	
Demand responsive lighting	30.7	52.2	41.0	67.0	38.5	72.8	59.9	82.4	
Building automation system (BAS) for									
lighting	9.3	53.5	19.9	67.5	14.4	25.6	55.6	19.5	
Electric vehicle (EV) charging									
Charging stations associated with the									
building	11.5	32.2	23.6	28.6	41.0	21.5	0.0	27.4	

Data source: U.S. Energy Information Administration, Forms EIA-871A of the 2018 Commercial Buildings Energy Consumption Survey

Note: RSE is a measure of the reliability or precision of a survey statistic. Variability occurs in survey statistics because the different samples that could be drawn would each produce different values for the survey statistics. *Estimation of Standard Errors* and *What is a Relative Standard Error (RSE)?* contain more information on how RSEs are estimated and used. Both references can be accessed from https://www.eia.gov/consumption/commercial/survey-background-technical-information.php.

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

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

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