

Table E1. Major fuel consumption (Btu) by end use, 2012

Total major fuel consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Building floorspace (square feet)											
1,001 to 5,000	723	155	50	45	56	59	105	131	21	33	67
5,001 to 10,000	646	157	45	48	42	58	82	93	17	33	71
10,001 to 25,000	876	244	67	79	56	92	60	92	28	50	108
25,001 to 50,000	823	223	79	84	61	97	33	68	21	46	111
50,001 to 100,000	1,067	288	103	108	83	110	42	103	27	60	143
100,001 to 200,000	1,035	243	95	116	77	119	54	92	21	73	145
200,001 to 500,000	1,026	267	125	106	74	109	59	68	19	62	138
Over 500,000	767	178	92	82	57	80	81	23	19	48	106
Principal building activity											
Education	842	299	91	68	68	78	15	40	21	78	84
Food sales	262	31	6	12	3	16	29	147	2	2	14
Food service	514	46	30	31	43	19	199	114	7	4	21
Health care	718	210	79	82	82	61	52	19	17	34	82
Inpatient	549	164	67	46	78	40	47	14	12	21	59
Outpatient	169	46	12	37	4	21	4	4	5	13	23
Lodging	564	67	39	49	136	40	69	33	43	6	84
Mercantile	1,008	181	91	121	66	140	72	191	18	23	103
Retail (other than mall)	364	76	40	47	5	72	8	53	7	11	46
Enclosed and strip malls	644	106	52	75	61	68	64	139	11	12	57
Office	1,241	305	118	214	35	148	Q	28	37	167	153
Public assembly	480	189	86	24	7	35	14	25	7	16	77
Public order and safety	133	36	16	5	21	15	4	3	3	8	22
Religious worship	173	75	15	13	Q	9	11	4	3	3	29
Service	272	118	21	14	22	37	1	5	4	8	42
Warehouse and storage	429	116	35	13	11	85	Q	47	6	16	87
Other	286	69	26	16	2	37	Q	15	2	40	78
Vacant	41	13	2	4	Q	5	Q	1	0	1	13
Year constructed											
Before 1920	238	102	10	19	9	20	19	15	4	10	30
1920 to 1945	418	143	34	35	34	38	23	33	9	23	47
1946 to 1959	537	177	44	48	40	50	35	41	12	25	65
1960 to 1969	902	280	74	73	71	90	44	70	23	56	120
1970 to 1979	1,012	251	87	100	98	98	89	90	25	58	116
1980 to 1989	1,164	219	142	130	78	132	84	115	31	77	156
1990 to 1999	1,102	227	113	108	70	121	101	128	27	65	142
2000 to 2003	579	139	58	61	31	67	33	57	14	40	80
2004 to 2007	528	104	50	47	41	57	Q	66	15	25	67
2008 to 2012	484	114	46	49	35	50	33	54	12	26	66

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Census region and division											
Northeast	1,459	503	89	134	100	134	91	121	27	81	180
New England	368	159	15	27	15	29	17	34	7	16	48
Middle Atlantic	1,092	344	73	107	85	105	74	87	21	65	131
Midwest	1,566	574	98	141	94	155	82	128	33	79	182
East North Central	1,131	431	67	100	67	109	58	91	22	55	130
West North Central	435	143	30	41	27	46	24	37	11	24	53
South	2,566	405	376	259	183	295	201	278	72	152	345
South Atlantic	1,358	203	199	140	92	154	103	154	42	89	181
East South Central	369	73	39	37	35	40	30	42	11	18	44
West South Central	839	128	138	82	56	101	67	82	19	45	120
West	1,372	275	94	134	129	139	143	143	40	93	182
Mountain	417	108	30	39	35	38	Q	35	13	22	46
Pacific	954	167	64	95	95	101	91	109	27	71	135
Climate region¹											
Very cold/Cold	2,746	1,011	135	246	165	257	170	237	58	138	328
Mixed-humid	2,270	522	228	221	182	243	179	217	61	138	279
Mixed-dry/Hot-dry	804	114	79	76	83	87	83	88	23	60	112
Hot-humid	947	63	207	103	60	117	72	109	25	53	139
Marine	197	46	7	22	17	21	12	18	5	17	31
Number of floors											
One	2,831	621	260	243	170	324	248	434	61	127	342
Two	1,460	383	125	139	103	154	104	132	36	101	184
Three	668	223	59	64	47	63	28	38	18	43	85
Four to nine	1,432	411	145	154	136	127	76	50	38	94	201
Ten or more	572	119	66	68	52	55	Q	16	19	41	77
Elevators and escalators (more than one may apply)											
Any elevators	3,183	853	328	349	261	304	200	136	83	237	431
Number of elevators											
One	884	265	72	95	74	88	46	52	24	58	109
Two to five	1,242	328	125	140	86	122	52	51	32	120	187
Six or more	1,058	259	132	115	101	94	102	33	28	59	135
Any escalators	377	73	45	43	25	42	Q	16	12	17	53
Number of workers (main shift)											
Fewer than 5	756	229	55	45	52	78	41	93	22	24	118
5 to 9	598	142	51	49	40	61	60	79	17	24	74
10 to 19	772	184	57	60	65	71	102	99	22	32	81
20 to 49	1,188	284	106	112	81	126	90	145	30	73	141
50 to 99	1,150	290	118	119	83	128	50	118	27	75	143
100 to 249	1,058	286	101	110	63	116	51	86	21	68	156
250 or more	1,441	341	168	172	123	143	124	50	34	109	177

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Weekly operating hours											
Fewer than 40	229	95	20	8	10	17	11	15	6	12	35
40 to 48	832	256	87	74	36	99	19	40	27	82	111
49 to 60	1,258	371	127	138	49	150	33	64	33	121	172
61 to 84	1,370	330	128	148	88	143	123	173	25	65	146
85 to 167	1,098	253	89	92	59	106	130	212	13	27	117
Open continuously	2,177	450	204	209	265	209	201	166	67	97	308
Ownership and occupancy											
Nongovernment owned	5,375	1,236	485	530	385	571	448	602	136	293	690
Owner occupied	2,615	646	238	222	206	262	229	267	72	117	356
Leased to tenant(s)	2,041	410	180	230	136	229	180	268	48	122	238
Owner occupied and leased	709	176	67	78	42	79	38	67	16	54	92
Unoccupied	10	4	0	0	Q	Q	Q	Q	Q	Q	4
Government owned	1,588	520	171	139	122	153	69	68	36	112	198
Federal	137	40	13	17	7	15	11	3	2	8	21
State	555	191	36	55	55	50	Q	23	13	34	65
Local	896	289	122	66	60	87	24	43	21	71	112
Party responsible for operation and maintenance of energy systems											
Building owner	5,808	1,517	557	561	415	606	403	476	149	357	768
Business owner or tenant	983	204	80	90	76	101	99	176	18	39	100
Property management	96	17	10	12	11	9	8	8	3	7	12
Other	75	18	8	5	6	7	8	10	2	2	9
Provider of direct input on energy-related equipment purchases											
Building owner	5,984	1,557	571	577	430	625	414	505	153	365	787
Business owner or tenant	766	156	65	70	58	78	81	133	14	32	79
Property management	61	12	6	8	5	7	5	5	2	3	8
Other	153	31	14	14	14	14	17	27	3	5	15
Number of establishments											
One	4,485	1,155	407	387	356	455	369	405	120	248	583
2 to 5	1,400	382	130	143	90	145	81	147	29	71	183
6 to 10	364	85	34	45	21	37	22	47	8	28	38
11 to 20	355	78	36	46	22	38	26	45	7	19	37
More than 20	347	51	48	47	17	48	19	26	7	39	44
Currently unoccupied	13	6	0	0	Q	0	Q	Q	Q	Q	5

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Predominant exterior wall material											
Brick, stone, or stucco	3,457	917	319	335	284	330	262	292	92	207	419
Concrete (block or poured)	1,720	366	178	163	127	186	130	232	39	81	218
Concrete panels	664	157	57	69	42	77	Q	47	18	50	94
Siding or shingles	400	106	28	35	26	39	40	46	11	19	50
Metal panels	428	137	43	32	13	64	9	31	7	22	70
Window glass	170	46	17	22	Q	17	5	7	3	21	23
Other	79	13	11	7	3	7	Q	Q	1	3	10
No one major type	45	15	3	5	2	5	Q	4	1	2	6
Predominant roof material											
Metal surfacing	865	209	92	65	39	115	56	98	21	45	125
Synthetic or rubber	2,442	667	210	245	164	243	181	228	55	144	305
Built-up	1,862	437	194	199	145	198	131	163	42	118	236
Slate or tile shingles	371	101	26	30	36	30	38	34	12	19	45
Wooden materials (including shingles)	92	26	6	6	9	7	12	12	2	3	9
Asphalt, fiberglass, or other shingles	1,105	276	100	99	97	107	86	113	35	56	136
Concrete	132	16	20	16	10	16	4	11	4	16	20
Other	58	11	6	5	4	5	7	9	1	2	8
No one major type	35	13	3	3	Q	4	Q	Q	1	2	5
Roof characteristics											
Roof tilt											
Flat	4,476	1,103	446	464	348	472	314	382	102	276	569
Shallow pitch	1,597	382	139	136	85	177	131	213	41	87	207
Steeper pitch	890	271	71	69	74	75	72	75	29	42	112
Cool roof	1,837	434	180	183	139	186	143	179	40	113	240

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	3,762	992	352	368	277	367	291	320	89	229	476
Addition or annex	1,292	365	131	113	109	118	123	84	32	59	159
Reduction in floorspace	226	50	20	23	Q	22	Q	18	4	9	23
Roof replacement	1,986	554	183	194	153	189	147	145	44	118	258
Exterior wall replacement	399	89	41	38	28	37	45	35	8	28	50
Interior wall reconfiguration	2,056	539	201	219	139	199	155	143	48	155	256
Window replacement	1,090	304	98	100	88	97	96	64	30	73	139
HVAC equipment upgrade	2,545	651	252	252	197	245	210	198	59	157	324
Lighting upgrade	2,440	662	221	235	183	227	195	208	56	147	307
Electrical upgrade	1,608	421	150	149	122	144	149	121	37	100	214
Plumbing system upgrade	1,397	365	120	129	119	116	143	99	35	86	184
Insulation upgrade	771	196	68	66	52	63	90	69	19	52	97
Fire, safety, or security upgrade	1,685	445	167	164	140	150	126	118	38	113	223
Structural upgrade	424	83	42	35	30	35	68	30	11	29	60
Other	69	19	9	9	3	8	1	3	2	6	9
No renovations	2,718	650	258	251	195	307	193	295	71	150	347
Buildings constructed 2008 or later	484	114	46	49	35	50	33	54	12	26	66
Energy sources (more than one may apply)											
Electricity	6,963	1,756	656	668	507	724	517	670	172	405	889
Natural gas	5,544	1,520	472	498	476	514	483	523	127	283	648
Fuel oil	2,231	587	243	226	161	222	151	116	51	157	316
District heat	808	256	39	83	82	68	90	23	19	40	109
District chilled water	665	207	18	68	68	58	79	18	16	40	94
Propane	583	122	49	47	35	64	Q	78	17	23	95
Other	301	85	27	31	15	30	15	26	5	16	52
Space-heating energy sources (more than one may apply)											
Electricity	3,898	779	430	408	271	432	286	435	106	246	505
Natural gas	4,446	1,396	361	393	337	414	312	419	95	226	495
Fuel oil	360	146	29	28	18	34	12	19	7	17	50
District heat	804	256	38	83	81	67	89	22	19	40	108
Propane	151	27	12	14	5	19	10	26	5	7	28
Other	48	13	2	5	2	7	Q	5	1	2	8
Primary space-heating energy source											
Electricity	1,846	106	258	216	139	237	166	236	64	149	276
Natural gas	3,871	1,297	309	339	268	360	242	361	78	197	421
Fuel oil	187	92	10	12	4	17	5	9	4	8	28
District heat	794	253	37	82	80	67	89	22	18	39	106
Propane	63	4	5	6	0	9	Q	17	2	3	13
Other	21	5	1	2	Q	4	Q	2	Q	1	5

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Cooling energy sources (more than one may apply)											
Electricity	6,322	1,533	649	619	450	659	451	637	157	373	794
Natural gas	97	37	15	9	9	7	3	2	2	4	11
District chilled water	665	207	18	68	68	58	79	18	16	40	94
Water-heating energy sources (more than one may apply)											
Electricity	3,102	649	347	339	95	380	207	378	74	222	412
Natural gas	4,029	1,093	341	348	432	350	347	407	93	184	434
Fuel oil	174	75	12	12	6	14	8	10	4	7	25
District heat	652	188	33	67	74	56	81	17	16	31	90
Propane	87	6	10	8	0	9	6	24	3	3	15
Cooking energy sources (more than one may apply)											
Electricity	2,511	574	253	231	200	219	280	312	56	121	265
Natural gas	3,015	635	274	258	296	232	466	398	65	100	290
Propane	167	34	16	14	8	14	10	33	5	Q	23
Energy end uses (more than one may apply)											
Buildings with space heating	6,782	1,756	619	657	492	693	506	647	168	397	848
Buildings with cooling	6,774	1,679	656	665	493	699	511	650	169	401	850
Buildings with water heating	6,798	1,707	641	658	507	696	516	664	168	396	844
Buildings with cooking	4,079	897	390	364	357	340	517	528	94	171	422
Buildings with manufacturing	360	89	34	28	14	49	14	32	5	15	80
Buildings with electricity generation	2,803	688	292	287	206	274	183	211	65	195	402
Percent of floorspace heated											
Not heated	181	N	36	11	15	31	11	23	4	8	41
1 to 50	468	71	38	38	25	63	40	63	11	39	81
51 to 99	1,298	304	129	129	91	131	114	158	29	60	153
100	5,016	1,381	453	491	376	499	351	426	127	298	614
Percent of floorspace cooled											
Not cooled	189	78	N	3	13	24	5	20	3	4	39
1 to 50	989	363	42	65	57	122	49	82	19	40	149
51 to 99	2,143	553	192	214	154	206	156	231	49	138	250
100	3,642	763	421	385	283	370	306	336	102	224	451
Percent lit when open											
Zero	4	Q	Q	Q	Q	Q	Q	Q	Q	Q	3
1 to 50	642	182	54	61	47	50	34	49	23	27	116
51 to 99	3,049	828	274	295	230	284	204	307	72	175	379
100	3,244	733	326	311	229	387	278	314	77	203	385
Building never open/electricity not used	24	13	1	0	Q	Q	Q	Q	Q	Q	7

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Percent lit during off hours											
Zero	1,293	394	117	116	59	126	71	102	32	94	182
1 to 50	4,346	1,105	427	432	312	463	294	418	106	251	539
51 to 100	1,018	208	80	88	108	98	134	105	23	47	125
Building always open with no "off hours"	306	49	31	32	28	36	18	44	11	13	43
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	899	143	117	86	84	97	70	87	34	62	119
Furnaces	615	179	47	53	37	58	55	68	18	32	69
Individual space heaters	1,572	471	129	148	114	166	81	132	42	84	205
District heat	804	256	38	83	81	67	89	22	19	40	108
Boilers	2,262	741	217	211	198	197	106	123	52	137	281
Packaged heating units	4,083	925	411	419	260	431	345	493	91	222	486
Other	191	33	9	18	12	15	21	62	2	3	16
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	1,086	281	93	75	81	108	98	144	29	47	131
Heat pumps	939	154	115	93	85	104	66	96	34	66	125
Individual air conditioners	1,013	298	97	81	106	89	64	70	34	47	126
District chilled water	665	207	18	68	68	58	79	18	16	40	94
Central chillers	1,853	481	234	210	143	179	85	80	43	147	250
Packaged air conditioning units	3,972	957	403	415	265	404	320	452	85	202	468
Swamp coolers	176	45	14	14	16	16	21	23	3	6	17
Other	45	9	4	5	2	5	Q	1	0	Q	7
Main equipment replaced since 1990 (more than one may apply)											
Heating	2,164	551	199	202	170	215	159	222	58	135	254
Cooling	2,521	650	252	235	204	243	182	233	68	158	296
Water-heating equipment											
Centralized system	4,210	1,109	377	391	335	415	347	387	111	230	508
Distributed system	832	192	82	83	43	105	46	75	19	55	132
Combination of centralized and distributed system	1,756	406	182	185	129	176	124	202	38	111	204
Lighting equipment types (more than one may apply)											
Incandescent	3,540	878	353	336	287	340	321	344	86	184	409
Standard fluorescent	6,714	1,698	632	650	491	693	492	649	166	394	850
Compact fluorescent	5,094	1,265	497	507	407	493	426	451	129	305	615
High-intensity discharge (HID)	2,187	557	227	215	159	229	173	190	49	112	275
Halogen	2,695	636	275	271	206	266	240	272	64	138	325
LED	2,363	561	242	248	174	220	206	251	52	117	293
Other	59	16	9	5	4	4	4	6	1	2	6

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All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Refrigeration equipment (more than one may apply)											
Any refrigeration	6,471	1,600	610	623	486	647	517	670	159	365	795
Walk-in units	3,525	733	329	309	307	283	451	547	73	130	361
Cases or cabinets	3,316	697	291	307	273	282	400	523	70	126	347
Large cold storage areas	530	102	40	37	32	42	61	145	7	13	53
Commercial ice makers	3,731	789	370	357	335	326	416	457	91	172	419
Residential-type or compact units	5,183	1,383	499	513	388	537	332	413	131	324	663
Vending machines	4,178	1,034	418	430	337	439	273	379	102	243	525
No refrigeration	492	156	45	46	21	77	Q	N	13	40	94
Office equipment (more than one may apply)											
Desktop computers	6,586	1,657	629	647	483	687	473	620	163	399	829
With flat screen monitors	6,523	1,644	624	641	478	678	466	614	162	398	818
With multiple monitors	2,942	745	296	321	195	298	216	212	69	233	359
Laptop computers	5,466	1,411	545	556	403	570	354	427	136	363	701
Dedicated servers	4,784	1,169	476	496	340	498	328	425	115	341	597
Laser printers	4,795	1,239	451	488	346	495	316	428	126	316	590
Inkjet printers	2,903	707	298	273	200	306	228	280	66	161	384
FAX machines	5,706	1,425	554	574	404	612	399	541	140	345	710
Photocopiers	5,110	1,342	509	528	357	540	305	387	132	344	666
Number of desktop computers											
None	377	99	27	22	24	36	44	50	9	Q	59
1 to 4	1,184	270	82	82	104	106	162	189	30	22	136
5 to 9	738	192	60	62	44	77	55	106	20	27	96
10 to 19	676	173	58	69	41	79	31	79	17	41	87
20 to 49	1,121	269	118	118	86	131	52	117	29	55	146
50 to 99	645	165	69	73	44	77	36	45	16	41	80
100 to 249	961	249	82	99	76	101	Q	48	25	81	132
250 or more	1,261	339	160	144	89	116	67	35	27	132	152
Number of laptop computers											
None	1,497	345	111	112	103	154	162	243	36	43	187
1 to 4	1,516	394	137	125	101	165	120	181	40	60	194
5 to 9	698	157	65	73	59	81	58	70	16	32	85
10 to 19	719	169	82	79	66	75	42	63	16	38	88
20 to 49	907	244	73	96	68	91	70	56	25	74	111
50 to 99	506	149	55	53	31	51	14	22	11	37	84
100 to 249	525	152	51	58	38	50	21	17	12	61	66
250 or more	596	147	83	72	40	57	29	18	15	60	74

Table E1. Major fuel consumption (Btu) by end use, 2012

Total major fuel consumption (trillion Btu)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Number of dedicated servers											
None	2,179	588	180	172	167	225	189	245	57	64	292
1 to 4	2,718	657	246	266	206	295	191	309	68	136	345
5 to 9	565	138	54	60	40	59	47	55	12	35	67
10 to 19	593	140	66	74	29	63	Q	34	16	51	77
20 to 49	396	113	51	45	26	39	16	13	9	36	48
50 or more	512	122	59	51	38	42	32	14	10	83	60
Number of photocopiers											
None	1,854	414	147	141	150	184	212	282	40	62	223
One	1,202	325	103	102	88	127	80	143	31	49	154
2 to 4	1,596	428	156	167	102	178	67	137	45	104	211
5 to 9	784	187	76	84	50	92	56	58	17	66	97
10 or more	1,527	401	174	174	117	143	101	49	39	124	204
Number of TVs or video displays											
None	1,214	348	89	97	53	145	72	140	14	73	184
One	697	207	54	59	40	74	52	84	13	32	83
2 to 4	1,311	352	123	125	64	146	85	136	27	67	186
5 to 9	777	178	79	80	45	78	64	91	17	58	87
10 to 19	810	185	81	91	57	84	76	76	16	54	89
20 to 49	717	153	81	86	50	80	43	73	21	46	84
50 to 99	432	105	39	43	44	43	18	29	19	38	52
100 or more	1,006	227	109	87	156	73	107	41	46	37	123
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	1,112	266	124	99	79	93	121	131	25	51	123
Fast food or small restaurant	1,206	217	120	122	92	113	141	202	29	43	127
Cafeteria or large restaurant	1,624	400	185	156	163	138	167	105	41	87	181
Commercial kitchen/food preparation area	1,798	421	184	157	196	142	190	200	47	64	197
Small kitchen area	1,187	314	129	106	90	103	104	108	33	54	147
Separate computer areas (more than one may apply)											
Data center or server farm	1,356	345	171	141	89	124	93	46	31	151	163
Computer-based training room	1,696	426	196	177	118	174	124	123	39	123	197
Student or public computer center	1,275	374	130	114	121	111	90	79	36	78	141
HVAC conservation features (more than one may apply)											
Economizer cycle	3,142	824	295	343	221	312	236	237	66	200	409
Regular HVAC maintenance	6,203	1,538	604	620	455	640	463	576	151	377	780
Building automation system (BAS) ²	3,709	896	389	403	262	379	243	311	81	253	492

Table E1. Major fuel consumption (Btu) by end use, 2012

Total major fuel consumption (trillion Btu)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	6,963	1,756	656	668	507	724	517	670	172	405	889
Window and interior lighting features (more than one may apply)											
Multipaned windows	5,250	1,346	476	516	382	524	405	515	131	307	647
Tinted window glass	3,973	937	411	408	290	416	305	364	95	240	506
Reflective window glass	1,652	368	174	174	121	163	147	154	41	118	192
External overhangs or awnings	3,089	702	283	296	233	295	317	381	74	158	351
Skylights or atriums	2,010	534	187	205	147	197	178	142	45	105	271
Light scheduling	2,930	668	299	318	194	284	235	327	67	183	354
Occupancy sensors	3,434	880	344	362	225	331	224	310	77	224	457
Multi-level lighting or dimming	1,618	360	156	161	141	132	186	182	39	72	189
Daylight harvesting	619	160	61	68	31	61	44	64	12	29	90
Demand responsive lighting	410	77	42	45	32	44	33	65	9	16	46
Building automation system (BAS) for lighting ²	1,201	246	131	144	65	130	80	165	21	71	148
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	5,022	1,324	485	502	328	509	364	480	118	296	615
Cooling	5,008	1,268	516	508	336	511	367	476	119	297	610
Lighting	6,426	1,658	606	620	460	664	478	595	156	376	811

(*) May 2019 revision: there was a miscalculation in the *Other* column. For *all buildings*, *Other* changed from 857 to 889 trillion Btu.

¹These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Building floorspace (square feet)											
1,001 to 5,000	96.5	24.3	8.2	6.5	9.5	8.3	54.2	24.0	3.4	5.9	8.9
5,001 to 10,000	76.1	21.7	6.2	6.1	6.1	7.1	32.7	14.2	2.3	4.7	8.4
10,001 to 25,000	64.6	19.6	5.5	6.0	4.7	6.9	15.0	8.4	2.2	4.1	8.0
25,001 to 50,000	70.5	20.8	7.4	7.4	5.6	8.4	9.0	6.8	1.9	4.3	9.5
50,001 to 100,000	78.5	22.2	8.1	8.1	6.4	8.1	6.3	8.4	2.0	4.5	10.5
100,001 to 200,000	83.7	20.4	8.6	9.5	6.5	9.7	8.4	8.1	1.7	6.0	11.7
200,001 to 500,000	96.3	25.8	12.5	10.0	7.2	10.3	8.5	6.8	1.8	5.9	12.9
Over 500,000	109.1	26.5	14.6	11.8	8.2	11.4	15.3	3.2	2.7	6.9	15.1
Principal building activity											
Education	68.8	25.0	8.5	5.6	5.7	6.3	1.8	3.6	1.8	6.4	6.9
Food sales	209.5	26.9	5.3	9.4	2.6	12.4	31.6	117.6	1.6	2.0	11.2
Food service	282.7	27.2	18.0	17.2	25.3	10.2	120.9	62.4	4.1	2.7	11.7
Health care	172.7	51.5	19.8	19.9	19.8	14.7	20.0	4.6	4.0	8.2	19.7
Inpatient	231.1	70.2	30.0	19.3	33.0	16.7	21.8	6.0	5.1	9.0	24.9
Outpatient	94.8	26.4	6.9	20.7	2.3	11.9	10.5	2.6	2.5	7.2	12.7
Lodging	96.9	11.8	7.4	8.4	24.2	6.8	16.9	5.7	7.5	1.2	14.4
Mercantile	89.0	17.1	8.2	10.8	6.1	12.4	11.3	18.5	1.6	2.1	9.1
Retail (other than mall)	67.0	15.5	7.6	8.6	0.9	13.3	4.5	11.8	1.3	2.0	8.5
Enclosed and strip malls	109.3	18.6	8.8	12.7	10.4	11.5	13.9	23.6	1.8	2.1	9.6
Office	77.8	19.5	7.8	13.4	2.3	9.2	Q	2.0	2.3	10.5	9.6
Public assembly	86.3	36.9	18.6	4.4	1.4	6.4	5.3	5.0	1.4	3.0	13.9
Public order and safety	92.2	27.2	11.4	3.7	16.3	10.8	4.1	2.1	2.2	5.4	15.5
Religious worship	38.0	17.2	3.6	2.9	Q	2.1	3.5	0.9	0.9	0.8	6.3
Service	60.3	29.4	5.4	3.4	6.0	8.4	1.8	1.3	1.0	2.0	9.3
Warehouse and storage	34.1	11.7	3.4	1.2	1.1	7.0	Q	5.4	0.6	1.5	6.9
Other	145.1	36.9	14.4	8.5	1.2	19.3	Q	8.5	1.3	22.1	39.5
Vacant	24.4	9.5	2.2	3.1	0.8	4.4	Q	1.3	0.5	1.3	7.5
Year constructed											
Before 1920	62.7	29.0	3.6	5.3	2.8	5.5	13.0	5.0	1.3	3.2	7.8
1920 to 1945	71.3	26.1	6.6	6.2	6.6	6.6	8.4	6.8	1.7	4.4	8.0
1946 to 1959	74.5	26.0	6.6	6.9	6.4	7.1	10.7	6.5	1.7	3.9	9.0
1960 to 1969	88.4	29.0	8.2	7.4	7.4	9.0	9.6	7.9	2.3	5.9	11.8
1970 to 1979	95.8	25.6	9.2	9.6	9.8	9.5	19.4	10.0	2.5	5.9	10.9
1980 to 1989	78.7	16.2	10.2	9.0	5.7	9.0	13.0	9.0	2.2	5.5	10.6
1990 to 1999	84.0	18.7	9.5	8.5	5.8	9.4	16.2	11.1	2.2	5.3	10.8
2000 to 2003	80.5	21.0	8.9	8.7	4.5	9.4	11.7	8.8	2.0	5.7	11.2
2004 to 2007	81.4	17.8	8.6	7.6	7.0	8.9	Q	11.7	2.5	4.1	10.3
2008 to 2012	85.6	21.0	8.9	8.8	6.9	9.0	14.2	10.9	2.2	4.9	11.6

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Census region and division											
Northeast	95.4	34.1	6.6	9.0	7.0	8.9	11.8	8.9	1.9	5.6	11.8
New England	87.7	41.0	4.5	6.7	3.9	7.3	10.2	9.5	1.7	4.2	11.6
Middle Atlantic	98.4	31.6	7.3	9.8	8.0	9.5	12.3	8.6	1.9	6.1	11.9
Midwest	84.4	32.5	5.8	7.8	5.5	8.5	9.6	7.7	1.9	4.6	9.8
East North Central	90.2	35.6	5.9	8.2	5.6	8.9	9.5	8.0	1.9	4.7	10.3
West North Central	72.3	25.7	5.7	7.0	5.1	7.9	9.6	7.0	1.9	4.5	8.7
South	77.7	13.4	12.5	8.1	6.1	9.1	14.3	9.7	2.3	5.0	10.4
South Atlantic	77.1	12.9	12.1	8.1	5.8	8.8	13.5	10.1	2.5	5.4	10.3
East South Central	76.5	15.9	9.0	7.8	7.7	8.5	13.9	9.2	2.5	4.1	9.1
West South Central	79.2	13.0	14.9	8.2	5.9	9.7	16.1	9.2	1.9	4.8	11.3
West	76.2	16.9	5.9	7.8	7.9	7.8	19.9	9.7	2.3	5.6	10.1
Mountain	86.7	23.3	7.2	8.3	8.0	8.1	Q	8.3	2.9	5.0	9.6
Pacific	72.4	14.4	5.4	7.6	7.9	7.7	19.0	10.3	2.2	5.8	10.3
Climate region²											
Very cold/Cold	87.8	34.0	4.9	8.1	5.7	8.4	11.9	8.6	2.0	4.8	10.5
Mixed-humid	82.8	19.8	9.1	8.2	7.2	9.0	13.7	9.0	2.4	5.4	10.2
Mixed-dry/Hot-dry	68.4	11.0	7.5	6.8	7.9	7.4	20.8	9.4	2.1	5.6	9.6
Hot-humid	78.9	6.2	18.7	8.9	5.6	9.8	14.4	10.6	2.2	4.7	11.6
Marine	81.4	20.0	3.2	9.7	7.5	8.7	12.7	8.9	2.1	7.6	12.9
Number of floors											
One	74.4	18.4	7.7	6.7	5.2	8.7	18.3	14.0	1.8	3.8	9.0
Two	73.3	20.0	6.7	7.1	5.5	7.8	11.8	7.4	1.9	5.3	9.2
Three	82.5	28.7	8.0	8.1	6.0	7.9	7.6	5.3	2.3	5.5	10.5
Four to nine	106.7	31.7	12.7	11.7	10.4	9.6	10.5	4.0	2.9	7.2	15.0
Ten or more	106.5	22.5	13.3	12.6	9.8	10.2	14.6	3.1	3.5	7.7	14.4
Elevators and escalators (more than one may apply)											
Any elevators	99.7	27.4	11.4	11.0	8.4	9.6	10.9	4.6	2.6	7.5	13.5
Number of elevators											
One	79.5	24.6	7.2	8.6	6.9	7.9	8.3	5.0	2.2	5.3	9.8
Two to five	97.7	26.4	10.9	11.0	6.9	9.7	8.4	4.4	2.6	9.6	14.7
Six or more	130.4	32.9	17.7	14.1	12.6	11.6	15.4	4.2	3.4	7.3	16.6
Any escalators	103.5	20.8	13.9	11.8	7.0	11.6	Q	4.8	3.3	4.6	14.5
Number of workers (main shift)											
Fewer than 5	48.7	18.7	4.8	3.4	4.6	5.5	10.7	9.0	2.0	2.4	7.6
5 to 9	66.6	17.2	6.3	5.7	5.0	6.8	24.6	10.6	1.9	2.9	8.3
10 to 19	80.3	20.9	6.2	6.4	7.2	7.4	33.8	12.1	2.3	3.4	8.4
20 to 49	81.8	20.2	7.7	7.8	5.8	8.7	14.1	11.1	2.1	5.1	9.7
50 to 99	85.3	22.2	9.2	8.8	6.3	9.5	6.9	9.3	2.0	5.5	10.6
100 to 249	96.7	26.5	10.0	10.0	5.8	10.7	8.3	8.2	1.9	6.3	14.3
250 or more	122.0	29.5	15.5	14.6	10.6	12.1	14.6	4.4	2.8	9.2	15.0

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Weekly operating hours											
Fewer than 40	34.9	17.4	4.1	1.4	2.0	3.1	3.8	3.4	1.4	3.0	5.3
40 to 48	52.9	17.5	6.2	4.8	2.5	6.3	3.9	3.0	1.8	5.5	7.1
49 to 60	61.6	19.5	6.8	6.9	2.6	7.3	4.9	3.7	1.7	6.2	8.4
61 to 84	86.7	22.1	8.6	9.5	5.8	9.0	15.4	11.9	1.6	4.3	9.3
85 to 167	117.3	29.4	10.5	10.2	6.7	11.4	29.3	25.0	1.5	3.1	12.5
Open continuously	128.1	28.0	13.4	12.6	16.6	12.4	19.0	10.6	4.1	6.1	18.1
Ownership and occupancy											
Nongovernment owned	81.9	20.5	8.2	8.4	6.5	8.9	17.2	10.8	2.2	4.9	10.5
Owner occupied	86.3	23.2	8.8	7.6	7.6	8.8	17.9	10.0	2.5	4.3	11.7
Leased to tenant(s)	79.1	17.4	7.6	9.3	5.7	9.0	19.6	12.5	2.0	5.1	9.2
Owner occupied and leased	80.4	21.2	7.9	8.9	5.0	9.0	9.6	8.6	1.8	6.2	10.5
Unoccupied	15.4	8.7	1.7	0.1	Q	1.9	Q	Q	Q	Q	6.4
Government owned	82.5	28.0	10.2	7.3	6.7	8.0	6.1	3.9	1.9	6.0	10.3
Federal	87.3	26.1	9.4	10.9	4.5	9.7	12.1	1.9	1.2	4.8	13.1
State	100.4	35.5	8.7	10.2	10.5	9.3	Q	4.6	2.4	6.4	11.8
Local	73.7	24.8	10.9	5.5	5.3	7.2	3.0	3.8	1.8	6.0	9.3
Party responsible for operation and maintenance of energy systems											
Building owner	81.0	22.8	8.8	8.1	6.3	8.6	12.6	7.7	2.2	5.4	10.7
Business owner or tenant	88.3	19.5	7.5	8.2	7.2	9.2	22.1	17.6	1.7	3.6	9.0
Property management	77.3	15.7	9.1	9.9	9.3	7.5	13.3	7.2	2.8	6.0	9.6
Other	91.2	23.0	10.3	6.5	7.8	8.2	17.3	12.9	2.3	3.0	11.2
Provider of direct input on energy-related equipment purchases											
Building owner	80.7	22.6	8.6	8.0	6.4	8.6	12.6	7.9	2.2	5.3	10.6
Business owner or tenant	93.9	20.4	8.4	8.7	7.5	9.6	24.6	17.9	1.8	4.1	9.6
Property management	68.8	16.9	6.7	9.5	6.2	7.6	9.9	6.8	2.2	4.0	9.3
Other	90.9	20.4	9.1	8.2	8.9	8.2	21.3	17.4	1.9	3.0	9.0
Number of establishments											
One	82.3	23.2	8.5	7.4	7.3	8.5	15.9	8.6	2.4	5.0	10.7
2 to 5	78.9	22.5	7.7	8.1	5.4	8.2	11.4	9.4	1.7	4.1	10.3
6 to 10	84.3	20.0	8.1	10.5	5.1	8.5	10.7	12.3	1.9	6.5	8.8
11 to 20	96.6	21.9	10.1	12.5	6.1	10.4	11.2	13.1	2.0	5.3	10.0
More than 20	91.4	14.3	13.2	12.4	4.5	12.6	6.8	7.4	1.9	10.2	11.5
Currently unoccupied	15.2	9.9	1.6	0.1	Q	1.6	Q	Q	Q	Q	5.7
Predominant exterior wall material											
Brick, stone, or stucco	87.3	24.2	8.9	8.6	7.6	8.4	13.0	8.2	2.4	5.5	10.6
Concrete (block or poured)	84.3	19.6	9.5	8.2	6.7	9.2	13.5	12.9	2.0	4.2	10.7
Concrete panels	78.6	19.7	7.3	8.3	5.3	9.2	Q	6.5	2.2	6.2	11.1
Siding or shingles	71.9	20.9	5.8	6.6	5.5	7.1	20.7	10.2	2.1	4.1	8.9
Metal panels	53.1	21.4	6.9	4.5	2.3	8.5	6.1	5.3	1.1	3.3	8.6
Window glass	127.0	34.5	14.3	16.5	Q	12.8	7.3	5.7	2.5	15.9	17.5
Other	92.7	15.0	14.9	7.7	3.0	7.6	Q	15.9	1.6	5.0	11.3
No one major type	76.1	26.1	5.7	8.2	4.2	8.0	Q	7.2	1.7	4.0	10.2

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Predominant roof material											
Metal surfacing	57.6	17.1	7.5	4.8	3.3	8.0	14.2	8.5	1.6	3.5	8.3
Synthetic or rubber	95.3	26.7	8.8	9.7	6.6	9.6	14.7	9.7	2.2	5.8	11.9
Built-up	87.4	21.4	9.9	9.5	7.1	9.4	11.6	8.7	2.0	5.8	11.1
Slate or tile shingles	87.9	26.0	8.0	7.4	9.3	7.0	19.0	8.8	3.0	5.1	10.6
Wooden materials (including shingles)	83.7	28.4	6.2	5.6	9.5	6.3	40.0	13.7	2.4	3.4	7.8
Asphalt, fiberglass, or other shingles	75.3	19.8	7.3	6.9	7.3	7.4	13.5	8.9	2.5	4.2	9.3
Concrete	83.6	13.1	13.5	11.2	7.2	10.3	7.1	8.3	2.4	11.0	12.7
Other	85.6	17.1	9.0	7.8	5.8	7.7	13.6	14.7	1.6	3.3	11.3
No one major type	53.7	22.7	4.1	3.8	Q	5.4	Q	Q	1.0	2.7	7.2
Roof characteristics											
Roof tilt											
Flat	91.8	23.8	9.9	9.7	7.5	9.8	13.7	8.8	2.2	5.9	11.7
Shallow pitch	69.4	18.8	7.1	6.3	4.3	7.8	16.7	11.2	1.9	4.3	9.0
Steeper pitch	68.0	22.4	6.3	5.5	6.3	5.8	10.9	6.7	2.5	3.7	8.6
Cool roof	94.8	23.0	10.0	9.5	7.5	9.7	13.6	10.3	2.1	6.0	12.4
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	89.8	24.7	9.1	8.9	7.0	8.9	13.9	8.4	2.2	5.7	11.4
Addition or annex	99.6	28.8	10.6	8.7	8.6	9.1	15.8	6.9	2.5	4.6	12.3
Reduction in floorspace	130.2	30.2	13.7	13.2	16.0	13.0	Q	11.0	2.2	5.6	13.0
Roof replacement	95.6	27.5	9.4	9.5	7.7	9.2	12.3	7.5	2.1	5.9	12.5
Exterior wall replacement	94.4	21.8	10.1	9.1	6.8	8.7	18.1	8.9	2.0	6.8	11.8
Interior wall reconfiguration	96.8	26.3	10.1	10.4	6.8	9.5	14.8	7.3	2.3	7.5	12.1
Window replacement	89.0	25.6	8.6	8.3	7.5	8.0	14.4	5.7	2.5	6.3	11.4
HVAC equipment upgrade	95.5	25.3	10.0	9.5	7.7	9.2	14.1	8.0	2.2	6.1	12.2
Lighting upgrade	96.0	26.9	9.3	9.3	7.5	9.0	14.2	8.7	2.2	5.9	12.1
Electrical upgrade	99.9	27.2	10.0	9.4	7.9	9.0	17.3	8.2	2.3	6.5	13.3
Plumbing system upgrade	101.2	27.2	9.2	9.5	9.0	8.5	18.5	7.6	2.6	6.5	13.3
Insulation upgrade	102.1	27.0	10.0	8.8	7.3	8.4	22.0	9.8	2.6	7.1	12.8
Fire, safety, or security upgrade	98.2	27.0	10.4	9.7	8.5	8.8	12.6	7.4	2.3	6.8	13.0
Structural upgrade	108.4	22.2	12.3	9.0	8.0	8.9	30.0	8.2	2.9	7.7	15.4
Other	81.7	25.0	12.3	10.5	4.2	9.2	2.9	4.5	2.1	7.7	11.0
No renovations	72.9	19.6	7.9	7.1	5.9	8.4	13.6	9.7	2.1	4.5	9.3
Buildings constructed 2008 or later	85.6	21.0	8.9	8.8	6.9	9.0	14.2	10.9	2.2	4.9	11.6
Energy sources (more than one may apply)											
Electricity	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Natural gas	94.4	26.2	8.5	8.5	8.4	8.8	15.6	9.8	2.2	5.0	11.0
Fuel oil	110.5	30.0	13.3	11.3	8.3	11.1	12.4	6.1	2.6	8.0	15.7
District heat	135.5	43.0	11.1	14.1	14.0	11.5	28.4	4.0	3.3	6.9	18.2
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Propane	75.9	19.6	7.2	6.3	5.7	8.3	Q	11.1	2.4	3.1	12.4
Other	79.2	24.1	7.6	8.2	4.4	7.9	7.9	7.1	1.4	4.2	13.7

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Space-heating energy sources (more than one may apply)											
Electricity	79.5	15.9	9.1	8.3	5.8	8.9	12.3	9.8	2.2	5.2	10.3
Natural gas	89.8	28.2	7.6	8.0	7.0	8.4	12.7	9.4	2.0	4.8	10.0
Fuel oil	82.7	33.6	8.0	6.4	4.3	8.0	5.9	4.8	1.8	4.4	11.4
District heat	135.7	43.2	11.1	14.0	14.0	11.6	28.5	4.0	3.3	6.9	18.2
Propane	49.6	13.1	4.6	4.6	2.4	6.2	10.6	9.5	1.8	2.5	9.0
Other	49.2	17.3	2.1	5.4	2.3	6.7	10.8	6.1	1.3	2.0	7.9
Primary space-heating energy source											
Electricity	70.4	4.0	10.2	8.2	5.6	9.1	15.2	10.3	2.5	6.0	10.5
Natural gas	90.1	30.2	7.5	7.9	6.5	8.4	11.4	9.3	1.9	4.8	9.8
Fuel oil	73.7	36.1	5.1	4.7	1.7	6.8	5.3	4.2	1.7	3.7	10.9
District heat	137.0	43.7	11.2	14.2	14.1	11.7	29.4	4.1	3.2	7.0	18.3
Propane	32.3	3.9	3.0	3.2	0.2	4.7	9.6	10.3	1.3	1.6	6.5
Other	36.3	12.5	1.7	3.6	Q	6.5	Q	4.2	1.7	2.4	7.9
Cooling energy sources (more than one may apply)											
Electricity	83.1	21.1	8.5	8.1	6.2	8.7	12.7	9.3	2.1	5.1	10.4
Natural gas	133.2	49.9	20.2	11.7	12.1	9.5	11.6	3.2	2.3	5.1	14.7
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Water-heating energy sources (more than one may apply)											
Electricity	72.5	16.1	8.5	8.0	2.2	8.9	11.3	9.9	1.8	5.4	9.6
Natural gas	101.9	28.0	9.0	8.9	10.9	8.9	14.9	11.1	2.4	4.8	11.0
Fuel oil	91.1	41.8	7.1	6.8	3.2	7.1	8.0	5.6	2.2	3.8	13.3
District heat	143.3	41.3	12.1	14.7	16.3	12.3	31.2	3.9	3.5	6.9	19.7
Propane	55.1	6.2	7.3	5.2	0.7	5.9	11.9	16.5	2.2	2.3	9.8
Cooking energy sources (more than one may apply)											
Electricity	99.8	23.6	10.5	9.2	8.1	8.7	11.1	12.4	2.2	4.9	10.5
Natural gas	121.7	26.0	11.5	10.4	12.0	9.4	18.8	16.1	2.6	4.1	11.7
Propane	83.4	22.0	8.8	7.1	5.5	6.9	10.3	16.3	2.7	Q	11.3
Energy end uses (more than one may apply)											
Buildings with space heating	84.7	22.3	8.4	8.2	6.5	8.7	13.8	9.1	2.2	5.2	10.6
Buildings with cooling	85.4	22.1	8.6	8.4	6.6	8.9	13.9	9.1	2.2	5.3	10.7
Buildings with water heating	86.0	22.6	8.7	8.4	6.5	8.8	13.9	9.3	2.2	5.2	10.7
Buildings with cooking	105.8	24.1	10.6	9.5	9.5	8.8	13.8	13.7	2.5	4.6	10.9
Buildings with manufacturing	71.0	18.7	7.2	5.7	3.1	9.7	11.5	7.1	1.0	3.2	15.8
Buildings with electricity generation	109.3	27.5	12.2	11.2	8.3	10.7	11.2	8.5	2.5	7.6	15.7
Percent of floorspace heated											
Not heated	37.6	N	15.1	4.6	6.3	7.3	14.8	10.6	1.5	3.1	8.5
1 to 50	46.2	7.1	4.2	3.7	2.8	6.3	20.6	7.8	1.2	4.3	8.0
51 to 99	88.6	21.1	9.2	8.8	6.6	9.0	14.4	11.7	2.0	4.2	10.4
100	90.7	25.4	8.9	8.9	7.1	9.1	13.1	8.5	2.4	5.7	11.1

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Percent of floorspace cooled											
Not cooled	34.0	26.5	N	1.0	5.5	5.2	7.3	8.4	1.0	1.8	7.0
1 to 50	52.3	20.6	2.2	3.5	3.3	6.5	10.5	5.1	1.0	2.2	7.9
51 to 99	94.3	25.1	8.9	9.4	7.1	9.1	12.2	10.9	2.2	6.2	11.0
100	96.7	21.0	11.8	10.2	7.8	9.9	16.0	9.9	2.8	6.2	12.0
Percent lit when open											
Zero	13.5	Q	Q	Q	Q	Q	Q	Q	Q	Q	8.1
1 to 50	50.9	16.3	5.1	5.3	4.4	4.0	9.7	5.0	2.0	2.5	9.1
51 to 99	87.6	25.1	8.5	8.6	7.0	8.2	11.9	9.6	2.1	5.2	10.9
100	90.8	21.7	10.0	8.8	6.8	10.8	16.7	9.9	2.2	6.0	10.8
Building never open/electricity not used	17.4	15.1	2.1	0.1	Q	Q	Q	Q	Q	Q	4.8
Percent lit during off hours											
Zero	52.3	18.1	5.6	5.0	2.8	5.4	9.6	5.3	1.5	4.6	7.4
1 to 50	85.6	22.9	9.0	8.6	6.5	9.1	12.2	9.2	2.1	5.1	10.6
51 to 100	146.9	31.5	13.7	12.9	16.2	14.2	29.7	16.1	3.5	7.1	18.1
Building always open with no "off hours"	125.3	21.4	13.8	13.7	12.9	15.1	12.4	20.0	4.8	5.8	17.5
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	75.9	12.1	10.0	7.3	7.3	8.2	11.0	8.1	2.9	5.3	10.0
Furnaces	71.1	21.3	5.6	6.1	4.5	6.7	14.6	8.9	2.1	3.9	7.9
Individual space heaters	75.7	23.0	6.9	7.2	5.9	8.1	8.6	7.1	2.1	4.3	9.9
District heat	135.7	43.2	11.1	14.0	14.0	11.6	28.5	4.0	3.3	6.9	18.2
Boilers	100.8	33.3	10.2	9.4	9.1	8.8	7.3	5.8	2.4	6.2	12.5
Packaged heating units	83.0	19.0	8.6	8.5	5.6	8.8	15.3	11.2	1.9	4.7	9.9
Other	121.9	21.7	6.1	11.3	8.0	9.8	16.5	39.8	1.2	2.1	10.4
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	73.6	20.4	6.3	5.1	5.8	7.3	16.8	11.1	2.0	3.4	8.9
Heat pumps	74.9	12.4	9.2	7.4	7.0	8.3	10.0	8.5	2.7	5.4	10.0
Individual air conditioners	81.6	25.2	7.9	6.5	9.1	7.2	9.2	6.2	2.8	4.0	10.2
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Central chillers	108.7	28.9	13.8	12.3	8.6	10.6	7.2	4.9	2.5	8.7	14.7
Packaged air conditioning units	88.0	22.1	8.9	9.2	6.2	9.0	14.5	11.0	1.9	4.6	10.4
Swamp coolers	91.5	24.4	7.4	7.4	8.9	8.4	21.8	13.3	1.7	3.0	9.0
Other	137.4	26.3	12.1	15.2	4.8	15.4	Q	4.5	1.3	Q	20.9
Main equipment replaced since 1990 (more than one may apply)											
Heating	78.5	20.3	7.6	7.3	6.6	7.8	12.4	9.1	2.2	5.2	9.2
Cooling	82.1	22.2	8.2	7.7	7.1	7.9	12.3	8.5	2.3	5.4	9.6

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Water-heating equipment											
Centralized system	88.6	24.5	8.7	8.3	7.2	8.8	16.6	9.0	2.4	5.1	10.7
Distributed system	65.6	16.3	6.9	6.6	3.4	8.3	11.4	7.1	1.5	4.5	10.4
Combination of centralized and distributed system	93.4	22.1	10.0	9.8	7.0	9.4	10.1	11.3	2.0	6.0	10.9
Lighting equipment types (more than one may apply)											
Incandescent	92.2	23.9	9.9	8.9	7.8	8.9	14.1	9.6	2.3	5.0	10.7
Standard fluorescent	83.8	22.5	8.6	8.3	6.6	8.7	13.4	9.1	2.1	5.2	10.6
Compact fluorescent	94.7	24.4	10.0	9.5	7.8	9.2	14.2	9.0	2.4	5.8	11.4
High-intensity discharge (HID)	93.5	24.7	10.5	9.3	7.0	9.8	11.9	8.7	2.1	4.9	11.8
Halogen	96.0	23.5	10.3	9.7	7.6	9.5	14.0	10.3	2.3	5.0	11.6
LED	107.1	26.2	11.7	11.2	8.0	10.0	13.9	11.9	2.4	5.3	13.3
Other	131.1	36.3	23.2	12.1	8.8	9.8	10.4	13.9	3.0	5.4	13.2
Refrigeration equipment (more than one may apply)											
Any refrigeration	87.9	22.7	8.9	8.5	6.9	8.8	13.8	9.1	2.2	5.1	10.8
Walk-in units	124.3	26.7	12.2	10.9	11.0	10.0	17.9	19.3	2.6	4.7	12.7
Cases or cabinets	115.5	25.0	10.7	10.7	9.7	9.8	17.4	18.2	2.4	4.5	12.1
Large cold storage areas	127.0	25.6	9.9	8.8	7.7	10.0	18.8	34.7	1.7	3.1	12.7
Commercial ice makers	114.0	24.8	12.0	10.9	10.4	10.0	16.6	14.0	2.8	5.3	12.8
Residential-type or compact units	83.1	23.2	8.6	8.3	6.5	8.6	10.9	6.6	2.1	5.4	10.6
Vending machines	95.1	24.1	10.2	9.8	7.9	10.0	11.2	8.6	2.3	5.6	11.9
No refrigeration	43.8	18.7	5.8	4.9	2.8	7.6	Q	N	1.7	5.2	8.3
Office equipment (more than one may apply)											
Desktop computers	85.5	22.5	8.7	8.4	6.6	8.9	13.2	8.9	2.1	5.2	10.8
With flat screen monitors	85.7	22.6	8.8	8.5	6.6	8.9	13.1	8.9	2.1	5.2	10.7
With multiple monitors	95.1	24.9	10.3	10.4	6.4	9.6	13.9	7.3	2.2	7.5	11.6
Laptop computers	86.1	23.2	9.2	8.8	6.6	9.0	11.4	7.3	2.1	5.7	11.1
Dedicated servers	89.6	22.6	9.4	9.3	6.6	9.3	12.0	8.5	2.2	6.4	11.2
Laser printers	88.4	23.7	8.9	9.0	6.6	9.1	12.1	8.6	2.3	5.8	10.9
Inkjet printers	80.1	20.6	8.7	7.6	5.9	8.4	13.8	8.5	1.8	4.5	10.6
FAX machines	85.6	22.3	8.8	8.7	6.3	9.2	12.5	8.9	2.1	5.2	10.7
Photocopiers	86.2	23.5	9.1	8.9	6.2	9.1	10.2	7.0	2.2	5.8	11.2
Number of desktop computers											
None	48.3	19.0	6.3	3.7	5.4	5.5	28.2	12.3	2.6	Q	7.6
1 to 4	75.6	18.9	5.8	5.4	7.7	6.8	31.0	14.3	1.9	1.4	8.7
5 to 9	78.3	21.6	6.5	6.6	4.8	8.2	17.5	13.0	2.1	2.8	10.2
10 to 19	72.0	19.7	6.4	7.5	4.7	8.4	8.4	9.5	1.8	4.4	9.3
20 to 49	85.6	21.1	9.3	9.0	6.7	10.0	9.4	10.1	2.2	4.2	11.2
50 to 99	77.9	20.6	8.8	8.8	5.3	9.3	9.0	5.9	1.9	5.0	9.7
100 to 249	98.8	26.1	9.5	10.1	7.9	10.4	Q	5.1	2.5	8.4	13.5
250 or more	109.9	30.0	15.2	12.6	7.8	10.1	7.9	3.1	2.4	11.5	13.2

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Number of laptop computers											
None	70.0	19.3	6.5	5.9	6.1	7.6	25.3	15.9	2.2	2.8	8.8
1 to 4	71.7	20.0	6.9	6.0	5.2	7.8	17.0	9.8	1.9	2.8	9.2
5 to 9	83.6	19.4	8.2	8.9	7.4	9.7	14.7	9.5	1.9	3.9	10.2
10 to 19	86.1	20.7	10.1	9.4	8.1	9.0	10.0	8.1	2.0	4.6	10.6
20 to 49	94.1	26.3	8.5	9.9	7.2	9.4	14.3	6.1	2.6	7.6	11.5
50 to 99	96.7	29.4	11.3	10.1	6.1	9.8	4.3	4.3	2.0	7.1	16.0
100 to 249	100.6	29.3	11.5	11.1	7.5	9.6	6.4	3.4	2.3	11.7	12.6
250 or more	107.4	26.9	15.7	13.1	7.2	10.3	6.7	3.3	2.7	10.8	13.4
Number of dedicated servers											
None	69.2	21.7	7.0	5.9	6.4	7.5	18.6	10.3	2.1	2.5	9.3
1 to 4	79.7	20.0	7.5	7.8	6.3	8.7	12.2	9.8	2.0	4.0	10.1
5 to 9	90.5	22.6	9.0	9.5	6.5	9.4	13.0	9.2	2.0	5.6	10.7
10 to 19	103.8	24.8	13.4	13.0	5.2	11.0	Q	6.3	2.8	8.9	13.5
20 to 49	105.5	30.8	14.3	11.9	7.1	10.5	7.0	3.6	2.4	9.6	12.8
50 or more	143.6	34.9	18.4	14.5	10.9	11.9	12.5	4.1	2.7	23.3	16.7
Number of photocopiers											
None	72.4	19.2	7.2	6.1	7.3	7.6	28.3	15.3	1.9	3.1	8.7
One	70.4	20.3	6.3	6.0	5.5	7.4	11.6	9.3	1.8	2.9	9.0
2 to 4	78.6	21.7	7.9	8.2	5.1	8.8	7.1	7.3	2.2	5.2	10.4
5 to 9	88.5	21.5	9.2	9.5	5.7	10.3	10.5	6.8	1.9	7.5	10.9
10 or more	117.3	31.4	15.2	13.4	9.2	11.0	12.4	3.9	3.0	9.5	15.7
Number of TVs or video displays											
None	54.9	18.9	5.1	4.9	3.0	6.9	17.0	9.3	0.8	4.2	8.3
One	69.8	22.3	5.7	6.0	4.5	7.5	17.1	9.6	1.3	3.4	8.3
2 to 4	79.6	22.4	7.8	7.6	4.0	8.9	15.5	9.2	1.6	4.2	11.3
5 to 9	95.3	22.1	10.1	9.9	5.6	9.6	15.5	11.8	2.0	7.3	10.7
10 to 19	99.1	23.7	10.9	11.1	7.2	10.3	14.6	9.8	2.0	6.7	10.9
20 to 49	89.0	19.4	10.4	10.6	6.3	10.0	7.2	9.5	2.6	5.8	10.4
50 to 99	98.6	24.5	10.9	9.9	10.0	9.9	5.9	6.7	4.3	8.7	11.9
100 or more	133.4	31.1	15.7	11.5	21.0	9.6	17.1	5.5	6.1	4.9	16.3
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	112.5	28.1	13.3	10.0	8.2	9.4	12.5	13.3	2.6	5.2	12.4
Fast food or small restaurant	123.2	22.9	12.8	12.4	9.5	11.6	14.6	20.6	3.0	4.4	13.0
Cafeteria or large restaurant	106.7	26.9	12.9	10.2	10.8	9.1	11.3	6.9	2.7	5.7	11.9
Commercial kitchen/food preparation area	111.4	26.8	12.0	9.7	12.2	8.8	12.0	12.4	2.9	4.0	12.2
Small kitchen area	84.5	23.3	9.7	7.5	6.6	7.3	7.6	7.7	2.4	4.0	10.5
Separate computer areas (more than one may apply)											
Data center or server farm	122.1	31.5	17.3	12.7	8.1	11.2	13.9	4.3	2.8	13.6	14.7
Computer-based training room	95.7	24.7	12.0	10.0	6.7	9.8	10.2	7.1	2.2	6.9	11.1
Student or public computer center	88.9	26.5	10.1	7.9	8.6	7.7	8.4	5.7	2.5	5.5	9.9

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
HVAC conservation features (more than one may apply)											
Economizer cycle	102.2	27.2	10.2	11.1	7.3	10.2	12.9	8.3	2.2	6.5	13.3
Regular HVAC maintenance	89.6	23.0	9.3	9.0	6.8	9.3	13.6	9.2	2.2	5.6	11.3
Building automation system (BAS) ³	100.1	24.7	11.4	10.9	7.2	10.3	10.8	8.9	2.2	6.9	13.3
Window and interior lighting features (more than one may apply)											
Multipaned windows	87.9	23.5	8.6	8.7	6.8	8.9	13.9	9.5	2.3	5.4	10.8
Tinted window glass	89.5	22.1	9.8	9.2	6.9	9.4	14.4	9.1	2.2	5.6	11.4
Reflective window glass	104.3	24.0	11.6	11.1	7.8	10.3	16.3	10.5	2.6	7.6	12.1
External overhangs or awnings	96.3	23.0	9.5	9.3	7.6	9.3	19.1	13.0	2.3	5.1	10.9
Skylights or atriums	91.1	25.4	9.4	9.4	6.9	9.0	14.9	7.0	2.1	4.9	12.3
Light scheduling	96.8	23.0	10.4	10.6	6.6	9.4	13.4	11.6	2.3	6.2	11.7
Occupancy sensors	95.7	25.4	10.3	10.2	6.5	9.2	11.6	9.3	2.2	6.4	12.7
Multi-level lighting or dimming	111.3	25.8	11.4	11.1	9.9	9.1	17.8	13.1	2.7	5.0	13.0
Daylight harvesting	101.3	26.8	10.9	11.3	5.2	9.9	11.3	10.8	2.0	4.8	14.7
Demand responsive lighting	86.5	17.0	9.3	9.6	7.0	9.4	11.8	14.8	2.1	3.5	9.8
Building automation system (BAS) for lighting ³	99.5	21.0	11.3	12.0	5.5	10.8	9.9	14.1	1.7	5.9	12.3
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	79.5	21.3	8.2	8.0	5.5	8.1	12.2	8.5	1.9	4.9	9.7
Cooling	80.1	21.1	8.5	8.1	5.7	8.2	12.3	8.4	1.9	4.9	9.8
Lighting	81.8	22.5	8.5	8.1	6.3	8.5	13.6	8.6	2.1	5.0	10.3

¹The major fuel intensity calculation (total electricity, natural gas, fuel oil and district heat use for the end use divided by the floorspace in buildings that use any of those sources for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings. In this table, the intensities for each end use do not sum to the total intensity, whereas they did in the 2003 CBECS table.

²These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.

Table E3. Electricity consumption (Btu) by end use, 2012

	Total electricity consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Building floorspace (square feet)											
1,001 to 5,000	445	12	50	45	3	59	28	131	21	33	63
5,001 to 10,000	386	8	45	48	3	58	16	93	17	33	66
10,001 to 25,000	543	15	67	79	4	92	13	92	28	50	103
25,001 to 50,000	508	12	74	84	3	97	4	68	21	46	98
50,001 to 100,000	654	14	102	108	4	110	8	103	27	60	117
100,001 to 200,000	647	10	94	116	2	119	7	92	21	73	113
200,001 to 500,000	615	8	116	106	3	109	8	68	19	62	117
Over 500,000	442	5	84	82	2	80	9	23	19	48	91
Principal building activity											
Education	458	10	90	68	3	78	4	40	21	78	66
Food sales	208	2	6	12	(*)	16	10	147	2	2	12
Food service	279	5	30	31	3	19	46	114	7	4	21
Health care	365	4	69	82	1	61	8	19	17	34	70
Inpatient	251	2	58	46	1	40	7	14	12	21	50
Outpatient	114	2	11	37	(*)	21	1	4	5	13	20
Lodging	304	8	39	49	3	40	10	33	43	6	74
Mercantile	705	13	91	121	7	140	6	191	18	23	94
Retail (other than mall)	281	5	40	47	1	72	2	53	7	11	44
Enclosed and strip malls	424	8	52	75	7	68	4	139	11	12	50
Office	865	19	116	214	2	148	2	28	37	167	132
Public assembly	275	9	82	24	(*)	35	4	25	7	16	73
Public order and safety	73	1	15	5	1	15	1	3	3	8	20
Religious worship	81	3	15	13	(*)	9	1	4	3	3	28
Service	127	3	16	14	(*)	37	(*)	5	4	8	39
Warehouse and storage	284	4	34	13	1	85	(*)	47	6	16	78
Other	191	3	26	16	(*)	37	Q	15	2	40	51
Vacant	26	1	2	4	(*)	5	Q	1	(*)	1	12
Year constructed											
Before 1920	109	2	10	19	(*)	20	3	15	4	10	25
1920 to 1945	219	3	32	35	1	38	4	33	9	23	42
1946 to 1959	290	6	42	48	2	50	6	41	12	25	58
1960 to 1969	502	11	68	73	3	90	11	70	23	56	96
1970 to 1979	582	11	79	100	3	98	15	90	25	58	102
1980 to 1989	797	16	140	130	4	132	14	115	31	77	137
1990 to 1999	727	15	112	108	4	121	18	128	27	65	127
2000 to 2003	380	6	57	61	2	67	8	57	14	40	68
2004 to 2007	330	6	48	47	1	57	5	66	15	25	60
2008 to 2012	304	6	44	49	1	50	8	54	12	26	54

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Census region and division											
Northeast	752	17	76	134	3	134	15	121	27	81	143
New England	172	5	13	27	1	29	4	34	7	16	37
Middle Atlantic	579	12	63	107	2	105	11	87	21	65	107
Midwest	851	25	96	141	4	155	23	128	33	79	167
East North Central	595	16	66	100	2	109	15	91	22	55	118
West North Central	256	9	30	41	2	46	8	37	11	24	49
South	1,809	28	369	259	11	295	38	278	72	152	307
South Atlantic	978	15	197	140	7	154	18	154	42	89	162
East South Central	241	5	39	37	1	40	7	42	11	18	41
West South Central	590	8	133	82	3	101	13	82	19	45	103
West	829	14	92	134	4	139	18	143	40	93	152
Mountain	229	5	30	39	1	38	5	35	13	22	41
Pacific	600	9	62	95	3	101	13	109	27	71	111
Climate region¹											
Very cold/Cold	1,430	44	131	246	6	257	32	237	58	138	280
Mixed-humid	1,418	31	216	221	8	243	35	217	61	138	249
Mixed-dry/Hot-dry	520	3	77	76	2	87	11	88	23	60	94
Hot-humid	752	5	202	103	5	117	14	109	25	53	120
Marine	120	2	7	22	1	21	2	18	5	17	26
Number of floors											
One	1,861	40	260	243	13	324	55	434	61	127	304
Two	884	21	124	139	4	154	12	132	36	101	160
Three	373	8	55	64	1	63	8	38	18	43	75
Four to nine	788	12	134	154	2	127	13	50	38	94	163
Ten or more	335	4	59	68	1	55	5	16	19	41	67
Elevators and escalators (more than one may apply)											
Any elevators	1,840	30	310	349	6	304	27	136	83	237	357
Number of elevators											
One	501	11	72	95	2	88	6	52	24	58	94
Two to five	759	13	123	140	3	122	10	51	32	120	147
Six or more	580	6	116	115	1	94	12	33	28	59	116
Any escalators	226	4	40	43	1	42	4	16	12	17	47
Number of workers (main shift)											
Fewer than 5	456	13	54	45	3	78	11	93	22	24	112
5 to 9	381	10	51	49	2	61	16	79	17	24	71
10 to 19	451	11	57	60	3	71	21	99	22	32	76
20 to 49	750	16	101	112	5	126	17	145	30	73	124
50 to 99	730	15	117	119	4	128	9	118	27	75	120
100 to 249	632	9	100	110	3	116	6	86	21	68	113
250 or more	840	11	152	172	3	143	13	50	34	109	153

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Weekly operating hours											
Fewer than 40	119	5	20	8	1	17	2	15	6	12	33
40 to 48	527	13	87	74	2	99	3	40	27	82	100
49 to 60	814	21	126	138	4	150	6	64	33	121	152
61 to 84	850	17	126	148	7	143	14	173	25	65	131
85 to 167	682	11	85	92	2	106	34	212	13	27	100
Open continuously	1,248	17	189	209	5	209	34	166	67	97	254
Ownership and occupancy											
Nongovernment owned	3,370	68	472	530	18	571	81	602	136	293	600
Owner occupied	1,554	32	231	222	6	262	43	267	72	117	301
Leased to tenant(s)	1,358	28	177	230	10	229	30	268	48	122	217
Owner occupied and leased	452	7	63	78	2	79	7	67	16	54	79
Unoccupied	6	Q	(*)	(*)	Q	Q	Q	Q	Q	Q	4
Government owned	871	17	161	139	4	153	13	68	36	112	168
Federal	77	1	13	17	(*)	15	1	3	2	8	18
State	275	5	35	55	1	50	4	23	13	34	55
Local	518	11	113	66	3	87	8	43	21	71	95
Party responsible for operation and maintenance of energy systems											
Building owner	3,512	71	539	561	17	606	73	476	149	357	662
Business owner or tenant	620	11	76	90	5	101	16	176	18	39	88
Property management	63	1	10	12	(*)	9	2	8	3	7	11
Other	46	1	8	5	Q	7	2	10	2	2	8
Provider of direct input on energy-related equipment purchases											
Building owner	3,621	73	552	577	18	625	74	505	153	365	679
Business owner or tenant	485	9	61	70	4	78	15	133	14	32	69
Property management	40	1	6	8	(*)	7	1	5	2	3	7
Other	94	1	14	14	(*)	14	3	27	3	5	14
Number of establishments											
One	2,651	55	395	387	12	455	73	405	120	248	501
2 to 5	849	16	122	143	4	145	14	147	29	71	157
6 to 10	240	4	33	45	2	37	2	47	8	28	34
11 to 20	234	5	36	46	2	38	2	45	7	19	33
More than 20	260	4	46	47	2	48	2	26	7	39	38
Currently unoccupied	6	Q	(*)	(*)	Q	(*)	Q	Q	Q	Q	5
Predominant exterior wall material											
Brick, stone, or stucco	2,035	43	309	335	11	330	52	292	92	207	363
Concrete (block or poured)	1,101	18	171	163	7	186	20	232	39	81	183
Concrete panels	411	6	56	69	1	77	5	47	18	50	83
Siding or shingles	244	8	28	35	1	39	10	46	11	19	46
Metal panels	270	7	43	32	1	64	2	31	7	22	62
Window glass	107	2	16	22	(*)	17	1	7	3	21	18
Other	47	1	6	7	(*)	7	1	Q	1	3	9
No one major type	26	(*)	3	5	(*)	5	Q	4	1	2	6

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Predominant roof material											
Metal surfacing	576	14	91	65	3	115	11	98	21	45	113
Synthetic or rubber	1,440	29	203	245	6	243	29	228	55	144	258
Built-up	1,150	19	184	199	6	198	26	163	42	118	196
Slate or tile shingles	200	3	26	30	1	30	5	34	12	19	41
Wooden materials (including shingles)	47	(*)	6	6	(*)	7	2	12	2	3	8
Asphalt, fiberglass, or other shingles	670	17	95	99	4	107	19	113	35	56	124
Concrete	102	1	20	16	Q	16	1	11	4	16	18
Other	36	(*)	6	5	Q	5	Q	9	1	2	7
No one major type	18	(*)	3	3	Q	4	Q	Q	1	2	4
Roof characteristics											
Roof tilt											
Flat	2,728	49	428	464	13	472	57	382	102	276	484
Shallow pitch	1,017	21	134	136	6	177	21	213	41	87	182
Steeper pitch	495	14	71	69	3	75	15	75	29	42	103
Cool roof	1,108	18	170	183	6	186	21	179	40	113	190
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	2,212	45	332	368	11	367	49	320	89	229	401
Addition or annex	698	14	126	113	4	118	13	84	32	59	136
Reduction in floorspace	121	1	20	23	(*)	22	2	18	4	9	21
Roof replacement	1,124	22	171	194	6	189	27	145	44	118	208
Exterior wall replacement	240	5	39	38	1	37	5	35	8	28	42
Interior wall reconfiguration	1,216	24	186	219	6	199	21	143	48	155	215
Window replacement	601	12	94	100	3	97	15	64	30	73	111
HVAC equipment upgrade	1,477	29	234	252	7	245	30	198	59	157	266
Lighting upgrade	1,398	27	211	235	6	227	34	208	56	147	247
Electrical upgrade	903	18	143	149	4	144	20	121	37	100	167
Plumbing system upgrade	758	15	114	129	4	116	20	99	35	86	139
Insulation upgrade	429	9	64	66	2	63	10	69	19	52	76
Fire, safety, or security upgrade	963	19	160	164	4	150	24	118	38	113	172
Structural upgrade	235	4	40	35	1	35	4	30	11	29	46
Other	44	1	7	9	(*)	8	Q	3	2	6	8
No renovations	1,725	34	256	251	10	307	36	295	71	150	314
Buildings constructed 2008 or later	304	6	44	49	1	50	8	54	12	26	54
Energy sources (more than one may apply)											
Electricity	4,241	85	633	668	22	724	93	670	172	405	769
Natural gas	3,082	51	458	498	14	514	69	523	127	283	545
Fuel oil	1,303	20	224	226	5	222	22	116	51	157	259
District heat	353	3	25	83	1	68	6	23	19	40	84
District chilled water	292	3	12	68	1	58	5	18	16	40	71
Propane	376	11	48	47	2	64	11	78	17	23	75
Other	170	3	26	31	1	30	3	26	5	16	31

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Space-heating energy sources											
Electricity	2,642	85	415	408	17	432	57	435	106	246	440
Electricity main	1,499	54	257	216	12	237	32	236	64	149	243
Electricity secondary	1,142	31	158	192	5	195	25	199	42	98	197
Other excluding electricity	1,445	N	181	249	4	261	34	212	62	151	292
Buildings without heating	154	N	36	11	1	31	2	23	4	8	37
Primary space-heating energy source											
Electricity	1,499	54	257	216	12	237	32	236	64	149	243
Natural gas	2,085	23	300	339	8	360	47	361	78	197	372
Fuel oil	81	2	9	12	(*)	17	1	9	4	8	19
District heat	345	3	24	82	1	67	6	22	18	39	83
Propane	61	3	5	6	(*)	9	Q	17	2	3	11
Other	16	Q	1	2	(*)	4	Q	2	Q	1	4
Cooling energy sources											
Electricity	3,954	82	633	619	21	659	89	637	157	373	685
Other excluding electricity	193	1	N	46	1	40	3	13	12	29	48
Buildings without cooling	94	1	N	3	(*)	24	2	20	3	4	36
Water-heating energy sources											
Electricity	2,215	54	341	339	22	380	41	378	74	222	365
Other excluding electricity	1,912	29	277	319	N	316	52	286	95	175	363
Buildings without water heating	114	2	15	10	N	28	Q	5	4	9	41
Cooking energy sources											
Electricity	1,547	32	246	231	9	219	93	312	56	121	229
Other excluding electricity	842	11	134	133	5	120	N	216	38	50	135
Buildings without cooking	1,851	41	254	304	8	384	N	142	78	235	405
Energy end uses (more than one may apply)											
Buildings with space heating	4,086	85	596	657	21	693	91	647	168	397	732
Buildings with cooling	4,147	83	633	665	22	699	92	650	169	401	733
Buildings with water heating	4,127	83	618	658	22	696	93	664	168	396	728
Buildings with cooking	2,390	43	379	364	14	340	93	528	94	171	364
Buildings with manufacturing	228	4	33	28	1	49	3	32	5	15	57
Buildings with electricity generation	1,673	26	272	287	7	274	30	211	65	195	306
Percent of floorspace heated											
Not heated	154	N	36	11	1	31	2	23	4	8	37
1 to 50	334	3	38	38	1	63	4	63	11	39	74
51 to 99	798	13	126	129	5	131	16	158	29	60	131
100	2,955	69	432	491	15	499	71	426	127	298	527
Percent of floorspace cooled											
Not cooled	94	1	N	3	(*)	24	2	20	3	4	36
1 to 50	522	11	42	65	2	122	6	82	19	40	132
51 to 99	1,301	23	187	214	7	206	28	231	49	138	216
100	2,324	48	403	385	12	370	58	336	102	224	385

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Percent lit when open											
Zero	3	Q	Q	Q	Q	Q	Q	Q	Q	Q	3
1 to 50	388	10	54	61	2	50	6	49	23	27	107
51 to 99	1,793	36	265	295	11	284	39	307	72	175	309
100	2,045	39	313	311	9	387	49	314	77	203	343
Building never open/electricity not used	11	(*)	1	(*)	Q	Q	Q	Q	Q	Q	7
Percent lit during off hours											
Zero	791	21	117	116	4	126	12	102	32	94	167
1 to 50	2,675	54	415	432	16	463	56	418	106	251	464
51 to 100	562	8	70	88	2	98	20	105	23	47	100
Building always open with no "off hours"	213	2	31	32	1	36	5	44	11	13	38
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	613	15	113	86	5	97	11	87	34	62	104
Furnaces	363	11	47	53	2	58	12	68	18	32	63
Individual space heaters	926	29	122	148	5	166	19	132	42	84	179
District heat	350	3	25	83	1	67	6	22	19	40	84
Boilers	1,193	14	208	211	3	197	20	123	52	137	228
Packaged heating units	2,632	63	401	419	15	431	66	493	91	222	431
Other	131	4	9	18	1	15	4	62	2	3	13
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	636	14	93	75	4	108	13	144	29	47	110
Heat pumps	644	16	112	93	5	104	10	96	34	66	108
Individual air conditioners	546	14	88	81	4	89	13	70	34	47	106
District chilled water	292	3	12	68	1	58	5	18	16	40	71
Central chillers	1,120	14	215	210	3	179	18	80	43	147	210
Packaged air conditioning units	2,480	51	390	415	14	404	63	452	85	202	403
Swamp coolers	98	3	13	14	1	16	5	23	3	6	15
Other	32	Q	4	5	Q	5	Q	1	(*)	Q	5
Main equipment replaced since 1990 (more than one may apply)											
Heating	1,323	32	196	202	8	215	30	222	58	135	225
Cooling	1,519	33	245	235	9	243	33	233	68	158	262
Water-heating equipment											
Centralized system	2,484	52	362	391	12	415	67	387	111	230	457
Distributed system	539	12	80	83	3	105	7	75	19	55	99
Combination of centralized and distributed system	1,104	19	176	185	7	176	19	202	38	111	172

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Lighting equipment types (more than one may apply)											
Incandescent	2,087	40	338	336	12	340	46	344	86	184	359
Standard fluorescent	4,085	80	609	650	21	693	89	649	166	394	735
Compact fluorescent	3,034	58	478	507	17	493	72	451	129	305	524
High-intensity discharge (HID)	1,303	22	220	215	7	229	22	190	49	112	237
Halogen	1,632	32	262	271	9	266	37	272	64	138	281
LED	1,416	24	229	248	7	220	28	251	52	117	241
Other	33	Q	5	5	Q	4	1	6	1	2	5
Refrigeration equipment (more than one may apply)											
Any refrigeration	3,923	77	587	623	21	647	93	670	159	365	681
Walk-in units	2,069	30	314	309	12	283	77	547	73	130	292
Cases or cabinets	1,987	32	283	307	11	282	66	523	70	126	288
Large cold storage areas	334	3	38	37	1	42	8	145	7	13	41
Commercial ice makers	2,228	39	354	357	12	326	73	457	91	172	348
Residential-type or compact units	3,109	65	481	513	17	537	59	413	131	324	568
Vending machines	2,532	44	397	430	13	439	39	379	102	243	448
No refrigeration	318	8	45	46	1	77	Q	N	13	40	88
Office equipment (more than one may apply)											
Desktop computers	4,017	78	606	647	20	687	86	620	163	399	711
With flat screen monitors	3,977	77	601	641	20	678	85	614	162	398	700
With multiple monitors	1,785	29	280	321	8	298	26	212	69	233	309
Laptop computers	3,303	65	527	556	17	570	48	427	136	363	595
Dedicated servers	2,964	56	460	496	14	498	51	425	115	341	508
Laser printers	2,921	54	439	488	14	495	52	428	126	316	511
Inkjet printers	1,787	39	284	273	10	306	46	280	66	161	321
FAX machines	3,512	68	531	574	18	612	67	541	140	345	615
Photocopiers	3,099	59	491	528	14	540	43	387	132	344	561
Number of desktop computers											
None	223	6	27	22	2	36	7	50	9	Q	58
1 to 4	700	16	82	82	4	106	41	189	30	22	128
5 to 9	456	10	60	62	3	77	11	106	20	27	80
10 to 19	441	11	58	69	2	79	6	79	17	41	78
20 to 49	716	14	114	118	5	131	8	117	29	55	126
50 to 99	408	10	68	73	2	77	4	45	16	41	72
100 to 249	545	8	75	99	3	101	6	48	25	81	101
250 or more	751	9	150	144	2	116	11	35	27	132	125

Table E3. Electricity consumption (Btu) by end use, 2012

Total electricity consumption (trillion Btu)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
Number of laptop computers											
None	938	20	105	112	5	154	45	243	36	43	174
1 to 4	930	23	136	125	6	165	19	181	40	60	175
5 to 9	431	8	65	73	3	81	6	70	16	32	76
10 to 19	445	11	77	79	3	75	6	63	16	38	78
20 to 49	525	9	72	96	3	91	6	56	25	74	95
50 to 99	292	5	54	53	1	51	4	22	11	37	55
100 to 249	308	4	49	58	1	50	3	17	12	61	53
250 or more	372	6	75	72	1	57	5	18	15	60	63
Number of dedicated servers											
None	1,276	28	173	172	8	225	43	245	57	64	261
1 to 4	1,695	37	242	266	9	295	36	309	68	136	297
5 to 9	343	7	53	60	3	59	4	55	12	35	56
10 to 19	373	5	61	74	1	63	4	34	16	51	64
20 to 49	239	4	50	45	1	39	3	13	9	36	41
50 or more	313	3	55	51	1	42	4	14	10	83	50
Number of photocopiers											
None	1,142	26	142	141	8	184	51	282	40	62	208
One	732	17	102	102	4	127	15	143	31	49	142
2 to 4	998	23	154	167	5	178	10	137	45	104	173
5 to 9	492	9	76	84	3	92	5	58	17	66	83
10 or more	876	10	158	174	2	143	12	49	39	124	163
Number of TVs or video displays											
None	763	17	89	97	3	145	19	140	14	73	166
One	412	9	49	59	2	74	12	84	13	32	77
2 to 4	805	16	123	125	4	146	15	136	27	67	147
5 to 9	512	14	79	80	3	78	14	91	17	58	79
10 to 19	500	8	79	91	3	84	10	76	16	54	79
20 to 49	476	9	80	86	4	80	6	73	21	46	72
50 to 99	264	5	35	43	1	43	4	29	19	38	46
100 or more	508	6	99	87	1	73	14	41	46	37	104
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	651	11	119	99	3	93	16	131	25	51	102
Fast food or small restaurant	765	9	118	122	5	113	14	202	29	43	110
Cafeteria or large restaurant	890	14	178	156	4	138	18	105	41	87	150
Commercial kitchen/food preparation area	996	17	177	157	5	142	23	200	47	64	165
Small kitchen area	693	13	127	106	3	103	18	108	33	54	127
Separate computer areas (more than one may apply)											
Data center or server farm	814	12	159	141	1	124	9	46	31	151	138
Computer-based training room	1,022	16	185	177	4	174	14	123	39	123	168
Student or public computer center	692	13	125	114	4	111	12	79	36	78	120

Table E3. Electricity consumption (Btu) by end use, 2012

	Total electricity consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	4,241	85	633	668	22	724	93	670	172	405	769
HVAC conservation features (more than one may apply)											
Economizer cycle	1,839	34	278	343	7	312	33	237	66	200	330
Regular HVAC maintenance	3,782	71	581	620	19	640	82	576	151	377	666
Building automation system (BAS) ²	2,285	38	372	403	10	379	37	311	81	253	401
Window and interior lighting features (more than one may apply)											
Multipaned windows	3,174	68	464	516	17	524	75	515	131	307	556
Tinted window glass	2,451	45	398	408	14	416	45	364	95	240	426
Reflective window glass	1,025	19	169	174	5	163	15	154	41	118	167
External overhangs or awnings	1,874	34	276	296	12	295	50	381	74	158	299
Skylights or atriums	1,131	19	180	205	6	197	18	142	45	105	215
Light scheduling	1,847	32	287	318	10	284	35	327	67	183	302
Occupancy sensors	2,076	36	323	362	10	331	32	310	77	224	372
Multi-level lighting or dimming	929	17	145	161	5	132	21	182	39	72	154
Daylight harvesting	371	6	58	68	2	61	7	64	12	29	66
Demand responsive lighting	272	5	40	45	3	44	4	65	9	16	41
Building automation system (BAS) for lighting ²	816	13	128	144	5	130	14	165	21	71	125
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	3,046	68	470	502	17	509	58	480	118	296	528
Cooling	3,078	66	502	508	17	511	58	476	119	297	525
Lighting	3,880	80	584	620	21	664	83	595	156	376	699
Annual consumption (kilowatthours)											
10,000 or less	14	1	2	1	(*)	3	(*)	1	1	1	6
10,001 to 50,000	170	6	21	20	1	34	2	13	10	18	46
50,001 to 100,000	213	7	27	27	1	41	4	24	11	21	48
100,001 to 500,000	964	23	119	130	6	158	30	209	45	78	165
500,001 to 1,000,000	562	13	83	88	4	88	20	89	28	56	94
1,000,001 to 5,000,000	1,293	23	188	223	6	225	22	239	43	107	217
Over 5,000,000	1,024	12	192	179	4	176	15	95	34	124	194

¹These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and E of the 2012 Commercial Buildings Energy Consumption Survey.

Table E4. Electricity consumption intensities (Btu) by end use, 2012

	Electricity energy intensity ¹ (thousand Btu/square foot in buildings using electricity for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Building floorspace (square feet)											
1,001 to 5,000	59.4	2.9	8.2	6.5	0.7	8.3	20.4	24.0	3.4	5.9	8.5
5,001 to 10,000	45.5	1.8	6.1	6.1	0.6	7.1	9.9	14.2	2.3	4.7	7.8
10,001 to 25,000	40.0	1.9	5.5	6.0	0.5	6.9	5.0	8.4	2.2	4.1	7.6
25,001 to 50,000	43.5	1.8	7.0	7.4	0.5	8.4	1.9	6.8	1.9	4.3	8.4
50,001 to 100,000	48.1	1.7	8.1	8.1	0.5	8.1	1.8	8.4	2.0	4.5	8.6
100,001 to 200,000	52.3	1.4	8.5	9.5	0.4	9.7	1.6	8.1	1.7	6.0	9.1
200,001 to 500,000	57.7	1.4	11.7	10.0	0.5	10.3	1.7	6.8	1.8	5.9	11.0
Over 500,000	62.9	1.2	13.3	11.8	0.4	11.4	2.3	3.2	2.7	6.9	12.9
Principal building activity											
Education	37.4	1.6	8.4	5.6	0.7	6.3	0.7	3.6	1.8	6.4	5.4
Food sales	166.1	2.0	5.3	9.4	0.1	12.4	14.8	117.6	1.6	2.0	9.4
Food service	153.2	4.7	18.0	17.2	3.8	10.2	54.3	62.4	4.1	2.7	11.5
Health care	87.9	1.8	17.5	19.9	0.8	14.7	4.2	4.6	4.0	8.2	16.8
Inpatient	105.8	1.6	26.2	19.3	2.3	16.7	4.6	6.0	5.1	9.0	21.1
Outpatient	64.0	2.0	6.4	20.7	0.2	11.9	2.5	2.6	2.5	7.2	11.0
Lodging	52.2	2.1	7.3	8.4	2.3	6.8	4.6	5.7	7.5	1.2	12.8
Mercantile	62.3	1.6	8.2	10.8	0.8	12.4	1.4	18.5	1.6	2.1	8.3
Retail (other than mall)	51.8	1.8	7.6	8.6	0.1	13.3	1.5	11.8	1.3	2.0	8.2
Enclosed and strip malls	72.0	1.5	8.8	12.7	1.3	11.5	1.3	23.6	1.8	2.1	8.5
Office	54.2	1.9	7.6	13.4	0.2	9.2	0.7	2.0	2.3	10.5	8.3
Public assembly	49.4	3.3	17.7	4.4	0.1	6.4	1.8	5.0	1.4	3.0	13.1
Public order and safety	50.7	1.5	11.2	3.7	2.2	10.8	2.2	2.1	2.2	5.4	13.8
Religious worship	17.8	1.1	3.6	2.9	0.1	2.1	0.7	0.9	0.9	0.8	6.2
Service	28.2	1.5	4.3	3.4	0.2	8.4	0.8	1.3	1.0	2.0	8.6
Warehouse and storage	22.6	0.7	3.4	1.2	0.1	7.0	0.1	5.4	0.6	1.5	6.2
Other	96.7	2.5	14.3	8.5	0.1	19.3	Q	8.5	1.3	22.1	25.8
Vacant	15.5	0.8	2.2	3.1	(*)	4.4	Q	1.3	0.5	1.3	6.9
Year constructed											
Before 1920	28.7	1.3	3.5	5.3	0.2	5.5	2.7	5.0	1.3	3.2	6.6
1920 to 1945	37.4	1.2	6.2	6.2	0.3	6.6	2.2	6.8	1.7	4.4	7.1
1946 to 1959	40.2	1.7	6.4	6.9	0.6	7.1	3.0	6.5	1.7	3.9	8.1
1960 to 1969	49.2	2.1	7.6	7.4	0.6	9.0	3.9	7.9	2.3	5.9	9.5
1970 to 1979	55.2	1.9	8.4	9.6	0.7	9.5	5.2	10.0	2.5	5.9	9.6
1980 to 1989	53.9	1.7	10.1	9.0	0.5	9.0	3.3	9.0	2.2	5.5	9.2
1990 to 1999	55.4	1.9	9.4	8.5	0.6	9.4	4.3	11.1	2.2	5.3	9.7
2000 to 2003	52.8	1.5	8.9	8.7	0.5	9.4	3.9	8.8	2.0	5.7	9.5
2004 to 2007	51.0	1.5	8.4	7.6	0.4	8.9	2.8	11.7	2.5	4.1	9.3
2008 to 2012	53.7	1.5	8.6	8.8	0.4	9.0	4.4	10.9	2.2	4.9	9.6

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Census region and division											
Northeast	49.2	2.4	5.7	9.0	0.4	8.9	3.2	8.9	1.9	5.6	9.4
New England	41.1	2.8	4.0	6.7	0.4	7.3	3.2	9.5	1.7	4.2	8.8
Middle Atlantic	52.2	2.3	6.3	9.8	0.4	9.5	3.1	8.6	1.9	6.1	9.6
Midwest	45.8	2.9	5.7	7.8	0.5	8.5	3.7	7.7	1.9	4.6	9.0
East North Central	47.4	2.9	5.7	8.2	0.5	8.9	3.5	8.0	1.9	4.7	9.4
West North Central	42.5	3.0	5.6	7.0	0.5	7.9	4.0	7.0	1.9	4.5	8.1
South	54.8	1.2	12.3	8.1	0.6	9.1	3.8	9.7	2.3	5.0	9.3
South Atlantic	55.6	1.2	12.0	8.1	0.6	8.8	3.3	10.1	2.5	5.4	9.2
East South Central	49.9	1.7	9.0	7.8	0.5	8.5	4.4	9.2	2.5	4.1	8.5
West South Central	55.7	1.1	14.4	8.2	0.6	9.7	4.6	9.2	1.9	4.8	9.8
West	46.1	1.3	5.7	7.8	0.5	7.8	4.0	9.7	2.3	5.6	8.4
Mountain	47.5	1.7	7.1	8.3	0.5	8.1	3.5	8.3	2.9	5.0	8.5
Pacific	45.5	1.2	5.3	7.6	0.5	7.7	4.3	10.3	2.2	5.8	8.4
Climate region²											
Very cold/Cold	45.7	2.9	4.8	8.1	0.5	8.4	3.3	8.6	2.0	4.8	9.0
Mixed-humid	51.7	1.8	8.7	8.2	0.5	9.0	3.9	9.0	2.4	5.4	9.1
Mixed-dry/Hot-dry	44.3	0.5	7.3	6.8	0.4	7.4	4.7	9.4	2.1	5.6	8.0
Hot-humid	62.7	0.5	18.3	8.9	0.6	9.8	4.0	10.6	2.2	4.7	10.0
Marine	49.8	1.6	3.2	9.7	0.5	8.7	3.0	8.9	2.1	7.6	10.7
Number of floors											
One	48.9	1.8	7.7	6.7	0.6	8.7	5.7	14.0	1.8	3.8	8.0
Two	44.4	1.7	6.7	7.1	0.4	7.8	2.2	7.4	1.9	5.3	8.0
Three	46.1	1.8	7.4	8.1	0.4	7.9	3.1	5.3	2.3	5.5	9.2
Four to nine	58.7	1.7	11.8	11.7	0.5	9.6	2.8	4.0	2.9	7.2	12.2
Ten or more	62.3	1.3	12.2	12.6	0.3	10.2	2.0	3.1	3.5	7.7	12.4
Elevators and escalators (more than one may apply)											
Any elevators	57.6	1.7	10.8	11.0	0.4	9.6	2.2	4.6	2.6	7.5	11.2
Number of elevators											
One	45.0	1.7	7.2	8.6	0.4	7.9	1.6	5.0	2.2	5.3	8.5
Two to five	59.7	1.8	10.8	11.0	0.5	9.7	2.4	4.4	2.6	9.6	11.6
Six or more	71.5	1.4	15.7	14.1	0.4	11.6	2.5	4.2	3.4	7.3	14.3
Any escalators	62.0	1.6	12.5	11.8	0.4	11.6	2.2	4.8	3.3	4.6	12.9
Number of workers (main shift)											
Fewer than 5	29.3	1.9	4.8	3.4	0.4	5.5	4.7	9.0	2.0	2.4	7.2
5 to 9	42.5	1.8	6.3	5.7	0.5	6.8	9.3	10.6	1.9	2.9	7.9
10 to 19	46.9	2.0	6.2	6.4	0.6	7.4	10.0	12.1	2.3	3.4	7.9
20 to 49	51.7	1.7	7.4	7.8	0.6	8.7	4.5	11.1	2.1	5.1	8.5
50 to 99	54.2	1.6	9.1	8.8	0.6	9.5	1.7	9.3	2.0	5.5	8.9
100 to 249	57.8	1.5	9.9	10.0	0.5	10.7	1.5	8.2	1.9	6.3	10.4
250 or more	71.1	1.6	14.1	14.6	0.5	12.1	2.2	4.4	2.8	9.2	13.0

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Weekly operating hours											
Fewer than 40	18.2	1.6	4.1	1.4	0.4	3.1	1.3	3.4	1.4	3.0	5.1
40 to 48	33.5	1.4	6.2	4.8	0.3	6.3	1.0	3.0	1.8	5.5	6.3
49 to 60	39.8	1.8	6.7	6.9	0.3	7.3	1.2	3.7	1.7	6.2	7.4
61 to 84	53.8	1.7	8.6	9.5	0.7	9.0	2.7	11.9	1.6	4.3	8.3
85 to 167	72.9	2.2	10.0	10.2	0.5	11.4	11.2	25.0	1.5	3.1	10.6
Open continuously	73.4	1.7	12.5	12.6	0.8	12.4	5.0	10.6	4.1	6.1	14.9
Ownership and occupancy											
Nongovernment owned	51.4	1.7	8.0	8.4	0.5	8.9	4.8	10.8	2.2	4.9	9.2
Owner occupied	51.2	1.9	8.6	7.6	0.4	8.8	5.3	10.0	2.5	4.3	9.9
Leased to tenant(s)	52.6	1.7	7.5	9.3	0.6	9.0	5.0	12.5	2.0	5.1	8.4
Owner occupied and leased	51.2	1.3	7.5	8.9	0.4	9.0	2.8	8.6	1.8	6.2	9.0
Unoccupied	8.6	Q	1.7	0.1	Q	1.9	Q	Q	Q	Q	6.2
Government owned	45.2	1.7	9.6	7.3	0.6	8.0	1.5	3.9	1.9	6.0	8.8
Federal	49.2	1.4	9.1	10.9	0.2	9.7	1.3	1.9	1.2	4.8	11.2
State	49.8	2.0	8.6	10.2	0.4	9.3	2.1	4.6	2.4	6.4	10.0
Local	42.6	1.7	10.1	5.5	0.7	7.2	1.4	3.8	1.8	6.0	7.9
Party responsible for operation and maintenance of energy systems											
Building owner	49.0	1.8	8.5	8.1	0.5	8.6	3.4	7.7	2.2	5.4	9.2
Business owner or tenant	55.7	1.5	7.1	8.2	0.6	9.2	5.3	17.6	1.7	3.6	7.9
Property management	50.5	1.3	9.1	9.9	0.3	7.5	4.4	7.2	2.8	6.0	8.5
Other	55.3	1.8	10.2	6.5	Q	8.2	5.9	12.9	2.3	3.0	9.7
Provider of direct input on energy-related equipment purchases											
Building owner	48.8	1.7	8.4	8.0	0.5	8.6	3.4	7.9	2.2	5.3	9.2
Business owner or tenant	59.4	1.7	7.8	8.7	0.7	9.6	6.5	17.9	1.8	4.1	8.5
Property management	46.0	1.8	6.7	9.5	0.4	7.6	4.3	6.8	2.2	4.0	8.0
Other	55.9	1.3	9.1	8.2	0.4	8.2	4.3	17.4	1.9	3.0	8.1
Number of establishments											
One	48.7	1.9	8.3	7.4	0.5	8.5	4.7	8.6	2.4	5.0	9.2
2 to 5	47.8	1.5	7.3	8.1	0.4	8.2	2.8	9.4	1.7	4.1	8.8
6 to 10	55.7	1.4	7.9	10.5	0.7	8.5	1.5	12.3	1.9	6.5	8.0
11 to 20	63.6	1.7	10.0	12.5	0.7	10.4	1.4	13.1	2.0	5.3	9.1
More than 20	68.6	1.3	12.6	12.4	0.7	12.6	1.3	7.4	1.9	10.2	10.1
Currently unoccupied	7.5	Q	1.6	0.1	Q	1.6	Q	Q	Q	Q	5.5
Predominant exterior wall material											
Brick, stone, or stucco	51.4	1.8	8.6	8.6	0.6	8.4	3.9	8.2	2.4	5.5	9.2
Concrete (block or poured)	53.9	1.5	9.1	8.2	0.6	9.2	3.3	12.9	2.0	4.2	9.0
Concrete panels	48.7	1.2	7.1	8.3	0.3	9.2	2.7	6.5	2.2	6.2	9.8
Siding or shingles	43.8	2.5	5.8	6.6	0.5	7.1	6.6	10.2	2.1	4.1	8.3
Metal panels	33.5	1.8	6.9	4.5	0.3	8.5	2.0	5.3	1.1	3.3	7.7
Window glass	79.8	2.5	14.0	16.5	0.2	12.8	2.0	5.7	2.5	15.9	13.2
Other	54.7	2.3	9.1	7.7	0.5	7.6	Q	15.9	1.6	5.0	10.3
No one major type	44.7	1.3	5.3	8.2	0.2	8.0	Q	7.2	1.7	4.0	9.4

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Predominant roof material											
Metal surfacing	38.4	1.8	7.4	4.8	0.3	8.0	3.7	8.5	1.6	3.5	7.5
Synthetic or rubber	56.2	2.0	8.5	9.7	0.5	9.6	3.5	9.7	2.2	5.8	10.1
Built-up	54.0	1.5	9.5	9.5	0.6	9.4	3.5	8.7	2.0	5.8	9.2
Slate or tile shingles	47.3	1.5	8.0	7.4	0.9	7.0	4.4	8.8	3.0	5.1	9.6
Wooden materials (including shingles)	42.8	0.9	6.2	5.6	0.6	6.3	11.4	13.7	2.4	3.4	7.3
Asphalt, fiberglass, or other shingles	45.7	1.9	7.0	6.9	0.6	7.4	4.4	8.9	2.5	4.2	8.5
Concrete	64.5	1.1	13.4	11.2	Q	10.3	2.2	8.3	2.4	11.0	11.1
Other	53.8	0.7	9.0	7.8	Q	7.7	Q	14.7	1.6	3.3	10.1
No one major type	27.4	1.2	4.1	3.8	Q	5.4	Q	Q	1.0	2.7	6.7
Roof characteristics											
Roof tilt											
Flat	56.0	1.7	9.5	9.7	0.5	9.8	3.8	8.8	2.2	5.9	9.9
Shallow pitch	44.2	1.7	6.8	6.3	0.5	7.8	3.9	11.2	1.9	4.3	7.9
Steeper pitch	37.8	1.9	6.3	5.5	0.5	5.8	3.3	6.7	2.5	3.7	7.9
Cool roof	57.2	1.5	9.5	9.5	0.6	9.7	3.1	10.3	2.1	6.0	9.8
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	52.8	1.8	8.6	8.9	0.5	8.9	3.5	8.4	2.2	5.7	9.6
Addition or annex	53.8	1.8	10.2	8.7	0.6	9.1	2.5	6.9	2.5	4.6	10.5
Reduction in floorspace	70.0	1.3	13.5	13.2	0.4	13.0	3.2	11.0	2.2	5.6	12.1
Roof replacement	54.1	1.8	8.9	9.5	0.6	9.2	3.3	7.5	2.1	5.9	10.0
Exterior wall replacement	56.8	2.1	9.7	9.1	0.7	8.7	3.0	8.9	2.0	6.8	9.9
Interior wall reconfiguration	57.2	1.8	9.4	10.4	0.5	9.5	2.9	7.3	2.3	7.5	10.1
Window replacement	49.0	1.7	8.2	8.3	0.5	8.0	3.5	5.7	2.5	6.3	9.1
HVAC equipment upgrade	55.4	1.8	9.3	9.5	0.5	9.2	3.0	8.0	2.2	6.1	10.0
Lighting upgrade	55.0	1.7	9.0	9.3	0.5	9.0	3.6	8.7	2.2	5.9	9.7
Electrical upgrade	56.1	1.8	9.5	9.4	0.6	9.0	3.6	8.2	2.3	6.5	10.4
Plumbing system upgrade	54.9	1.7	8.8	9.5	0.6	8.5	4.0	7.6	2.6	6.5	10.1
Insulation upgrade	56.8	1.9	9.5	8.8	0.6	8.4	3.6	9.8	2.6	7.1	10.1
Fire, safety, or security upgrade	56.1	1.8	9.9	9.7	0.5	8.8	3.5	7.4	2.3	6.8	10.0
Structural upgrade	60.0	1.6	11.6	9.0	0.4	8.9	3.0	8.2	2.9	7.7	11.7
Other	52.2	1.3	10.7	10.5	0.3	9.2	Q	4.5	2.1	7.7	9.1
No renovations	46.2	1.7	7.9	7.1	0.5	8.4	3.8	9.7	2.1	4.5	8.4
Buildings constructed 2008 or later	53.7	1.5	8.6	8.8	0.4	9.0	4.4	10.9	2.2	4.9	9.6
Energy sources (more than one may apply)											
Electricity	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Natural gas	52.5	1.6	8.3	8.5	0.6	8.8	3.7	9.8	2.2	5.0	9.3
Fuel oil	64.5	1.9	12.3	11.3	0.5	11.1	2.5	6.1	2.6	8.0	12.8
District heat	59.1	1.6	7.3	14.1	0.6	11.5	2.8	4.0	3.3	6.9	14.1
District chilled water	63.3	1.8	7.7	14.7	0.9	12.8	3.6	4.2	3.5	8.8	15.4
Propane	49.0	2.7	7.1	6.3	0.4	8.3	4.2	11.1	2.4	3.1	9.7
Other	44.7	1.4	7.5	8.2	0.3	7.9	2.0	7.1	1.4	4.2	8.1

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Space-heating energy sources											
Electricity	53.9	1.7	8.8	8.3	0.6	8.9	3.5	9.8	2.2	5.2	9.0
Electricity main	57.2	2.0	10.2	8.2	0.6	9.1	4.0	10.3	2.5	6.0	9.3
Electricity secondary	50.0	1.4	7.2	8.4	0.5	8.6	3.0	9.4	1.9	4.4	8.6
Other excluding electricity	46.6	N	6.9	8.1	0.4	8.5	4.1	7.8	2.1	5.2	9.4
Buildings without heating	32.0	N	15.1	4.6	0.3	7.3	4.2	10.6	1.5	3.1	7.7
Primary space-heating energy source											
Electricity	57.2	2.0	10.2	8.2	0.6	9.1	4.0	10.3	2.5	6.0	9.3
Natural gas	48.5	1.2	7.3	7.9	0.5	8.4	3.6	9.3	1.9	4.8	8.7
Fuel oil	31.8	2.6	4.7	4.7	0.3	6.8	1.5	4.2	1.7	3.7	7.6
District heat	59.5	1.6	7.3	14.2	0.6	11.7	2.9	4.1	3.2	7.0	14.3
Propane	31.3	3.4	3.0	3.2	0.2	4.7	9.6	10.3	1.3	1.6	5.8
Other	27.2	Q	1.7	3.6	0.2	6.5	Q	4.2	1.7	2.4	6.9
Cooling energy sources											
Electricity	52.0	1.7	8.3	8.1	0.5	8.7	3.7	9.3	2.1	5.1	9.0
Other excluding electricity	59.1	1.6	N	14.1	0.7	12.6	5.1	4.5	3.9	9.0	14.7
Buildings without cooling	16.8	1.3	N	1.0	0.3	5.2	3.2	8.4	1.0	1.8	6.5
Water-heating energy sources											
Electricity	51.8	1.8	8.4	8.0	0.5	8.9	2.9	9.9	1.8	5.4	8.5
Other excluding electricity	52.7	1.8	8.5	8.9	N	8.8	4.7	8.6	2.7	5.0	10.0
Buildings without water heating	19.4	0.7	5.3	2.7	N	5.7	Q	2.5	1.2	3.1	7.0
Cooking energy sources											
Electricity	61.5	1.9	10.2	9.2	0.7	8.7	3.7	12.4	2.2	4.9	9.1
Other excluding electricity	62.9	1.6	10.7	10.0	0.9	9.0	N	16.1	2.9	3.8	10.1
Buildings without cooking	40.0	1.6	6.4	6.9	0.3	8.5	N	4.0	1.9	5.7	8.8
Energy end uses (more than one may apply)											
Buildings with space heating	51.0	1.7	8.1	8.2	0.5	8.7	3.7	9.1	2.2	5.2	9.1
Buildings with cooling	52.3	1.7	8.3	8.4	0.5	8.9	3.7	9.1	2.2	5.3	9.2
Buildings with water heating	52.2	1.8	8.4	8.4	0.5	8.8	3.7	9.3	2.2	5.2	9.2
Buildings with cooking	62.0	1.8	10.4	9.5	0.7	8.8	3.7	13.7	2.5	4.6	9.4
Buildings with manufacturing	44.9	1.3	7.1	5.7	0.3	9.7	3.8	7.1	1.0	3.2	11.2
Buildings with electricity generation	65.2	1.7	11.5	11.2	0.6	10.7	2.6	8.5	2.5	7.6	11.9
Percent of floorspace heated											
Not heated	32.0	N	15.1	4.6	0.3	7.3	4.2	10.6	1.5	3.1	7.7
1 to 50	33.0	0.5	4.2	3.7	0.2	6.3	3.5	7.8	1.2	4.3	7.3
51 to 99	54.5	1.3	9.0	8.8	0.6	9.0	3.2	11.7	2.0	4.2	9.0
100	53.4	2.1	8.6	8.9	0.6	9.1	3.8	8.5	2.4	5.7	9.5
Percent of floorspace cooled											
Not cooled	16.8	1.3	N	1.0	0.3	5.2	3.2	8.4	1.0	1.8	6.5
1 to 50	27.6	1.1	2.2	3.5	0.2	6.5	2.0	5.1	1.0	2.2	7.0
51 to 99	57.2	1.7	8.7	9.4	0.6	9.1	3.2	10.9	2.2	6.2	9.5
100	61.7	2.1	11.3	10.2	0.6	9.9	4.5	9.9	2.8	6.2	10.2

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity ¹ (thousand Btu/square foot in buildings using electricity for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Percent lit when open											
Zero	10.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	8.0
1 to 50	30.7	1.3	5.0	5.3	0.4	4.0	2.6	5.0	2.0	2.5	8.5
51 to 99	51.5	1.7	8.2	8.6	0.6	8.2	3.4	9.6	2.1	5.2	8.9
100	57.2	1.9	9.6	8.8	0.5	10.8	4.2	9.9	2.2	6.0	9.6
Building never open/electricity not used	7.8	1.3	2.1	0.1	Q	Q	Q	Q	Q	Q	4.7
Percent lit during off hours											
Zero	32.0	1.7	5.6	5.0	0.3	5.4	2.3	5.3	1.5	4.6	6.7
1 to 50	52.7	1.7	8.8	8.6	0.6	9.1	3.5	9.2	2.1	5.1	9.1
51 to 100	81.2	1.8	12.0	12.9	0.7	14.2	7.0	16.1	3.5	7.1	14.5
Building always open with no "off hours"	87.0	1.4	13.8	13.7	0.5	15.1	5.6	20.0	4.8	5.8	15.5
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	51.7	1.3	9.6	7.3	0.6	8.2	2.2	8.1	2.9	5.3	8.8
Furnaces	41.9	2.2	5.6	6.1	0.4	6.7	4.4	8.9	2.1	3.9	7.3
Individual space heaters	44.6	1.8	6.5	7.2	0.5	8.1	2.7	7.1	2.1	4.3	8.6
District heat	59.1	1.6	7.3	14.0	0.6	11.6	2.8	4.0	3.3	6.9	14.1
Boilers	53.2	1.3	9.8	9.4	0.5	8.8	2.1	5.8	2.4	6.2	10.2
Packaged heating units	53.5	1.8	8.4	8.5	0.5	8.8	4.4	11.2	1.9	4.7	8.8
Other	83.3	3.1	6.0	11.3	0.7	9.8	4.0	39.8	1.2	2.1	8.4
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	43.1	1.7	6.3	5.1	0.5	7.3	3.2	11.1	2.0	3.4	7.5
Heat pumps	51.4	1.3	9.0	7.4	0.6	8.3	2.0	8.5	2.7	5.4	8.6
Individual air conditioners	44.0	1.7	7.1	6.5	0.6	7.2	2.7	6.2	2.8	4.0	8.6
District chilled water	63.3	1.8	7.7	14.7	0.9	12.8	3.6	4.2	3.5	8.8	15.4
Central chillers	65.7	1.5	12.8	12.3	0.4	10.6	2.2	4.9	2.5	8.7	12.4
Packaged air conditioning units	54.9	1.7	8.7	9.2	0.5	9.0	4.3	11.0	1.9	4.6	8.9
Swamp coolers	51.1	1.9	6.9	7.4	0.6	8.4	7.5	13.3	1.7	3.0	7.9
Other	97.8	Q	11.9	15.2	Q	15.4	Q	4.5	1.3	Q	14.2
Main equipment replaced since 1990 (more than one may apply)											
Heating	48.0	1.8	7.5	7.3	0.6	7.8	3.7	9.1	2.2	5.2	8.2
Cooling	49.5	1.8	8.0	7.7	0.6	7.9	3.5	8.5	2.3	5.4	8.5
Water-heating equipment											
Centralized system	52.3	2.0	8.4	8.3	0.6	8.8	4.8	9.0	2.4	5.1	9.6
Distributed system	42.5	1.5	6.8	6.6	0.3	8.3	2.8	7.1	1.5	4.5	7.8
Combination of centralized and distributed system	58.7	1.5	9.7	9.8	0.6	9.4	2.2	11.3	2.0	6.0	9.1

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Lighting equipment types (more than one may apply)											
Incandescent	54.3	1.7	9.5	8.9	0.6	8.9	3.1	9.6	2.3	5.0	9.4
Standard fluorescent	51.0	1.7	8.4	8.3	0.5	8.7	3.6	9.1	2.1	5.2	9.2
Compact fluorescent	56.4	1.8	9.7	9.5	0.6	9.2	3.6	9.0	2.4	5.8	9.7
High-intensity discharge (HID)	55.7	1.5	10.2	9.3	0.5	9.8	2.2	8.7	2.1	4.9	10.1
Halogen	58.2	1.7	9.8	9.7	0.6	9.5	3.1	10.3	2.3	5.0	10.0
LED	64.1	1.7	11.0	11.2	0.6	10.0	2.9	11.9	2.4	5.3	10.9
Other	72.9	Q	12.9	12.1	Q	9.8	3.6	13.9	3.0	5.4	11.8
Refrigeration equipment (more than one may apply)											
Any refrigeration	53.3	1.7	8.6	8.5	0.5	8.8	3.7	9.1	2.2	5.1	9.2
Walk-in units	72.9	1.8	11.6	10.9	0.8	10.0	4.8	19.3	2.6	4.7	10.3
Cases or cabinets	69.2	1.8	10.4	10.7	0.8	9.8	4.3	18.2	2.4	4.5	10.0
Large cold storage areas	80.1	1.1	9.6	8.8	0.6	10.0	4.1	34.7	1.7	3.1	9.8
Commercial ice makers	68.1	1.8	11.5	10.9	0.7	10.0	4.4	14.0	2.8	5.3	10.6
Residential-type or compact units	49.8	1.7	8.3	8.3	0.5	8.6	2.8	6.6	2.1	5.4	9.1
Vending machines	57.6	1.7	9.7	9.8	0.6	10.0	2.4	8.6	2.3	5.6	10.2
No refrigeration	28.3	1.6	5.8	4.9	0.3	7.6	Q	N	1.7	5.2	7.9
Office equipment (more than one may apply)											
Desktop computers	52.1	1.7	8.4	8.4	0.5	8.9	3.6	8.9	2.1	5.2	9.2
With flat screen monitors	52.2	1.7	8.5	8.5	0.5	8.9	3.6	8.9	2.1	5.2	9.2
With multiple monitors	57.7	1.6	9.8	10.4	0.5	9.6	2.4	7.3	2.2	7.5	10.0
Laptop computers	52.0	1.7	8.9	8.8	0.5	9.0	2.3	7.3	2.1	5.7	9.4
Dedicated servers	55.5	1.7	9.1	9.3	0.5	9.3	2.7	8.5	2.2	6.4	9.5
Laser printers	53.8	1.7	8.7	9.0	0.5	9.1	2.9	8.6	2.3	5.8	9.4
Inkjet printers	49.3	1.8	8.3	7.6	0.5	8.4	4.2	8.5	1.8	4.5	8.8
FAX machines	52.7	1.7	8.5	8.7	0.5	9.2	3.1	8.9	2.1	5.2	9.2
Photocopiers	52.3	1.7	8.8	8.9	0.5	9.1	2.1	7.0	2.2	5.8	9.5
Number of desktop computers											
None	28.6	2.2	6.3	3.7	0.6	5.5	7.2	12.3	2.6	Q	7.5
1 to 4	44.7	1.8	5.8	5.4	0.5	6.8	11.9	14.3	1.9	1.4	8.2
5 to 9	48.4	1.7	6.5	6.6	0.5	8.2	5.2	13.0	2.1	2.8	8.5
10 to 19	46.9	1.8	6.4	7.5	0.5	8.4	2.9	9.5	1.8	4.4	8.3
20 to 49	54.7	1.7	8.9	9.0	0.6	10.0	2.2	10.1	2.2	4.2	9.6
50 to 99	49.2	1.9	8.7	8.8	0.5	9.3	1.6	5.9	1.9	5.0	8.7
100 to 249	56.0	1.5	8.8	10.1	0.6	10.4	1.4	5.1	2.5	8.4	10.3
250 or more	65.5	1.4	14.3	12.6	0.3	10.1	1.7	3.1	2.4	11.5	10.9

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity¹ (thousand Btu/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
Number of laptop computers											
None	43.9	1.9	6.2	5.9	0.5	7.6	10.6	15.9	2.2	2.8	8.1
1 to 4	44.0	1.9	6.8	6.0	0.5	7.8	4.4	9.8	1.9	2.8	8.3
5 to 9	51.6	1.4	8.2	8.9	0.6	9.7	2.4	9.5	1.9	3.9	9.1
10 to 19	53.4	1.9	9.5	9.4	0.6	9.0	2.0	8.1	2.0	4.6	9.3
20 to 49	54.5	1.5	8.3	9.9	0.6	9.4	1.8	6.1	2.6	7.6	9.9
50 to 99	55.7	1.6	11.1	10.1	0.4	9.8	1.6	4.3	2.0	7.1	10.5
100 to 249	59.0	1.4	11.2	11.1	0.4	9.6	1.4	3.4	2.3	11.7	10.2
250 or more	67.1	1.7	14.3	13.1	0.4	10.3	1.5	3.3	2.7	10.8	11.3
Number of dedicated servers											
None	40.5	1.9	6.8	5.9	0.6	7.5	6.4	10.3	2.1	2.5	8.3
1 to 4	49.7	1.7	7.4	7.8	0.5	8.7	3.4	9.8	2.0	4.0	8.7
5 to 9	55.0	1.6	8.9	9.5	0.7	9.4	1.8	9.2	2.0	5.6	9.0
10 to 19	65.3	1.6	12.3	13.0	0.4	11.0	1.9	6.3	2.8	8.9	11.3
20 to 49	63.7	1.7	13.8	11.9	0.3	10.5	1.8	3.6	2.4	9.6	10.8
50 or more	88.0	1.6	17.1	14.5	0.4	11.9	2.0	4.1	2.7	23.3	14.0
Number of photocopiers											
None	44.6	1.9	7.0	6.1	0.6	7.6	10.6	15.3	1.9	3.1	8.1
One	42.9	1.7	6.3	6.0	0.5	7.4	3.3	9.3	1.8	2.9	8.3
2 to 4	49.1	1.8	7.9	8.2	0.5	8.8	1.6	7.3	2.2	5.2	8.5
5 to 9	55.5	1.5	9.1	9.5	0.6	10.3	1.4	6.8	1.9	7.5	9.3
10 or more	67.3	1.5	13.9	13.4	0.4	11.0	2.0	3.9	3.0	9.5	12.5
Number of TVs or video displays											
None	34.5	1.6	5.1	4.9	0.3	6.9	6.6	9.3	0.8	4.2	7.5
One	41.2	1.5	5.2	6.0	0.3	7.5	5.7	9.6	1.3	3.4	7.7
2 to 4	48.9	1.7	7.8	7.6	0.5	8.9	4.6	9.2	1.6	4.2	8.9
5 to 9	62.9	2.5	10.1	9.9	0.6	9.6	5.4	11.8	2.0	7.3	9.6
10 to 19	61.3	1.7	10.7	11.1	0.7	10.3	2.8	9.8	2.0	6.7	9.7
20 to 49	59.1	1.6	10.3	10.6	0.8	10.0	1.3	9.5	2.6	5.8	8.9
50 to 99	60.3	2.0	9.8	9.9	0.9	9.9	1.7	6.7	4.3	8.7	10.4
100 or more	67.3	1.4	14.3	11.5	0.6	9.6	3.3	5.5	6.1	4.9	13.8
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	65.9	1.7	12.8	10.0	0.6	9.4	2.1	13.3	2.6	5.2	10.4
Fast food or small restaurant	78.2	1.3	12.6	12.4	0.8	11.6	2.3	20.6	3.0	4.4	11.3
Cafeteria or large restaurant	58.5	1.6	12.4	10.2	0.6	9.1	1.8	6.9	2.7	5.7	9.9
Commercial kitchen/food preparation area	61.7	1.7	11.5	9.7	0.7	8.8	2.3	12.4	2.9	4.0	10.2
Small kitchen area	49.3	1.6	9.5	7.5	0.5	7.3	1.8	7.7	2.4	4.0	9.1
Separate computer areas (more than one may apply)											
Data center or server farm	73.3	1.9	16.2	12.7	0.3	11.2	1.9	4.3	2.8	13.6	12.4
Computer-based training room	57.7	1.5	11.3	10.0	0.5	9.8	1.6	7.1	2.2	6.9	9.5
Student or public computer center	48.3	1.7	9.8	7.9	0.7	7.7	1.6	5.7	2.5	5.5	8.3

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity ¹ (thousand Btu/square foot in buildings using electricity for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1
HVAC conservation features (more than one may apply)											
Economizer cycle	59.8	1.8	9.6	11.1	0.5	10.2	2.7	8.3	2.2	6.5	10.7
Regular HVAC maintenance	54.6	1.7	8.9	9.0	0.5	9.3	3.6	9.2	2.2	5.6	9.6
Building automation system (BAS) ³	61.7	1.7	10.9	10.9	0.5	10.3	2.4	8.9	2.2	6.9	10.8
Window and interior lighting features (more than one may apply)											
Multipaned windows	53.1	1.9	8.4	8.7	0.6	8.9	3.8	9.5	2.3	5.4	9.3
Tinted window glass	55.2	1.6	9.5	9.2	0.6	9.4	3.2	9.1	2.2	5.6	9.6
Reflective window glass	64.7	1.8	11.3	11.1	0.5	10.3	2.5	10.5	2.6	7.6	10.5
External overhangs or awnings	58.5	1.7	9.3	9.3	0.7	9.3	4.6	13.0	2.3	5.1	9.3
Skylights or atriums	51.2	1.4	9.1	9.4	0.5	9.0	2.2	7.0	2.1	4.9	9.7
Light scheduling	61.0	1.7	10.0	10.6	0.6	9.4	2.9	11.6	2.3	6.2	10.0
Occupancy sensors	57.9	1.6	9.8	10.2	0.5	9.2	2.4	9.3	2.2	6.4	10.4
Multi-level lighting or dimming	63.9	1.9	10.7	11.1	0.6	9.1	3.1	13.1	2.7	5.0	10.6
Daylight harvesting	60.7	1.6	10.4	11.3	0.6	9.9	2.6	10.8	2.0	4.8	10.7
Demand responsive lighting	57.4	1.4	8.8	9.6	0.8	9.4	1.8	14.8	2.1	3.5	8.7
Building automation system (BAS) for lighting ³	67.6	1.6	11.1	12.0	0.7	10.8	2.3	14.1	1.7	5.9	10.4
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	48.2	1.8	8.0	8.0	0.5	8.1	2.9	8.5	1.9	4.9	8.4
Cooling	49.2	1.7	8.3	8.1	0.5	8.2	3.0	8.4	1.9	4.9	8.4
Lighting	49.4	1.7	8.2	8.1	0.5	8.5	3.5	8.6	2.1	5.0	8.9
Annual consumption (kilowatthours)											
10,000 or less	4.5	0.7	1.1	0.4	0.1	1.2	0.4	0.4	0.4	0.7	1.9
10,001 to 50,000	16.2	1.1	2.4	2.0	0.2	3.4	1.1	1.6	1.1	2.1	4.3
50,001 to 100,000	28.0	1.7	4.0	3.7	0.3	5.4	3.1	4.2	1.6	3.3	6.4
100,001 to 500,000	45.3	1.8	6.0	6.3	0.5	7.4	6.7	11.5	2.2	3.9	7.7
500,001 to 1,000,000	55.9	1.9	8.6	8.8	0.8	8.7	6.3	9.5	2.8	5.6	9.3
1,000,001 to 5,000,000	62.3	1.7	9.7	10.8	0.5	10.8	2.7	12.2	2.1	5.2	10.4
Over 5,000,000	88.5	2.0	18.7	15.5	0.7	15.2	2.5	8.3	2.9	10.7	16.7

Table E4. Electricity consumption intensities (Btu) by end use, 2012

Electricity energy intensity ¹ (thousand Btu/square foot in buildings using electricity for the end use)											
	Total	Space heat- ing	Cool- ing	Venti- lation	Water heat- ing	Light- ing	Cook- ing	Refrig- eration	Office equip- ment	Com- puting	Other
All buildings	50.0	1.7	8.3	8.1	0.5	8.7	3.7	9.1	2.1	5.2	9.1

¹The electricity intensity calculation (electricity consumption for the end use divided by the floorspace in buildings that use electricity for the particular end use) differs from the calculation used in the 2003 CBECs tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECs denominator was total floorspace in all buildings that used electricity. In this table, the intensities for each end use do not sum to the total electricity intensity, whereas they did in the 2003 CBECs table.

²These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³In earlier CBECs publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECs Detailed Tables* or *CBECs Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECs tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and E of the 2012 Commercial Buildings Energy Consumption Survey.

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Building floorspace (square feet)											
1,001 to 5,000	130	4	15	13	1	17	8	38	6	10	19
5,001 to 10,000	113	2	13	14	1	17	5	27	5	10	19
10,001 to 25,000	159	4	20	23	1	27	4	27	8	15	30
25,001 to 50,000	149	4	22	25	1	28	1	20	6	14	29
50,001 to 100,000	192	4	30	32	1	32	2	30	8	18	34
100,001 to 200,000	190	3	28	34	1	35	2	27	6	21	33
200,001 to 500,000	180	2	34	31	1	32	2	20	6	18	34
Over 500,000	130	1	25	24	(*)	23	3	7	5	14	27
Principal building activity											
Education	134	3	26	20	1	23	1	12	6	23	19
Food sales	61	1	2	3	(*)	5	3	43	1	1	3
Food service	82	1	9	9	1	5	13	33	2	1	6
Health care	107	1	20	24	(*)	18	2	6	5	10	20
Inpatient	74	(*)	17	13	(*)	12	2	4	4	6	15
Outpatient	33	1	3	11	(*)	6	(*)	1	1	4	6
Lodging	89	2	11	14	1	12	3	10	13	2	22
Mercantile	207	4	27	36	2	41	2	56	5	7	28
Retail (other than mall)	82	2	12	14	(*)	21	1	15	2	3	13
Enclosed and strip malls	124	2	15	22	2	20	1	41	3	4	15
Office	253	6	34	63	1	43	1	8	11	49	39
Public assembly	80	3	24	7	(*)	10	1	7	2	5	21
Public order and safety	21	(*)	4	2	(*)	4	(*)	1	1	2	6
Religious worship	24	1	4	4	(*)	3	(*)	1	1	1	8
Service	37	1	5	4	(*)	11	(*)	1	1	2	11
Warehouse and storage	83	1	10	4	(*)	25	(*)	14	2	5	23
Other	56	1	8	5	(*)	11	Q	4	1	12	15
Vacant	8	(*)	1	1	(*)	1	Q	(*)	(*)	(*)	3
Year constructed											
Before 1920	32	1	3	6	(*)	6	1	4	1	3	7
1920 to 1945	64	1	9	10	(*)	11	1	10	3	7	12
1946 to 1959	85	2	12	14	(*)	15	2	12	3	7	17
1960 to 1969	147	3	20	22	1	26	3	21	7	16	28
1970 to 1979	171	3	23	29	1	29	5	26	7	17	30
1980 to 1989	234	5	41	38	1	39	4	34	9	23	40
1990 to 1999	213	5	33	32	1	35	5	38	8	19	37
2000 to 2003	111	2	17	18	1	20	2	17	4	12	20
2004 to 2007	97	2	14	14	(*)	17	2	19	4	7	18
2008 to 2012	89	2	13	14	(*)	15	2	16	3	8	16

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Census region and division											
Northeast	220	5	22	39	1	39	4	35	8	24	42
New England	51	1	4	8	(*)	9	1	10	2	5	11
Middle Atlantic	170	4	18	31	1	31	3	25	6	19	31
Midwest	249	7	28	41	1	46	7	37	10	23	49
East North Central	174	5	19	29	1	32	4	27	7	16	35
West North Central	75	3	9	12	(*)	14	2	11	3	7	14
South	530	8	108	76	3	87	11	82	21	45	90
South Atlantic	287	4	58	41	2	45	5	45	12	26	48
East South Central	71	2	11	11	(*)	12	2	12	3	5	12
West South Central	173	2	39	24	1	30	4	24	6	13	30
West	243	4	27	39	1	41	5	42	12	27	44
Mountain	67	1	9	11	(*)	11	2	10	4	7	12
Pacific	176	3	18	28	1	30	4	32	8	21	32
Climate region¹											
Very cold/Cold	419	13	38	72	2	75	9	70	17	40	82
Mixed-humid	415	9	63	65	2	71	10	64	18	40	73
Mixed-dry/Hot-dry	152	1	22	22	1	25	3	26	7	17	28
Hot-humid	220	1	59	30	1	34	4	32	7	15	35
Marine	35	1	2	7	(*)	6	1	5	1	5	8
Number of floors											
One	545	12	76	71	4	95	16	127	18	37	89
Two	259	6	36	41	1	45	4	39	10	29	47
Three	109	2	16	19	(*)	19	2	11	5	12	22
Four to nine	231	3	39	45	1	37	4	15	11	27	48
Ten or more	98	1	17	20	(*)	16	2	5	5	12	20
Elevators and escalators (more than one may apply)											
Any elevators	539	9	91	102	2	89	8	40	24	69	105
Number of elevators											
One	147	3	21	28	1	26	2	15	7	17	28
Two to five	222	4	36	41	1	36	3	15	9	35	43
Six or more	170	2	34	34	(*)	28	4	10	8	17	34
Any escalators	66	1	12	13	(*)	12	1	5	4	5	14
Number of workers (main shift)											
Fewer than 5	134	4	16	13	1	23	3	27	6	7	33
5 to 9	112	3	15	15	1	18	5	23	5	7	21
10 to 19	132	3	17	18	1	21	6	29	6	9	22
20 to 49	220	5	30	33	1	37	5	42	9	21	36
50 to 99	214	4	34	35	1	38	3	35	8	22	35
100 to 249	185	3	29	32	1	34	2	25	6	20	33
250 or more	246	3	45	50	1	42	4	15	10	32	45

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Weekly operating hours											
Fewer than 40	35	1	6	2	(*)	5	1	4	2	3	10
40 to 48	155	4	25	22	1	29	1	12	8	24	29
49 to 60	238	6	37	40	1	44	2	19	10	36	45
61 to 84	249	5	37	43	2	42	4	51	7	19	38
85 to 167	200	3	25	27	1	31	10	62	4	8	29
Open continuously	366	5	55	61	2	61	10	49	20	29	74
Ownership and occupancy											
Nongovernment owned	988	20	138	155	5	167	24	176	40	86	176
Owner occupied	455	9	68	65	2	77	13	78	21	34	88
Leased to tenant(s)	398	8	52	67	3	67	9	78	14	36	64
Owner occupied and leased	132	2	19	23	1	23	2	20	5	16	23
Unoccupied	2	Q	(*)	(*)	Q	Q	Q	Q	Q	Q	1
Government owned	255	5	47	41	1	45	4	20	11	33	49
Federal	23	(*)	4	5	(*)	4	(*)	1	1	2	5
State	81	2	10	16	(*)	15	1	7	4	10	16
Local	152	3	33	19	1	26	2	13	6	21	28
Party responsible for operation and maintenance of energy systems											
Building owner	1,029	21	158	165	5	178	21	139	44	105	194
Business owner or tenant	182	3	22	26	1	30	5	52	5	12	26
Property management	18	(*)	3	3	(*)	3	1	2	1	2	3
Other	13	(*)	2	2	Q	2	1	3	1	1	2
Provider of direct input on energy-related equipment purchases											
Building owner	1,061	21	162	169	5	183	22	148	45	107	199
Business owner or tenant	142	3	18	20	1	23	4	39	4	9	20
Property management	12	(*)	2	2	(*)	2	(*)	2	1	1	2
Other	28	(*)	4	4	(*)	4	1	8	1	1	4
Number of establishments											
One	777	16	116	113	3	133	21	119	35	73	147
2 to 5	249	5	36	42	1	43	4	43	9	21	46
6 to 10	70	1	10	13	1	11	1	14	2	8	10
11 to 20	69	1	11	13	1	11	1	13	2	6	10
More than 20	76	1	14	14	1	14	1	8	2	11	11
Currently unoccupied	2	Q	(*)	(*)	Q	(*)	Q	Q	Q	Q	1
Predominant exterior wall material											
Brick, stone, or stucco	596	13	90	98	3	97	15	86	27	61	107
Concrete (block or poured)	323	5	50	48	2	55	6	68	11	24	54
Concrete panels	121	2	16	20	(*)	22	2	14	5	15	24
Siding or shingles	71	2	8	10	(*)	11	3	14	3	6	14
Metal panels	79	2	13	9	(*)	19	1	9	2	6	18
Window glass	31	1	5	6	(*)	5	(*)	2	1	6	5
Other	14	(*)	2	2	(*)	2	(*)	Q	(*)	1	3
No one major type	8	(*)	1	1	(*)	1	Q	1	(*)	1	2

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Predominant roof material											
Metal surfacing	169	4	27	19	1	34	3	29	6	13	33
Synthetic or rubber	422	9	59	72	2	71	8	67	16	42	76
Built-up	337	5	54	58	2	58	8	48	12	35	57
Slate or tile shingles	59	1	8	9	(*)	9	1	10	3	6	12
Wooden materials (including shingles)	14	(*)	2	2	(*)	2	1	4	1	1	2
Asphalt, fiberglass, or other shingles	196	5	28	29	1	31	6	33	10	17	36
Concrete	30	(*)	6	5	Q	5	(*)	3	1	5	5
Other	11	(*)	2	2	Q	2	Q	3	(*)	1	2
No one major type	5	(*)	1	1	Q	1	Q	Q	(*)	1	1
Roof characteristics											
Roof tilt											
Flat	799	14	125	136	4	138	17	112	30	81	142
Shallow pitch	298	6	39	40	2	52	6	62	12	26	53
Steeper pitch	145	4	21	20	1	22	4	22	9	12	30
Cool roof	325	5	50	54	2	55	6	52	12	33	56
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	648	13	97	108	3	108	14	94	26	67	118
Addition or annex	205	4	37	33	1	35	4	25	9	17	40
Reduction in floorspace	36	(*)	6	7	(*)	7	1	5	1	3	6
Roof replacement	329	7	50	57	2	56	8	43	13	35	61
Exterior wall replacement	70	2	12	11	(*)	11	2	10	2	8	12
Interior wall reconfiguration	356	7	54	64	2	58	6	42	14	46	63
Window replacement	176	4	28	29	1	28	5	19	9	21	33
HVAC equipment upgrade	433	9	68	74	2	72	9	58	17	46	78
Lighting upgrade	410	8	62	69	2	66	10	61	17	43	72
Electrical upgrade	265	5	42	44	1	42	6	35	11	29	49
Plumbing system upgrade	222	4	34	38	1	34	6	29	10	25	41
Insulation upgrade	126	3	19	19	1	18	3	20	6	15	22
Fire, safety, or security upgrade	282	6	47	48	1	44	7	35	11	33	50
Structural upgrade	69	1	12	10	(*)	10	1	9	3	9	13
Other	13	(*)	2	3	(*)	2	Q	1	1	2	2
No renovations	506	10	75	74	3	90	11	87	21	44	92
Buildings constructed 2008 or later	89	2	13	14	(*)	15	2	16	3	8	16
Energy sources (more than one may apply)											
Electricity	1,243	25	185	196	6	212	27	196	50	119	225
Natural gas	903	15	134	146	4	151	20	153	37	83	160
Fuel oil	382	6	66	66	1	65	7	34	15	46	76
District heat	103	1	7	24	(*)	20	2	7	6	12	25
District chilled water	86	1	4	20	(*)	17	1	5	5	12	21
Propane	110	3	14	14	(*)	19	3	23	5	7	22
Other	50	1	8	9	(*)	9	1	8	2	5	9

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Space-heating energy sources											
Electricity	774	25	122	120	5	127	17	127	31	72	129
Electricity main	439	16	75	63	3	69	9	69	19	44	71
Electricity secondary	335	9	46	56	2	57	7	58	12	29	58
Other excluding electricity	423	N	53	73	1	76	10	62	18	44	86
Buildings without heating	45	N	11	3	(*)	9	1	7	1	2	11
Primary space-heating energy source											
Electricity	439	16	75	63	3	69	9	69	19	44	71
Natural gas	611	7	88	99	2	105	14	106	23	58	109
Fuel oil	24	1	3	3	(*)	5	(*)	3	1	2	6
District heat	101	1	7	24	(*)	20	2	7	5	12	24
Propane	18	1	1	2	(*)	3	Q	5	1	1	3
Other	5	Q	(*)	1	(*)	1	Q	1	Q	(*)	1
Cooling energy sources											
Electricity	1,159	24	185	182	6	193	26	187	46	109	201
Other excluding electricity	56	(*)	N	13	(*)	12	1	4	4	8	14
Buildings without cooling	27	(*)	N	1	(*)	7	(*)	6	1	1	11
Water-heating energy sources											
Electricity	649	16	100	99	6	111	12	111	22	65	107
Other excluding electricity	560	8	81	94	N	93	15	84	28	51	106
Buildings without water heating	33	(*)	4	3	N	8	Q	2	1	3	12
Cooking energy sources											
Electricity	454	9	72	68	3	64	27	92	16	35	67
Other excluding electricity	247	3	39	39	1	35	N	63	11	15	40
Buildings without cooking	542	12	74	89	2	113	N	42	23	69	119
Energy end uses (more than one may apply)											
Buildings with space heating	1,198	25	175	193	6	203	27	189	49	116	215
Buildings with cooling	1,215	24	185	195	6	205	27	190	50	118	215
Buildings with water heating	1,209	24	181	193	6	204	27	195	49	116	213
Buildings with cooking	700	13	111	107	4	100	27	155	28	50	107
Buildings with manufacturing	67	1	10	8	(*)	14	1	9	1	4	17
Buildings with electricity generation	490	7	80	84	2	80	9	62	19	57	90
Percent of floorspace heated											
Not heated	45	N	11	3	(*)	9	1	7	1	2	11
1 to 50	98	1	11	11	(*)	18	1	18	3	11	22
51 to 99	234	4	37	38	1	38	5	46	9	18	38
100	866	20	127	144	4	146	21	125	37	87	154
Percent of floorspace cooled											
Not cooled	27	(*)	N	1	(*)	7	(*)	6	1	1	11
1 to 50	153	3	12	19	1	36	2	24	6	12	39
51 to 99	381	7	55	63	2	61	8	68	14	40	63
100	681	14	118	113	4	109	17	99	30	66	113

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Percent lit when open											
Zero	1	Q	Q	Q	Q	Q	Q	Q	Q	Q	1
1 to 50	114	3	16	18	1	15	2	14	7	8	31
51 to 99	526	11	78	87	3	83	11	90	21	51	91
100	599	11	92	91	3	113	14	92	23	59	101
Building never open/electricity not used	3	(*)	(*)	(*)	Q	Q	Q	Q	Q	Q	2
Percent lit during off hours											
Zero	232	6	34	34	1	37	3	30	9	28	49
1 to 50	784	16	122	127	5	136	16	123	31	74	136
51 to 100	165	2	21	26	(*)	29	6	31	7	14	29
Building always open with no "off hours"	62	1	9	10	(*)	11	2	13	3	4	11
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	180	4	33	25	1	28	3	26	10	18	30
Furnaces	106	3	14	15	1	17	3	20	5	9	18
Individual space heaters	271	9	36	43	2	49	6	39	12	25	52
District heat	103	1	7	24	(*)	20	2	7	6	12	24
Boilers	350	4	61	62	1	58	6	36	15	40	67
Packaged heating units	771	18	118	123	5	126	19	144	27	65	126
Other	38	1	3	5	(*)	5	1	18	1	1	4
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	186	4	27	22	1	32	4	42	8	14	32
Heat pumps	189	5	33	27	1	30	3	28	10	19	32
Individual air conditioners	160	4	26	24	1	26	4	21	10	14	31
District chilled water	86	1	4	20	(*)	17	1	5	5	12	21
Central chillers	328	4	63	62	1	53	5	24	12	43	62
Packaged air conditioning units	727	15	114	122	4	118	18	132	25	59	118
Swamp coolers	29	1	4	4	(*)	5	1	7	1	2	4
Other	9	Q	1	1	Q	1	Q	(*)	(*)	Q	1
Main equipment replaced since 1990 (more than one may apply)											
Heating	388	9	57	59	2	63	9	65	17	40	66
Cooling	445	10	72	69	3	71	10	68	20	46	77
Water-heating equipment											
Centralized system	728	15	106	114	3	122	20	114	33	68	134
Distributed system	158	4	23	24	1	31	2	22	6	16	29
Combination of centralized and distributed system	324	6	52	54	2	51	6	59	11	33	50

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Lighting equipment types (more than one may apply)											
Incandescent	612	12	99	99	3	100	14	101	25	54	105
Standard fluorescent	1,197	24	179	191	6	203	26	190	49	115	215
Compact fluorescent	889	17	140	149	5	144	21	132	38	89	154
High-intensity discharge (HID)	382	6	65	63	2	67	6	56	14	33	70
Halogen	478	9	77	80	3	78	11	80	19	41	82
LED	415	7	67	73	2	64	8	74	15	34	71
Other	10	Q	2	2	Q	1	(*)	2	(*)	1	2
Refrigeration equipment (more than one may apply)											
Any refrigeration	1,150	23	172	183	6	189	27	196	47	107	200
Walk-in units	606	9	92	91	3	83	23	160	21	38	85
Cases or cabinets	582	9	83	90	3	83	19	153	20	37	84
Large cold storage areas	98	1	11	11	(*)	12	2	42	2	4	12
Commercial ice makers	653	11	104	105	3	96	21	134	27	50	102
Residential-type or compact units	911	19	141	150	5	157	17	121	38	95	166
Vending machines	742	13	116	126	4	129	11	111	30	71	131
No refrigeration	93	2	13	13	(*)	23	Q	N	4	12	26
Office equipment (more than one may apply)											
Desktop computers	1,177	23	178	190	6	201	25	182	48	117	208
With flat screen monitors	1,166	23	176	188	6	199	25	180	48	117	205
With multiple monitors	523	9	82	94	2	87	8	62	20	68	90
Laptop computers	968	19	155	163	5	167	14	125	40	106	174
Dedicated servers	869	16	135	145	4	146	15	124	34	100	149
Laser printers	856	16	129	143	4	145	15	125	37	92	150
Inkjet printers	524	12	83	80	3	90	13	82	19	47	94
FAX machines	1,029	20	156	168	5	179	20	159	41	101	180
Photocopiers	908	17	144	155	4	158	12	114	39	101	164
Number of desktop computers											
None	65	2	8	6	(*)	11	2	15	2	Q	17
1 to 4	205	5	24	24	1	31	12	56	9	6	37
5 to 9	134	3	18	18	1	23	3	31	6	8	24
10 to 19	129	3	17	20	1	23	2	23	5	12	23
20 to 49	210	4	33	34	1	38	2	34	9	16	37
50 to 99	120	3	20	21	1	23	1	13	5	12	21
100 to 249	160	2	22	29	1	30	2	14	7	24	29
250 or more	220	3	44	42	1	34	3	10	8	39	37

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
Number of laptop computers											
None	275	6	31	33	1	45	13	71	11	13	51
1 to 4	273	7	40	37	2	48	5	53	12	18	51
5 to 9	126	2	19	21	1	24	2	21	5	9	22
10 to 19	131	3	23	23	1	22	2	19	5	11	23
20 to 49	154	3	21	28	1	27	2	16	7	22	28
50 to 99	85	1	16	15	(*)	15	1	6	3	11	16
100 to 249	90	1	14	17	(*)	15	1	5	4	18	16
250 or more	109	2	22	21	(*)	17	2	5	4	18	18
Number of dedicated servers											
None	374	8	51	50	2	66	13	72	17	19	76
1 to 4	497	11	71	78	3	86	10	90	20	40	87
5 to 9	101	2	15	17	1	17	1	16	4	10	16
10 to 19	109	2	18	22	(*)	18	1	10	5	15	19
20 to 49	70	1	15	13	(*)	12	1	4	3	11	12
50 or more	92	1	16	15	(*)	12	1	4	3	24	15
Number of photocopiers											
None	335	8	41	41	2	54	15	83	12	18	61
One	215	5	30	30	1	37	4	42	9	14	42
2 to 4	293	7	45	49	1	52	3	40	13	31	51
5 to 9	144	3	22	25	1	27	1	17	5	19	24
10 or more	257	3	46	51	1	42	4	14	12	36	48
Number of TVs or video displays											
None	224	5	26	29	1	42	6	41	4	21	49
One	121	3	14	17	1	22	4	25	4	9	22
2 to 4	236	5	36	37	1	43	4	40	8	20	43
5 to 9	150	4	23	23	1	23	4	27	5	17	23
10 to 19	147	2	23	27	1	25	3	22	5	16	23
20 to 49	140	3	23	25	1	24	2	21	6	13	21
50 to 99	77	1	10	13	(*)	13	1	9	6	11	13
100 or more	149	2	29	25	(*)	21	4	12	14	11	31
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	191	3	35	29	1	27	5	39	7	15	30
Fast food or small restaurant	224	3	34	36	1	33	4	59	9	13	32
Cafeteria or large restaurant	261	4	52	46	1	40	5	31	12	26	44
Commercial kitchen/food preparation area	292	5	52	46	1	42	7	59	14	19	48
Small kitchen area	203	4	37	31	1	30	5	32	10	16	37
Separate computer areas (more than one may apply)											
Data center or server farm	238	4	47	41	(*)	36	3	14	9	44	40
Computer-based training room	300	5	54	52	1	51	4	36	12	36	49
Student or public computer center	203	4	37	33	1	32	4	23	11	23	35

Table E5. Electricity consumption (kWh) by end use, 2012

Total electricity consumption (billion kWh)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	1,243	25	185	196	6	212	27	196	50	119	225
HVAC conservation features (more than one may apply)											
Economizer cycle	539	10	81	100	2	91	10	70	19	58	97
Regular HVAC maintenance	1,108	21	170	182	6	188	24	169	44	110	195
Building automation system (BAS) ²	670	11	109	118	3	111	11	91	24	74	117
Window and interior lighting features (more than one may apply)											
Multipaned windows	930	20	136	151	5	154	22	151	38	90	163
Tinted window glass	718	13	117	120	4	122	13	107	28	70	125
Reflective window glass	300	6	49	51	1	48	4	45	12	35	49
External overhangs or awnings	549	10	81	87	4	86	15	112	22	46	88
Skylights or atriums	332	6	53	60	2	58	5	42	13	31	63
Light scheduling	541	10	84	93	3	83	10	96	20	54	88
Occupancy sensors	609	10	95	106	3	97	9	91	23	66	109
Multi-level lighting or dimming	272	5	43	47	2	39	6	53	11	21	45
Daylight harvesting	109	2	17	20	1	18	2	19	3	8	19
Demand responsive lighting	80	1	12	13	1	13	1	19	3	5	12
Building automation system (BAS) for lighting ²	239	4	37	42	2	38	4	48	6	21	37
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	893	20	138	147	5	149	17	141	35	87	155
Cooling	902	19	147	149	5	150	17	139	35	87	154
Lighting	1,137	23	171	182	6	195	24	174	46	110	205
Annual consumption (kilowatthours)											
10,000 or less	4	(*)	(*)	(*)	(*)	1	(*)	(*)	(*)	(*)	2
10,001 to 50,000	50	2	6	6	(*)	10	1	4	3	5	13
50,001 to 100,000	62	2	8	8	(*)	12	1	7	3	6	14
100,001 to 500,000	283	7	35	38	2	46	9	61	13	23	48
500,001 to 1,000,000	165	4	24	26	1	26	6	26	8	16	28
1,000,001 to 5,000,000	379	7	55	65	2	66	7	70	13	31	63
Over 5,000,000	300	4	56	53	1	51	4	28	10	36	57

¹These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and E of the 2012 Commercial Buildings Energy Consumption Survey.

Table E6. Electricity consumption intensities (kWh) by end use, 2012Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Building floorspace (square feet)											
1,001 to 5,000	17.4	0.9	2.4	1.9	0.2	2.4	6.0	7.0	1.0	1.7	2.5
5,001 to 10,000	13.3	0.5	1.8	1.8	0.2	2.1	2.9	4.1	0.7	1.4	2.3
10,001 to 25,000	11.7	0.6	1.6	1.8	0.2	2.0	1.5	2.5	0.6	1.2	2.2
25,001 to 50,000	12.8	0.5	2.1	2.2	0.1	2.5	0.6	2.0	0.6	1.2	2.5
50,001 to 100,000	14.1	0.5	2.4	2.4	0.2	2.4	0.5	2.5	0.6	1.3	2.5
100,001 to 200,000	15.3	0.4	2.5	2.8	0.1	2.8	0.5	2.4	0.5	1.8	2.7
200,001 to 500,000	16.9	0.4	3.4	2.9	0.2	3.0	0.5	2.0	0.5	1.7	3.2
Over 500,000	18.4	0.4	3.9	3.5	0.1	3.3	0.7	1.0	0.8	2.0	3.8
Principal building activity											
Education	11.0	0.5	2.5	1.6	0.2	1.9	0.2	1.0	0.5	1.9	1.6
Food sales	48.7	0.6	1.6	2.8	(*)	3.6	4.3	34.5	0.5	0.6	2.7
Food service	44.9	1.4	5.3	5.0	1.1	3.0	15.9	18.3	1.2	0.8	3.4
Health care	25.8	0.5	5.1	5.8	0.2	4.3	1.2	1.4	1.2	2.4	4.9
Inpatient	31.0	0.5	7.7	5.6	0.7	4.9	1.3	1.8	1.5	2.6	6.2
Outpatient	18.7	0.6	1.9	6.1	(*)	3.5	0.7	0.8	0.7	2.1	3.2
Lodging	15.3	0.6	2.1	2.5	0.7	2.0	1.4	1.7	2.2	0.3	3.7
Mercantile	18.3	0.5	2.4	3.2	0.2	3.6	0.4	5.4	0.5	0.6	2.4
Retail (other than mall)	15.2	0.5	2.2	2.5	(*)	3.9	0.4	3.5	0.4	0.6	2.4
Enclosed and strip malls	21.1	0.4	2.6	3.7	0.4	3.4	0.4	6.9	0.5	0.6	2.5
Office	15.9	0.6	2.2	3.9	0.1	2.7	0.2	0.6	0.7	3.1	2.4
Public assembly	14.5	1.0	5.2	1.3	(*)	1.9	0.5	1.5	0.4	0.9	3.8
Public order and safety	14.9	0.4	3.3	1.1	0.6	3.2	0.6	0.6	0.7	1.6	4.0
Religious worship	5.2	0.3	1.0	0.9	(*)	0.6	0.2	0.3	0.3	0.2	1.8
Service	8.3	0.4	1.3	1.0	0.1	2.5	0.2	0.4	0.3	0.6	2.5
Warehouse and storage	6.6	0.2	1.0	0.4	(*)	2.1	(*)	1.6	0.2	0.4	1.8
Other	28.3	0.7	4.2	2.5	(*)	5.7	Q	2.5	0.4	6.5	7.6
Vacant	4.5	0.2	0.6	0.9	(*)	1.3	Q	0.4	0.1	0.4	2.0
Year constructed											
Before 1920	8.4	0.4	1.0	1.6	0.1	1.6	0.8	1.5	0.4	0.9	1.9
1920 to 1945	10.9	0.4	1.8	1.8	0.1	1.9	0.6	2.0	0.5	1.3	2.1
1946 to 1959	11.8	0.5	1.9	2.0	0.2	2.1	0.9	1.9	0.5	1.1	2.4
1960 to 1969	14.4	0.6	2.2	2.2	0.2	2.6	1.1	2.3	0.7	1.7	2.8
1970 to 1979	16.2	0.6	2.4	2.8	0.2	2.8	1.5	2.9	0.7	1.7	2.8
1980 to 1989	15.8	0.5	3.0	2.6	0.1	2.6	1.0	2.6	0.6	1.6	2.7
1990 to 1999	16.2	0.6	2.8	2.5	0.2	2.7	1.3	3.2	0.6	1.6	2.8
2000 to 2003	15.5	0.5	2.6	2.5	0.1	2.8	1.1	2.6	0.6	1.7	2.8
2004 to 2007	14.9	0.4	2.5	2.2	0.1	2.6	0.8	3.4	0.7	1.2	2.7
2008 to 2012	15.7	0.4	2.5	2.6	0.1	2.6	1.3	3.2	0.6	1.4	2.8

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Census region and division											
Northeast	14.4	0.7	1.7	2.6	0.1	2.6	0.9	2.6	0.5	1.6	2.8
New England	12.1	0.8	1.2	2.0	0.1	2.1	1.0	2.8	0.5	1.2	2.6
Middle Atlantic	15.3	0.7	1.8	2.9	0.1	2.8	0.9	2.5	0.6	1.8	2.8
Midwest	13.4	0.9	1.7	2.3	0.1	2.5	1.1	2.3	0.6	1.4	2.6
East North Central	13.9	0.8	1.7	2.4	0.1	2.6	1.0	2.3	0.5	1.4	2.8
West North Central	12.5	0.9	1.7	2.1	0.1	2.3	1.2	2.1	0.6	1.3	2.4
South	16.1	0.4	3.6	2.4	0.2	2.7	1.1	2.8	0.7	1.5	2.7
South Atlantic	16.3	0.3	3.5	2.4	0.2	2.6	1.0	3.0	0.7	1.6	2.7
East South Central	14.6	0.5	2.6	2.3	0.1	2.5	1.3	2.7	0.7	1.2	2.5
West South Central	16.3	0.3	4.2	2.4	0.2	2.8	1.4	2.7	0.6	1.4	2.9
West	13.5	0.4	1.7	2.3	0.1	2.3	1.2	2.9	0.7	1.6	2.5
Mountain	13.9	0.5	2.1	2.4	0.1	2.4	1.0	2.4	0.8	1.5	2.5
Pacific	13.3	0.3	1.5	2.2	0.1	2.3	1.3	3.0	0.6	1.7	2.5
Climate region²											
Very cold/Cold	13.4	0.8	1.4	2.4	0.1	2.5	1.0	2.5	0.6	1.4	2.6
Mixed-humid	15.2	0.5	2.5	2.4	0.2	2.6	1.1	2.6	0.7	1.6	2.7
Mixed-dry/Hot-dry	13.0	0.1	2.1	2.0	0.1	2.2	1.4	2.7	0.6	1.6	2.3
Hot-humid	18.4	0.2	5.4	2.6	0.2	2.9	1.2	3.1	0.6	1.4	2.9
Marine	14.6	0.5	0.9	2.8	0.1	2.5	0.9	2.6	0.6	2.2	3.1
Number of floors											
One	14.3	0.5	2.2	2.0	0.2	2.6	1.7	4.1	0.5	1.1	2.3
Two	13.0	0.5	2.0	2.1	0.1	2.3	0.6	2.2	0.5	1.6	2.4
Three	13.5	0.5	2.2	2.4	0.1	2.3	0.9	1.6	0.7	1.6	2.7
Four to nine	17.2	0.5	3.5	3.4	0.1	2.8	0.8	1.2	0.9	2.1	3.6
Ten or more	18.3	0.4	3.6	3.7	0.1	3.0	0.6	0.9	1.0	2.2	3.6
Elevators and escalators (more than one may apply)											
Any elevators	16.9	0.5	3.2	3.2	0.1	2.8	0.7	1.3	0.8	2.2	3.3
Number of elevators											
One	13.2	0.5	2.1	2.5	0.1	2.3	0.5	1.5	0.6	1.6	2.5
Two to five	17.5	0.5	3.2	3.2	0.1	2.8	0.7	1.3	0.8	2.8	3.4
Six or more	21.0	0.4	4.6	4.1	0.1	3.4	0.7	1.2	1.0	2.1	4.2
Any escalators	18.2	0.5	3.6	3.5	0.1	3.4	0.6	1.4	1.0	1.4	3.8
Number of workers (main shift)											
Fewer than 5	8.6	0.6	1.4	1.0	0.1	1.6	1.4	2.7	0.6	0.7	2.1
5 to 9	12.5	0.5	1.8	1.7	0.1	2.0	2.7	3.1	0.6	0.8	2.3
10 to 19	13.7	0.6	1.8	1.9	0.2	2.2	2.9	3.5	0.7	1.0	2.3
20 to 49	15.1	0.5	2.2	2.3	0.2	2.6	1.3	3.3	0.6	1.5	2.5
50 to 99	15.9	0.5	2.7	2.6	0.2	2.8	0.5	2.7	0.6	1.6	2.6
100 to 249	16.9	0.4	2.9	2.9	0.1	3.1	0.4	2.4	0.6	1.8	3.0
250 or more	20.8	0.5	4.1	4.3	0.2	3.5	0.6	1.3	0.8	2.7	3.8

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Weekly operating hours											
Fewer than 40	5.3	0.5	1.2	0.4	0.1	0.9	0.4	1.0	0.4	0.9	1.5
40 to 48	9.8	0.4	1.8	1.4	0.1	1.9	0.3	0.9	0.5	1.6	1.9
49 to 60	11.7	0.5	2.0	2.0	0.1	2.2	0.4	1.1	0.5	1.8	2.2
61 to 84	15.8	0.5	2.5	2.8	0.2	2.7	0.8	3.5	0.5	1.2	2.4
85 to 167	21.4	0.7	2.9	3.0	0.1	3.3	3.3	7.3	0.4	0.9	3.1
Open continuously	21.5	0.5	3.7	3.7	0.2	3.6	1.5	3.1	1.2	1.8	4.4
Ownership and occupancy											
Nongovernment owned	15.1	0.5	2.3	2.5	0.1	2.6	1.4	3.2	0.6	1.4	2.7
Owner occupied	15.0	0.6	2.5	2.2	0.1	2.6	1.6	2.9	0.7	1.3	2.9
Leased to tenant(s)	15.4	0.5	2.2	2.7	0.2	2.6	1.5	3.7	0.6	1.5	2.5
Owner occupied and leased	15.0	0.4	2.2	2.6	0.1	2.6	0.8	2.5	0.5	1.8	2.6
Unoccupied	2.5	Q	0.5	(*)	Q	0.6	Q	Q	Q	Q	1.8
Government owned	13.3	0.5	2.8	2.1	0.2	2.3	0.4	1.1	0.6	1.8	2.6
Federal	14.4	0.4	2.7	3.2	0.1	2.9	0.4	0.5	0.4	1.4	3.3
State	14.6	0.6	2.5	3.0	0.1	2.7	0.6	1.3	0.7	1.9	2.9
Local	12.5	0.5	2.9	1.6	0.2	2.1	0.4	1.1	0.5	1.8	2.3
Party responsible for operation and maintenance of energy systems											
Building owner	14.4	0.5	2.5	2.4	0.1	2.5	1.0	2.3	0.6	1.6	2.7
Business owner or tenant	16.3	0.4	2.1	2.4	0.2	2.7	1.5	5.2	0.5	1.1	2.3
Property management	14.8	0.4	2.7	2.9	0.1	2.2	1.3	2.1	0.8	1.8	2.5
Other	16.2	0.5	3.0	1.9	Q	2.4	1.7	3.8	0.7	0.9	2.9
Provider of direct input on energy-related equipment purchases											
Building owner	14.3	0.5	2.5	2.4	0.1	2.5	1.0	2.3	0.6	1.6	2.7
Business owner or tenant	17.4	0.5	2.3	2.5	0.2	2.8	1.9	5.2	0.5	1.2	2.5
Property management	13.5	0.5	2.0	2.8	0.1	2.2	1.3	2.0	0.6	1.2	2.3
Other	16.4	0.4	2.7	2.4	0.1	2.4	1.3	5.1	0.6	0.9	2.4
Number of establishments											
One	14.3	0.6	2.4	2.2	0.1	2.5	1.4	2.5	0.7	1.5	2.7
2 to 5	14.0	0.4	2.1	2.4	0.1	2.4	0.8	2.8	0.5	1.2	2.6
6 to 10	16.3	0.4	2.3	3.1	0.2	2.5	0.4	3.6	0.5	1.9	2.3
11 to 20	18.6	0.5	2.9	3.7	0.2	3.0	0.4	3.8	0.6	1.5	2.7
More than 20	20.1	0.4	3.7	3.6	0.2	3.7	0.4	2.2	0.6	3.0	3.0
Currently unoccupied	2.2	Q	0.5	(*)	Q	0.5	Q	Q	Q	Q	1.6
Predominant exterior wall material											
Brick, stone, or stucco	15.1	0.5	2.5	2.5	0.2	2.5	1.2	2.4	0.7	1.6	2.7
Concrete (block or poured)	15.8	0.4	2.7	2.4	0.2	2.7	1.0	3.8	0.6	1.2	2.6
Concrete panels	14.3	0.3	2.1	2.4	0.1	2.7	0.8	1.9	0.6	1.8	2.9
Siding or shingles	12.8	0.7	1.7	1.9	0.2	2.1	1.9	3.0	0.6	1.2	2.4
Metal panels	9.8	0.5	2.0	1.3	0.1	2.5	0.6	1.5	0.3	1.0	2.2
Window glass	23.4	0.7	4.1	4.8	0.1	3.8	0.6	1.7	0.7	4.7	3.9
Other	16.0	0.7	2.7	2.2	0.2	2.2	Q	4.6	0.5	1.5	3.0
No one major type	13.1	0.4	1.5	2.4	0.1	2.4	Q	2.1	0.5	1.2	2.8

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Predominant roof material											
Metal surfacing	11.2	0.5	2.2	1.4	0.1	2.3	1.1	2.5	0.5	1.0	2.2
Synthetic or rubber	16.5	0.6	2.5	2.8	0.1	2.8	1.0	2.9	0.6	1.7	3.0
Built-up	15.8	0.4	2.8	2.8	0.2	2.7	1.0	2.5	0.6	1.7	2.7
Slate or tile shingles	13.9	0.4	2.3	2.2	0.3	2.1	1.3	2.6	0.9	1.5	2.8
Wooden materials (including shingles)	12.5	0.3	1.8	1.6	0.2	1.9	3.4	4.0	0.7	1.0	2.1
Asphalt, fiberglass, or other shingles	13.4	0.6	2.1	2.0	0.2	2.2	1.3	2.6	0.7	1.2	2.5
Concrete	18.9	0.3	3.9	3.3	Q	3.0	0.6	2.4	0.7	3.2	3.2
Other	15.8	0.2	2.6	2.3	Q	2.3	Q	4.3	0.5	1.0	2.9
No one major type	8.0	0.4	1.2	1.1	Q	1.6	Q	Q	0.3	0.8	2.0
Roof characteristics											
Roof tilt											
Flat	16.4	0.5	2.8	2.8	0.2	2.9	1.1	2.6	0.6	1.7	2.9
Shallow pitch	13.0	0.5	2.0	1.8	0.1	2.3	1.1	3.3	0.6	1.3	2.3
Steeper pitch	11.1	0.6	1.8	1.6	0.2	1.7	1.0	2.0	0.7	1.1	2.3
Cool roof	16.8	0.4	2.8	2.8	0.2	2.9	0.9	3.0	0.6	1.8	2.9
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	15.5	0.5	2.5	2.6	0.2	2.6	1.0	2.5	0.6	1.7	2.8
Addition or annex	15.8	0.5	3.0	2.6	0.2	2.7	0.7	2.0	0.7	1.4	3.1
Reduction in floorspace	20.5	0.4	4.0	3.9	0.1	3.8	0.9	3.2	0.6	1.6	3.5
Roof replacement	15.9	0.5	2.6	2.8	0.2	2.7	1.0	2.2	0.6	1.7	2.9
Exterior wall replacement	16.6	0.6	2.9	2.7	0.2	2.6	0.9	2.6	0.6	2.0	2.9
Interior wall reconfiguration	16.8	0.5	2.7	3.0	0.1	2.8	0.9	2.1	0.7	2.2	3.0
Window replacement	14.4	0.5	2.4	2.4	0.1	2.3	1.0	1.7	0.7	1.8	2.7
HVAC equipment upgrade	16.2	0.5	2.7	2.8	0.2	2.7	0.9	2.3	0.7	1.8	2.9
Lighting upgrade	16.1	0.5	2.6	2.7	0.1	2.6	1.1	2.6	0.7	1.7	2.9
Electrical upgrade	16.4	0.5	2.8	2.7	0.2	2.6	1.1	2.4	0.7	1.9	3.0
Plumbing system upgrade	16.1	0.5	2.6	2.8	0.2	2.5	1.2	2.2	0.8	1.9	3.0
Insulation upgrade	16.6	0.6	2.8	2.6	0.2	2.5	1.1	2.9	0.8	2.1	2.9
Fire, safety, or security upgrade	16.4	0.5	2.9	2.9	0.1	2.6	1.0	2.2	0.7	2.0	2.9
Structural upgrade	17.6	0.5	3.4	2.6	0.1	2.6	0.9	2.4	0.9	2.3	3.4
Other	15.3	0.4	3.1	3.1	0.1	2.7	Q	1.3	0.6	2.3	2.7
No renovations	13.6	0.5	2.3	2.1	0.2	2.5	1.1	2.8	0.6	1.3	2.5
Buildings constructed 2008 or later	15.7	0.4	2.5	2.6	0.1	2.6	1.3	3.2	0.6	1.4	2.8
Energy sources (more than one may apply)											
Electricity	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Natural gas	15.4	0.5	2.4	2.5	0.2	2.6	1.1	2.9	0.7	1.5	2.7
Fuel oil	18.9	0.6	3.6	3.3	0.1	3.2	0.7	1.8	0.7	2.3	3.8
District heat	17.3	0.5	2.2	4.1	0.2	3.4	0.8	1.2	1.0	2.0	4.1
District chilled water	18.6	0.5	2.2	4.3	0.3	3.7	1.1	1.2	1.0	2.6	4.5
Propane	14.4	0.8	2.1	1.8	0.1	2.4	1.2	3.2	0.7	0.9	2.9
Other	13.1	0.4	2.2	2.4	0.1	2.3	0.6	2.1	0.4	1.2	2.4

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Space-heating energy sources											
Electricity	15.8	0.5	2.6	2.4	0.2	2.6	1.0	2.9	0.6	1.5	2.6
Electricity main	16.8	0.6	3.0	2.4	0.2	2.7	1.2	3.0	0.7	1.8	2.7
Electricity secondary	14.7	0.4	2.1	2.5	0.1	2.5	0.9	2.8	0.5	1.3	2.5
Other excluding electricity	13.7	N	2.0	2.4	0.1	2.5	1.2	2.3	0.6	1.5	2.8
Buildings without heating	9.4	N	4.4	1.3	0.1	2.1	1.2	3.1	0.4	0.9	2.3
Primary space-heating energy source											
Electricity	16.8	0.6	3.0	2.4	0.2	2.7	1.2	3.0	0.7	1.8	2.7
Natural gas	14.2	0.3	2.1	2.3	0.1	2.5	1.1	2.7	0.5	1.4	2.5
Fuel oil	9.3	0.8	1.4	1.4	0.1	2.0	0.4	1.2	0.5	1.1	2.2
District heat	17.4	0.5	2.1	4.2	0.2	3.4	0.9	1.2	1.0	2.0	4.2
Propane	9.2	1.0	0.9	0.9	0.1	1.4	2.8	3.0	0.4	0.5	1.7
Other	8.0	Q	0.5	1.1	0.1	1.9	Q	1.2	0.5	0.7	2.0
Cooling energy sources											
Electricity	15.2	0.5	2.4	2.4	0.2	2.6	1.1	2.7	0.6	1.5	2.6
Other excluding electricity	17.3	0.5	N	4.1	0.2	3.7	1.5	1.3	1.1	2.6	4.3
Buildings without cooling	4.9	0.4	N	0.3	0.1	1.5	0.9	2.4	0.3	0.5	1.9
Water-heating energy sources											
Electricity	15.2	0.5	2.5	2.3	0.2	2.6	0.9	2.9	0.5	1.6	2.5
Other excluding electricity	15.5	0.5	2.5	2.6	N	2.6	1.4	2.5	0.8	1.5	2.9
Buildings without water heating	5.7	0.2	1.5	0.8	N	1.7	Q	0.7	0.4	0.9	2.0
Cooking energy sources											
Electricity	18.0	0.6	3.0	2.7	0.2	2.6	1.1	3.6	0.7	1.4	2.7
Other excluding electricity	18.4	0.5	3.1	2.9	0.3	2.6	N	4.7	0.8	1.1	3.0
Buildings without cooking	11.7	0.5	1.9	2.0	0.1	2.5	N	1.2	0.5	1.7	2.6
Energy end uses (more than one may apply)											
Buildings with space heating	15.0	0.5	2.4	2.4	0.2	2.6	1.1	2.7	0.6	1.5	2.7
Buildings with cooling	15.3	0.5	2.4	2.5	0.2	2.6	1.1	2.7	0.6	1.5	2.7
Buildings with water heating	15.3	0.5	2.5	2.5	0.2	2.6	1.1	2.7	0.6	1.5	2.7
Buildings with cooking	18.2	0.5	3.0	2.8	0.2	2.6	1.1	4.0	0.7	1.3	2.8
Buildings with manufacturing	13.2	0.4	2.1	1.7	0.1	2.9	1.1	2.1	0.3	0.9	3.3
Buildings with electricity generation	19.1	0.5	3.4	3.3	0.2	3.1	0.8	2.5	0.7	2.2	3.5
Percent of floorspace heated											
Not heated	9.4	N	4.4	1.3	0.1	2.1	1.2	3.1	0.4	0.9	2.3
1 to 50	9.7	0.1	1.2	1.1	0.1	1.9	1.0	2.3	0.3	1.3	2.1
51 to 99	16.0	0.4	2.6	2.6	0.2	2.6	0.9	3.4	0.6	1.2	2.6
100	15.7	0.6	2.5	2.6	0.2	2.7	1.1	2.5	0.7	1.7	2.8
Percent of floorspace cooled											
Not cooled	4.9	0.4	N	0.3	0.1	1.5	0.9	2.4	0.3	0.5	1.9
1 to 50	8.1	0.3	0.7	1.0	0.1	1.9	0.6	1.5	0.3	0.6	2.0
51 to 99	16.8	0.5	2.5	2.8	0.2	2.7	1.0	3.2	0.6	1.8	2.8
100	18.1	0.6	3.3	3.0	0.2	2.9	1.3	2.9	0.8	1.8	3.0

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity ¹ (kWh/square foot in buildings using electricity for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Percent lit when open											
Zero	3.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	2.3
1 to 50	9.0	0.4	1.5	1.5	0.1	1.2	0.8	1.5	0.6	0.7	2.5
51 to 99	15.1	0.5	2.4	2.5	0.2	2.4	1.0	2.8	0.6	1.5	2.6
100	16.8	0.5	2.8	2.6	0.1	3.2	1.2	2.9	0.7	1.8	2.8
Building never open/electricity not used	2.3	0.4	0.6	(*)	Q	Q	Q	Q	Q	Q	1.4
Percent lit during off hours											
Zero	9.4	0.5	1.7	1.5	0.1	1.6	0.7	1.5	0.4	1.3	2.0
1 to 50	15.4	0.5	2.6	2.5	0.2	2.7	1.0	2.7	0.6	1.5	2.7
51 to 100	23.8	0.5	3.5	3.8	0.2	4.2	2.1	4.7	1.0	2.1	4.2
Building always open with no "off hours"	25.5	0.4	4.0	4.0	0.2	4.4	1.7	5.9	1.4	1.7	4.5
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	15.2	0.4	2.8	2.1	0.2	2.4	0.7	2.4	0.9	1.6	2.6
Furnaces	12.3	0.6	1.6	1.8	0.1	2.0	1.3	2.6	0.6	1.1	2.1
Individual space heaters	13.1	0.5	1.9	2.1	0.1	2.4	0.8	2.1	0.6	1.3	2.5
District heat	17.3	0.5	2.1	4.1	0.2	3.4	0.8	1.2	1.0	2.0	4.1
Boilers	15.6	0.4	2.9	2.8	0.1	2.6	0.6	1.7	0.7	1.8	3.0
Packaged heating units	15.7	0.5	2.5	2.5	0.2	2.6	1.3	3.3	0.6	1.4	2.6
Other	24.4	0.9	1.8	3.3	0.2	2.9	1.2	11.7	0.3	0.6	2.5
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	12.6	0.5	1.8	1.5	0.1	2.1	0.9	3.3	0.6	1.0	2.2
Heat pumps	15.1	0.4	2.6	2.2	0.2	2.4	0.6	2.5	0.8	1.6	2.5
Individual air conditioners	12.9	0.5	2.1	1.9	0.2	2.1	0.8	1.8	0.8	1.2	2.5
District chilled water	18.6	0.5	2.2	4.3	0.3	3.7	1.1	1.2	1.0	2.6	4.5
Central chillers	19.3	0.4	3.7	3.6	0.1	3.1	0.6	1.4	0.7	2.6	3.6
Packaged air conditioning units	16.1	0.5	2.5	2.7	0.2	2.6	1.3	3.2	0.6	1.3	2.6
Swamp coolers	15.0	0.6	2.0	2.2	0.2	2.5	2.2	3.9	0.5	0.9	2.3
Other	28.7	Q	3.5	4.4	Q	4.5	Q	1.3	0.4	Q	4.1
Main equipment replaced since 1990 (more than one may apply)											
Heating	14.1	0.5	2.2	2.1	0.2	2.3	1.1	2.7	0.6	1.5	2.4
Cooling	14.5	0.5	2.4	2.2	0.2	2.3	1.0	2.5	0.7	1.6	2.5
Water-heating equipment											
Centralized system	15.3	0.6	2.5	2.4	0.2	2.6	1.4	2.6	0.7	1.5	2.8
Distributed system	12.4	0.4	2.0	1.9	0.1	2.4	0.8	2.1	0.4	1.3	2.3
Combination of centralized and distributed system	17.2	0.4	2.8	2.9	0.2	2.8	0.7	3.3	0.6	1.8	2.7

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Lighting equipment types (more than one may apply)											
Incandescent	15.9	0.5	2.8	2.6	0.2	2.6	0.9	2.8	0.7	1.5	2.7
Standard fluorescent	15.0	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Compact fluorescent	16.5	0.5	2.8	2.8	0.2	2.7	1.0	2.6	0.7	1.7	2.9
High-intensity discharge (HID)	16.3	0.4	3.0	2.7	0.2	2.9	0.7	2.6	0.6	1.4	3.0
Halogen	17.0	0.5	2.9	2.8	0.2	2.8	0.9	3.0	0.7	1.5	2.9
LED	18.8	0.5	3.2	3.3	0.2	2.9	0.8	3.5	0.7	1.6	3.2
Other	21.4	Q	3.8	3.5	Q	2.9	1.1	4.1	0.9	1.6	3.4
Refrigeration equipment (more than one may apply)											
Any refrigeration	15.6	0.5	2.5	2.5	0.2	2.6	1.1	2.7	0.6	1.5	2.7
Walk-in units	21.4	0.5	3.4	3.2	0.2	2.9	1.4	5.7	0.8	1.4	3.0
Cases or cabinets	20.3	0.5	3.1	3.1	0.2	2.9	1.3	5.3	0.7	1.3	2.9
Large cold storage areas	23.5	0.3	2.8	2.6	0.2	2.9	1.2	10.2	0.5	0.9	2.9
Commercial ice makers	19.9	0.5	3.4	3.2	0.2	2.9	1.3	4.1	0.8	1.6	3.1
Residential-type or compact units	14.6	0.5	2.4	2.4	0.2	2.5	0.8	1.9	0.6	1.6	2.7
Vending machines	16.9	0.5	2.8	2.9	0.2	2.9	0.7	2.5	0.7	1.6	3.0
No refrigeration	8.3	0.5	1.7	1.4	0.1	2.2	Q	N	0.5	1.5	2.3
Office equipment (more than one may apply)											
Desktop computers	15.3	0.5	2.5	2.5	0.1	2.6	1.0	2.6	0.6	1.5	2.7
With flat screen monitors	15.3	0.5	2.5	2.5	0.1	2.6	1.0	2.6	0.6	1.5	2.7
With multiple monitors	16.9	0.5	2.9	3.0	0.1	2.8	0.7	2.1	0.7	2.2	2.9
Laptop computers	15.2	0.5	2.6	2.6	0.2	2.6	0.7	2.1	0.6	1.7	2.7
Dedicated servers	16.3	0.5	2.7	2.7	0.1	2.7	0.8	2.5	0.6	1.9	2.8
Laser printers	15.8	0.5	2.5	2.6	0.1	2.7	0.9	2.5	0.7	1.7	2.8
Inkjet printers	14.5	0.5	2.4	2.2	0.2	2.5	1.2	2.5	0.5	1.3	2.6
FAX machines	15.4	0.5	2.5	2.5	0.1	2.7	0.9	2.6	0.6	1.5	2.7
Photocopiers	15.3	0.5	2.6	2.6	0.1	2.7	0.6	2.1	0.7	1.7	2.8
Number of desktop computers											
None	8.4	0.7	1.8	1.1	0.2	1.6	2.1	3.6	0.8	Q	2.2
1 to 4	13.1	0.5	1.7	1.6	0.1	2.0	3.5	4.2	0.6	0.4	2.4
5 to 9	14.2	0.5	1.9	1.9	0.2	2.4	1.5	3.8	0.6	0.8	2.5
10 to 19	13.8	0.5	1.9	2.2	0.1	2.5	0.9	2.8	0.5	1.3	2.4
20 to 49	16.0	0.5	2.6	2.6	0.2	2.9	0.6	3.0	0.7	1.2	2.8
50 to 99	14.4	0.6	2.6	2.6	0.2	2.7	0.5	1.7	0.6	1.5	2.6
100 to 249	16.4	0.4	2.6	3.0	0.2	3.0	0.4	1.5	0.7	2.4	3.0
250 or more	19.2	0.4	4.2	3.7	0.1	3.0	0.5	0.9	0.7	3.4	3.2

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity¹ (kWh/square foot in buildings using electricity for the end use)

	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
Number of laptop computers											
None	12.9	0.5	1.8	1.7	0.1	2.2	3.1	4.6	0.6	0.8	2.4
1 to 4	12.9	0.5	2.0	1.8	0.1	2.3	1.3	2.9	0.6	0.8	2.4
5 to 9	15.1	0.4	2.4	2.6	0.2	2.9	0.7	2.8	0.6	1.1	2.7
10 to 19	15.6	0.6	2.8	2.8	0.2	2.6	0.6	2.4	0.6	1.4	2.7
20 to 49	16.0	0.4	2.4	2.9	0.2	2.8	0.5	1.8	0.8	2.2	2.9
50 to 99	16.3	0.5	3.3	3.0	0.1	2.9	0.5	1.3	0.6	2.1	3.1
100 to 249	17.3	0.4	3.3	3.3	0.1	2.8	0.4	1.0	0.7	3.4	3.0
250 or more	19.7	0.5	4.2	3.8	0.1	3.0	0.4	1.0	0.8	3.2	3.3
Number of dedicated servers											
None	11.9	0.5	2.0	1.7	0.2	2.2	1.9	3.0	0.6	0.7	2.4
1 to 4	14.6	0.5	2.2	2.3	0.1	2.5	1.0	2.9	0.6	1.2	2.6
5 to 9	16.1	0.5	2.6	2.8	0.2	2.8	0.5	2.7	0.6	1.7	2.6
10 to 19	19.1	0.5	3.6	3.8	0.1	3.2	0.6	1.9	0.8	2.6	3.3
20 to 49	18.7	0.5	4.0	3.5	0.1	3.1	0.5	1.1	0.7	2.8	3.2
50 or more	25.8	0.5	5.0	4.2	0.1	3.5	0.6	1.2	0.8	6.8	4.1
Number of photocopiers											
None	13.1	0.6	2.0	1.8	0.2	2.2	3.1	4.5	0.6	0.9	2.4
One	12.6	0.5	1.8	1.8	0.1	2.2	1.0	2.7	0.5	0.9	2.4
2 to 4	14.4	0.5	2.3	2.4	0.1	2.6	0.5	2.1	0.6	1.5	2.5
5 to 9	16.3	0.4	2.7	2.8	0.2	3.0	0.4	2.0	0.6	2.2	2.7
10 or more	19.7	0.4	4.1	3.9	0.1	3.2	0.6	1.1	0.9	2.8	3.7
Number of TVs or video displays											
None	10.1	0.5	1.5	1.4	0.1	2.0	1.9	2.7	0.2	1.2	2.2
One	12.1	0.4	1.5	1.8	0.1	2.2	1.7	2.8	0.4	1.0	2.3
2 to 4	14.3	0.5	2.3	2.2	0.1	2.6	1.3	2.7	0.5	1.2	2.6
5 to 9	18.4	0.7	3.0	2.9	0.2	2.8	1.6	3.5	0.6	2.1	2.8
10 to 19	18.0	0.5	3.1	3.3	0.2	3.0	0.8	2.9	0.6	2.0	2.8
20 to 49	17.3	0.5	3.0	3.1	0.2	2.9	0.4	2.8	0.7	1.7	2.6
50 to 99	17.7	0.6	2.9	2.9	0.3	2.9	0.5	2.0	1.3	2.5	3.0
100 or more	19.7	0.4	4.2	3.4	0.2	2.8	1.0	1.6	1.8	1.4	4.0
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	19.3	0.5	3.8	2.9	0.2	2.8	0.6	3.9	0.7	1.5	3.0
Fast food or small restaurant	22.9	0.4	3.7	3.6	0.2	3.4	0.7	6.0	0.9	1.3	3.3
Cafeteria or large restaurant	17.1	0.5	3.6	3.0	0.2	2.7	0.5	2.0	0.8	1.7	2.9
Commercial kitchen/food preparation area	18.1	0.5	3.4	2.9	0.2	2.6	0.7	3.6	0.9	1.2	3.0
Small kitchen area	14.5	0.5	2.8	2.2	0.1	2.2	0.5	2.3	0.7	1.2	2.7
Separate computer areas (more than one may apply)											
Data center or server farm	21.5	0.6	4.8	3.7	0.1	3.3	0.5	1.2	0.8	4.0	3.6
Computer-based training room	16.9	0.4	3.3	2.9	0.1	2.9	0.5	2.1	0.7	2.0	2.8
Student or public computer center	14.1	0.5	2.9	2.3	0.2	2.3	0.5	1.7	0.7	1.6	2.4

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity ¹ (kWh/square foot in buildings using electricity for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7
HVAC conservation features (more than one may apply)											
Economizer cycle	17.5	0.5	2.8	3.3	0.1	3.0	0.8	2.4	0.6	1.9	3.1
Regular HVAC maintenance	16.0	0.5	2.6	2.6	0.2	2.7	1.1	2.7	0.7	1.6	2.8
Building automation system (BAS) ³	18.1	0.5	3.2	3.2	0.2	3.0	0.7	2.6	0.7	2.0	3.2
Window and interior lighting features (more than one may apply)											
Multipaned windows	15.6	0.5	2.5	2.6	0.2	2.6	1.1	2.8	0.7	1.6	2.7
Tinted window glass	16.2	0.5	2.8	2.7	0.2	2.8	0.9	2.7	0.6	1.6	2.8
Reflective window glass	19.0	0.5	3.3	3.3	0.2	3.0	0.7	3.1	0.8	2.2	3.1
External overhangs or awnings	17.1	0.5	2.7	2.7	0.2	2.7	1.3	3.8	0.7	1.5	2.7
Skylights or atriums	15.0	0.4	2.7	2.7	0.2	2.6	0.7	2.0	0.6	1.4	2.9
Light scheduling	17.9	0.5	2.9	3.1	0.2	2.8	0.9	3.4	0.7	1.8	2.9
Occupancy sensors	17.0	0.5	2.9	3.0	0.1	2.7	0.7	2.7	0.6	1.9	3.0
Multi-level lighting or dimming	18.7	0.6	3.1	3.3	0.2	2.7	0.9	3.8	0.8	1.5	3.1
Daylight harvesting	17.8	0.5	3.0	3.3	0.2	2.9	0.8	3.2	0.6	1.4	3.1
Demand responsive lighting	16.8	0.4	2.6	2.8	0.2	2.8	0.5	4.3	0.6	1.0	2.5
Building automation system (BAS) for lighting ³	19.8	0.5	3.2	3.5	0.2	3.2	0.7	4.1	0.5	1.7	3.0
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	14.1	0.5	2.3	2.3	0.1	2.4	0.9	2.5	0.6	1.4	2.5
Cooling	14.4	0.5	2.4	2.4	0.1	2.4	0.9	2.5	0.6	1.4	2.5
Lighting	14.5	0.5	2.4	2.4	0.2	2.5	1.0	2.5	0.6	1.5	2.6
Annual consumption (kilowatthours)											
10,000 or less	1.3	0.2	0.3	0.1	(*)	0.3	0.1	0.1	0.1	0.2	0.5
10,001 to 50,000	4.8	0.3	0.7	0.6	0.1	1.0	0.3	0.5	0.3	0.6	1.3
50,001 to 100,000	8.2	0.5	1.2	1.1	0.1	1.6	0.9	1.2	0.5	1.0	1.9
100,001 to 500,000	13.3	0.5	1.8	1.8	0.2	2.2	2.0	3.4	0.6	1.1	2.3
500,001 to 1,000,000	16.4	0.6	2.5	2.6	0.2	2.6	1.9	2.8	0.8	1.6	2.7
1,000,001 to 5,000,000	18.3	0.5	2.8	3.2	0.2	3.2	0.8	3.6	0.6	1.5	3.1
Over 5,000,000	25.9	0.6	5.5	4.5	0.2	4.4	0.7	2.4	0.9	3.1	4.9

Table E6. Electricity consumption intensities (kWh) by end use, 2012

Electricity energy intensity ¹ (kWh/square foot in buildings using electricity for the end use)											
	Total	Space heat- ing	Cool- ing	Venti- lation	Water heat- ing	Light- ing	Cook- ing	Refrig- eration	Office equip- ment	Com- puting	Other
All buildings	14.6	0.5	2.4	2.4	0.2	2.5	1.1	2.7	0.6	1.5	2.7

¹The electricity intensity calculation (electricity consumption for the end use divided by the floorspace in buildings that use electricity for the particular end use) differs from the calculation used in the 2003 CBECs tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECs denominator was total floorspace in all buildings that used electricity. In this table, the intensities for each end use do not sum to the total electricity intensity, whereas they did in the 2003 CBECs table.

²These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³In earlier CBECs publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

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

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECs Detailed Tables* or *CBECs Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECs tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and E of the 2012 Commercial Buildings Energy Consumption Survey.

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Building floorspace (square feet)										
1,001 to 5,000	256	122	53	78	Q	68.0	36.9	25.5	94.7	Q
5,001 to 10,000	248	138	39	66	4	51.4	31.8	14.0	52.6	16.9
10,001 to 25,000	304	203	52	47	3	34.5	25.3	9.1	22.0	5.6
25,001 to 50,000	284	192	55	28	9	34.8	26.5	9.7	12.5	9.5
50,001 to 100,000	338	215	71	32	19	34.0	25.3	9.5	7.0	12.0
100,001 to 200,000	290	164	62	39	26	30.8	21.8	9.0	8.3	10.5
200,001 to 500,000	310	194	54	48	14	37.3	27.7	9.1	9.2	7.1
Over 500,000	219	112	37	Q	13	39.6	31.0	12.5	Q	11.2
Principal building activity										
Education	291	212	54	10	14	30.6	26.7	7.0	1.8	5.6
Food sales	53	29	3	19	Q	62.8	43.3	4.4	32.8	Q
Food service	227	35	40	152	Q	163.2	34.0	39.2	120.5	Q
Health care	265	159	61	32	12	80.5	60.9	23.7	16.3	18.7
Inpatient	219	121	58	30	10	103.6	74.2	34.3	16.6	25.0
Outpatient	46	39	4	Q	Q	39.0	39.1	3.9	Q	Q
Lodging	221	46	113	Q	6	44.9	14.5	26.5	Q	6.6
Mercantile	291	159	58	66	8	34.3	21.5	10.6	13.5	6.0
Retail (other than mall)	74	63	4	6	Q	22.0	20.5	2.5	6.0	Q
Enclosed and strip malls	217	97	54	60	6	42.4	22.1	14.1	15.4	6.9
Office	282	220	29	Q	13	27.4	25.7	4.8	Q	9.4
Public assembly	135	118	6	9	2	34.8	35.3	2.1	6.4	4.7
Public order and safety	41	22	16	2	Q	40.4	25.8	21.4	3.5	Q
Religious worship	87	67	Q	10	Q	28.8	25.0	Q	5.6	Q
Service	122	98	21	Q	Q	43.7	35.5	15.0	Q	Q
Warehouse and storage	139	109	10	Q	7	19.9	16.7	2.9	Q	7.0
Other	81	55	2	Q	Q	58.6	44.8	2.3	Q	Q
Vacant	13	11	Q	Q	Q	14.3	15.0	1.4	Q	Q
Year constructed										
Before 1920	87	65	6	13	Q	37.7	32.8	5.0	19.1	Q
1920 to 1945	145	97	28	17	3	38.2	30.4	11.7	11.3	9.4
1946 to 1959	199	135	32	27	5	37.0	27.6	8.7	11.7	7.7
1960 to 1969	314	203	60	31	Q	41.6	30.9	10.6	9.3	Q
1970 to 1979	340	188	81	60	10	42.6	28.8	14.5	18.4	9.5
1980 to 1989	335	183	70	68	Q	33.9	22.9	11.2	16.2	Q
1990 to 1999	338	188	61	80	9	36.9	24.7	10.0	18.2	9.3
2000 to 2003	158	100	24	24	10	33.4	26.7	7.6	13.8	7.3
2004 to 2007	172	84	32	Q	6	41.9	24.2	11.3	Q	8.2
2008 to 2012	159	95	30	24	10	41.7	27.3	11.5	17.1	8.3

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Census region and division										
Northeast	499	330	80	64	26	45.1	35.3	10.6	11.9	10.3
New England	111	81	10	12	8	49.3	40.7	6.7	11.6	12.3
Middle Atlantic	389	249	70	52	19	44.1	33.8	11.5	11.9	9.7
Midwest	642	499	77	55	11	42.8	35.6	7.3	9.7	4.9
East North Central	494	386	58	41	9	45.7	38.1	7.3	9.4	4.7
West North Central	149	114	19	14	2	35.1	29.1	7.1	10.4	5.7
South	615	281	155	153	26	30.9	18.2	12.6	17.8	9.1
South Atlantic	305	137	79	78	12	30.6	18.7	14.0	17.7	6.2
East South Central	104	52	27	22	2	30.1	19.5	13.1	14.9	5.0
West South Central	207	93	49	52	Q	31.9	17.0	10.8	19.7	Q
West	491	229	112	123	27	38.6	21.4	12.3	23.6	20.9
Mountain	163	89	25	Q	4	43.4	27.8	9.5	Q	7.7
Pacific	328	141	87	77	Q	36.5	18.7	13.5	22.0	Q
Climate region²										
Very cold/Cold	1,097	802	132	130	33	44.8	35.8	7.8	13.4	7.2
Mixed-humid	657	359	149	126	22	33.9	22.8	12.5	14.9	7.4
Mixed-dry/Hot-dry	255	89	78	71	Q	33.9	14.2	13.1	23.1	Q
Hot-humid	171	48	52	57	Q	32.2	14.6	15.1	19.8	Q
Marine	68	40	13	10	Q	33.6	23.4	10.4	14.4	Q
Number of floors										
One	918	541	156	194	27	37.5	24.6	10.1	22.7	10.0
Two	511	314	96	83	17	34.8	25.1	9.6	13.9	7.1
Three	224	157	41	19	7	36.9	29.4	8.8	8.1	7.5
Four to nine	443	261	102	50	31	45.4	35.1	14.1	9.4	13.6
Ten or more	151	66	28	Q	9	40.7	30.6	13.8	Q	12.7
Number of workers (main shift)										
Fewer than 5	264	184	47	29	4	33.6	25.7	10.1	16.7	Q
5 to 9	202	119	37	43	3	37.7	25.5	11.2	39.6	8.2
10 to 19	298	157	57	81	2	43.8	26.6	12.7	54.1	6.2
20 to 49	379	225	70	71	12	35.7	24.2	9.3	15.8	8.7
50 to 99	360	227	75	41	16	34.9	25.4	9.7	8.0	7.8
100 to 249	337	206	54	43	34	38.0	27.5	8.4	8.8	14.3
250 or more	408	221	83	85	19	45.8	36.4	15.5	14.4	9.7
Weekly operating hours										
Fewer than 40	97	79	9	8	Q	26.2	23.6	3.6	6.3	Q
40 to 48	259	204	33	15	7	26.0	22.7	5.1	5.4	6.1
49 to 60	369	292	37	26	15	26.4	24.0	4.4	6.8	6.8
61 to 84	469	272	78	109	11	40.8	27.4	9.9	18.7	6.7
85 to 167	349	188	52	95	13	51.8	31.5	10.5	30.2	8.7
Open continuously	705	304	216	140	45	55.0	33.4	22.9	17.9	18.0

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Ownership and occupancy										
Nongovernment owned	1,747	991	328	356	72	39.3	26.4	11.7	20.3	12.0
Owner occupied	890	489	174	180	47	43.3	29.1	13.1	22.4	15.3
Leased to tenant(s)	634	351	120	147	16	36.5	23.2	11.3	22.9	8.3
Owner occupied and leased	219	147	34	29	9	35.0	27.8	8.3	9.4	9.3
Unoccupied	4	4	Q	Q	N	12.9	12.2	Q	Q	N
Government owned	501	349	96	37	19	35.2	29.0	8.4	5.2	6.1
Federal	30	21	4	4	Q	34.8	32.0	6.9	11.6	Q
State	169	103	40	Q	8	43.0	33.6	13.1	Q	9.9
Local	302	225	52	16	10	32.0	27.1	6.7	2.9	4.5
Party responsible for operation and maintenance of energy systems										
Building owner	1,852	1,131	339	302	80	37.7	27.7	10.1	14.6	10.4
Business owner or tenant	343	181	71	81	10	41.6	23.8	13.7	24.7	8.0
Property management	27	13	9	4	Q	34.2	21.2	16.7	10.5	Q
Other	27	15	5	6	Q	44.1	33.4	15.0	18.5	Q
Provider of direct input on energy-related equipment purchases										
Building owner	1,915	1,165	354	313	82	37.6	27.4	10.2	14.5	10.3
Business owner or tenant	264	138	54	65	8	43.9	25.1	14.4	27.4	8.8
Property management	17	10	4	3	Q	33.1	22.9	10.7	9.9	Q
Other	52	26	12	13	Q	42.0	24.5	14.8	23.3	Q
Number of establishments										
One	1,527	877	306	278	65	41.1	27.9	11.7	19.2	10.6
2 to 5	429	286	67	58	17	34.5	26.8	9.1	12.0	10.1
6 to 10	107	71	17	17	2	34.7	26.9	9.4	12.7	7.2
11 to 20	112	66	20	23	3	40.7	26.8	9.4	13.0	6.6
More than 20	67	33	14	17	4	23.4	17.7	8.1	7.5	7.6
Currently unoccupied	6	6	Q	Q	N	14.5	15.8	Q	Q	N
Predominant exterior wall material										
Brick, stone, or stucco	1,160	686	238	193	43	40.0	28.3	11.6	14.2	8.7
Concrete (block or poured)	535	294	115	99	28	36.8	24.4	11.9	14.4	11.6
Concrete panels	208	130	26	Q	6	35.1	25.9	6.8	Q	6.7
Siding or shingles	134	77	25	30	Q	46.4	28.7	11.8	35.5	Q
Metal panels	126	104	9	7	Q	28.7	25.5	3.8	10.4	15.9
Window glass	48	30	Q	4	Q	45.5	43.4	Q	8.2	Q
Other	Q	7	2	Q	Q	47.2	17.0	6.3	Q	Q
No one major type	14	11	Q	Q	Q	31.4	32.0	Q	Q	Q

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Predominant roof material										
Metal surfacing	241	155	36	41	9	30.8	21.9	7.7	20.9	9.0
Synthetic or rubber	850	536	130	147	38	43.0	31.3	9.7	16.4	10.3
Built-up	582	335	125	89	33	36.3	25.2	11.0	11.5	12.7
Slate or tile shingles	114	50	29	32	Q	40.7	26.0	15.0	25.8	Q
Wooden materials (including shingles)	41	22	9	10	Q	67.3	43.7	21.7	53.3	Q
Asphalt, fiberglass, or other shingles	368	214	83	65	6	37.2	26.0	12.6	16.6	5.6
Concrete	24	12	9	2	Q	28.2	18.3	15.9	7.4	Q
Other	18	8	Q	Q	Q	33.7	18.3	Q	Q	Q
No one major type	10	Q	Q	Q	Q	24.1	Q	Q	Q	Q
Roof characteristics										
Roof tilt										
Flat	1,455	860	292	236	67	40.6	28.7	11.6	14.5	11.6
Shallow pitch	481	291	68	105	18	33.2	23.3	7.7	21.9	7.7
Steeper pitch	312	189	64	53	6	37.2	26.8	11.5	14.4	6.1
Cool roof	602	332	119	108	43	42.0	28.6	12.3	14.4	15.8
Renovations in buildings constructed before 2008 (more than one may apply)										
Any type of renovation	1,230	732	223	218	58	39.7	28.6	10.8	14.8	12.5
Addition or annex	468	276	77	99	15	46.3	33.1	10.6	16.6	8.8
Reduction in floorspace	70	28	Q	Q	Q	50.2	32.0	24.7	24.0	Q
Roof replacement	681	413	125	102	41	42.2	31.2	11.2	12.2	16.6
Exterior wall replacement	129	64	24	35	6	38.1	23.5	10.5	18.4	11.9
Interior wall reconfiguration	644	390	104	121	29	40.1	29.6	10.2	16.3	10.8
Window replacement	387	225	67	74	22	41.7	29.8	10.6	16.5	13.3
HVAC equipment upgrade	842	487	153	158	44	41.2	28.8	11.0	15.1	13.7
Lighting upgrade	810	477	140	146	47	42.0	29.8	10.8	15.0	14.9
Electrical upgrade	551	307	87	117	39	44.5	30.7	10.4	18.0	18.3
Plumbing system upgrade	515	273	93	112	38	48.8	31.4	12.4	19.9	21.9
Insulation upgrade	269	142	34	75	18	45.6	30.0	8.7	23.9	20.4
Fire, safety, or security upgrade	569	326	113	89	41	43.0	30.3	11.9	12.2	17.0
Structural upgrade	151	57	20	Q	Q	53.4	26.4	11.4	36.7	Q
Other	14	9	Q	1	Q	24.5	22.1	9.7	3.3	Q
No renovations	859	513	171	152	24	35.9	25.1	10.5	17.6	7.2
Buildings constructed 2008 or later	159	95	30	24	10	41.7	27.3	11.5	17.1	8.3

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Energy sources (more than one may apply)										
Electricity	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Natural gas	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Fuel oil	623	364	122	112	25	45.6	35.6	12.8	13.6	15.4
District heat	108	13	Q	Q	Q	37.8	36.9	Q	Q	Q
District chilled water	133	33	Q	Q	Q	54.9	47.3	26.0	Q	Q
Propane	146	69	26	Q	Q	43.1	25.7	12.4	Q	Q
Other	108	68	14	9	Q	41.1	28.6	7.6	7.5	Q
Space-heating energy sources										
Natural gas	1,971	1,339	324	255	53	39.8	27.1	9.3	13.2	7.5
Natural gas main	1,769	1,271	260	195	43	41.2	29.6	8.5	11.7	7.0
Natural gas secondary	202	68	64	60	9	30.9	10.4	15.7	23.1	11.1
Other excluding natural gas	252	N	85	131	36	29.2	N	19.6	25.2	18.0
Buildings without heating	25	N	15	8	Q	42.1	N	33.0	24.5	Q
Primary space-heating energy source										
Electricity	335	52	125	133	25	29.0	8.9	17.3	22.6	14.2
Natural gas	1,769	1,271	260	195	43	41.2	29.6	8.5	11.7	7.0
Fuel oil	8	Q	Q	3	Q	19.5	Q	Q	12.2	Q
District heat	106	Q	Q	Q	Q	38.0	Q	Q	Q	Q
Propane	Q	Q	Q	N	Q	Q	Q	Q	N	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources										
Natural gas	58	36	8	3	11	79.8	50.5	12.7	8.8	15.5
Other excluding natural gas	2,120	1,252	404	388	77	37.7	26.6	10.7	16.1	9.4
Buildings without cooling	70	52	12	4	Q	38.2	30.8	11.5	11.1	Q
Water-heating energy sources										
Natural gas	1,771	1,013	424	280	54	44.8	29.2	10.7	14.7	8.7
Other excluding natural gas	439	290	N	114	35	25.1	22.1	N	19.8	12.5
Buildings without water heating	38	36	N	Q	Q	22.5	21.3	N	Q	Q
Cooking energy sources										
Natural gas	1,238	542	265	394	37	50.0	28.2	14.0	15.9	8.0
Other excluding natural gas	205	155	46	N	4	32.8	28.5	10.8	N	4.8
Buildings without cooking	805	643	113	N	49	29.1	25.9	6.9	N	14.2

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Energy end uses (more than one may apply)										
Buildings with space heating	2,223	1,339	410	385	89	38.2	27.1	10.5	15.8	9.9
Buildings with cooling	2,178	1,288	412	390	88	38.3	26.9	10.7	16.0	9.9
Buildings with water heating	2,210	1,303	424	394	89	38.8	27.3	10.7	15.9	9.9
Buildings with cooking	1,443	696	311	394	41	46.5	28.2	13.4	15.9	7.5
Buildings with manufacturing	123	79	13	11	20	33.0	23.2	6.5	14.5	21.3
Buildings with electricity generation	855	492	160	137	66	42.2	31.0	11.2	11.6	8.3
Percent of floorspace heated										
Not heated	25	N	15	8	Q	42.1	N	33.0	24.5	Q
1 to 50	123	60	23	36	4	21.5	12.2	6.9	31.3	11.8
51 to 99	443	256	76	95	16	39.7	27.5	10.5	16.1	10.3
100	1,657	1,024	310	255	69	40.2	29.0	10.9	14.7	9.7
Percent of floorspace cooled										
Not cooled	70	52	12	4	Q	38.2	30.8	11.5	11.1	Q
1 to 50	418	315	51	41	11	32.1	26.3	6.5	13.8	7.5
51 to 99	667	401	125	117	24	39.0	27.8	10.5	12.9	8.9
100	1,093	571	236	232	54	40.8	26.7	12.6	18.7	11.2
Heating equipment (more than one may apply)										
Heat pumps	247	109	71	57	11	32.7	18.3	13.9	14.3	9.5
Furnaces	244	161	35	44	4	34.7	23.6	7.3	19.3	6.4
Individual space heaters	545	373	100	55	17	34.5	26.9	9.7	9.1	7.0
District heat	108	13	Q	Q	Q	38.1	37.7	Q	Q	Q
Boilers	984	666	193	85	40	49.2	35.3	11.5	7.5	9.0
Packaged heating units	1,360	805	238	274	43	36.2	24.4	9.6	17.2	8.4
Other	54	25	11	15	3	45.2	23.2	10.0	15.3	7.9
Cooling equipment (more than one may apply)										
Residential-type central air conditioners	416	239	75	84	Q	39.6	25.3	10.3	25.6	Q
Heat pumps	257	118	73	53	13	32.0	18.1	13.6	12.6	9.9
Individual air conditioners	374	222	92	44	16	41.0	29.9	14.4	9.1	10.3
District chilled water	133	33	Q	Q	Q	54.9	47.3	26.0	Q	Q
Central chillers	598	391	118	60	30	43.5	35.0	10.8	7.0	8.7
Packaged air conditioning units	1,318	793	230	248	46	37.7	26.2	9.8	15.3	8.7
Swamp coolers	71	37	15	16	Q	46.2	26.4	12.0	21.7	Q
Other	10	Q	Q	Q	Q	35.9	Q	Q	Q	Q

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	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Main equipment replaced since 1990 (more than one may apply)										
Heating	790	481	161	129	19	37.5	25.8	11.6	14.4	6.7
Cooling	882	532	181	145	23	38.2	26.7	11.7	14.4	7.4
Water-heating equipment										
Centralized system	1,414	839	283	257	35	41.6	28.8	11.4	19.6	6.8
Distributed system	257	153	38	37	Q	31.3	23.0	9.2	14.9	25.5
Combination of centralized and distributed system	539	311	104	99	25	36.4	25.9	9.8	10.9	9.2
Food preparation or serving areas in non-food service buildings (more than one may apply)										
Snack bar or concession stand	364	196	60	93	15	46.3	32.2	10.2	13.9	7.8
Fast food or small restaurant	372	166	72	121	13	44.5	27.2	13.4	16.2	8.1
Cafeteria or large restaurant	587	305	138	123	22	45.0	30.3	13.2	10.7	7.3
Commercial kitchen/ food preparation area	673	335	171	141	25	47.8	30.0	15.1	11.1	7.9
Small kitchen area	409	243	74	80	12	37.6	27.4	9.3	10.8	6.3
HVAC conservation features (more than one may apply)										
Economizer cycle	1,015	602	172	177	65	41.1	28.7	9.7	13.1	12.0
Regular HVAC maintenance	1,991	1,177	376	351	86	39.3	27.5	10.7	15.2	10.1
Building automation system (BAS) ²	1,100	644	198	186	72	39.5	28.6	10.0	11.6	11.4
Window and interior lighting features (more than one may apply)										
Multipaned windows	1,752	1,054	318	311	69	40.0	28.3	10.7	15.9	9.2
Tinted window glass	1,290	743	243	239	64	39.5	26.8	10.7	16.0	12.8
Reflective window glass	541	298	97	127	20	44.9	29.6	11.1	19.9	9.9
External overhangs or awnings	1,030	547	196	246	41	44.4	28.2	12.4	21.0	11.8
Skylights or atriums	681	377	117	137	49	40.6	28.0	10.5	15.7	13.7
Light scheduling	927	538	161	188	40	40.1	28.1	9.8	14.6	8.9
Occupancy sensors	1,067	647	178	175	67	39.6	28.8	9.6	12.6	12.0
Multi-level lighting or dimming	573	273	115	155	31	49.0	28.6	13.2	19.5	16.6
Daylight harvesting	197	116	25	32	Q	40.1	28.7	7.7	10.1	18.1
Demand responsive lighting	127	65	28	28	6	34.6	20.4	10.7	12.9	8.0
Building automation system (BAS) for lighting ³	335	205	51	61	18	35.6	25.8	7.5	9.9	7.4

Table E7. Natural gas consumption and conditional energy intensities (Btu) by end use, 2012

	Total natural gas consumption (trillion Btu)					Natural gas energy intensity ¹ (thousand Btu/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,248	1,339	424	394	91	38.3	27.1	10.7	15.9	10.0
Equipment usage reduced when building not in full use (more than one may apply)										
Heating	1,675	1,039	283	284	71	35.8	25.6	8.9	14.2	9.3
Cooling	1,644	996	293	287	68	35.9	25.6	9.4	14.4	9.3
Lighting	2,105	1,267	387	366	85	38.3	27.1	10.4	15.9	10.1
Annual consumption (hundred cubic feet)										
1,000 or less	53	44	5	2	1	7.6	8.3	1.7	3.4	Q
1,001 to 5,000	282	213	34	31	4	21.1	18.4	4.4	10.9	3.9
5,001 to 10,000	238	145	41	48	4	29.7	22.2	8.2	16.4	4.7
10,001 to 25,000	459	243	100	106	10	41.2	26.1	12.8	18.8	6.5
25,001 to 50,000	311	191	67	44	9	43.5	30.9	12.0	11.7	6.1
50,001 to 100,000	285	154	62	54	15	54.0	32.1	14.1	14.6	9.6
Over 100,000	621	350	114	108	48	90.5	59.3	20.3	21.0	28.1

¹ The natural gas intensity calculation (total natural gas use for the end use divided by the floorspace in buildings that use natural gas for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that use natural gas. In this table, the intensities for each end use do not sum to the total natural gas intensity, whereas they did in the 2003 CBECS table.

² These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³ In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and C of the 2012 Commercial Buildings Energy Consumption Survey.

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Building floorspace (square feet)										
1,001 to 5,000	249	119	52	76	Q	66.4	36.0	24.9	92.4	Q
5,001 to 10,000	242	135	38	64	4	50.2	31.0	13.7	51.3	16.5
10,001 to 25,000	297	198	50	46	3	33.6	24.7	8.9	21.4	5.5
25,001 to 50,000	277	187	54	28	8	34.0	25.9	9.5	12.2	9.3
50,001 to 100,000	330	210	70	31	19	33.2	24.7	9.3	6.9	11.7
100,001 to 200,000	283	160	60	38	26	30.1	21.3	8.8	8.1	10.2
200,001 to 500,000	302	189	53	46	14	36.4	27.0	8.9	9.0	6.9
Over 500,000	214	109	36	Q	12	38.6	30.3	12.2	Q	11.0
Principal building activity										
Education	284	207	53	10	14	29.8	26.0	6.8	1.8	5.5
Food sales	52	28	3	19	Q	61.3	42.2	4.3	32.0	Q
Food service	222	34	39	148	Q	159.2	33.2	38.2	117.6	Q
Health care	258	155	60	32	11	78.5	59.4	23.2	15.9	18.3
Inpatient	214	118	56	30	10	101.1	72.4	33.4	16.2	24.4
Outpatient	45	38	3	Q	Q	38.0	38.1	3.8	Q	Q
Lodging	215	45	110	Q	6	43.8	14.1	25.8	Q	6.4
Mercantile	284	156	57	64	7	33.5	20.9	10.3	13.2	5.9
Retail (other than mall)	72	61	4	6	Q	21.5	20.0	2.4	5.8	Q
Enclosed and strip malls	212	95	53	59	6	41.3	21.6	13.7	15.0	6.8
Office	275	214	28	Q	12	26.8	25.1	4.7	Q	9.2
Public assembly	132	115	6	9	2	33.9	34.4	2.0	6.2	4.6
Public order and safety	40	21	16	2	Q	39.5	25.2	20.9	3.4	Q
Religious worship	85	65	Q	10	Q	28.1	24.4	Q	5.4	Q
Service	119	96	21	Q	Q	42.7	34.7	14.7	Q	Q
Warehouse and storage	136	106	10	Q	6	19.4	16.3	2.8	Q	6.9
Other	79	53	2	Q	Q	57.2	43.7	2.3	Q	Q
Vacant	12	11	Q	Q	Q	13.9	14.6	1.3	Q	Q
Year constructed										
Before 1920	85	63	6	12	Q	36.8	32.0	4.9	18.6	Q
1920 to 1945	141	95	27	17	3	37.3	29.7	11.4	11.0	9.1
1946 to 1959	195	132	31	26	5	36.1	26.9	8.5	11.5	7.5
1960 to 1969	307	198	58	30	Q	40.6	30.2	10.3	9.0	Q
1970 to 1979	332	184	79	59	10	41.6	28.1	14.1	17.9	9.3
1980 to 1989	327	179	68	66	Q	33.0	22.3	10.9	15.8	Q
1990 to 1999	330	184	59	78	9	36.0	24.1	9.7	17.8	9.1
2000 to 2003	154	98	23	24	9	32.6	26.0	7.4	13.5	7.1
2004 to 2007	167	82	31	Q	6	40.9	23.6	11.0	Q	8.0
2008 to 2012	156	93	30	24	9	40.7	26.7	11.3	16.7	8.1

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Census region and division										
Northeast	487	322	78	62	26	44.0	34.4	10.3	11.6	10.1
New England	108	79	10	11	8	48.1	39.7	6.6	11.3	12.0
Middle Atlantic	379	243	68	51	18	43.0	33.0	11.3	11.6	9.5
Midwest	627	487	75	53	11	41.7	34.7	7.1	9.4	4.8
East North Central	482	376	57	40	9	44.6	37.2	7.2	9.2	4.6
West North Central	145	111	19	14	2	34.3	28.3	6.9	10.2	5.6
South	600	274	151	149	26	30.2	17.8	12.3	17.4	8.9
South Atlantic	298	133	77	76	11	29.8	18.2	13.6	17.2	6.0
East South Central	101	51	27	22	2	29.4	19.0	12.7	14.6	4.9
West South Central	202	91	47	51	Q	31.1	16.6	10.5	19.2	Q
West	479	224	109	120	26	37.6	20.9	12.0	23.1	20.4
Mountain	159	86	25	Q	4	42.3	27.2	9.3	Q	7.5
Pacific	320	137	85	75	Q	35.7	18.3	13.1	21.5	Q
Climate region²										
Very cold/Cold	1,070	783	129	127	32	43.7	34.9	7.6	13.1	7.0
Mixed-humid	641	350	145	123	22	33.1	22.2	12.2	14.6	7.2
Mixed-dry/Hot-dry	249	87	76	69	Q	33.1	13.9	12.8	22.6	Q
Hot-humid	167	47	51	55	Q	31.4	14.3	14.7	19.3	Q
Marine	67	39	13	10	Q	32.7	22.9	10.2	14.1	Q
Number of floors										
One	896	528	153	189	27	36.6	24.0	9.8	22.2	9.7
Two	499	307	94	81	17	34.0	24.4	9.3	13.6	6.9
Three	219	153	40	19	7	36.0	28.7	8.6	7.9	7.4
Four to nine	432	255	99	48	30	44.3	34.2	13.7	9.2	13.3
Ten or more	147	65	28	Q	8	39.7	29.9	13.4	Q	12.4
Number of workers (main shift)										
Fewer than 5	258	179	46	29	4	32.8	25.1	9.8	16.3	Q
5 to 9	197	116	36	42	3	36.8	24.9	10.9	38.6	8.0
10 to 19	291	153	56	79	2	42.8	25.9	12.4	52.8	6.0
20 to 49	369	219	68	69	12	34.8	23.7	9.1	15.4	8.5
50 to 99	352	222	74	40	16	34.1	24.8	9.5	7.8	7.6
100 to 249	329	201	52	42	34	37.0	26.8	8.2	8.6	14.0
250 or more	398	216	81	83	18	44.7	35.5	15.2	14.0	9.5
Weekly operating hours										
Fewer than 40	95	77	9	8	Q	25.6	23.0	3.5	6.2	Q
40 to 48	252	199	32	15	7	25.3	22.2	5.0	5.3	6.0
49 to 60	360	285	36	25	14	25.7	23.4	4.3	6.6	6.7
61 to 84	458	265	76	106	11	39.9	26.7	9.7	18.2	6.6
85 to 167	340	183	51	93	13	50.5	30.7	10.2	29.4	8.5
Open continuously	688	297	211	137	44	53.6	32.6	22.3	17.5	17.5

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Ownership and occupancy										
Nongovernment owned	1,704	966	320	348	70	38.3	25.8	11.4	19.8	11.7
Owner occupied	868	477	169	176	46	42.3	28.4	12.8	21.8	15.0
Leased to tenant(s)	618	342	117	144	15	35.6	22.6	11.1	22.4	8.0
Owner occupied and leased	213	143	33	28	9	34.1	27.1	8.1	9.2	9.0
Unoccupied	4	4	Q	Q	N	12.5	11.9	Q	Q	N
Government owned	489	340	94	36	18	34.3	28.3	8.2	5.1	6.0
Federal	29	21	4	3	Q	34.0	31.2	6.7	11.4	Q
State	165	101	39	Q	8	42.0	32.8	12.7	Q	9.7
Local	294	219	50	15	9	31.2	26.4	6.6	2.9	4.4
Party responsible for operation and maintenance of energy systems										
Building owner	1,807	1,103	331	295	78	36.8	27.0	9.9	14.2	10.2
Business owner or tenant	334	176	69	79	10	40.6	23.2	13.4	24.1	7.8
Property management	26	12	9	4	Q	33.3	20.7	16.3	10.3	Q
Other	26	15	5	5	Q	43.0	32.6	14.6	18.0	Q
Provider of direct input on energy-related equipment purchases										
Building owner	1,868	1,137	346	305	80	36.7	26.7	10.0	14.2	10.0
Business owner or tenant	258	134	52	64	8	42.8	24.5	14.1	26.7	8.6
Property management	17	9	4	3	Q	32.3	22.3	10.4	9.7	Q
Other	51	26	12	12	Q	40.9	23.9	14.4	22.7	Q
Number of establishments										
One	1,490	856	299	272	63	40.1	27.2	11.4	18.7	10.4
2 to 5	418	279	66	56	17	33.6	26.1	8.8	11.7	9.8
6 to 10	105	69	17	17	2	33.8	26.2	9.2	12.4	7.0
11 to 20	110	65	19	23	3	39.7	26.2	9.2	12.7	6.5
More than 20	65	32	13	17	4	22.8	17.3	7.9	7.4	7.4
Currently unoccupied	6	5	Q	Q	N	14.1	15.4	Q	Q	N
Predominant exterior wall material										
Brick, stone, or stucco	1,131	669	232	188	42	39.0	27.6	11.4	13.8	8.5
Concrete (block or poured)	522	287	112	96	27	35.9	23.8	11.6	14.0	11.3
Concrete panels	203	127	25	Q	6	34.2	25.3	6.6	Q	6.6
Siding or shingles	131	75	24	29	Q	45.3	28.0	11.6	34.6	Q
Metal panels	123	101	9	7	Q	28.0	24.9	3.8	10.1	15.5
Window glass	47	30	Q	4	Q	44.4	42.3	Q	8.0	Q
Other	Q	7	2	Q	Q	46.0	16.6	6.1	Q	Q
No one major type	14	11	Q	Q	Q	30.6	31.2	Q	Q	Q

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Predominant roof material										
Metal surfacing	235	151	35	40	9	30.1	21.4	7.5	20.4	8.8
Synthetic or rubber	830	523	127	143	37	41.9	30.6	9.5	16.0	10.1
Built-up	568	327	122	87	32	35.5	24.6	10.7	11.2	12.4
Slate or tile shingles	111	49	29	31	Q	39.7	25.4	14.6	25.2	Q
Wooden materials (including shingles)	40	21	8	10	Q	65.7	42.6	21.1	52.0	Q
Asphalt, fiberglass, or other shingles	359	208	81	64	6	36.3	25.3	12.2	16.1	5.5
Concrete	23	11	8	2	Q	27.5	17.8	15.5	7.2	Q
Other	18	8	Q	Q	Q	32.8	17.8	Q	Q	Q
No one major type	9	Q	Q	Q	Q	23.5	Q	Q	Q	Q
Roof characteristics										
Roof tilt										
Flat	1,420	839	285	230	66	39.6	28.0	11.3	14.1	11.3
Shallow pitch	470	284	66	102	17	32.4	22.7	7.5	21.4	7.5
Steeper pitch	304	184	62	52	6	36.2	26.1	11.2	14.0	6.0
Cool roof	588	324	116	105	42	40.9	27.9	12.0	14.1	15.4
Renovations in buildings constructed before 2008 (more than one may apply)										
Any type of renovation	1,200	714	217	213	56	38.8	27.9	10.6	14.4	12.2
Addition or annex	457	270	75	97	15	45.2	32.3	10.3	16.2	8.5
Reduction in floorspace	68	28	Q	Q	Q	49.0	31.3	24.1	23.4	Q
Roof replacement	664	403	122	100	40	41.1	30.4	11.0	11.9	16.2
Exterior wall replacement	126	63	24	34	6	37.2	22.9	10.3	18.0	11.6
Interior wall reconfiguration	629	381	101	118	29	39.1	28.8	10.0	15.9	10.5
Window replacement	378	219	65	72	21	40.7	29.0	10.3	16.1	13.0
HVAC equipment upgrade	822	475	149	154	43	40.2	28.1	10.7	14.7	13.4
Lighting upgrade	790	465	137	142	46	40.9	29.1	10.5	14.6	14.5
Electrical upgrade	537	299	85	114	38	43.4	29.9	10.2	17.5	17.8
Plumbing system upgrade	502	266	90	109	37	47.6	30.7	12.1	19.4	21.4
Insulation upgrade	262	139	33	73	18	44.5	29.3	8.5	23.3	19.9
Fire, safety, or security upgrade	555	318	110	87	40	41.9	29.6	11.6	11.9	16.6
Structural upgrade	148	56	20	Q	Q	52.1	25.8	11.1	35.8	Q
Other	13	9	Q	1	Q	23.9	21.5	9.4	3.2	Q
No renovations	838	500	167	148	23	35.0	24.4	10.2	17.1	7.1
Buildings constructed 2008 or later	156	93	30	24	9	40.7	26.7	11.3	16.7	8.1

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Energy sources (more than one may apply)										
Electricity	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Natural gas	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Fuel oil	608	355	119	110	25	44.5	34.7	12.5	13.3	15.1
District heat	106	13	Q	Q	Q	36.9	36.0	Q	Q	Q
District chilled water	130	33	Q	Q	Q	53.5	46.2	25.4	Q	Q
Propane	143	68	25	Q	Q	42.0	25.0	12.1	Q	Q
Other	106	66	13	9	Q	40.1	27.9	7.4	7.3	Q
Space-heating energy sources										
Natural gas	1,923	1,307	316	248	52	38.8	26.4	9.1	12.9	7.4
Natural gas main	1,726	1,240	254	190	42	40.2	28.9	8.3	11.4	6.9
Natural gas secondary	197	66	63	59	9	30.2	10.2	15.3	22.5	10.8
Other excluding natural gas	246	N	83	128	35	28.5	N	19.1	24.5	17.6
Buildings without heating	25	N	14	8	Q	41.1	N	32.2	23.9	Q
Primary space-heating energy source										
Electricity	327	51	122	130	24	28.3	8.7	16.9	22.1	13.9
Natural gas	1,726	1,240	254	190	42	40.2	28.9	8.3	11.4	6.9
Fuel oil	8	Q	Q	3	Q	19.0	Q	Q	11.9	Q
District heat	103	Q	Q	Q	Q	37.1	Q	Q	Q	Q
Propane	Q	Q	Q	N	Q	Q	Q	Q	N	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources										
Natural gas	57	35	8	3	11	77.9	49.3	12.4	8.6	15.1
Other excluding natural gas	2,068	1,221	394	378	75	36.8	25.9	10.4	15.7	9.1
Buildings without cooling	68	50	12	4	Q	37.3	30.0	11.2	10.8	Q
Water-heating energy sources										
Natural gas	1,728	989	414	273	52	43.7	28.5	10.5	14.4	8.5
Other excluding natural gas	428	283	N	111	34	24.5	21.6	N	19.3	12.2
Buildings without water heating	37	35	N	Q	Q	22.0	20.8	N	Q	Q
Cooking energy sources										
Natural gas	1,208	528	259	384	36	48.7	27.5	13.6	15.5	7.8
Other excluding natural gas	200	151	45	N	4	32.0	27.8	10.6	N	4.7
Buildings without cooking	786	627	110	N	48	28.4	25.2	6.8	N	13.8

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Energy end uses (more than one may apply)										
Buildings with space heating	2,169	1,307	400	376	86	37.3	26.4	10.2	15.4	9.6
Buildings with cooling	2,125	1,256	402	381	86	37.4	26.3	10.4	15.6	9.6
Buildings with water heating	2,156	1,271	414	384	87	37.8	26.6	10.5	15.5	9.7
Buildings with cooking	1,408	679	304	384	40	45.4	27.6	13.1	15.5	7.3
Buildings with manufacturing	120	77	12	11	20	32.2	22.7	6.4	14.2	20.8
Buildings with electricity generation	834	480	156	134	65	41.1	30.3	10.9	11.3	8.1
Percent of floorspace heated										
Not heated	25	N	14	8	Q	41.1	N	32.2	23.9	Q
1 to 50	120	59	23	35	3	21.0	11.9	6.7	30.5	11.5
51 to 99	432	249	74	92	16	38.8	26.8	10.2	15.7	10.1
100	1,617	999	302	248	67	39.2	28.3	10.6	14.3	9.4
Percent of floorspace cooled										
Not cooled	68	50	12	4	Q	37.3	30.0	11.2	10.8	Q
1 to 50	408	308	50	40	11	31.3	25.7	6.3	13.4	7.3
51 to 99	651	391	122	114	23	38.0	27.1	10.3	12.6	8.7
100	1,066	557	230	227	52	39.8	26.0	12.3	18.3	10.9
Heating equipment (more than one may apply)										
Heat pumps	241	106	69	55	11	31.9	17.9	13.6	13.9	9.3
Furnaces	238	158	34	43	4	33.8	23.0	7.1	18.9	6.2
Individual space heaters	532	364	97	53	17	33.6	26.2	9.5	8.8	6.9
District heat	105	13	Q	Q	Q	37.2	36.8	Q	Q	Q
Boilers	960	650	189	83	39	48.0	34.4	11.2	7.3	8.8
Packaged heating units	1,327	785	233	268	41	35.3	23.8	9.3	16.8	8.2
Other	53	25	11	14	3	44.1	22.6	9.7	14.9	7.7
Cooling equipment (more than one may apply)										
Residential-type central air conditioners	406	234	73	82	Q	38.7	24.7	10.1	25.0	Q
Heat pumps	250	115	71	52	12	31.2	17.6	13.3	12.2	9.6
Individual air conditioners	365	217	90	43	15	40.0	29.2	14.1	8.9	10.0
District chilled water	130	33	Q	Q	Q	53.5	46.2	25.4	Q	Q
Central chillers	584	381	115	58	29	42.5	34.1	10.5	6.8	8.5
Packaged air conditioning units	1,286	774	224	242	45	36.8	25.6	9.6	14.9	8.4
Swamp coolers	69	36	15	16	Q	45.1	25.8	11.7	21.1	Q
Other	10	Q	Q	Q	Q	35.0	Q	Q	Q	Q
Main equipment replaced since 1990 (more than one may apply)										
Heating	771	469	157	126	19	36.6	25.2	11.3	14.1	6.5
Cooling	860	519	177	142	22	37.2	26.1	11.5	14.0	7.2

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Water-heating equipment										
Centralized system	1,380	819	276	251	34	40.6	28.1	11.1	19.1	6.7
Distributed system	251	150	37	36	Q	30.5	22.4	9.0	14.6	24.8
Combination of centralized and distributed system	526	303	101	97	24	35.5	25.3	9.5	10.6	9.0
Food preparation or serving areas in non-food service buildings (more than one may apply)										
Snack bar or concession stand	355	192	59	91	15	45.2	31.4	10.0	13.5	7.7
Fast food or small restaurant	363	162	70	118	12	43.4	26.6	13.1	15.8	7.9
Cafeteria or large restaurant	572	297	134	120	21	43.9	29.6	12.9	10.5	7.1
Commercial kitchen/food preparation area	657	327	167	138	25	46.6	29.3	14.7	10.8	7.7
Small kitchen area	399	237	72	78	12	36.7	26.8	9.1	10.6	6.1
HVAC conservation features (more than one may apply)										
Economizer cycle	991	587	168	173	63	40.1	28.0	9.5	12.7	11.7
Regular HVAC maintenance	1,942	1,148	367	343	84	38.3	26.8	10.5	14.8	9.8
Building automation system (BAS) ³	1,073	628	194	181	70	38.6	27.9	9.7	11.4	11.1
Window and interior lighting features (more than one may apply)										
Multipaned windows	1,709	1,028	310	304	67	39.0	27.6	10.4	15.6	9.0
Tinted window glass	1,259	725	237	234	63	38.6	26.1	10.5	15.6	12.5
Reflective window glass	528	290	94	124	20	43.8	28.8	10.9	19.4	9.7
External overhangs or awnings	1,005	534	192	240	40	43.3	27.5	12.1	20.5	11.5
Skylights or atriums	664	368	114	134	48	39.7	27.3	10.3	15.3	13.4
Light scheduling	905	525	157	184	39	39.2	27.4	9.6	14.3	8.7
Occupancy sensors	1,041	631	173	171	66	38.6	28.1	9.4	12.3	11.7
Multi-level lighting or dimming	560	267	112	151	30	47.8	27.9	12.9	19.0	16.2
Daylight harvesting	192	114	25	32	Q	39.1	28.0	7.5	9.9	17.6
Demand responsive lighting	124	64	27	27	6	33.7	19.9	10.5	12.6	7.8
Building automation system (BAS) for lighting ³	327	200	50	59	17	34.8	25.2	7.3	9.6	7.3
Equipment usage reduced when building not in full use (more than one may apply)										
Heating	1,635	1,013	276	277	69	34.9	25.0	8.6	13.8	9.1
Cooling	1,604	972	286	280	66	35.1	25.0	9.2	14.1	9.1
Lighting	2,054	1,236	377	357	83	37.3	26.4	10.1	15.5	9.8

Table E8. Natural gas consumption and conditional energy intensities (cubic feet) by end use, 2012

	Total natural gas consumption (billion cubic feet)					Natural gas energy intensity ¹ (cubic feet/square foot in buildings using natural gas for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	2,193	1,307	414	384	89	37.3	26.4	10.5	15.5	9.8
Annual consumption (hundred cubic feet)										
1,000 or less	51	43	5	2	1	7.4	8.1	1.6	3.3	Q
1,001 to 5,000	275	207	34	30	4	20.6	18.0	4.3	10.6	3.8
5,001 to 10,000	232	141	40	46	4	29.0	21.7	8.0	16.0	4.6
10,001 to 25,000	448	237	97	104	10	40.1	25.5	12.5	18.4	6.3
25,001 to 50,000	304	187	66	43	9	42.4	30.1	11.7	11.4	6.0
50,001 to 100,000	278	150	61	53	14	52.7	31.3	13.7	14.2	9.4
Over 100,000	606	342	111	105	47	88.3	57.9	19.8	20.5	27.4

¹ The natural gas intensity calculation (natural gas consumption for the end use divided by the floorspace in buildings that use natural gas for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that used natural gas. In this table, the intensities for each end use do not sum to the total natural gas intensity, whereas they did in the 2003 CBECS table.

² These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³ In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and C of the 2012 Commercial Buildings Energy Consumption Survey.

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Building floorspace (square feet)								
1,001 to 5,000	20.8	19.3	Q	Q	34.4	46.8	Q	Q
5,001 to 10,000	10.2	9.7	Q	0.6	18.3	26.4	Q	2.8
10,001 to 25,000	20.2	17.6	Q	2.5	18.0	24.7	Q	6.4
25,001 to 50,000	14.0	9.7	Q	4.2	9.4	17.1	Q	4.2
50,001 to 100,000	23.5	16.4	Q	6.9	8.3	23.6	Q	3.0
100,001 to 200,000	20.1	14.1	0.1	5.9	7.1	25.8	0.4	2.5
200,001 to 500,000	13.5	2.8	(*)	10.7	2.5	4.6	Q	2.2
Over 500,000	11.6	2.9	(*)	8.7	2.2	7.6	0.1	1.7
Principal building activity								
Education	28.2	22.6	0.1	5.5	12.9	21.5	0.2	4.0
Food sales	Q	Q	Q	Q	Q	Q	Q	Q
Food service	Q	Q	Q	Q	Q	Q	Q	Q
Health care	19.6	11.0	0.1	8.5	7.0	22.9	0.3	3.3
Inpatient	16.1	9.5	0.1	6.5	7.1	23.4	0.5	3.1
Outpatient	Q	Q	Q	Q	6.7	Q	Q	Q
Lodging	8.4	Q	Q	3.6	4.1	Q	Q	2.0
Mercantile	9.4	8.0	Q	1.4	8.4	27.4	Q	1.9
Retail (other than mall)	7.3	6.9	Q	Q	16.0	28.3	Q	Q
Enclosed and strip malls	Q	Q	Q	1.0	Q	Q	Q	1.8
Office	18.1	9.0	Q	9.1	3.4	16.1	Q	1.9
Public assembly	6.6	Q	Q	2.4	3.9	Q	Q	1.6
Public order and safety	2.3	Q	Q	1.7	2.5	Q	Q	1.9
Religious worship	5.3	Q	Q	Q	13.7	Q	Q	Q
Service	16.3	15.4	Q	0.9	22.2	39.3	Q	2.3
Warehouse and storage	5.3	Q	Q	2.5	3.0	Q	Q	2.0
Other	9.8	Q	Q	3.3	13.2	Q	Q	6.8
Vacant	Q	Q	Q	Q	Q	Q	Q	Q
Year constructed								
Before 1920	16.4	15.5	Q	0.5	14.9	24.9	Q	1.3
1920 to 1945	14.4	10.7	Q	3.6	9.9	19.4	Q	3.6
1946 to 1959	18.3	15.3	0.1	2.9	11.9	25.8	0.2	2.9
1960 to 1969	19.7	15.5	0.1	4.1	8.2	22.3	0.3	2.3
1970 to 1979	16.3	9.8	Q	6.4	6.2	16.7	Q	2.9
1980 to 1989	15.7	7.5	Q	8.0	4.1	17.9	Q	2.4
1990 to 1999	13.5	7.4	Q	6.0	4.2	20.3	Q	2.1
2000 to 2003	10.3	Q	Q	2.9	7.0	Q	Q	2.3
2004 to 2007	3.0	Q	Q	2.3	2.0	Q	Q	1.7
2008 to 2012	6.3	Q	Q	3.7	5.6	Q	Q	3.8

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Census region and division								
Northeast	89.6	73.2	0.4	16.0	14.7	25.9	0.3	4.3
New England	47.3	41.9	0.2	5.2	25.3	33.0	0.3	6.1
Middle Atlantic	42.3	31.3	0.2	10.8	10.1	20.1	0.3	3.7
Midwest	14.8	9.1	Q	5.7	3.8	13.6	Q	1.7
East North Central	9.6	Q	Q	3.7	3.7	Q	Q	1.6
West North Central	5.3	3.2	Q	2.0	4.0	Q	Q	2.0
South	22.9	8.8	Q	13.8	3.2	12.1	Q	2.2
South Atlantic	16.2	6.8	Q	9.0	3.7	15.8	Q	2.3
East South Central	2.9	Q	Q	1.3	3.7	Q	Q	1.8
West South Central	3.8	Q	Q	3.5	2.1	Q	Q	2.1
West	6.6	Q	Q	5.1	2.1	Q	Q	1.7
Mountain	Q	Q	Q	Q	1.8	Q	Q	1.7
Pacific	4.7	Q	Q	3.4	2.3	Q	Q	1.7
Climate region²								
Very cold/Cold	81.4	63.1	0.3	18.0	10.2	26.6	0.3	3.0
Mixed-humid	43.2	29.3	0.5	13.4	5.9	17.6	0.7	2.3
Mixed-dry/Hot-dry	2.5	Q	Q	2.5	1.5	Q	Q	1.6
Hot-humid	5.8	Q	Q	5.8	2.3	Q	Q	2.5
Marine	1.0	Q	Q	1.0	1.5	Q	Q	1.5
Number of floors								
One	42.1	31.3	Q	10.6	10.2	22.9	0.5	3.6
Two	32.0	24.5	0.1	7.4	9.5	25.4	0.2	2.9
Three	22.9	19.2	0.1	3.6	11.0	26.6	0.3	2.6
Four to nine	28.5	15.2	Q	12.9	4.6	15.9	Q	2.4
Ten or more	8.5	Q	Q	6.2	2.0	8.2	Q	1.6
Number of workers (main shift)								
Fewer than 5	31.2	29.3	Q	1.8	21.0	29.4	0.1	3.8
5 to 9	8.9	8.1	Q	0.4	12.5	23.3	Q	1.3
10 to 19	11.4	9.1	Q	Q	14.9	29.4	Q	4.5
20 to 49	16.8	11.3	Q	5.4	9.2	20.9	Q	3.9
50 to 99	21.1	13.9	Q	7.0	6.7	17.8	Q	2.8
100 to 249	22.2	12.3	0.1	9.9	5.5	17.8	0.2	2.8
250 or more	22.3	8.4	0.1	13.8	2.7	13.5	0.3	1.8
Weekly operating hours								
Fewer than 40	9.6	8.6	Q	Q	17.9	25.5	Q	Q
40 to 48	26.6	21.3	(*)	5.3	10.0	21.2	0.1	3.0
49 to 60	24.9	18.5	Q	6.3	6.4	19.9	Q	2.2
61 to 84	19.6	14.2	Q	5.4	6.3	17.5	Q	2.3
85 to 167	8.8	Q	Q	4.5	4.7	Q	Q	2.7
Open continuously	44.3	25.5	0.6	18.2	5.5	26.4	1.1	2.4

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Predominant roof material								
Metal surfacing	23.0	20.2	Q	2.7	11.3	25.9	Q	2.1
Synthetic or rubber	39.6	24.3	0.1	15.2	5.0	18.2	0.1	2.3
Built-up	31.5	18.6	0.4	12.5	5.4	18.1	Q	2.5
Slate or tile shingles	4.5	Q	Q	1.5	6.2	Q	Q	2.4
Wooden materials (including shingles)	Q	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	26.8	20.8	0.2	5.8	10.4	26.2	0.5	3.2
Concrete	3.1	Q	Q	Q	4.9	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q
Roof characteristics								
Roof tilt								
Flat	68.2	38.7	0.6	28.9	4.7	15.3	0.5	2.4
Shallow pitch	34.0	26.0	Q	8.0	8.7	27.1	0.5	2.7
Steeper pitch	31.7	27.8	Q	3.7	16.4	34.4	Q	3.2
Cool roof	32.6	21.0	0.1	11.5	5.4	23.2	0.2	2.2
Renovations in buildings constructed before 2008 (more than one may apply)								
Any type of renovation	80.3	54.3	0.7	25.3	6.4	20.4	0.5	2.5
Addition or annex	34.1	22.4	0.2	11.6	7.4	20.5	0.3	2.9
Reduction in floorspace	Q	Q	Q	1.0	Q	Q	Q	2.6
Roof replacement	54.7	39.8	0.2	14.7	7.4	21.3	0.2	2.6
Exterior wall replacement	11.2	8.4	Q	2.8	6.9	19.2	Q	2.2
Interior wall reconfiguration	38.9	22.1	0.5	16.4	5.1	17.0	0.6	2.5
Window replacement	35.0	26.2	0.5	8.4	8.3	23.7	0.6	2.6
HVAC equipment upgrade	48.1	27.4	0.6	20.1	5.5	17.7	0.6	2.7
Lighting upgrade	52.0	31.9	0.5	19.6	6.0	21.2	0.5	2.6
Electrical upgrade	38.1	23.9	0.4	13.8	6.8	19.8	0.6	2.9
Plumbing system upgrade	33.4	22.7	0.4	10.3	6.8	22.2	0.7	2.6
Insulation upgrade	13.2	7.5	Q	5.4	5.3	14.0	Q	2.5
Fire, safety, or security upgrade	39.0	23.5	0.5	15.0	5.8	19.0	0.7	2.6
Structural upgrade	9.3	5.1	Q	4.2	5.3	13.8	Q	2.7
Other	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	47.3	35.5	0.1	11.7	7.3	23.2	0.2	2.3
Buildings constructed 2008 or later	6.3	Q	Q	3.7	5.6	Q	Q	3.8

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Energy sources (more than one may apply)								
Electricity	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Natural gas	41.0	17.5	0.1	23.4	3.0	9.4	0.2	2.0
Fuel oil	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
District heat	6.4	Q	Q	6.1	2.1	Q	Q	2.0
District chilled water	4.4	Q	Q	4.3	2.0	Q	Q	2.1
Propane	43.1	32.0	0.6	10.5	14.0	25.5	0.7	4.8
Other	8.1	4.1	Q	3.9	7.2	13.3	Q	4.3
Space-heating energy sources								
Fuel oil	103.6	92.5	0.4	10.7	23.8	21.5	0.2	8.3
Fuel oil main	98.3	88.6	0.4	9.3	38.7	34.8	0.3	16.3
Fuel oil secondary	5.3	3.9	Q	1.4	2.9	2.2	Q	1.9
Other excluding fuel oil	28.5	N	Q	28.1	1.9	N	Q	1.9
Buildings without heating	1.8	N	Q	1.8	3.5	N	Q	4.3
Primary space-heating energy source								
Electricity	9.7	0.4	Q	8.9	2.1	1.0	Q	2.1
Natural gas	16.0	2.1	(*)	13.9	1.8	2.0	0.1	1.8
Fuel oil	98.3	88.6	0.4	9.3	38.7	34.8	0.3	16.3
District heat	5.2	Q	Q	5.2	1.7	Q	Q	1.8
Propane	Q	Q	N	Q	Q	Q	N	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources								
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q
Other excluding fuel oil	109.2	69.8	0.7	38.7	5.7	19.7	0.4	2.4
Buildings without cooling	22.2	21.6	Q	Q	24.9	31.2	Q	Q
Water-heating energy sources								
Fuel oil	59.6	48.5	0.8	10.3	31.2	30.0	0.4	11.5
Other excluding fuel oil	65.6	36.8	N	28.8	3.7	15.0	N	1.9
Buildings without water heating	8.7	7.2	N	Q	17.7	33.8	N	Q
Cooking energy sources								
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q
Other excluding fuel oil	74.3	49.6	0.7	23.9	5.9	20.9	0.5	2.3
Buildings without cooking	58.2	42.3	Q	15.8	7.8	22.3	Q	2.8
Energy end uses (more than one may apply)								
Buildings with space heating	132.1	92.5	0.8	38.8	6.7	21.5	0.4	2.4
Buildings with cooling	111.7	70.9	0.7	40.1	5.8	19.7	0.4	2.5
Buildings with water heating	125.2	85.3	0.8	39.1	6.4	20.9	0.4	2.4
Buildings with cooking	75.7	50.2	0.7	24.8	6.0	21.0	0.5	2.3
Buildings with manufacturing	6.4	Q	Q	3.4	7.4	Q	Q	6.5
Buildings with electricity generation	67.6	28.9	0.3	38.4	4.0	18.1	0.3	2.4

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Percent of floorspace heated								
Not heated	1.8	N	Q	1.8	3.5	N	Q	4.3
1 to 50	9.5	6.1	Q	3.4	4.7	8.1	Q	2.7
51 to 99	18.2	11.3	(*)	6.9	4.8	18.8	0.1	2.2
100	104.4	75.1	0.7	28.5	7.5	25.5	0.6	2.5
Heating equipment (more than one may apply)								
Heat pumps	12.1	4.4	Q	7.4	4.0	8.6	Q	2.7
Furnaces	7.4	5.9	Q	1.5	8.5	32.2	Q	2.1
Individual space heaters	37.8	27.1	0.1	10.6	6.4	16.6	0.3	2.3
District heat	6.1	Q	Q	5.8	2.0	Q	Q	1.9
Boilers	80.1	57.3	0.4	22.4	8.6	22.8	0.3	3.1
Packaged heating units	46.1	29.3	0.1	16.8	4.8	16.9	0.2	2.1
Other	Q	Q	Q	Q	Q	Q	Q	Q
Water-heating equipment								
Centralized system	84.6	63.3	0.7	20.6	7.7	22.3	0.5	2.5
Distributed system	13.5	7.4	Q	6.0	5.4	14.4	Q	3.0
Combination of centralized and distributed system	27.1	14.6	0.1	12.4	4.4	20.2	0.3	2.2
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar or concession stand	15.7	7.3	0.1	8.3	3.2	13.9	0.2	1.9
Fast food or small restaurant	8.2	Q	Q	5.8	2.3	Q	Q	1.7
Cafeteria or large restaurant	42.1	26.6	0.3	15.2	5.9	20.1	0.3	2.5
Commercial kitchen/ food preparation area	32.5	18.4	0.5	13.6	4.9	16.5	0.8	2.3
Small kitchen area	30.9	22.5	0.1	8.4	6.6	24.7	0.2	2.2
HVAC conservation features (more than one may apply)								
Economizer cycle	43.1	19.9	0.1	23.0	3.8	13.9	0.2	2.3
Regular HVAC maintenance	111.2	70.9	0.8	39.5	5.9	20.5	0.4	2.5
Building automation system (BAS) ³	58.1	28.8	0.2	29.1	4.2	18.3	0.3	2.3
Equipment usage reduced when building not in full use (more than one may apply)								
Heating	92.5	66.9	0.6	25.1	6.5	20.9	0.4	2.3
Cooling	77.9	51.7	0.5	25.6	5.6	19.5	0.4	2.2
Lighting	123.3	85.0	0.7	37.6	6.5	21.0	0.4	2.5

Table E9. Fuel oil consumption and energy intensities (Btu) by end use, 2012

	Total fuel oil consumption (trillion Btu)				Fuel oil energy intensity ¹ (thousand Btu/square foot in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	133.9	92.5	0.8	40.6	6.6	21.5	0.4	2.5
Annual consumption (gallons)								
1,000 or less	13.5	8.1	Q	5.3	1.5	5.5	Q	0.8
1,001 to 5,000	32.8	23.8	Q	8.7	6.8	22.8	Q	2.2
5,001 to 10,000	26.1	17.8	Q	8.2	10.3	38.8	Q	3.7
10,001 to 25,000	21.5	13.7	(*)	7.7	9.3	26.8	0.1	3.9
Over 25,000	40.0	29.0	0.2	10.8	26.7	36.6	0.4	8.9

¹The fuel oil intensity calculation (fuel oil consumption for the end use divided by the floorspace in buildings that use fuel oil for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that used fuel oil. In this table, the intensities for each end use do not sum to the total fuel oil intensity, whereas they did in the 2003 CBECS table.

²These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

(*) = Value round to zero in the units displayed.

Notes: ● Because of rounding, data may not sum to totals. ● See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> ● Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. ● HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and F of the 2012 Commercial Buildings Energy Consumption Survey.

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Building floorspace (square feet)								
1,001 to 5,000	151.3	140.3	Q	Q	250.4	340.6	Q	Q
5,001 to 10,000	74.5	70.3	Q	4.1	133.2	191.8	Q	20.6
10,001 to 25,000	146.9	127.9	Q	18.4	130.8	179.6	Q	46.5
25,001 to 50,000	101.5	70.9	Q	30.3	68.1	124.1	Q	30.9
50,001 to 100,000	170.8	119.5	Q	50.5	60.5	171.3	Q	22.0
100,001 to 200,000	146.5	102.6	0.7	43.3	51.3	187.4	2.8	18.1
200,001 to 500,000	98.2	20.2	0.3	77.8	18.3	33.5	Q	16.2
Over 500,000	84.4	21.1	0.2	63.1	15.7	55.0	1.0	12.6
Principal building activity								
Education	205.4	164.6	1.1	39.8	94.0	156.5	1.6	29.3
Food sales	Q	Q	Q	Q	Q	Q	Q	Q
Food service	Q	Q	Q	Q	Q	Q	Q	Q
Health care	142.4	79.7	0.8	61.8	51.3	166.9	2.4	24.2
Inpatient	117.0	68.9	0.8	47.3	51.9	169.9	3.3	22.8
Outpatient	Q	Q	Q	Q	48.7	Q	Q	Q
Lodging	61.1	Q	Q	26.5	29.8	Q	Q	14.4
Mercantile	68.7	58.3	Q	10.3	61.4	199.0	Q	13.7
Retail (other than mall)	52.9	50.1	Q	Q	116.5	206.1	Q	Q
Enclosed and strip malls	Q	Q	Q	7.6	Q	Q	Q	13.4
Office	131.4	65.4	Q	65.9	24.7	116.9	Q	14.0
Public assembly	47.8	Q	Q	17.8	28.7	Q	Q	11.9
Public order and safety	16.8	Q	Q	12.1	18.5	Q	Q	13.5
Religious worship	38.9	Q	Q	Q	99.5	Q	Q	Q
Service	118.5	112.3	Q	6.2	161.7	285.8	Q	16.5
Warehouse and storage	38.4	Q	Q	18.2	21.6	Q	Q	14.4
Other	71.0	Q	Q	23.8	96.2	Q	Q	49.1
Vacant	Q	Q	Q	Q	Q	Q	Q	Q
Year constructed								
Before 1920	119.0	112.9	Q	3.8	108.2	181.4	Q	9.6
1920 to 1945	104.6	77.8	Q	26.5	72.3	141.3	Q	26.1
1946 to 1959	132.8	111.1	0.5	21.2	86.8	188.0	1.7	20.9
1960 to 1969	143.6	112.8	0.8	30.1	59.7	162.3	2.1	16.8
1970 to 1979	118.4	71.0	Q	46.8	45.3	121.4	Q	21.4
1980 to 1989	113.9	54.8	Q	58.4	29.9	130.0	Q	17.6
1990 to 1999	98.4	54.1	Q	43.9	30.8	147.9	Q	14.9
2000 to 2003	75.2	Q	Q	21.2	51.3	Q	Q	16.8
2004 to 2007	22.2	Q	Q	17.0	14.8	Q	Q	12.3
2008 to 2012	46.1	Q	Q	26.6	40.6	Q	Q	27.3

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Census region and division								
Northeast	651.8	532.5	3.2	116.1	107.2	188.2	2.3	31.2
New England	343.7	304.6	1.5	37.6	184.2	240.0	2.2	44.3
Middle Atlantic	308.0	227.9	1.7	78.5	73.1	146.1	2.4	27.3
Midwest	107.8	65.9	Q	41.6	27.4	98.8	Q	12.7
East North Central	69.6	Q	Q	26.8	26.6	Q	Q	11.8
West North Central	38.2	23.2	Q	14.8	29.0	Q	Q	14.8
South	166.7	63.9	Q	100.4	23.6	87.7	Q	16.0
South Atlantic	117.8	49.7	Q	65.7	26.7	115.3	Q	16.7
East South Central	21.3	Q	Q	9.5	26.7	Q	Q	13.4
West South Central	27.5	Q	Q	25.2	15.0	Q	Q	15.4
West	48.0	Q	Q	37.3	15.3	Q	Q	12.4
Mountain	Q	Q	Q	Q	12.8	Q	Q	12.0
Pacific	34.1	Q	Q	24.8	16.7	Q	Q	12.6
Climate region²								
Very cold/Cold	592.2	459.3	2.1	130.8	74.0	193.4	1.9	21.9
Mixed-humid	313.9	213.0	3.7	97.2	43.1	127.7	5.2	17.0
Mixed-dry/Hot-dry	17.9	Q	Q	17.9	11.2	Q	Q	11.4
Hot-humid	42.5	Q	Q	42.2	16.4	Q	Q	18.1
Marine	7.6	Q	Q	7.3	10.8	Q	Q	10.9
Number of floors								
One	305.9	227.4	Q	77.2	73.9	166.2	3.6	25.9
Two	232.9	178.2	0.7	54.0	69.0	184.9	1.8	21.4
Three	166.5	139.6	1.0	25.9	79.7	193.7	2.0	18.8
Four to nine	207.0	110.7	Q	93.5	33.1	115.6	Q	17.2
Ten or more	61.8	Q	Q	44.8	14.2	59.7	Q	11.4
Number of workers (main shift)								
Fewer than 5	226.9	213.3	Q	13.3	152.4	213.7	1.0	27.9
5 to 9	65.0	59.1	Q	3.0	90.7	169.7	Q	9.7
10 to 19	82.8	66.4	Q	Q	108.3	213.6	Q	33.0
20 to 49	122.4	82.5	Q	39.4	67.1	152.2	Q	28.3
50 to 99	153.3	101.2	Q	51.2	48.9	129.6	Q	20.4
100 to 249	161.3	89.1	0.5	71.7	39.9	129.6	1.5	20.4
250 or more	162.4	61.3	0.7	100.5	19.7	98.0	2.0	13.3
Weekly operating hours								
Fewer than 40	70.1	62.8	Q	Q	130.3	185.2	Q	Q
40 to 48	193.8	155.0	0.3	38.5	72.6	154.1	0.8	22.0
49 to 60	181.2	134.9	Q	45.7	46.3	144.9	Q	15.9
61 to 84	142.9	103.5	Q	38.9	46.0	127.1	Q	16.6
85 to 167	64.1	Q	Q	32.6	34.3	Q	Q	19.4
Open continuously	322.2	185.2	4.4	132.6	39.7	192.3	8.0	17.8

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Predominant roof material								
Metal surfacing	166.9	146.7	Q	19.7	82.5	188.6	Q	15.0
Synthetic or rubber	287.9	176.7	0.7	110.4	36.1	132.1	0.9	16.4
Built-up	229.1	135.1	3.2	90.8	39.6	131.6	Q	18.5
Slate or tile shingles	32.4	Q	Q	10.7	44.8	Q	Q	17.3
Wooden materials (including shingles)	Q	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	195.1	151.5	1.2	42.4	75.9	190.7	3.9	23.0
Concrete	22.3	Q	Q	Q	36.0	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q
Roof characteristics								
Roof tilt								
Flat	496.2	281.8	4.0	210.4	34.5	111.6	3.3	17.4
Shallow pitch	247.5	188.9	Q	57.8	63.6	196.8	3.3	19.4
Steeper pitch	230.4	202.2	Q	27.2	119.5	250.3	Q	23.0
Cool roof	237.3	153.0	0.5	83.9	39.0	169.0	1.1	15.7
Renovations in buildings constructed before 2008 (more than one may apply)								
Any type of renovation	583.9	394.8	5.1	183.9	46.5	148.0	3.9	18.0
Addition or annex	248.1	162.8	1.3	84.1	53.6	149.2	1.8	21.0
Reduction in floorspace	Q	Q	Q	7.6	Q	Q	Q	19.0
Roof replacement	397.8	289.2	1.5	107.1	53.9	154.9	1.5	18.6
Exterior wall replacement	81.8	61.0	Q	20.2	50.0	139.7	Q	16.0
Interior wall reconfiguration	283.1	160.6	3.4	119.2	37.2	123.7	4.5	18.4
Window replacement	254.9	190.7	3.4	60.9	60.1	172.6	4.6	18.6
HVAC equipment upgrade	349.9	199.6	4.3	145.9	39.7	128.5	4.5	19.5
Lighting upgrade	378.2	231.7	3.8	142.8	43.8	154.0	4.0	19.1
Electrical upgrade	277.3	173.6	3.2	100.5	49.6	144.0	4.1	21.2
Plumbing system upgrade	243.1	164.8	3.2	75.1	49.5	161.1	4.9	18.7
Insulation upgrade	96.2	54.6	Q	39.0	38.3	101.6	Q	17.9
Fire, safety, or security upgrade	283.5	171.0	3.6	108.8	41.8	138.1	4.7	19.0
Structural upgrade	67.5	36.8	Q	30.5	38.9	100.7	Q	19.8
Other	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	344.2	258.6	0.8	84.9	52.8	168.6	1.3	16.7
Buildings constructed 2008 or later	46.1	Q	Q	26.6	40.6	Q	Q	27.3

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Energy sources (more than one may apply)								
Electricity	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Natural gas	298.1	127.1	0.9	170.0	21.8	68.5	1.4	14.3
Fuel oil	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
District heat	46.6	Q	Q	44.5	15.0	Q	Q	14.9
District chilled water	31.8	Q	Q	31.6	14.9	Q	Q	15.1
Propane	313.5	232.9	4.0	76.5	101.8	185.3	4.9	35.1
Other	58.9	30.1	Q	28.4	52.0	96.8	Q	31.0
Space-heating energy sources								
Fuel oil	753.4	672.9	2.9	77.7	173.1	156.7	1.8	60.3
Fuel oil main	714.8	644.3	2.6	67.9	281.2	253.4	2.1	118.3
Fuel oil secondary	38.7	28.6	Q	9.8	21.4	16.3	Q	13.8
Other excluding fuel oil	207.4	N	Q	204.4	13.5	N	Q	14.0
Buildings without heating	13.4	N	Q	13.3	25.3	N	Q	30.9
Primary space-heating energy source								
Electricity	70.7	3.0	Q	65.0	15.2	7.2	Q	15.3
Natural gas	116.6	15.4	0.2	101.1	12.9	14.4	0.4	12.8
Fuel oil	714.8	644.3	2.6	67.9	281.2	253.4	2.1	118.3
District heat	37.9	Q	Q	37.7	12.7	Q	Q	13.1
Propane	Q	Q	N	Q	Q	Q	N	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources								
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q
Other excluding fuel oil	794.2	507.7	5.3	281.2	41.3	143.2	3.2	17.5
Buildings without cooling	161.5	157.1	Q	Q	181.2	227.2	Q	Q
Water-heating energy sources								
Fuel oil	433.5	352.5	5.9	75.0	226.8	218.0	3.1	83.3
Other excluding fuel oil	477.2	268.0	N	209.2	26.8	108.8	N	13.8
Buildings without water heating	63.6	52.3	N	Q	129.1	245.7	N	Q
Cooking energy sources								
Fuel oil	Q	Q	Q	Q	Q	Q	Q	Q
Other excluding fuel oil	540.1	361.0	5.0	174.1	42.8	152.3	3.6	16.4
Buildings without cooking	423.2	307.5	Q	114.9	56.4	162.1	Q	20.6
Energy end uses (more than one may apply)								
Buildings with space heating	960.8	672.9	5.8	282.1	48.8	156.7	3.2	17.8
Buildings with cooling	812.7	515.7	5.4	291.7	42.1	143.2	3.1	18.1
Buildings with water heating	910.7	620.6	5.9	284.2	46.2	152.1	3.1	17.7
Buildings with cooking	551.0	365.4	5.1	180.5	43.4	152.5	3.6	16.9
Buildings with manufacturing	46.6	Q	Q	24.5	54.0	Q	Q	47.3
Buildings with electricity generation	491.5	210.5	1.9	279.1	28.8	131.7	1.9	17.5

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Percent of floorspace heated								
Not heated	13.4	N	Q	13.3	25.3	N	Q	30.9
1 to 50	69.3	44.2	Q	25.0	34.5	58.8	Q	19.3
51 to 99	132.4	82.1	0.3	49.9	34.7	136.7	0.8	15.7
100	759.2	546.5	5.4	207.2	54.8	185.8	4.2	18.2
Heating equipment (more than one may apply)								
Heat pumps	88.1	31.7	Q	53.6	28.9	62.7	Q	19.4
Furnaces	53.7	42.9	Q	10.7	61.8	234.3	Q	14.9
Individual space heaters	275.3	196.8	1.1	77.4	46.9	121.1	2.0	17.0
District heat	44.1	Q	Q	42.0	14.3	Q	Q	14.1
Boilers	582.7	417.0	2.8	162.9	62.4	165.8	1.9	22.3
Packaged heating units	335.5	212.9	0.8	121.8	35.0	123.2	1.5	14.9
Other	Q	Q	Q	Q	Q	Q	Q	Q
Water-heating equipment								
Centralized system	615.7	460.7	4.8	150.2	56.1	161.9	3.6	17.9
Distributed system	97.8	53.9	Q	43.8	39.0	105.1	Q	22.1
Combination of centralized and distributed system	197.1	105.9	1.1	90.2	31.7	146.9	2.3	16.0
Food preparation or serving areas in non-food service buildings (more than one may apply)								
Snack bar or concession stand	114.4	53.2	0.6	60.6	23.5	101.1	1.5	13.7
Fast food or small restaurant	59.7	Q	Q	41.8	16.5	Q	Q	12.6
Cafeteria or large restaurant	306.3	193.6	2.0	110.7	43.2	146.5	2.3	18.5
Commercial kitchen/ food preparation area	236.7	133.8	3.6	99.3	35.4	120.2	5.5	17.0
Small kitchen area	224.8	163.3	0.7	60.8	48.2	179.5	1.4	15.7
HVAC conservation features (more than one may apply)								
Economizer cycle	313.2	145.1	1.1	167.0	27.8	101.4	1.4	16.4
Regular HVAC maintenance	809.0	515.9	5.6	287.6	42.8	148.9	3.1	18.1
Building automation system (BAS) ³	422.8	209.6	1.6	211.7	30.5	133.1	1.9	16.9
Equipment usage reduced when building not in full use (more than one may apply)								
Heating	672.7	486.4	4.1	182.2	47.5	152.1	2.9	16.6
Cooling	566.4	376.1	3.9	186.4	40.6	142.0	3.0	16.3
Lighting	896.9	618.3	5.4	273.2	47.4	153.0	2.9	18.0

Table E10. Fuel oil consumption and energy intensities (gallons) by end use, 2012

	Total fuel oil consumption (million gallons)				Fuel oil energy intensity ¹ (gallons/thousand square feet in buildings using fuel oil for the end use)			
	Total	Space heating	Water heating	Other	Total	Space heating	Water heating	Other
All buildings	974.2	672.9	5.9	295.5	48.2	156.7	3.1	18.2
Annual consumption (gallons)								
1,000 or less	98.5	59.1	Q	38.4	10.9	39.8	Q	5.5
1,001 to 5,000	238.9	173.2	Q	63.2	49.5	165.9	Q	16.1
5,001 to 10,000	189.7	129.7	Q	59.5	75.1	282.0	Q	26.9
10,001 to 25,000	156.3	99.9	0.3	56.1	67.9	194.7	0.8	28.7
Over 25,000	290.8	210.9	1.6	78.3	194.1	266.5	3.1	64.6

(*) May 2018 revision: the units for *Fuel oil energy intensity* were corrected from *gallons/square foot* to *gallons/thousand square feet*.

¹The fuel oil intensity calculation (fuel oil consumption for the end use divided by the floorspace in buildings that use fuel oil for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that used fuel oil. In this table, the intensities for each end use do not sum to the total fuel oil intensity, whereas they did in the 2003 CBECS table.

²These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

³In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and F of the 2012 Commercial Buildings Energy Consumption Survey.

Table E11. District heat consumption and energy intensities (Btu) by end use, 2012

	Total district heat consumption (trillion Btu)					District heat energy intensity ¹ (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Building floorspace (square feet)										
1,001 to 25,000	13	11	Q	Q	N	75.0	67.1	Q	Q	N
25,001 to 100,000	69	51	11	Q	Q	74.8	56.1	19.1	Q	Q
100,001 to 500,000	165	118	30	Q	Q	57.5	41.3	13.2	33.9	Q
Over 500,000	94	58	18	15	Q	46.9	29.6	10.9	28.4	Q
Principal building activity										
Education	65	54	10	Q	Q	56.2	47.0	12.3	Q	Q
Health care	68	36	19	11	Q	99.3	53.6	33.7	38.9	Q
Lodging	31	9	20	Q	Q	49.4	13.8	35.2	Q	Q
Office	76	56	5	Q	Q	42.3	31.5	3.4	Q	Q
Public assembly	64	58	1	Q	Q	71.8	65.4	1.1	Q	Q
All others	37	26	Q	Q	Q	45.6	33.2	Q	Q	Q
Year constructed										
Before 1945	65	51	8	Q	Q	45.7	36.0	6.7	Q	Q
1946 to 1979	168	112	28	Q	Q	70.8	47.2	15.1	34.3	Q
1980 to 1999	40	27	8	Q	Q	36.3	25.1	12.5	Q	Q
2000 to 2012	68	49	16	Q	Q	63.2	47.1	18.5	Q	Q
Census region										
Northeast	119	83	17	Q	Q	60.0	41.8	10.2	34.6	Q
Midwest	58	40	13	Q	Q	63.8	44.1	17.2	Q	Q
South	119	87	17	10	Q	54.2	40.0	10.8	28.8	Q
West	45	30	Q	Q	Q	51.0	34.8	22.5	Q	Q
Climate region²										
Very cold/Cold	137	102	26	8	Q	71.3	52.8	17.3	29.5	Q
Mixed-humid	152	103	25	Q	Q	50.4	34.2	10.7	30.7	Q
Mixed-dry/Hot-dry	Q	Q	Q	Q	N	53.8	Q	Q	Q	N
Hot-humid	18	10	3	Q	Q	48.8	27.1	Q	Q	Q
Marine	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Number of floors										
One	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Two	Q	Q	Q	Q	N	67.7	46.5	Q	Q	N
Three	47	39	4	Q	Q	87.3	71.1	12.2	Q	Q
Four to nine	173	123	31	13	Q	61.1	44.2	13.6	32.9	Q
Ten or more	77	46	22	6	Q	40.7	24.3	14.3	22.3	Q
Number of workers (main shift)										
Fewer than 10	10	8	Q	N	N	34.5	25.5	Q	N	N
10 to 99	93	73	14	Q	Q	62.3	49.5	15.8	Q	Q
100 or more	238	159	43	27	Q	56.9	38.3	12.2	30.6	Q

Table E11. District heat consumption and energy intensities (Btu) by end use, 2012

	Total district heat consumption (trillion Btu)					District heat energy intensity ¹ (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Weekly operating hours										
Fewer than 48	22	21	Q	N	Q	38.0	35.7	Q	N	Q
49 to 84	81	66	11	Q	Q	41.5	34.4	7.9	Q	Q
85 to 167	58	49	4	Q	Q	92.6	77.7	7.5	Q	Q
Open continuously	180	104	44	25	Q	63.8	37.2	18.6	32.9	Q
Ownership and occupancy										
Nongovernment owned	168	116	39	10	Q	53.5	37.1	15.1	32.3	Q
Owner occupied	115	82	26	5	Q	62.5	45.1	16.4	31.6	Q
Leased to tenant(s)	25	15	Q	Q	Q	34.8	21.2	Q	Q	Q
Owner occupied and leased	27	18	6	Q	Q	48.9	31.8	11.9	Q	Q
Unoccupied	Q	Q	N	N	N	Q	Q	N	N	N
Government owned	173	124	21	Q	Q	61.1	44.2	10.6	29.5	Q
Federal	27	17	3	Q	Q	37.5	24.7	3.7	Q	Q
State	105	79	14	Q	Q	68.2	51.9	13.4	Q	Q
Local	41	28	Q	Q	Q	70.9	47.5	17.4	Q	Q
Party responsible for operation and maintenance of energy systems										
Building owner	324	232	58	26	Q	56.1	40.4	13.2	29.7	Q
Business owner or tenant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other	Q	Q	Q	N	N	Q	Q	Q	N	N
Provider of direct input on energy-related equipment purchases										
Building owner	325	233	58	26	Q	56.6	40.9	13.3	31.1	Q
Business owner or tenant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	N	N	Q	Q	Q	N	N
Other	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Number of establishments										
One	208	148	38	Q	Q	61.1	43.7	14.3	26.9	Q
2 to 5	98	66	18	9	Q	67.5	45.6	14.8	36.6	Q
6 to 10	11	6	Q	Q	N	30.4	17.9	Q	Q	N
11 to 20	Q	Q	Q	Q	N	Q	Q	Q	Q	N
More than 20	15	12	Q	N	Q	33.9	27.8	Q	N	Q
Currently unoccupied	Q	Q	N	N	N	Q	Q	N	N	N
Predominant exterior wall material										
Brick, stone, or stucco	203	149	35	16	Q	59.3	44.0	12.8	29.0	Q
Concrete (block or poured)	56	36	5	Q	Q	48.1	31.1	6.4	Q	Q
Concrete panels	38	20	Q	Q	Q	51.7	27.4	25.4	Q	Q
Siding or shingles	Q	Q	N	N	N	Q	Q	N	N	N
Metal panels	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Window glass	13	13	Q	N	Q	62.4	59.2	Q	N	Q
Other	Q	Q	Q	N	Q	Q	Q	Q	N	Q
No one major type	Q	Q	Q	N	N	Q	Q	Q	N	N

Table E11. District heat consumption and energy intensities (Btu) by end use, 2012

	Total district heat consumption (trillion Btu)					District heat energy intensity ¹ (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Energy sources (more than one may apply)										
Electricity	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Natural gas	173	112	38	20	Q	60.5	39.5	17.3	33.3	Q
Fuel oil	171	110	34	16	Q	55.1	35.7	13.6	27.6	Q
District heat	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
District chilled water	236	171	37	24	Q	63.2	45.9	13.3	32.8	Q
Propane	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other	15	10	Q	Q	N	44.0	30.7	Q	Q	N
Space-heating energy sources										
District heat	340	240	59	28	Q	57.3	40.5	13.2	30.4	48.8
District heat main	338	239	58	28	Q	58.3	41.2	13.1	30.4	48.8
District heat secondary	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other excluding district heat	Q	N	Q	Q	N	Q	N	Q	Q	N
Buildings without heating	Q	N	N	Q	N	Q	N	N	Q	N
Primary space-heating energy source										
Electricity	Q	Q	Q	N	N	Q	Q	Q	N	N
Natural gas	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Fuel oil	Q	Q	N	N	N	Q	Q	N	N	N
District heat	338	239	58	28	Q	58.3	41.2	13.1	30.4	48.8
Propane	N	N	N	N	N	N	N	N	N	N
Other	N	N	N	N	N	N	N	N	N	N
Cooling energy sources										
District heat	23	7	3	Q	Q	91.8	28.5	Q	Q	48.8
Other excluding district heat	314	230	56	28	N	55.5	40.9	13.1	30.3	N
Buildings without cooling	Q	Q	Q	N	N	Q	Q	Q	N	N
Water-heating energy sources										
District heat	279	181	60	26	Q	61.3	40.0	13.2	30.0	48.8
Other excluding district heat	57	54	N	Q	N	45.0	43.0	N	Q	N
Buildings without water heating	Q	Q	N	Q	N	Q	Q	N	Q	N
Cooking energy sources										
District heat	77	37	11	29	Q	81.6	39.8	12.6	30.5	Q
Other excluding district heat	94	70	21	N	Q	42.5	32.1	12.0	N	Q
Buildings without cooking	170	133	28	N	Q	60.3	47.2	14.4	N	Q
Energy end uses (more than one may apply)										
Buildings with space heating	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Buildings with cooling	337	237	59	29	Q	57.1	40.4	13.1	30.5	48.8
Buildings with water heating	336	235	60	29	Q	57.7	40.7	13.2	30.7	48.8
Buildings with cooking	171	107	32	29	Q	54.2	34.4	12.2	30.5	Q
Buildings with manufacturing	Q	Q	Q	N	Q	Q	Q	Q	N	Q
Buildings with electricity generation	208	141	40	16	Q	55.5	38.0	12.8	27.0	Q

Table E11. District heat consumption and energy intensities (Btu) by end use, 2012

	Total district heat consumption (trillion Btu)					District heat energy intensity ¹ (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Percent of floorspace heated										
Not heated	Q	N	N	Q	N	Q	N	N	Q	N
1 to 50	Q	Q	Q	N	N	Q	Q	Q	N	N
51 to 99	39	25	10	Q	Q	35.0	21.9	13.8	Q	Q
100	300	214	50	25	Q	63.6	45.7	13.1	30.8	Q
Heating equipment (more than one may apply)										
Heat pumps	27	16	8	Q	Q	48.0	28.5	19.8	Q	Q
Furnaces	Q	Q	Q	N	N	Q	Q	Q	N	N
Individual space heaters	63	42	9	7	Q	46.3	31.2	8.6	28.8	Q
District heat	340	240	59	28	Q	57.3	40.5	13.2	30.4	48.8
Boilers	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Packaged heating units	45	28	6	Q	Q	60.0	38.7	12.4	Q	Q
Other	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Water-heating equipment										
Centralized system	227	155	40	22	Q	63.1	43.5	13.2	31.7	Q
Distributed system	23	19	2	Q	Q	46.4	38.8	7.3	Q	Q
Combination of centralized and distributed system	86	61	18	6	Q	49.8	35.3	14.6	26.7	Q
Food preparation or serving areas in non-food service buildings (more than one may apply)										
Snack bar or concession stand	81	51	16	12	Q	50.1	31.8	11.2	29.4	Q
Fast food or small restaurant	61	39	15	Q	Q	51.1	33.2	14.7	Q	Q
Cafeteria or large restaurant	105	55	21	26	Q	57.7	30.6	14.3	31.6	Q
Commercial kitchen/ food preparation area	97	50	20	25	Q	62.0	33.1	13.7	32.8	Q
Small kitchen area	55	34	Q	6	Q	48.0	30.9	12.3	25.5	Q
HVAC conservation features (more than one may apply)										
Economizer cycle	245	169	42	27	Q	59.9	41.5	13.1	31.6	Q
Regular HVAC maintenance	319	219	59	29	Q	56.7	39.1	13.3	30.5	48.8
Building automation system (BAS) ³	266	186	53	19	Q	53.1	37.4	13.6	29.4	Q

Table E11. District heat consumption and energy intensities (Btu) by end use, 2012

	Total district heat consumption (trillion Btu)					District heat energy intensity ¹ (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
All buildings	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Equipment usage reduced when building not in full use (more than one may apply)										
Heating	208	151	28	23	Q	51.6	37.6	9.5	29.7	Q
Cooling	209	154	26	22	Q	51.6	38.3	8.7	28.5	Q
Lighting	318	226	52	28	Q	57.7	41.4	12.0	30.8	Q

¹The district heat intensity calculation (district heat consumption for the end use divided by the floorspace in buildings that use district heat for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that used district heat. In this table, the intensities for each end use do not sum to the total district heat intensity, whereas they did in the 2003 CBECS table.

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Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

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Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and D of the 2012 Commercial Buildings Energy Consumption Survey.