	Sum of major consumption		c	Total floorsp of buildings		Energy intensity for sum of major fuels (thousand Btu/square foot)			
	(trillion British	n thermal unit	:s [Btu]) (	million squa	re feet)		thousand Bi	u/square fo	ot)
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Building floorspace (square feet)									
1,001 to 5,000	29	49	125	473	653	1,552	62.2	74.4	80.2
5,001 to 10,000	35	42	130	449	704	1,853	78.2	59.3	70.1
10,001 to 25,000	45	98	201	782	1,589	2,802	57.6	61.9	71.8
25,001 to 50,000	40	136	210	505	1,635	2,830	79.2	83.4	74.3
50,001 to 100,000	40	130	202	518	1,677	2,657	77.3	77.7	75.9
100,001 to 200,000	41	160	143	538	2,121	1,742	76.2	75.3	81.8
200,001 to 500,000	33	184	210	341	2,056	2,451	97.9	89.6	85.7
Over 500,000	Q	150	154	Q	1,766	1,673	Q	84.7	91.9
				~	_,	_,	~		
Principal building activity Education	42	145	160	621	1 0 2 4	2 425	67.4	75.1	69.4
Food sales	42 Q		169 73	621	1,924	2,435 281			259.5
Food service	Q	Q	73	Q Q	Q	201	Q	Q Q	339.9
Health care	26	Q 79	139	194	Q 585	838	Q 134.7	135.4	165.8
Inpatient	Q	54	139	194 Q	276	583	134.7 Q	135.4	105.8
Outpatient	Q	26	24	Q Q	308	255	Q Q	82.7	93.1
Lodging	30	82	109	322	884	1,072	93.3	92.5	101.3
Mercantile	Q	93	103	Q	1,044	1,756	93.3 Q	88.9	101.3
Retail (other than mall)	Q	22	62	Q	376	900	Q	59.0	69.0
Enclosed and strip malls	Q	71	115	Q Q	669	856	Q Q	105.8	134.3
Office	28	210		454			60.7	76.6	
	30	65	191	434	2,741 682	2,943 1,384		95.0	65.0 105.4
Public assembly			146				71.6		
Public order and safety	Q	Q	Q 25	Q	Q	Q	Q	Q	Q
Religious worship	Q	26	35	Q	510	963	Q	51.4	36.0
Service	21	45	65	323	944	1,312	66.4	47.4	49.8
Warehouse and storage	12	72	121	469	1,929	3,402	25.1	37.5	35.6
Other	Q	82	43	Q	465	403	Q	176.5	105.7
Vacant	Q	Q	5	Q	Q	313	Q	Q	17.4
Year constructed									
Before 1920	23	62	51	360	925	924	63.1	66.7	55.0
1920 to 1945	18	113	102	259	1,330	1,464	68.4	85.3	69.5
1946 to 1959	Q	102	77	Q	1,324	979	Q	77.0	78.9
1960 to 1969	35	123	172	406	1,639	2,119	86.9	75.2	81.0
1970 to 1979	38	150	214	426	1,837	2,601	88.2	81.6	82.2
1980 to 1989	56	121	141	646	1,369	1,642	86.1	88.1	85.6
1990 to 1999	33	104	186	533	1,415	2,614	62.0	73.7	71.0
2000 to 2009	50	104	283	713	1,394	3,329	70.6	74.6	84.9
2010 to 2018	Q	70	150	Q	969	1,889	Q	72.1	79.4
Climate zone <sup>a</sup>									
Cold or very cold	53	Q	147	884	Q	2,239	60.4	66.0	65.7
Cool	198	311	958	2,554	4,430	11,962	77.4	70.2	80.0
Mixed mild	Q	624	269	Q	7,556	3,360	83.1	82.6	80.1
Warm	N	N	N	N	Ň	Ň	N	N	N
Hot or very hot	N	N	N	N	N	N	N	N	N
,									

	Sum of major consumption (trillion British		C	Fotal floorsp of buildings million squa		Energy intensity for sum of major fuels (thousand Btu/square foot)			
	New	Middle	East North	New	Middle	East North	New	Middle	East North
	England	Atlantic	Central	England	Atlantic	Central	England	Atlantic	Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Number of floors									
1	91	234	587	1,099	3,379	7,787	82.8	69.2	75.4
2	62	204	314	894	3,107	4,592	69.1	65.8	68.5
3	51	141	164	809	1,599	2,303	62.7	88.0	71.1
4 to 9	58	210	216	785	2,528	1,906	73.4	83.1	113.5
10 or more	16	160	93	162	1,589	973	98.5	100.9	95.1
Elevators and escalators (more than one may apply)									
Any elevators	129	554	573	1,655	6,547	6,663	78.0	84.7	86.0
1 elevator	51	159	203	790	2,318	2,931	64.8	68.5	69.1
2 to 5 elevators	49	207	185	606	2,402	2,191	81.2	86.1	84.5
6 or more elevators	29	189	186	258	1,827	1,540	111.3	103.3	120.5
Any escalators	Q	72	48	Q	826	502	Q	87.1	95.5
Number of workers (main shift)									
Fewer than 5	49	112	219	928	2,131	4,234	53.3	52.6	51.6
5 to 9	27	53	131	498	824	1,884	55.0	63.9	69.6
10 to 19	25	77	174	343	1,128	2,171	72.0	68.6	80.3
20 to 49	54	132	250	650	1,647	2,747	82.7	80.2	91.1
50 to 99	51	159	174	518	1,829	2,280	98.9	86.8	76.2
100 to 249	40	180	204	509	2,143	2,307	77.9	83.8	88.6
250 or more	31	237	222	303	2,500	1,937	102.1	94.6	114.5
Weekly operating hours									
Fewer than 40	Q	59	100	Q	1,184	2,121	Q	49.6	47.3
40 to 48	36	93	176	720	1,599	3,307	49.9	57.9	53.1
49 to 60	41	176	253	899	3,163	3,837	45.9	55.8	66.0
61 to 84	59	176	235	550	2,196	2,685	107.3	80.0	80.2
85 to 167	47	170	215	448	1,374	2,005	107.5	91.5	102.1
Open continuously	84	320	413	926	2,685	3,491	90.5	119.0	118.3
					,				
Ownership and occupancy Nongovernment owned	225	740	1,084	3,059	9,636	13,857	73.4	76.8	78.2
Owner occupied Leased to tenant or tenants	150 74	424	684	2,175	5,529	8,483	69.1 84.8	76.7 79.3	80.6
		313	400	876	3,948	5,219			76.5
Unoccupied Government owned	Q 52	Q 209	Q 290	Q 690	Q	Q 3,704	Q 75.9	Q 81.4	Q 78.2
Federal	2 Q	209 Q	290	690 Q	2,566 Q	3,704	75.9 Q	81.4 Q	107.3
State		72	83	Q Q	775	984	Q Q	92.8	84.5
Local	Q 33	118	177	462	1,586	2,448	72.2	74.2	72.5
Party responsible for operation									
of energy systems									
Building owner	227	797	1,147	3,259	10,189	14,724	69.5	78.2	77.9
Business owner or tenant	38	122	175	358	1,676	2,065	107.0	73.0	84.6
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	31	Q	Q	473	Q	Q	65.7

	Sum of major consumption (trillion British		(	Total floorsp of buildings million squa		Energy intensity for sum of major fuels (thousand Btu/square foot)				
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2	
Provider of direct input on energy- related equipment purchases										
Building owner	233	828	1,195	3,282	10,670	15,364	71.1	77.6	77.8	
Business owner or tenant	Q	72	104	Q	981	1,159	Q	72.9	89.6	
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q	
Other	Q	41	61	Q	420	880	Q	98.5	68.8	
	~			~			~			
Number of establishments										
1	202	590	922	2,700	7,554	12,374	74.7	78.1	74.5	
2 to 5	38	156	258	575	2,221	2,841	66.7	70.3	90.8	
6 to 10	Q	68	75	Q	890	934	Q	76.3	80.6	
11 to 20	Q	64	51	Q	611	474	Q	104.3	108.6	
More than 20	Q	67	65	Q	749	682	Q	89.9	94.7	
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	
Predominant exterior wall material										
Brick, stone, or stucco	106	540	730	1,368	6,711	8,051	77.2	80.5	90.7	
Concrete (block or poured)	61	226	277	721	2,887	3,405	84.5	78.4	81.4	
Concrete panels	Q	56	106	Q	712	1,599	Q	78.8	66.2	
Siding or shingles	53	36	81	731	563	1,309	72.8	64.1	61.7	
Metal panels	26	32	116	448	699	2,486	57.8	46.5	46.8	
Window glass	Q	32	31	Q	324	298	Q	100.3	104.9	
Other	Q	Q	32	Q	Q	413	Q	Q	78.3	
Predominant roof material										
Metal surfacing	23	58	171	577	1,276	3,260	39.0	45.6	52.5	
Synthetic or rubber	141	464	553	1,548	5,482	5,923	90.9	84.7	93.4	
Built-up	33	200	318	403	2,677	3,651	82.5	74.8	87.0	
Slate or tile shingles	Q	31	60	403 Q	471	729	02.5 Q	66.5	83.0	
Wooden materials (including	Q	JI	00	ų		725	ų	00.5	05.0	
shingles)	Q	Q	Q	Q	Q	Q	Q	Q	Q	
Asphalt, fiberglass, or										
other shingles	55	133	214	724	1,627	3,289	75.7	81.8	64.9	
Concrete	Q	17	Q	Q	229	Q	Q	73.8	Q	
Other	Q	42	30	Q	381	342	Q	111.2	86.4	
Roof tilt										
Flat	159	726	867	1,838	8,811	9,389	86.5	82.3	92.4	
Shallow pitch	59	132	351	911	1,788	5,316	64.5	73.7	66.0	
Steeper pitch	59	92	156	1,000	1,604	2,856	59.3	57.2	54.6	
Cool roof characteristics (more than										
one may apply)										
White or reflective coating or paint	58	270	434	658	3,110	4,783	88.4	86.8	90.6	
White or reflective tiles or shingles	Q	38	31	Q	377	392	Q	100.4	79.2	
Aluminum coating	Q	45	48	Q	827	692	Q	53.9	68.7	
Ballasted roof system	17	104	157	184	1,089	1,767	90.4	95.6	89.0	
Other cool roof property	Q	Q	Q	Q	Q	, Q	Q	Q	Q	

	Sum of major consumption	fuels		Total floorsp of buildings	ace	Energy intensity for sum of major fuels			
	(trillion British	n thermal unit	s [Btu]) (	million squa	re feet)		thousand B	u/square fo	ot)
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Renovations since 2000 (more than one may apply)									
Any type of renovation	158	551	752	1,791	6,629	8,934	88.1	83.1	84.1
Addition or annex	43	121	250	468	1,425	2,744	93.0	84.8	91.0
Reduction in floorspace	Q	43	43	Q	420	478	Q	103.5	90.6
Roof replacement	74	288	373	880	3,514	4,306	84.6	81.8	86.5
Interior wall reconfiguration	78	281	389	744	3,465	4,659	104.3	81.0	83.5
Window replacement	53	168	213	646	2,021	2,374	82.2	83.3	89.6
HVAC equipment upgrade	126	400	466	1,277	4,616	5,243	98.5	86.7	88.8
Lighting upgrade	120	385	526	1,326	4,632	5,984	92.0	83.1	88.0
Electrical upgrade	87	265	303	898	2,973	3,325	92.0	89.1	91.1
Plumbing system upgrade	77	203	277	839	2,973	2,924	97.2	86.7	91.1
Insulation upgrade	37	158		391			91.8		94.0
			282	976	1,865	1,569		84.6	
Fire, safety, or security upgrade	93	306	382		3,422	4,018	95.1	89.3	95.2
Structural upgrade	Q	78	84	223	822	915	94.9	94.9	92.2
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations Buildings constructed 2013 or later	112 Q	354 44	514 108	1,834 Q	4,785 789	7,247 1,379	61.1 Q	74.0 56.2	70.9 78.6
Energy sources (more than one may apply)									
Electricity	277	949	1,374	3,737	12,074	17,374	74.1	78.6	79.1
Natural gas	168	789	1,236	1,861	9,470	14,491	90.3	83.3	85.3
Fuel oil	152	365	296	1,639	4,291	2,913	93.0	85.1	101.7
District heat	40	167	158	394	1,430	1,204	102.0	116.8	131.1
District chilled water	Q	48	97	Q	365	656	Q	130.4	148.1
Propane	64	85	74	1,154	1,316	1,293	55.7	64.9	57.0
Solar	18	68	41	268	947	425	65.4	71.6	95.6
Wood, coal, and other	Q	Q	31	Q	Q	412	Q	Q	75.7
Space-heating energy sources (more than one may apply)									
Electricity	106	389	550	1,264	5,112	6,113	83.6	76.1	90.0
Natural gas	144	663	1,097	1,654	8,331	13,385	86.8	79.6	82.0
Fuel oil	57	109	65	763	1,752	395	75.1	62.3	163.5
District heat	40	159	140	394	1,385	1,128	102.0	114.8	124.2
Propane	28	235 Q	140	633	1,585 Q	478	44.1	Q	30.5
Other sources <sup>b</sup>	Q	Q	15 Q	033 Q	Q	478 Q	44.1 Q	Q Q	20.5 Q
Primary space-heating									
energy source		400	222	622	2.040	2 720	C 4 C	62.2	04.0
Electricity	41	128	223	633	2,016	2,730	64.6	63.3	81.8
Natural gas	124	591	983	1,430	7,463	12,096	86.9	79.2	81.3
Fuel oil	49	55	Q	642	990	Q	76.0	55.7	Q
District heat	40	150	138	388	1,307	1,107	102.4	114.5	124.7
Propane	Q	Q	8	453	Q	380	42.8	Q	20.0
Other sources <sup>b</sup>	Q	Q	Q	Q	Q	Q	Q	Q	Q

	Sum of major consumption (trillion British			Total floorsp of buildings (million squa		Energy intensity for sum of major fuels (thousand Btu/square foot)			
	(				,	-			-
	New	Middle	East	Naw	N4:dalla	East	New	N 4 : al al l a	East
	New England	Atlantic	North Central	New England	Middle Atlantic	North Central	New England	Middle Atlantic	North Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Cooling energy sources									
(more than one may apply)									
Electricity	241	875	1,246	3,052	11,002	15,064	78.8	79.6	82.7
Natural gas	Q	Q	Q	Q	Q	Q	Q	Q	Q
District chilled water	Q	48	97	Q	365	656	Q	130.4	148.1
Water-heating energy sources (more than one may apply)									
Electricity	130	444	535	1,809	5,855	6,941	71.9	75.8	77.0
Natural gas	108	493	923	1,124	5,853	10,193	96.4	84.2	90.6
Fuel oil	40	49	Q	498	657	Q	79.4	74.5	Q
District heat	21	140	108	203	1,177	817	101.7	119.4	132.1
Propane	25	Q	Q	444	Q	Q	56.9	Q	132.1 Q
Cooking energy sources									
(more than one may apply)									
Electricity	122	358	644	1,438	3,761	6,398	84.7	95.3	100.7
Natural gas	94	442	612	819	4,396	5,337	114.7	100.5	114.6
Propane	42	Q	Q	503	Q	Q	83.8	Q	Q
		~	~			~			
Energy end uses (more than one may apply)									
Buildings with space heating	274	925	1,358	3,603	11,862	16,450	76.1	78.0	82.6
Buildings with cooling	251	927	1,302	3,162	11,395	15,447	79.4	81.3	84.3
Buildings with water heating	271	929	1,350	3,475	11,526	16,281	78.0	80.6	82.9
Buildings with cooking	179	565	841	2,050	6,020	8,315	87.2	93.9	101.2
Buildings with manufacturing	Q	57	120	Q	789	1,489	Q	71.9	80.7
Buildings with electricity									
generation	148	468	545	1,692	5,106	5,232	87.4	91.7	104.2
Buildings with lighting	277	948	1,371	3,737	12,023	17,100	74.1	78.9	80.2
Percentage of floorspace heated									
Not heated	Q	24	16	Q	340	1,111	Q	70.5	14.0
1% to 50%	Q	28	65	Q	770	1,210	Q	36.9	53.6
51% to 99%	77	219	293	911	2,301	2,999	84.2	95.0	97.7
100%	185	678	1,001	2,368	8,790	12,241	78.1	77.1	81.7
Percentage of floorspace cooled									
Not cooled	26	22	72	587	807	2,114	44.4	27.6	34.1
1% to 50%	39	161	195	862	2,762	3,696	45.6	58.3	52.8
51% to 99%	122	368	422	1,227	4,016	4,724	99.2	91.7	89.2
100%	90	397	685	1,073	4,618	7,027	83.8	86.0	97.5
Percentage lit when open									
0%	N	N	Q	N	N	Q	N	N	Q
1% to 50%	34	80	165	637	1,382	3,097	53.3	57.9	53.4
51% to 99%	137	406	641	1,736	4,714	7,250	78.9	86.1	88.5
100%	106	458	558	1,355	5,760	6,458	78.3	79.5	86.4
Building never open or electricity	2	-	0	~	240	F 2 2	~	14.0	4
not used	Q	5	8	Q	346	523	Q	14.8	15.7

	Sum of major consumption (trillion British		c	Total floorsp of buildings million squa		Energy intensity for sum of major fuels (thousand Btu/square foot)			
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	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Percentage lit during off hours									
0%	47	64	122	760	1,471	2,969	61.9	43.8	41.2
1% to 50%	190	699	1,040	2,575	9,034	12,944	73.9	77.3	80.4
51% to 100%	38	132	159	395	1,085	1,092	97.2	121.8	145.6
Building always open with									
no off hours	Q	54	52	Q	485	369	Q	111.2	141.8
Electricity not used	N	Ν	N	Q	Q	Q	N	N	N
Heating equipment (more than one may apply)									
Packaged heating units	122	420	754	1,324	5,244	8,430	91.8	80.1	89.5
Furnaces	29	145	339	465	2,097	4,662	61.5	69.2	72.8
Individual space heaters	62	228	343	789	3,005	4,504	78.6	76.0	76.2
Boilers	128	453	538	1,725	5,661	5,899	74.5	80.1	91.2
Heat pumps	35	167	187	512	1,990	1,956	68.9	84.1	95.7
District heat	40	159	140	394	1,385	1,128	102.0	114.8	124.2
Duct reheat	Q	72	140	2354 Q	841	1,120	102.0 Q	85.1	99.1
Other	Q	Q	Q	Q	Q	1,205 Q	Q	Q	Q
	~	~	~	<b>~</b>	~	~	~	~	~
Cooling equipment									
(more than one may apply)	170	602	050	2 05 1	7 21 4	0 5 1 9	96.6	07.7	00.2
Packaged air-conditioning units	178	602	858	2,051	7,314	9,518	86.6	82.3	90.2
Residential-type central air conditioners	72	167	332	799	1,991	4,404	90.5	83.7	75.5
Individual air conditioners	82	229	226	936	2,721	2,382	87.9	84.2	95.1
Central chillers	47	229	319	534	3,187	3,484	87.3	93.9	91.5
	47	133	97	550	1,844	3,484 1,149	87.5	72.0	84.6
Heat pumps									
District chilled water	Q	48	97	Q	365	656	Q	130.4	148.1
Swamp coolers Other	Q N	Q Q	Q N	Q N	Q Q	Q N	Q N	Q Q	Q N
	IN	ų	IN	IN	ų	IN	IN	ų	IN
HVAC features									
(more than one may apply)									
Economizer cycle	124	498	673	1,376	5,572	7,119	90.2	89.4	94.5
Variable air volume (VAV) system	85	394	526	960	4,234	5,726	88.8	92.9	91.8
Dedicated outside air system (DOAS)	43	137	143	449	1,294	1,367	96.4	105.9	104.9
Demand controlled ventilation (DCV)	55	187	136	607	2,156	1,808	90.0	86.9	75.0
Regular HVAC maintenance	250	862	1,208	3,109	10,287	13,610	80.5	83.8	88.8
Building automation system (BAS)	450		600	4 700	5 0 6 0	- 400			
controls heating or cooling	153	556	690	1,702	5,963	7,180	89.9	93.3	96.1
Internet-connected or smart	0	36	59	Q	479	835	0	75.0	20.2
thermostat Programmable thermostat	Q 57	36 190	290	ر 763	2,970	4,022	Q 74.2	75.8 64.0	70.3 72.2
		190	230	703	2,370	7,022	/4.2	04.0	12.2
Main equipment replaced since 2000 (more than one may apply)									
Heating	125	360	468	1,450	4,563	6,292	86.5	79.0	74.4
Cooling	85	327	336	1,167	4,141	4,534	72.7	78.9	74.0

	Sum of major consumption (trillion British		c	Total floorspace of buildings tu]) (million square feet)			Energy intensity for sum of major fuels (thousand Btu/square foot)			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2	
Water-heating equipment										
Centralized system	186	584	964	2,457	7,424	11,791	75.7	78.7	81.8	
Distributed system	42	202	181	566	2,320	2,132	73.8	87.3	84.8	
Combination of centralized and		202			2,020	2,202	, 0.0	07.0	0.110	
distributed systems	43	142	205	452	1,782	2,359	96.1	79.9	87.1	
Generation technologies (more than one may apply)										
Reciprocating engine generators	129	408	474	1,427	4,344	4,571	90.4	93.9	103.7	
Solar panels	16	68	40	264	947	414	60.5	71.6	97.6	
Other generation technology	Q	46	59	Q	342	533	Q	135.1	110.0	
Lighting equipment types (more than one may apply)										
Incandescent	67	301	376	803	3,333	4,176	83.8	90.4	90.0	
Standard fluorescent	221	762	1,055	2,764	9,592	13,242	80.1	79.4	79.7	
Compact fluorescent	124	440	612	1,370	4,948	6,470	90.9	88.8	94.6	
High-intensity discharge (HID)	34	144	222	355	1,740	2,164	95.0	82.5	102.8	
Halogen	57	204	245	491	2,091	2,276	116.8	97.5	107.8	
LED	203	762	1,007	2,679	8,962	11,498	75.6	85.0	87.5	
Other	Ν	N	Q	N	N	Q	N	N	Q	
Refrigeration equipment (more than one may apply)										
Any refrigeration	234	827	1,220	2,935	10,027	14,289	79.6	82.5	85.4	
Walk-in units	139	446	668	1,268	4,225	5,494	109.5	105.5	121.7	
Cases or cabinets	105	422	616	1,012	4,312	5,366	103.6	97.9	114.8	
Large cold storage areas	Q	65	62	_, Q	461	416	Q	141.9	149.6	
Commercial ice makers	101	406	691	979	4,177	5,896	102.7	97.3	117.1	
Residential-type or compact units	189	681	969	2,451	8,308	12,017	77.2	82.0	80.6	
Vending machines	126	487	723	1,490	5,677	8,067	84.7	85.7	89.6	
No refrigeration	43	122	154	814	2,175	3,272	53.4	55.9	47.0	
Office equipment (more than one may apply)										
Desktop computers	247	867	1,244	3,103	10,795	14,842	79.7	80.3	83.8	
With multiple monitors	142	610	750	1,864	7,065	8,908	76.0	86.3	84.1	
Laptop computers	212	773	1,068	2,722	9,277	13,173	78.1	83.3	81.1	
Dedicated servers	165	643	828	1,993	7,482	9,701	83.0	85.9	85.4	
Tablets charged in building	156	572	793	1,969	6,478	8,917	79.4	88.3	88.9	
Large floor-standing office devices <sup>c</sup>	161	690	818	1,978	7,875	10,012	81.4	87.6	81.7	
Smaller desktop office devices <sup>c</sup>	237	811	1,113	2,976	10,169	13,342	79.7	79.7	83.4	
Interactive whiteboards	53	242	265	727	2,815	3,364	73.6	85.9	78.7	
Televisions or video displays	202	748	1,001	2,413	8,910	11,140	83.8	83.9	89.8	
Point-of-sale devices or cash registers	147	434	687	1,529	4,598	6,407	96.3	94.4	107.3	

	Sum of major consumption (trillion British		Total floorsp of buildings (million squa		Energy intensity for sum of major fuels (thousand Btu/square foot)				
	New England	Middle Atlantic	East North Central	New	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	277	949	1,374	3,749	12,202	17,561	73.9	77.8	78.2
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar, concession stand, or coffee									
shop	34	142	203	329	1,285	1,998	102.6	110.3	101.5
Fast food or small restaurant	39	148	250	329	1,328	2,042	119.1	111.5	122.7
Cafeteria or large restaurant	63	228	282	725	2,436	3,041	86.5	93.5	92.7
Commercial kitchen or									
food preparation area	82	267	374	767	2,521	3,324	106.3	105.8	112.6
Small kitchen area	65	237	349	1,005	2,780	4,278	64.3	85.3	81.6
Separate computer areas (more than one may apply)									
Server closet	151	580	788	1,755	7,024	8,989	85.9	82.6	87.7
Data center	46	192	212	455	2,114	2,303	100.4	90.9	92.0
Computer-based training room	40	217	285	461	2,484	3,089	86.9	87.3	92.2
Student or public computer center	31	167	190	389	1,884	2,158	80.3	88.9	88.2
Window and interior lighting features (more than one may apply)									
Multipaned windows	232	799	1,149	2,909	9,903	13,899	79.8	80.7	82.6
Tinted window glass	104	454	693		5,134	7,350	91.0	88.4	94.3
Reflective window glass	47	203	347		2,027	3,855	79.4	100.0	90.1
External overhangs or awnings	82	253	461		2,673	4,775	105.7	95.0	96.5
Skylights or atriums	60	200	339		2,075	3,783	76.9	82.8	89.6
Light scheduling	122	446	555		4,965	5,961	91.2	89.9	93.6
Occupancy sensors	161	600	742		7,056	8,713	82.7	85.0	85.1
Multilevel lighting or dimming	59	161	354		1,629	3,367	105.9	98.8	105.0
	25	89							
Daylight harvesting			132		1,085	1,120	95.1	82.0	118.1
Plug-load control	Q	Q	46		Q	456	Q	Q	101.7
Demand responsive lighting	Q	23	45	Q	288	570	Q	78.7	79.8
Building automation system (BAS) for lighting	64	170	271	669	2,043	2,566	96.0	83.1	105.8
Electric vehicle (EV) charging									
Charging stations associated with the building	20	91	137	355	1,303	1,740	56.9	69.8	78.8

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

Notes: Because of rounding, data may not sum to totals. The *Guide to the 2018 CBECS Tables* and *CBECS Terminology* contain definitions of terms used in these tables and comparisons between previous CBECS tables. You can access both references from http://www.eia.gov/consumption/commercial/data/2018/.

Data are sample survey estimates with relative standard errors published in a tab on the Excel worksheet for this table.

Estimates in the *energy end uses* category represent total consumption in buildings that have the end use but not the consumption specifically for that end use. HVAC = Heating, ventilation, and air conditioning.

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

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

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

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

N = No buildings in reporting sample.

#### Release date: December 2022

	RSEs for sum consumption	RSEs for sum of major fuels consumption			RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central		
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4		
Building floorspace (square feet)											
1,001 to 5,000	31.2	22.9	13.3	24.1	17.9	18.7	21.3	13.4	12.8		
5,001 to 10,000	27.0	20.5	13.8	18.0	19.9	14.4	16.1	14.7	12.5		
10,001 to 25,000	25.8	19.1	19.5	25.9	17.4	19.8	22.7	13.1	8.4		
25,001 to 50,000	35.8	19.6	13.3	30.0	14.0	15.1	10.1	12.9	7.8		
50,001 to 100,000	29.2	9.8	15.6	31.2	11.9	16.9	8.0	6.6	8.2		
100,001 to 200,000	28.1	12.6	15.3	20.9	13.3	15.2	17.3	6.4	5.3		
200,001 to 500,000	35.4	14.0	15.9	22.7	12.8	14.5	25.9	7.0	10.1		
Over 500,000	19.3	13.2	12.2	41.1	15.1	18.5	38.7	8.0	10.2		
Principal building activity											
Education	19.2	9.9	12.5	13.7	10.7	12.0	13.3	4.6	2.6		
Food sales	95.3	39.9	28.5	93.6	40.6	27.8	11.4	7.6	4.7		
Food service	41.3	38.2	20.2	36.6	37.3	15.2	47.9	17.0	10.4		
Health care	32.1	17.6	17.5	35.3	17.0	14.0	16.5	6.2	6.5		
Inpatient	36.5	22.0	20.1	48.0	23.4	17.4	23.4	4.7	5.2		
Outpatient	42.6	19.5	26.2	41.7	19.7	24.7	23.6	8.8	6.5		
Lodging	22.1	20.1	19.5	23.2	23.6	16.7	10.3	8.4	8.7		
Mercantile	36.8	27.8	22.3	26.1	15.6	23.2	18.2	15.2	10.7		
Retail (other than mall)	28.4	23.4	31.7	26.9	19.9	31.8	14.1	18.7	10.5		
Enclosed and strip malls	49.1	35.8	22.2	46.0	28.5	20.1	6.2	13.0	8.4		
Office	25.2	12.0	16.3	22.1	13.6	16.3	12.2	4.1	5.7		
Public assembly	20.1	17.3	15.1	14.1	20.1	14.4	14.8	12.1	8.5		
Public order and safety	25.4	40.7	52.8	29.3	35.2	45.2	11.5	13.8	13.1		
Religious worship	39.7	26.7	23.2	57.5	28.8	22.9	65.7	9.5	16.8		
Service	38.8	17.3	21.9	29.5	15.0	24.4	23.0	14.5	10.3		
Warehouse and storage	33.2	20.5	15.8	23.5	20.7	15.1	15.3	6.3	8.6		
Other	52.4	31.6	35.9	49.7	29.6	36.6	34.8	19.7	13.4		
Vacant	86.9	49.1	28.9	61.7	42.6	34.8	70.3	20.7	41.4		
Year constructed											
Before 1920	23.5	24.4	17.5	29.9	24.4	17.8	20.5	8.1	10.3		
1920 to 1945	37.6	16.7	20.3	20.1	16.2	23.4	29.9	7.8	9.4		
1946 to 1959	42.2	19.6	20.3	42.5	19.0	20.3	5.1	7.9	8.4		
1960 to 1969	15.9	12.1	16.8	25.6	13.3	14.7	25.2	11.2	11.2		
1970 to 1979	28.8	18.8	16.0	37.0	17.7	14.4	28.8	8.1	8.6		
1980 to 1989	15.1	17.8	17.8	17.9	12.5	18.8	12.7	15.9	8.3		
1990 to 1999	18.4	15.2	14.9	20.0	16.5	15.2	13.8	10.3	6.3		
2000 to 2009	30.3	11.5	10.7	31.2	17.7	13.7	18.6	14.0	7.6		
2010 to 2018	15.8	26.2	18.3	13.7	19.9	18.2	8.1	17.9	14.5		
Climate zone <sup>a</sup>											
Cold or very cold	14.8	57.4	47.1	14.0	62.2	46.0	12.2	10.8	10.5		
Cool	18.2	21.1	13.5	18.1	19.1	14.8	6.5	4.6	4.3		
Mixed mild	70.5	9.8	39.7	70.5	12.5	39.4	1.0	6.9	10.7		
Warm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Hot or very hot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
,											

	RSEs for sum of consumption	RSEs for sum of major fuels consumption		RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4	
Number of floors										
1	15.7	10.4	10.6	14.9	12.0	13.1	7.0	13.4	5.4	
2	24.2	11.7	15.6	23.4	10.2	13.6	13.1	7.8	5.9	
3	28.0	20.3	16.6	20.7	23.2	19.3	14.9	8.1	5.9	
4 to 9	20.5	13.1	15.3	17.9	13.1	13.1	8.8	5.2	7.4	
10 or more	23.2	10.5	23.7	23.3	13.2	31.5	15.7	6.9	10.8	
Elevators and escalators (more than one may apply)										
Any elevators	11.8	8.2	9.7	14.6	9.3	9.9	12.3	3.3	4.0	
1 elevator	16.3	12.0	13.4	24.3	11.7	12.7	25.9	5.4	4.8	
2 to 5 elevators	18.0	12.5	18.3	20.1	13.3	14.7	9.0	6.3	7.3	
6 or more elevators	17.4	11.3	16.0	27.4	14.1	18.0	19.6	6.4	10.8	
Any escalators	46.0	20.1	24.5	50.8	18.4	26.2	8.6	8.9	7.0	
Number of workers (main shift)										
Fewer than 5	22.3	22.8	14.8	21.7	20.6	15.9	7.8	7.7	10.9	
5 to 9	20.7	22.3	18.9	27.5	18.1	24.8	16.2	13.1	12.4	
10 to 19	41.3	11.3	19.5	34.7	16.9	23.4	11.5	12.8	8.1	
20 to 49	21.9	9.6	10.9	15.2	8.9	10.8	14.3	9.2	5.7	
50 to 99	27.3	16.8	13.3	17.2	15.3	12.6	13.6	12.4	6.7	
100 to 249	30.9	13.5	14.4	24.8	16.0	12.1	10.6	8.5	7.7	
250 or more	14.9	10.0	13.3	19.6	11.5	15.0	13.8	5.0	8.2	
Weekly operating hours										
Fewer than 40	36.4	20.4	22.5	33.5	21.8	16.2	22.2	5.9	17.2	
40 to 48	17.9	18.2	15.0	22.7	16.4	15.0	7.8	7.3	4.7	
49 to 60	20.7	9.7	18.0	17.0	10.6	16.9	9.0	3.4	7.4	
61 to 84	17.9	12.8	13.1	16.0	15.3	12.6	11.5	10.4	7.7	
85 to 167	38.1	11.1	13.7	31.2	12.1	14.5	16.6	6.8	7.9	
Open continuously	16.5	8.5	11.3	15.8	10.9	12.8	5.5	7.8	6.3	
Ownership and occupancy										
Nongovernment owned	12.9	8.7	9.1	12.1	10.1	11.3	4.9	5.8	4.6	
Owner occupied	17.1	12.2	8.1	14.1	13.3	9.5	7.6	4.5	5.7	
Leased to tenant or tenants	11.6	12.6	15.1	13.1	11.8	15.8	7.9	10.1	3.0	
Unoccupied	63.4	66.9	78.2	64.0	47.7	69.1	0.6	37.8	114.6	
Government owned	19.6	12.1	13.8	19.7	13.2	14.1	7.9	3.5	6.5	
Federal	46.1	32.8	41.3	47.2	40.4	33.1	31.8	16.9	19.5	
State	39.2	29.2	26.3	43.3	29.2	29.1	7.0	5.6	16.2	
Local	17.8	11.9	11.2	15.6	13.2	11.0	12.0	4.4	4.4	
Party responsible for operation of energy systems										
Building owner	15.2	7.2	9.3	12.3	9.1	11.3	7.0	4.3	4.9	
Business owner or tenant	17.6	23.0	17.0	14.1	19.4	19.9	12.4	13.6	7.8	
Property management	40.4	33.1	43.4	29.7	30.2	41.9	19.1	13.1	22.3	
Other	62.3	45.9	22.8	35.7	39.8	18.4	34.7	18.9	9.9	

	RSEs for sum of consumption	RSEs for sum of major fuels consumption			RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central		
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4		
Provider of direct input on energy-											
related equipment purchases											
Building owner	15.1	7.4	9.8	12.2	9.3	11.4	6.3	4.5	4.6		
Business owner or tenant	40.9	25.1	17.0	24.0	17.9	17.4	22.0	14.3	10.3		
Property management	50.6	38.8	52.5	53.8	33.9	48.5	46.1	15.3	16.0		
Other	24.6	29.4	23.4	22.6	28.3	24.7	16.0	16.9	16.8		
Number of establishments											
1	14.8	6.9	8.7	11.5	9.6	11.2	7.5	5.2	5.2		
2 to 5	22.7	16.2	12.9	17.1	18.1	10.8	14.5	7.2	6.8		
6 to 10	31.1	20.2	26.1	24.8	21.6	28.8	18.4	9.2	9.5		
11 to 20	57.3	28.9	19.7	44.5	24.1	15.5	22.9	11.8	8.4		
More than 20	46.9	23.7	41.6	48.8	18.5	38.8	8.0	9.2	8.7		
Currently unoccupied	63.4	55.9	47.1	64.0	44.0	42.5	0.6	26.1	57.1		
Predominant exterior wall material											
Brick, stone, or stucco	17.6	7.9	10.1	15.9	9.6	10.1	7.1	4.3	5.6		
Concrete (block or poured)	21.8	10.5	15.5	23.1	13.1	18.9	7.6	13.3	10.4		
Concrete panels	43.1	21.4	23.1	22.3	27.2	25.6	30.9	18.5	10.5		
Siding or shingles	29.7	25.9	23.5	30.3	28.5	16.7	26.0	12.2	11.7		
Metal panels	33.5	24.2	17.1	25.8	25.5	19.7	29.1	14.6	14.7		
Window glass	50.5	29.3	23.6	44.2	27.3	23.5	42.8	9.2	14.3		
Other	60.7	41.4	42.9	56.1	39.6	44.8	17.9	22.3	11.5		
Predominant roof material											
Metal surfacing	18.5	13.8	13.8	17.8	10.4	18.2	16.7	7.2	12.6		
Synthetic or rubber	16.8	9.2	10.3	15.9	10.9	9.9	8.1	6.0	4.6		
Built-up	28.8	10.4	15.2	29.7	11.8	16.5	11.6	4.1	4.8		
Slate or tile shingles	34.4	31.0	28.6	37.9	21.3	33.9	21.8	16.0	19.6		
Wooden materials (including											
shingles)	69.2	60.1	46.2	66.9	59.1	50.8	18.9	12.4	28.3		
Asphalt, fiberglass, or											
other shingles	29.4	13.2	17.5	23.9	16.8	16.3	7.2	12.6	6.2		
Concrete	74.5	26.0	42.0	71.1	27.9	36.2	32.6	17.9	24.8		
Other	57.9	39.9	17.3	58.1	20.4	19.4	0.3	36.3	20.4		
Roof tilt											
Flat	16.7	7.1	10.0	16.6	8.7	9.5	4.7	5.7	4.3		
Shallow pitch	31.1	13.3	13.3	24.5	13.3	16.2	14.7	11.9	4.8		
Steeper pitch	13.5	17.5	13.5	13.1	20.2	15.0	5.6	7.5	9.5		
Cool roof characteristics (more than											
one may apply)				<b>.</b>		• - =					
White or reflective coating or paint	31.6	10.5	10.8	24.1	12.2	11.5	12.9	6.1	5.1		
White or reflective tiles or shingles	50.2	26.4	24.8	45.1	24.8	26.4	28.8	21.5	14.9		
Aluminum coating	29.0	20.0	25.8	26.5	22.3	31.2	30.4	15.5	18.7		
Ballasted roof system	23.0	12.3	21.1	22.5	13.4	24.0	21.4	4.5	7.0		
Other cool roof property	21.1	41.9	27.3	36.5	39.0	34.1	22.9	16.4	13.5		

New England         Middle Atlantic         North Central         North England         North Atlantic         North England         Middle Atlantic         Morth Central           All buildings         12.0         6.6         8.7         10.8         8.8         10.4         4.6         4.7         6.6           Renovation since 2000 (more than one may apply)		RSEs for sum of consumption	RSEs for sum of major fuels consumption		RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
Renovations since 2000 (more than one may apply)           And Wipe of Fronovation         39.2         8.1         7.4         13.9         8.2         11.4         8.3         4.0         0           Addition or annes         30.7         12.6         12.5         2.9.7         12.9         17.5         10.8         8.5.7         11.8           Reduction in floorspace         85.3         32.3         32.2         7.4.3         2.6.2         2.8.3         68.5         1.8.7         1.9           Interior wall reconfiguration         25.7         11.5         7.7         10.6         11.7         9.9         11.7         5.8         0.0           Window reglacement         24.7         12.8         10.0         11.5         9.6         11.9         4.4         0.0           Electrical upgrade         16.8         11.4         7.9         14.7         9.8         11.2         7.4         4.6         3.9         1.6         12.6         3.9         1.6         12.6         3.9         1.6         12.7         7.4         4.6         1.2         7.4         4.1         0.0         12.6         3.9         1.2         12.4         4.1         0.0         12.5         <		-		North	-		North	-		East North Central	
(more than one may apply)         Arry type of removation       19.2       8.1       7.4       13.9       8.2       11.4       8.3       4.0       6.0         Addition or annex       30.7       12.6       12.5       29.7       12.9       17.5       10.8       8.5       18.7       12.8         Redirecinguration       25.7       11.5       7.7       19.6       11.7       9.9       11.7       5.8       6.0         Window replacement       24.7       12.8       10.0       15.5       11.8       16.0       11.5       9.6       11.9       4.4       6.0         Lighting upgrade       16.8       11.4       7.9       14.7       9.8       11.2       9.1       4.2       6.3         Plumbing system upgrade       16.7       11.1       9.7       13.2       11.6       10.0       12.6       3.9       6.3       11.7       14.1       14.0       10.0       12.4       14.7       9.8       11.2       9.1       4.2       14.8       16.0       11.2       14.6       10.7       14.1       10.7       14.8       14.6       14.8       14.6       14.8       14.6       14.8       14.6       14.8       14.	All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4	
Any type of renovation       19.2       8.1       7.4       13.9       8.2       11.4       8.3       4.0       0         Addition or annex       30.7       12.6       12.5       29.7       12.3       12.6       12.8       12.6       12.8       12.6       12.8       12.8       12.8       12.8       11.1       11.2       12.3       4.6       12.3         Roof replacement       20.9       11.3       8.3       13.0       11.9       11.2       12.3       4.6       12.3         Window replacement       27.7       12.8       10.0       11.5       11.8       16.0       15.5       4.1       4.4       0.0       11.5       9.1       4.2       2.4       12.9       9.1       4.2       4.6       1.4       1.9       4.1       1.4       1.9       4.4       0.0       12.6       13.9       4.4       0.0       12.6       13.9       1.4       1.6       12.2       7.4       4.6       3.1       1.6       12.2       1.7       4.5       1.0       1.1       9.7       3.2       1.6       1.3       1.6       13.4       11.8       1.0       1.1       9.7       4.5       1.0       1.1       1.7											
Addition or annex       30.7       12.6       12.5       29.7       12.9       17.5       10.8       8.5       14         Reduction in floorspace       85.3       22.3       22.2       74.3       26.2       28.3       66.5       18.7       11.5         Roof replacement       20.9       11.3       8.3       13.0       11.9       11.2       12.3       4.6       5         Window replacement       24.7       12.8       10.0       15.5       11.8       16.0       11.5       9.6       11.9       4.4       0.0         Lighting upgrade       16.6       11.4       7.9       14.7       9.8       11.2       1.1       6.6       3.1         Plumbing system upgrade       22.4       11.7       12.3       16.2       13.1       16.0       12.6       3.9       0.6         Structural upgrade       20.9       12.1       8.8       10.4       13.8       10.7       12.4       4.1       0.6         Structural upgrade       60.7       18.8       16.8       40.2       16.4       23.3       42.4       9.8       1.0         Other       61.3       3.5       61.9       60.9       31.5       59.7		19.2	8 1	74	13.9	8.2	11.4	83	4 0	6.5	
Reduction in floorspace       85.3       32.3       32.2       74.3       26.2       28.3       68.5       18.7       11.2         Roof replacement       20.9       11.3       8.3       13.0       11.9       11.2       12.3       4.6       12         Interior wall reconfiguration       25.7       11.5       7.7       19.6       11.7       9.9       11.7       5.8       6         Window replacement       24.7       12.8       10.0       15.5       11.8       16.0       11.5       9.6       11.9       4.4       6       12.9       9.1       4.2       2.5       11.4       7.9       9.1       4.2       2.5       11.6       12.2       7.4       4.6       3.9       6       12.6       13.9       14.4       7.9       8       11.2       2.7       4.6       3.9       6       13.4       11.8       12.2       7.4       4.6       3.9       12.7       12.8       8.3       17.6       19.7       2.43       6.3       13.5       19.7       13.4       11.8       10.7       12.4       4.1       10.0       11.5       10.3       13.5       10.3       13.5       10.3       13.5       15.9       14.1										8.8	
Roof replacement       20.9       11.3       8.3       13.0       11.9       11.2       12.3       4.6       1         Interior wall reconfiguration       25.7       11.5       7.7       19.6       11.7       9.9       11.7       5.8       0         Window replacement       24.7       12.8       10.0       15.5       4.1       6         HVAC equipment upgrade       16.8       11.4       7.9       14.7       9.8       11.2       9.1       4.2       2         Plumbing system upgrade       16.7       11.1       9.7       13.2       11.6       12.7       7.4       4.6       3.9       6.3       11.5       14.1       6.6       3.9       6.3       11.5       14.8       10.7       12.4       4.1       6.6       3.1       11.8       10.7       12.4       4.1       6.0       15.5       4.1       10.3       12.4       4.1       10.0       12.4       4.1       10.0       12.4       4.1       10.0       12.4       4.1       10.0       10.5       11.5       5.0       13.0       13.0       13.5       5.0       13.3       11.0       11.8       10.0       11.0       13.5       5.0       10.3										12.9	
Interior wall reconfiguration         25.7         11.5         7.7         19.6         11.7         9.9         11.7         5.8         0           Window replacement         24.7         12.8         10.0         15.5         11.8         16.0         15.5         4.1         4.4           Uginting upgrade         12.8         10.3         8.1         16.0         11.5         9.6         11.9         4.4         4.4           Uginting upgrade         16.7         11.1         9.7         13.2         11.6         12.2         7.4         4.6         7.4         4.6         7.4         4.6         7.3         17.2         12.8         8.3         17.6         19.7         24.3         6.3         1.1           Plumbing system upgrade         20.9         12.1         8.6         13.4         11.8         10.7         12.4         4.1         0.7         13.8         12.7         13.4         13.8         12.4         4.1         0.7         13.8         13.5         59.7         4.5         10.3         13.5         59.7         4.5         10.3         13.5         59.7         4.5         10.3         13.5         59.7         4.5         10.3         13.5<	·									5.8	
Window replacement         24.7         12.8         10.0         15.5         11.8         16.0         15.5         4.1         44           HVAC equipment uggrade         16.8         11.4         7.9         14.7         9.8         11.2         9.4         4.2         1.2         9.1         4.2         9.6         11.2         9.1         4.2         1.4         2.9         14.2         2.1         1.6         12.2         7.4         4.6         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.1         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.2         1.3         1.2         1.3         1.2         1.3         1.2         1.3         1.3         1.2         1.2         1.3         1.3         1.2         1.3         1.3         1.3         1.3         1.3         1.3<										6.8	
HVAC equipment upgrade       22.8       10.3       8.1       16.0       11.5       9.6       11.9       4.4       4.4         Lighting upgrade       16.8       11.4       7.9       11.7       9.8       11.2       9.1       4.2       2         Plumbing system upgrade       16.7       11.1       9.7       13.2       11.6       12.2       7.4       4.6       3.9       4.2       4.1       7.1       12.3       16.2       13.1       16.0       12.6       3.9       4.3       6.3       1.1       9.7       13.2       16.2       13.1       16.0       12.6       3.9       4.2       4.1										8.6	
Lighting upgrade       16.8       11.4       7.9       14.7       9.8       11.2       9.1       4.2       9.1         Electrical upgrade       16.7       11.1       9.7       13.2       11.6       12.2       7.4       4.6       3.9       3.1         Insulation upgrade       22.4       11.7       12.3       16.2       13.4       16.0       12.6       3.9       3.1         Fire, sigety, or security upgrade       20.9       12.1       8.6       13.4       11.8       10.7       12.4       4.1       0.7         Structural upgrade       60.7       18.8       14.8       40.2       16.4       23.3       42.4       9.8       1.4         No renovations       16.3       8.5       61.9       60.5       20.4       19.2       13.8       13.5         Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       13.5         Fuerosy corrects       ftmore than one may apply       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4.6         Fuel oil       21.9       10.4       13.0       16.7       12.6 </td <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6.2</td>	•									6.2	
Electrical upgrade       16.7       11.1       9.7       13.2       11.6       12.2       7.4       4.6       12         Plumbing system upgrade       22.4       11.7       12.3       16.2       13.1       16.0       12.6       3.9       3.9         Insulation upgrade       27.3       17.2       12.8       8.3       17.6       19.7       24.3       6.3       11         Fire, safety, or security upgrade       60.7       18.8       14.8       40.2       16.4       23.3       42.4       9.8       14         Other       61.3       33.5       61.9       60.9       31.5       59.7       4.5       10.3       13         Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       11         Energy sources       (more than one may apply)       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4.6         Structral gas       9.6       7.2       8.8       11.8       9.6       9.3       5.5       5.4       2.0         Distric than one may apply       12.0       6.6       8.7       10.8       8.8										5.7	
Plumbing system upgrade         22.4         11.7         12.3         16.2         13.1         16.0         12.6         3.9         13.1           Fire, safety, or security upgrade         20.9         12.1         8.6         13.4         11.8         10.7         12.4         4.1         0           Structural upgrade         60.7         18.8         14.4         40.2         16.4         23.3         42.4         9.8         14.5           Other         61.3         33.5         61.9         60.9         31.5         59.7         4.5         10.3         15           Buildings constructed 2013 or later         35.6         23.1         25.5         30.5         22.6         20.4         19.2         13.8         17           Energy sources         Imore than one may apply)         12.0         6.6         8.7         10.8         8.8         10.3         4.5         4.7         4           Natural gas         9.6         7.2         8.8         11.8         9.7         23.3         2.9.5         9.4         24.2         11.7         6.0         13           District heat         24.9         9.7         23.3         2.9.5         9.4         24.2										7.2	
Insulation upgrade       27.3       17.2       12.8       8.3       17.6       19.7       24.3       6.3       12         Fire, safety, or security upgrade       20.9       12.1       8.6       13.4       11.8       10.7       12.4       4.1       0         Structural upgrade       60.7       18.8       14.8       40.2       16.4       23.3       42.4       9.8       0         Other       61.3       33.5       61.9       60.9       31.5       55.7       4.5       10.3       12         No renovations       16.3       8.9       12.7       15.4       12.5       12.6       8.9       8.3       17         Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       13         Energy sources (more than one may apply)       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4.         Natural gas       9.6       7.2       8.8       11.8       9.6       9.3       5.5       5.4       2.2       11.7       6.0       13         District heat       24.9       9.7       23.3       29.5										8.6	
Fire, safety, or security upgrade       20.9       12.1       8.6       13.4       11.8       10.7       12.4       4.1       4.1         Structural upgrade       60.7       18.8       14.8       40.2       16.4       23.3       42.4       9.8       10         Other       61.3       33.5       61.9       60.9       31.5       59.7       4.5       10.3       13         Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       11         Energy sources (more than one may apply)       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4.0         Fuel oil       21.9       10.4       13.0       16.7       12.6       13.2       8.7       7.3       6         District heat       24.9       9.7       23.3       29.5       9.4       24.2       11.7       6.0       11         Propane       19.4       17.7       20.9       16.2       21.5       18.7       9.7       10.3       43         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1 </td <td></td>											
Structural upgrade         60.7         18.8         14.8         40.2         16.4         23.3         42.4         9.8         14.4           Other         61.3         33.5         61.9         60.9         31.5         59.7         4.5         10.3         11.5           No renovations         16.3         8.9         12.7         15.4         12.5         12.6         8.9         8.3         9.8           Buildings constructed 2013 or later         35.6         23.1         25.5         30.5         22.6         20.4         19.2         13.8         13.5           Energy sources (more than one may apply)         12.0         6.6         8.7         10.8         8.8         10.3         4.5         4.7         4           Natural gas         9.6         7.2         8.8         11.8         9.6         9.3         5.5         5.4         2           District heat         24.9         9.7         23.3         29.5         9.4         24.2         1.7         6.0         11.7           Propane         19.4         17.7         20.9         16.2         21.5         18.7         3.7         10.3         48         3.0         1.5         5.7										11.3	
Other         61.3         33.5         61.9         60.9         31.5         59.7         4.5         10.3         11           No revolutions         16.3         8.9         12.7         15.4         12.5         12.6         8.9         8.3         5           Buildings constructed 2013 or later         35.6         23.1         25.5         30.5         22.6         20.4         19.2         13.8         11           Energy sources (more than one may apply)         12.0         6.6         8.7         10.8         8.8         10.3         4.5         4.7         4.4           Natural gas         9.6         7.2         8.8         11.8         9.6         9.3         5.5         5.4         2.6           District heat         24.9         9.7         23.3         29.5         9.4         24.2         11.7         6.0         11.2           District chilled water         30.8         20.2         27.5         40.2         20.0         27.3         17.6         8.0         11.2           Propane         19.4         17.7         20.9         16.2         21.5         18.7         9.7         10.3         8.3           Solar         25.5										6.0	
No renovations       16.3       8.9       12.7       15.4       12.5       12.6       8.9       8.3       9         Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       13         Energy sources (more than one may apply)       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4         Valural gas       9.6       7.2       8.8       11.8       9.6       9.3       5.5       5.4       2         Valural gas       9.6       7.2       8.8       11.8       9.6       9.3       5.5       5.4       2         District heat       24.9       9.7       23.3       29.5       9.4       24.2       11.7       6.0       13         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1       13         Wood, coal, and other       63.0       46.8       34.7       48.6       45.1       32.5       37.9       16.6       22         Space-heating energy sources (more than one may apply)       11.0       11.8       15.8       10.7       13.0       8.3       4.										14.2	
Buildings constructed 2013 or later       35.6       23.1       25.5       30.5       22.6       20.4       19.2       13.8       13.7         Energy sources (more than one may apply)         Electricity       12.0       6.6       8.7       10.8       8.8       10.3       4.5       4.7       4.7         Natural gas       9.6       7.2       8.8       11.8       9.6       9.3       5.5       5.4       4.7         District heat       24.9       9.7       23.3       29.5       9.4       42.2       11.7       6.0       13.2         District chilled water       30.8       20.2       27.5       40.2       20.0       27.3       17.6       8.0       11.3         Propane       19.4       17.7       20.9       16.2       21.5       18.7       9.7       10.3       6.3         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1       11.3         Wood, coal, and other       63.0       46.8       34.7       48.6       45.1       32.5       37.9       16.6       22.7         Space-heating energy sources (more than one may apply)       11.0       11.8										19.2	
Energy sources (more than one may apply)           Electricity         12.0         6.6         8.7         10.8         8.8         10.3         4.5         4.7         4.8           Natural gas         9.6         7.2         8.8         11.8         9.6         9.3         5.5         5.4         2.8           Fuel oil         21.9         10.4         13.0         16.7         12.6         13.2         8.7         7.3         6.0         13.2           District chilled water         20.9         9.7         23.3         29.5         9.4         24.2         11.7         6.0         13.2           Propane         19.4         17.7         20.9         16.2         21.5         18.7         9.7         10.3         6.3           Solar         25.5         29.3         24.4         24.0         30.9         22.2         16.4         8.1         13.0           Wood, coal, and other         63.0         46.8         34.7         48.6         45.1         32.5         37.9         16.6         22           Space-heating energy sources (more than one may apply)         14.5         11.0         11.8         15.8         10.7         13.0         8.3										5.9	
Natural gas         9.6         7.2         8.8         11.8         9.6         9.3         5.5         5.4         5.5           Fuel oil         21.9         10.4         13.0         16.7         12.6         13.2         8.7         7.3         6           District heat         24.9         9.7         23.3         29.5         9.4         24.2         11.7         6.0         13           District chilled water         30.8         20.2         27.5         40.2         20.0         27.3         17.6         8.0         17           Propane         19.4         17.7         20.9         16.2         21.5         18.7         9.7         10.3         68           Solar         25.5         29.3         24.4         24.0         30.9         22.2         16.4         8.1         13           Wood, coal, and other         63.0         46.8         34.7         48.6         45.1         32.5         37.9         16.6         22           Space-heating energy sources (more than one may apply)         14.5         11.0         11.8         15.8         10.7         13.0         8.3         4.6         6           Natural gas         9.5 <th>(more than one may apply)</th> <th>12.0</th> <th></th> <th>0.7</th> <th>40.0</th> <th></th> <th>10.2</th> <th></th> <th></th> <th></th>	(more than one may apply)	12.0		0.7	40.0		10.2				
Fuel oil       21.9       10.4       13.0       16.7       12.6       13.2       8.7       7.3       60         District heat       24.9       9.7       23.3       29.5       9.4       24.2       11.7       6.0       13.2         District chilled water       30.8       20.2       27.5       40.2       20.0       27.3       17.6       8.0       12.5         Propane       19.4       17.7       20.9       16.2       21.5       18.7       9.7       10.3       68         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1       11.3         Wood, coal, and other       63.0       46.8       34.7       48.6       45.1       32.5       37.9       16.6       22         Space-heating energy sources (more than one may apply)       14.5       11.0       11.8       15.8       10.7       13.0       8.3       4.6       64         Natural gas       9.5       7.5       9.7       11.6       10.1       10.0       7.8       6.1       22         Propane       36.7       24.3       45.7       22.3       31.6       30.8       25.1       18.3										4.2	
District heat       24.9       9.7       23.3       29.5       9.4       24.2       11.7       6.0       13         District chilled water       30.8       20.2       27.5       40.2       20.0       27.3       17.6       8.0       13         Propane       19.4       17.7       20.9       16.2       21.5       18.7       9.7       10.3       26         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1       13         Wood, coal, and other       63.0       46.8       34.7       48.6       45.1       32.5       37.9       16.6       22         Space-heating energy sources (more than one may apply)       14.5       11.0       11.8       15.8       10.7       13.0       8.3       4.6       6.1         Space-heating energy sources       35.2       22.4       34.3       26.5       20.9       26.1       15.5       7.2       13.0         Electricity       14.5       11.0       11.8       15.8       10.7       13.0       8.3       4.6       6.1       23.5         District heat       24.9       11.4       18.4       29.5       10.4       23.6 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.9</td>										2.9	
District chilled water       30.8       20.2       27.5       40.2       20.0       27.3       17.6       8.0       13.3         Propane       19.4       17.7       20.9       16.2       21.5       18.7       9.7       10.3       33         Solar       25.5       29.3       24.4       24.0       30.9       22.2       16.4       8.1       13         Wood, coal, and other       63.0       46.8       34.7       48.6       45.1       32.5       37.9       16.6       22         Space-heating energy sources (more than one may apply)       11.8       15.8       10.7       13.0       8.3       4.6       6         Natural gas       9.5       7.5       9.7       11.6       10.1       10.0       7.8       6.1       32         Propane       36.7       24.3       34.5       20.9       26.1       15.5       7.2       13         District heat       24.9       11.4       18.4       29.5       10.4       23.6       11.7       6.2       12         Priopane       36.7       24.3       45.7       22.3       31.6       30.8       25.1       18.3       30         Other sources <sup>b</sup>										6.9	
Propane19.417.720.916.221.518.79.710.38Solar25.529.324.424.030.922.216.48.113Wood, coal, and other63.046.834.748.645.132.537.916.623Space-heating energy sources (more than one may apply)Electricity14.511.011.815.810.713.08.34.66Natural gas9.57.59.711.610.110.07.86.12Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.211Natural gas11.37.510.710.49.911.07.26.433Primary space-heating energy source13.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.611Propane56.545.425.624.512.532.443.255.014										13.3	
Solar25.529.324.424.030.922.216.48.113Wood, coal, and other63.046.834.748.645.132.537.916.623Space-heating energy sources (more than one may apply)Electricity14.511.011.815.810.713.08.34.664Natural gas9.57.59.711.610.110.07.86.123Fuel oil35.222.434.326.520.926.115.57.213District heat24.911.418.429.510.423.611.76.213Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.211Natural gas11.37.510.710.49.911.07.26.435Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.613Propane56.545.425.624.512.532.443.255.014										11.0	
Wood, coal, and other         63.0         46.8         34.7         48.6         45.1         32.5         37.9         16.6         27           Space-heating energy sources (more than one may apply)         14.5         11.0         11.8         15.8         10.7         13.0         8.3         4.6         60           Natural gas         9.5         7.5         9.7         11.6         10.1         10.0         7.8         6.1         27           Piel oil         35.2         22.4         34.3         26.5         20.9         26.1         15.5         7.2         13.0           District heat         24.9         11.4         18.4         29.5         10.4         23.6         11.7         6.2         11.3           Propane         36.7         24.3         45.7         22.3         31.6         30.8         25.1         18.3         36.0           Other sources <sup>b</sup> 82.5         53.7         31.8         49.2         49.5         33.9         60.8         10.7         23.5           Primary space-heating energy source         11.3         7.5         10.7         10.4         9.9         11.0         7.2         6.4         33.5         26.4 </td <td>·</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8.0</td>	·									8.0	
Space-heating energy sources (more than one may apply)         14.5         11.0         11.8         15.8         10.7         13.0         8.3         4.6         6           Natural gas         9.5         7.5         9.7         11.6         10.1         10.0         7.8         6.1         2           Fuel oil         35.2         22.4         34.3         26.5         20.9         26.1         15.5         7.2         13           District heat         24.9         11.4         18.4         29.5         10.4         23.6         11.7         6.2         11           Propane         36.7         24.3         45.7         22.3         31.6         30.8         25.1         18.3         30           Other sources <sup>b</sup> 82.5         53.7         31.8         49.2         49.5         33.9         60.8         10.7         23           Primary space-heating energy source         Electricity         17.7         19.7         14.5         17.8         15.4         15.9         13.1         8.2         13.7           Natural gas         11.3         7.5         10.7         10.4         9.9         11.0         7.2         6.4         35         26.5 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>13.3</td>										13.3	
(more than one may apply)Electricity14.511.011.815.810.713.08.34.66.1Natural gas9.57.59.711.610.110.07.86.17.2Fuel oil35.222.434.326.520.926.115.57.213.2District heat24.911.418.429.510.423.611.76.213.2Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.211Natural gas11.37.510.710.49.911.07.26.435Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.611Propane56.545.425.624.512.532.443.255.014		63.0	46.8	34.7	48.6	45.1	32.5	37.9	16.6	22.6	
Natural gas9.57.59.711.610.110.07.86.17.5Fuel oil35.222.434.326.520.926.115.57.213District heat24.911.418.429.510.423.611.76.213Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.211Natural gas11.37.510.710.49.911.07.26.435Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019											
Fuel oil35.222.434.326.520.926.115.57.213District heat24.911.418.429.510.423.611.76.213Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.213Natural gas11.37.510.710.49.911.07.26.435Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.611Propane56.545.425.624.512.532.443.255.019	Electricity	14.5	11.0	11.8	15.8	10.7	13.0	8.3	4.6	6.2	
District heat24.911.418.429.510.423.611.76.212.7Propane36.724.345.722.331.630.825.118.330.0Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723.6Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.211.7Natural gas11.37.510.710.49.911.07.26.433.7Fuel oil35.129.140.226.825.730.914.013.526.7District heat25.213.419.029.912.824.611.96.611.7Propane56.545.425.624.512.532.443.255.010.7	Natural gas	9.5	7.5	9.7	11.6	10.1	10.0	7.8	6.1	2.5	
Propane36.724.345.722.331.630.825.118.330Other sources <sup>b</sup> 82.553.731.849.249.533.960.810.723Primary space-heating energy source22217.719.714.517.815.415.913.18.213Electricity17.719.714.517.815.415.913.18.213Natural gas11.37.510.710.49.911.07.26.433Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019	Fuel oil	35.2	22.4	34.3	26.5	20.9	26.1	15.5	7.2	13.1	
Other sourcesb82.553.731.849.249.533.960.810.723Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.213Natural gas11.37.510.710.49.911.07.26.433Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.613Propane56.545.425.624.512.532.443.255.014	District heat	24.9	11.4	18.4	29.5	10.4	23.6	11.7	6.2	11.5	
Primary space-heating energy sourceElectricity17.719.714.517.815.415.913.18.212Natural gas11.37.510.710.49.911.07.26.433Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019	Propane	36.7	24.3	45.7	22.3	31.6	30.8	25.1	18.3	30.0	
energy sourceElectricity17.719.714.517.815.415.913.18.212Natural gas11.37.510.710.49.911.07.26.433Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019	Other sources <sup>b</sup>	82.5	53.7	31.8	49.2	49.5	33.9	60.8	10.7	23.6	
Electricity17.719.714.517.815.415.913.18.213.1Natural gas11.37.510.710.49.911.07.26.433.5Fuel oil35.129.140.226.825.730.914.013.526.5District heat25.213.419.029.912.824.611.96.612.5Propane56.545.425.624.512.532.443.255.019.5											
Natural gas11.37.510.710.49.911.07.26.43Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019		17.7	19.7	14.5	17.8	15.4	15.9	13.1	8.2	11.5	
Fuel oil35.129.140.226.825.730.914.013.526District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019										3.0	
District heat25.213.419.029.912.824.611.96.612Propane56.545.425.624.512.532.443.255.019										26.0	
Propane 56.5 45.4 25.6 24.5 12.5 32.4 43.2 55.0 19										12.1	
·										12.1	
THE THE THE THE TAR AND THE TAR THE TA	Other sources <sup>b</sup>	49.9	43.4 51.8	41.6	58.3	53.4	42.4	43.2	3.4	28.5	

	RSEs for sum of consumption		RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4
Cooling energy sources									
(more than one may apply)									
Electricity	11.6	6.9	8.3	11.1	9.4	9.4	4.4	4.9	3.4
Natural gas	33.6	38.2	44.6	45.6	36.2	54.0	46.4	14.5	14.5
District chilled water	30.8	20.2	27.5	40.2	20.0	27.3	17.6	8.0	11.0
Water-heating energy sources (more than one may apply)									
Electricity	13.7	9.8	11.2	17.3	10.9	12.9	6.5	7.7	5.9
Natural gas	14.4	7.8	9.9	15.5	9.9	10.4	7.4	5.0	3.6
Fuel oil	19.9	33.8	31.3	18.8	32.8	29.9	12.8	6.4	34.5
District heat	30.4	11.5	32.9	34.8	11.7	36.0	11.5	7.3	21.4
Propane	46.8	76.7	92.1	29.3	57.1	57.4	29.5	72.1	67.7
Cooking energy sources (more than one may apply)				,					
Electricity	12.6	8.3	8.7	11.3	8.5	9.8	8.7	5.2	3.8
Natural gas	18.5	8.8	9.1	17.8	9.6	8.5	4.9	5.9	3.0
Propane	25.6	33.6	27.4	25.7	35.3	28.5	8.5	25.1	21.5
Energy end uses (more than one may apply)									
Buildings with space heating	12.3	6.5	8.5	11.2	8.8	9.5	3.6	4.8	3.3
Buildings with cooling	12.1	6.7	8.1	11.3	9.1	9.2	4.7	4.8	3.4
Buildings with water heating	12.4	6.2	8.6	11.5	8.8	9.7	3.6	5.0	3.6
Buildings with cooking	12.3	6.7	8.6	11.4	7.7	9.6	2.9	5.1	3.0
Buildings with manufacturing	43.2	25.6	17.6	32.7	27.3	19.8	17.4	16.1	11.1
Buildings with electricity									
generation	18.4	7.3	7.9	18.1	10.3	8.0	9.2	7.1	4.2
Buildings with lighting	12.0	6.6	8.7	10.8	8.7	10.2	4.5	4.7	3.9
Percentage of floorspace heated									
Not heated	33.3	46.7	37.9	33.4	30.0	33.4	17.6	44.3	21.8
1% to 50%	31.3	26.6	16.9	25.2	25.9	20.8	18.8	14.0	17.0
51% to 99%	31.2	9.2	12.6	22.4	12.8	12.9	13.4	5.8	6.9
100%	13.3	7.2	9.6	12.8	8.6	9.9	7.3	5.4	3.7
Percentage of floorspace cooled									
Not cooled	35.4	21.9	26.3	30.5	18.7	22.2	8.8	12.6	17.2
1% to 50%	19.5	13.2	12.1	13.5	15.0	11.9	15.2	14.0	7.1
51% to 99%	17.2	8.9	12.8	15.2	10.4	13.2	10.4	6.8	5.0
100%	15.1	9.8	8.2	18.8	12.3	10.3	8.3	4.9	7.1
Percentage lit when open									
0%	0.0	0.0	62.0	0.0	0.0	52.6	0.0	0.0	20.1
1% to 50%	17.0	20.5	16.5	27.3	19.9	18.4	21.0	9.8	9.2
51% to 99%	13.2	8.2	9.7	11.4	9.0	9.7	7.3	7.5	3.4
100%	15.5	9.2	11.8	11.1	9.0	14.0	7.6	5.4	4.8
Building never open or electricity									
not used	63.4	41.0	25.7	49.1	31.2	30.6	44.5	31.0	22.8

	RSEs for sum of consumption		RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4
Percentage lit during off hours									
0%	23.3	21.1	20.1	22.6	18.5	16.4	19.7	7.6	9.3
1% to 50%	16.0	7.7	9.2	12.4	9.1	10.7	5.9	5.5	4.2
51% to 100%	18.2	19.9	19.4	24.9	20.4	15.9	12.1	10.0	7.9
Building always open with									
no off hours	79.1	22.8	28.4	65.6	24.6	31.1	63.6	9.2	9.2
Electricity not used	0.0	0.0	0.0	70.9	58.9	49.3	0.0	0.0	0.0
Heating equipment (more than one may apply)									
Packaged heating units	17.0	9.7	10.4	17.0	8.7	10.4	6.1	9.1	4.0
Furnaces	45.1	14.2	12.1	40.2	16.1	13.6	23.2	7.0	7.3
Individual space heaters	31.0	10.7	14.5	20.3	12.3	13.5	16.7	5.6	6.8
Boilers	10.4	8.5	11.3	9.1	11.8	10.1	6.7	4.8	4.0
Heat pumps	18.6	12.5	14.1	15.3	15.2	14.0	12.6	8.1	8.6
District heat	24.9	11.4	18.4	29.5	10.4	23.6	11.7	6.2	11.5
Duct reheat	51.1	22.6	19.1	32.0	20.3	21.2	45.5	10.8	8.2
Other	89.4	78.9	43.9	86.7	79.8	45.1	9.5	14.1	9.2
Cooling equipment									
(more than one may apply)	10.0			10 7	0.5				
Packaged air-conditioning units	13.8	6.6	8.8	12.7	9.5	10.7	9.6	6.5	3.9
Residential-type central air conditioners	18.3	12.3	8.4	19.5	14.2	10.7	14.4	6.0	6.0
Individual air conditioners	22.3	13.3	14.0	15.5	14.2	15.1	14.4	6.8	5.1
Central chillers	24.2	7.4	14.0	13.7	14.5	13.1	10.5	5.0	4.3
Heat pumps	24.2	16.9	16.9	24.9	10.5	12.8	17.9	8.6	9.8
District chilled water	30.8	20.2	27.5	40.2	20.0	27.3	17.5	8.0	11.0
Swamp coolers	61.5	66.5	34.6	65.3	76.9	37.3	34.5	45.8	9.2
Other	0.0	70.2	0.0	0.0	70.2	0.0	0.0	0.0	0.0
HVAC features									
(more than one may apply)	15.2	6.5	8.9	12.7	9.8	7.9	9.9	Γ 4	<u> </u>
Economizer cycle								5.4 8 7	3.8
Variable air volume (VAV) system Dedicated outside air system (DOAS)	10.9 27.6	10.0 11.8	7.8 22.2	15.9 25.1	11.9 11.8	7.9 20.3	19.8 17.2	8.7 6.5	4.2
Demand controlled ventilation (DCV)	27.8								10.6
Regular HVAC maintenance	11.6	11.6 6.6	11.8 8.9	25.6 9.6	13.9	13.8 9.7	16.1 5.2	6.5 5.5	8.8
Building automation system (BAS)	11.0	0.0	0.9	9.0	10.1	9.7	5.2	5.5	3.0
controls heating or cooling	14.4	5.7	6.8	12.6	8.4	6.2	9.4	6.7	3.6
Internet-connected or smart		5.7	0.0		0.1	0.2		0.7	
thermostat	33.5	20.3	33.7	30.1	21.6	36.6	34.3	12.5	12.3
Programmable thermostat	25.1	13.2	14.7	26.8	13.3	13.8	8.4	8.1	5.0
Main equipment replaced since 2000 (more than one may apply)									
Heating	16.7	12.4	8.9	17.7	12.2	11.7	5.2	7.6	5.2
Cooling	17.0	14.1	12.0	17.7	14.7	11.7	6.3	3.1	4.4
	17.0	17.1	12.0	13.3	±4./	±1.4	0.5	J.1	4.4

	RSEs for sum of consumption	RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels				
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4
Water-heating equipment									
Centralized system	17.1	7.3	9.9	14.5	8.1	10.4	5.1	4.5	4.6
Distributed system	34.8	13.3	20.7	28.6	13.0	19.3	15.1	13.7	10.3
Combination of centralized and									
distributed systems	26.9	15.8	10.9	14.0	15.3	10.5	18.2	7.2	5.0
Generation technologies									
(more than one may apply)									
Reciprocating engine generators	18.5	7.0	10.2	18.9	10.6	10.3	9.1	8.1	5.0
Solar panels	26.3	29.3	24.5	24.3	30.9	22.6	15.3	8.1	13.2
Other generation technology	53.9	35.6	39.0	55.4	26.8	32.3	42.9	21.0	19.9
Lighting equipment types									
(more than one may apply)									
Incandescent	20.7	11.6	10.9	13.5	12.8	11.2	14.4	5.8	5.6
Standard fluorescent	14.8	7.1	9.5	15.1	10.2	11.2	6.2	6.1	4.3
Compact fluorescent	19.8	9.0	11.4	20.3	9.6	12.2	8.6	5.6	4.4
High-intensity discharge (HID)	24.2	10.8	18.4	22.0	12.1	16.7	24.1	6.4	5.6
Halogen	25.2	11.3	10.4	18.0	11.9	13.3	11.1	6.8	7.9
LED	8.9	6.8	8.0	9.4	9.2	8.7	5.3	5.1	4.4
Other	0.0	0.0	33.9	0.0	0.0	26.9	0.0	0.0	14.6
Refrigeration equipment (more than one may apply)									
Any refrigeration	10.6	6.3	8.4	10.1	9.7	9.5	4.6	5.7	4.1
Walk-in units	15.3	6.2	7.8	14.8	6.4	8.1	7.8	6.9	3.9
Cases or cabinets	19.1	8.1	9.0	20.0	7.4	9.1	10.6	6.8	4.6
Large cold storage areas	42.9	27.5	25.1	49.3	17.8	25.6	84.5	24.5	6.1
Commercial ice makers	14.2	7.8	9.1	13.4	8.1	9.0	4.7	5.3	4.4
Residential-type or compact units	7.3	6.6	8.9	8.9	10.4	9.9	6.1	6.9	4.3
Vending machines	14.5	6.7	7.4	11.8	9.4	8.4	5.0	6.3	4.2
No refrigeration	23.9	13.1	15.3	17.5	8.5	17.8	10.0	11.0	8.7
Office equipment (more than one may apply)									
Desktop computers	11.3	6.4	8.3	10.4	8.7	9.3	2.9	5.4	3.3
With multiple monitors	10.9	7.4	7.8	10.1	9.4	8.8	7.0	6.4	4.1
Laptop computers	9.2	7.5	8.4	8.5	9.5	9.0	6.0	5.6	3.1
Dedicated servers	15.0	7.1	8.1	12.6	10.8	8.8	5.3	5.9	3.8
Tablets charged in building	9.5	8.0	9.5	11.0	9.3	9.4	4.5	5.6	4.0
Large floor-standing office devices <sup>c</sup>	14.4	6.9	7.2	12.8	9.0	8.1	5.0	5.5	3.2
Smaller desktop office devices <sup>c</sup>	10.0	6.3	9.4	8.8	8.7	10.3	4.4	5.8	3.7
Interactive whiteboards	13.9	10.3	12.1	18.8	8.9	9.6	23.1	7.4	7.3
Televisions or video displays	11.9	7.4	8.7	10.8	9.7	9.2	4.9	6.1	3.6
Point-of-sale devices or cash									
registers	14.9	8.2	9.9	14.4	9.1	9.8	8.1	7.2	4.5

	RSEs for sum of consumption	of major fuels	RSEs for total floorspace of buildings			RSEs for energy intensity for sum of major fuels			
	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central	New England	Middle Atlantic	East North Central
All buildings	12.0	6.6	8.7	10.8	8.8	10.4	4.6	4.7	4.4
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar, concession stand, or coffee									
shop	24.7	15.7	15.1	18.8	15.3	17.8	17.8	7.6	6.5
Fast food or small restaurant	36.9	14.8	11.2	33.6	11.9	13.8	6.5	7.8	6.3
Cafeteria or large restaurant	14.3	8.0	10.2	14.0	7.9	9.0	13.0	5.2	5.2
Commercial kitchen or									
food preparation area	19.1	11.3	11.4	18.7	12.8	13.7	10.1	6.0	5.0
Small kitchen area	22.7	9.5	13.8	17.4	10.4	14.4	9.2	4.1	5.3
Separate computer areas									
(more than one may apply)									
Server closet	15.4	7.4	9.4	13.7	9.8	10.0	6.1	4.4	2.4
Data center	19.7	12.1	12.6	19.8	17.4	13.9	20.0	15.8	8.7
Computer-based training room	17.4	6.5	11.1	21.6	9.0	10.2	8.8	6.4	6.4
Student or public computer center	29.1	9.1	10.9	27.5	10.4	8.0	5.8	2.5	4.4
Window and interior lighting features (more than one may apply)									
Multipaned windows	13.8	6.4	8.5	11.8	8.4	9.6	7.5	5.4	3.5
Tinted window glass	18.5	9.6	10.1	18.6	9.3	8.6	10.4	4.8	3.6
Reflective window glass	18.7	13.7	13.7	16.0	11.9	13.5	15.6	10.8	5.1
External overhangs or awnings	21.1	11.8	9.5	24.3	13.5	12.6	9.1	10.2	7.5
Skylights or atriums	17.8	13.2	10.7	17.6	15.1	10.2	3.8	3.9	6.6
Light scheduling	16.7	11.2	11.5	14.4	11.8	11.6	6.7	6.4	5.7
Occupancy sensors	14.5	7.3	9.8	12.1	9.3	9.4	8.2	6.5	3.8
Multilevel lighting or dimming	12.4	15.4	10.7	18.7	14.7	11.0	19.0	6.7	6.9
Daylight harvesting	46.3	17.4	19.6	40.2	14.8	19.5	14.8	11.4	10.2
Plug-load control	50.8	27.4	48.7	45.5	29.9	31.0	21.7	14.9	32.0
Demand responsive lighting	64.0	32.7	34.9	51.2	32.6	43.2	42.6	8.2	18.8
Building automation system (BAS) for									
lighting	28.8	12.2	11.1	22.5	16.0	11.3	11.9	8.6	5.6
Electric vehicle (EV) charging									
Charging stations associated with the building	19.0	22.9	18.7	21.4	21.3	18.7	13.6	12.3	12.2
	19.0		10.7	<u>ر ب</u> ب	21.5	10.7	15.0		± <b>с</b> , <b>с</b>

Data source: U.S. Energy Information Administration, Forms EIA-871A, C, D, E, and F of the 2018 Commercial Buildings Energy Consumption Survey Note: RSE is a measure of the reliability or precision of a survey statistic. Variability occurs in survey statistics because the different samples that could be drawn would each produce different values for the survey statistics. *Estimation of Standard Errors* and *What is a Relative Standard Error (RSE)?* contain more information on how RSEs are estimated and used. Both references can be accessed from https://www.eia.gov/consumption/commercial/survey-background-technical-information.php. <sup>a</sup>*Climate zones* are based on ASHRAE Standard 169-2021; see https://www.eia.gov/consumption/commercial/maps.php#defined.

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

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