

Preliminary release date: September 2022

Revised date: December 2022

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Building floorspace (square feet)												
1,001 to 5,000	21	64	55	37	352	1,132	999	809	60.1	56.2	54.7	45.9
5,001 to 10,000	24	86	48	43	617	1,820	1,554	1,210	39.5	47.1	30.7	35.6
10,001 to 25,000	47	123	72	65	1,311	3,010	2,892	2,310	36.0	41.0	24.9	28.2
25,001 to 50,000	60	140	77	75	1,549	3,573	2,966	2,379	38.5	39.3	26.1	31.4
50,001 to 100,000	66	123	122	61	1,697	3,367	4,689	2,235	38.8	36.6	25.9	27.1
100,001 to 200,000	80	89	88	52	2,184	2,550	3,692	2,090	36.6	34.9	23.8	25.1
200,001 to 500,000	70	101	93	44	1,993	2,815	3,153	1,712	35.2	35.9	29.4	25.8
Over 500,000	41	60	39	Q	1,629	2,143	1,949	1,342	25.1	27.8	20.3	37.4
Principal building activity												
Education	79	130	74	33	1,894	3,358	3,496	1,505	41.5	38.7	21.2	21.9
Food sales	Q	21	Q	Q	Q	274	Q	Q	Q	75.4	Q	Q
Food service	Q	46	50	38	Q	218	325	355	Q	212.0	152.2	106.4
Health care	39	60	58	42	667	1,006	916	781	58.2	59.4	63.5	54.2
Inpatient	28	49	53	34	311	689	701	403	89.5	71.1	76.0	84.0
Outpatient	11	11	5	8	356	317	215	378	30.9	34.0	22.8	22.4
Lodging	35	63	53	64	771	1,431	1,969	1,670	45.7	44.1	27.1	38.6
Mercantile	47	103	99	72	1,127	2,483	3,436	1,946	41.9	41.4	28.9	37.1
Retail (other than mall)	8	35	26	14	339	1,340	1,285	621	25.0	26.4	20.0	22.5
Enclosed and strip malls	39	67	73	58	788	1,143	2,150	1,326	49.2	58.9	34.2	43.9
Office	48	89	55	49	2,322	3,378	2,972	2,610	20.6	26.3	18.7	18.6
Public assembly	44	79	45	40	835	1,626	1,577	1,196	52.6	48.5	28.7	33.5
Public order and safety	Q	Q	20	10	Q	Q	491	281	Q	Q	40.2	34.8
Religious worship	15	34	28	13	455	1,176	1,678	774	33.8	28.6	16.7	17.4
Service	22	47	46	25	585	1,240	887	630	38.2	38.3	51.3	39.1
Warehouse and storage	33	95	44	20	1,731	3,421	3,219	1,939	19.3	27.7	13.5	10.4
Other	17	Q	13	Q	446	Q	593	Q	38.7	Q	21.2	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year constructed												
Before 1920	28	29	14	8	861	844	424	Q	32.4	34.1	32.1	24.8
1920 to 1945	43	44	13	20	1,205	1,457	552	644	35.3	30.1	23.2	31.4
1946 to 1959	48	54	44	20	1,155	1,299	1,685	880	41.3	41.5	26.3	23.1
1960 to 1969	61	104	80	34	1,470	2,475	2,721	1,146	41.4	41.8	29.3	29.8
1970 to 1979	62	111	61	57	1,654	3,091	2,588	1,755	37.3	36.0	23.7	32.7
1980 to 1989	50	93	80	78	1,423	2,300	2,731	2,316	35.1	40.2	29.2	33.8
1990 to 1999	45	110	87	58	1,245	3,133	3,720	2,288	36.4	35.2	23.3	25.4
2000 to 2009	49	167	144	99	1,561	3,791	4,775	2,706	31.1	44.1	30.1	36.5
2010 to 2018	24	75	71	52	757	2,021	2,698	2,021	32.3	37.2	26.4	25.9
Climate zone^a												
Cold or very cold	Q	147	N	43	Q	3,888	N	Q	49.8	37.9	N	48.4
Cool	180	478	N	133	4,765	12,268	N	3,443	37.8	39.0	N	38.7
Mixed mild	219	161	156	Q	6,368	4,254	5,234	2,901	34.4	37.8	29.9	32.4
Warm	N	N	336	125	N	N	12,082	5,603	N	N	27.8	22.3
Hot or very hot	N	N	100	33	N	N	4,579	1,254	N	N	21.9	26.2

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Number of floors												
1	114	369	287	205	2,961	8,227	9,967	6,188	38.5	44.8	28.8	33.1
2	97	198	123	92	2,651	5,808	5,193	3,549	36.6	34.1	23.8	25.8
3	68	96	69	27	1,725	2,980	2,382	1,082	39.7	32.3	28.8	24.9
4 to 9	93	96	92	60	2,678	2,421	3,140	2,199	34.6	39.5	29.2	27.3
10 or more	37	28	23	Q	1,316	973	1,213	1,068	28.0	28.3	18.8	41.4
Number of workers (main shift)												
Fewer than 5	51	116	70	49	1,453	3,268	3,061	2,047	34.8	35.6	22.7	23.8
5 to 9	29	87	60	39	822	2,143	2,305	1,606	35.5	40.7	25.9	24.0
10 to 19	38	121	74	68	1,011	2,991	2,321	1,657	37.9	40.3	31.8	40.9
20 to 49	62	169	107	85	1,479	4,050	4,348	2,729	41.9	41.6	24.5	31.1
50 to 99	74	105	107	50	1,882	2,683	3,510	1,965	39.5	39.0	30.6	25.3
100 to 249	86	114	96	57	2,396	3,047	3,606	1,817	36.0	37.5	26.6	31.5
250 or more	68	75	80	81	2,288	2,227	2,743	2,264	29.8	33.6	29.2	35.7
Weekly operating hours												
Fewer than 40	31	60	33	32	920	1,976	1,919	1,205	34.1	30.2	17.4	26.4
40 to 48	49	129	84	54	1,555	3,972	4,205	2,649	31.5	32.4	19.9	20.3
49 to 60	77	165	112	70	2,730	4,488	5,296	3,531	28.1	36.8	21.2	19.9
61 to 84	82	143	92	79	2,119	3,634	3,252	2,210	38.8	39.3	28.4	35.7
85 to 167	65	109	90	62	1,464	2,585	1,949	1,380	44.6	42.2	46.4	44.7
Open continuously	105	181	181	131	2,543	3,755	5,274	3,112	41.2	48.2	34.3	42.1
Ownership and occupancy												
Nongovernment owned	299	622	457	342	8,775	15,904	16,089	10,968	34.1	39.1	28.4	31.1
Owner occupied	171	385	296	197	5,140	10,131	10,580	5,735	33.3	38.0	27.9	34.3
Leased to tenant or tenants	126	235	161	144	3,540	5,741	5,459	5,194	35.5	40.9	29.4	27.7
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government owned	110	165	137	86	2,556	4,506	5,806	3,119	43.1	36.5	23.5	27.6
Federal	Q	12	10	Q	Q	314	577	217	Q	39.2	17.9	Q
State	34	32	63	27	739	1,079	2,179	942	45.8	29.3	28.9	28.1
Local	68	121	63	53	1,602	3,113	3,049	1,960	42.2	38.8	20.8	27.3
Party responsible for operation of energy systems												
Building owner	333	633	476	346	9,414	16,859	18,095	11,053	35.4	37.6	26.3	31.3
Business owner or tenant	62	125	94	60	1,570	2,487	2,834	2,335	39.3	50.1	33.0	25.6
Property management	6	8	11	14	216	362	427	447	25.8	22.4	25.5	31.0
Other	Q	20	13	8	Q	701	539	251	Q	28.5	24.1	33.2
Provider of direct input on energy-related equipment purchases												
Building owner	352	669	497	358	9,776	17,644	19,083	11,505	36.0	37.9	26.1	31.1
Business owner or tenant	32	76	62	46	965	1,533	1,702	1,343	33.4	49.8	36.2	34.0
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	22	35	28	16	457	1,008	870	1,015	47.7	34.4	32.0	15.6

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Number of establishments												
1	272	548	403	246	6,919	14,618	14,438	8,563	39.3	37.5	27.9	28.7
2 to 5	68	128	100	108	2,078	3,233	3,835	3,091	32.7	39.5	26.2	35.0
6 to 10	27	50	35	37	944	1,079	1,469	977	28.7	46.2	23.8	38.3
11 to 20	24	35	32	21	619	697	1,055	739	39.1	49.9	30.0	28.9
More than 20	15	24	22	14	658	712	1,013	676	22.9	33.9	21.9	21.2
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant exterior wall material												
Brick, stone, or stucco	235	438	350	221	6,234	10,005	12,388	6,323	37.7	43.8	28.3	35.0
Concrete (block or poured)	107	151	105	100	2,834	4,035	3,995	3,355	37.6	37.3	26.3	29.8
Concrete panels	16	57	62	32	656	2,017	2,109	1,736	24.8	28.4	29.3	18.5
Siding or shingles	15	48	17	22	364	1,282	394	675	40.8	37.1	42.8	32.0
Metal panels	18	74	48	23	568	2,376	2,248	943	31.7	31.3	21.3	24.7
Window glass	11	10	7	12	326	360	421	563	33.4	26.5	16.6	21.8
Other	Q	9	5	17	Q	335	340	491	Q	27.4	13.6	34.2
Predominant roof material												
Metal surfacing	26	109	115	53	782	3,194	4,750	1,731	33.4	34.3	24.2	30.4
Synthetic or rubber	217	305	209	152	5,710	7,672	7,120	4,955	38.0	39.8	29.3	30.6
Built-up	78	178	129	106	2,614	4,538	4,840	3,399	30.0	39.3	26.7	31.3
Slate or tile shingles	18	35	18	23	456	669	730	779	39.6	52.8	24.7	29.5
Wooden materials (including shingles)	Q	Q	Q	13	Q	Q	Q	330	Q	Q	Q	40.4
Asphalt, fiberglass, or other shingles	43	126	85	64	1,094	3,515	2,881	2,046	39.7	36.0	29.4	31.1
Concrete	Q	Q	15	5	Q	Q	646	264	Q	Q	23.8	17.5
Other	13	17	14	12	347	452	771	582	38.7	36.7	18.7	20.9
Roof tilt												
Flat	297	472	371	274	8,418	11,458	12,634	8,701	35.3	41.2	29.4	31.5
Shallow pitch	64	218	141	103	1,694	6,226	6,057	3,853	38.0	35.1	23.2	26.8
Steeper pitch	47	96	82	50	1,219	2,725	3,204	1,532	38.8	35.2	25.5	32.9
Cool roof characteristics (more than one may apply)												
White or reflective coating or paint	121	239	239	199	3,145	5,764	8,760	6,726	38.6	41.4	27.3	29.6
White or reflective tiles or shingles	14	18	19	10	357	479	758	395	38.8	36.5	25.1	24.5
Aluminum coating	16	30	37	19	489	744	1,523	532	33.6	40.5	24.5	35.4
Ballasted roof system	40	74	34	48	1,147	1,939	1,201	1,009	34.8	37.9	28.1	47.5
Other cool roof property	Q	Q	13	6	Q	Q	646	207	Q	Q	19.7	27.5

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Renovations since 2000 (more than one may apply)												
Any type of renovation	236	409	306	210	6,025	10,743	10,748	6,231	39.1	38.1	28.4	33.6
Addition or annex	70	141	90	50	1,275	3,539	2,527	1,266	54.9	39.8	35.4	39.9
Reduction in floorspace	13	15	9	Q	281	477	377	Q	45.3	31.9	24.6	Q
Roof replacement	129	203	128	92	3,143	5,086	4,700	2,455	40.9	39.9	27.3	37.6
Interior wall reconfiguration	106	189	132	103	3,067	5,449	4,575	2,894	34.7	34.6	28.8	35.5
Window replacement	81	100	52	72	1,947	2,890	1,994	1,719	41.6	34.4	26.3	41.8
HVAC equipment upgrade	178	243	175	130	4,604	6,265	6,583	3,812	38.7	38.8	26.6	34.2
Lighting upgrade	165	268	182	155	4,392	7,328	6,755	4,337	37.7	36.6	27.0	35.8
Electrical upgrade	119	152	106	79	2,936	4,084	3,401	1,998	40.4	37.2	31.1	39.3
Plumbing system upgrade	111	135	101	80	2,843	3,584	3,355	2,076	39.0	37.7	30.1	38.5
Insulation upgrade	61	67	51	52	1,612	1,857	1,620	1,068	37.7	35.9	31.4	48.8
Fire, safety, or security upgrade	142	194	132	93	3,331	4,991	4,672	2,635	42.8	39.0	28.2	35.5
Structural upgrade	37	33	27	Q	835	1,016	830	708	44.5	32.7	33.0	58.6
Other	Q	Q	15	Q	Q	Q	513	Q	Q	Q	29.0	Q
No renovations	155	325	242	176	4,729	8,185	9,480	6,254	32.9	39.7	25.5	28.1
Buildings constructed 2013 or later	18	52	46	42	577	1,482	1,667	1,601	31.2	35.3	27.4	26.4
Energy sources (more than one may apply)												
Electricity	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Natural gas	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Fuel oil	120	137	144	120	3,561	3,718	4,554	3,124	33.7	37.0	31.6	38.4
District heat	25	16	27	20	997	1,159	1,373	805	25.1	14.1	19.4	24.8
District chilled water	9	10	33	10	291	595	1,415	624	30.0	17.3	23.0	16.2
Propane	39	38	27	Q	946	1,163	1,171	1,289	41.0	32.8	23.1	35.2
Solar	28	18	11	37	1,104	593	398	1,226	25.8	29.6	26.5	29.8
Wood, coal, and other	Q	19	Q	Q	Q	473	Q	Q	Q	39.5	Q	Q
Space-heating energy sources												
Natural gas	378	746	502	385	9,984	18,816	17,479	11,764	37.8	39.6	28.7	32.7
Natural gas main	351	706	430	346	8,893	17,082	14,158	9,927	39.4	41.3	30.4	34.8
Natural gas secondary	27	40	72	39	1,091	1,734	3,321	1,836	24.6	22.8	21.6	21.0
Other excluding natural gas	31	41	86	35	1,326	1,590	4,177	1,975	23.6	25.5	20.5	18.0
Buildings without heating	Q	Q	6	8	Q	Q	239	348	Q	Q	23.6	21.6
Primary space-heating energy source												
Electricity	35	66	135	59	1,291	2,293	6,178	3,086	27.1	28.8	21.8	19.1
Natural gas	351	706	430	346	8,893	17,082	14,158	9,927	39.4	41.3	30.4	34.8
Fuel oil	Q	N	Q	Q	245	N	Q	Q	16.7	N	Q	Q
District heat	19	14	22	14	881	1,017	1,211	683	21.6	13.5	18.2	19.8
Propane	N	N	N	Q	N	N	N	Q	N	N	N	Q
Other sources ^b	N	Q	N	Q	N	Q	N	Q	N	Q	N	Q
Cooling energy sources												
Natural gas	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other excluding natural gas	387	747	585	401	10,745	19,328	21,656	13,072	36.0	38.7	27.0	30.7
Buildings without cooling	11	31	Q	25	403	938	Q	971	26.1	33.5	Q	25.8

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Cooling equipment (more than one may apply)												
Packaged air-conditioning units	288	541	414	268	7,507	12,731	15,028	9,063	38.3	42.5	27.6	29.5
Residential-type central air conditioners	94	218	125	67	2,189	5,912	3,963	2,012	42.7	36.9	31.5	33.5
Individual air conditioners	117	131	79	61	2,601	3,096	3,023	1,663	45.1	42.2	26.1	36.4
Central chillers	114	159	152	112	3,090	3,977	5,070	2,754	36.8	39.9	29.9	40.7
Heat pumps	57	50	60	83	1,775	1,431	2,567	2,136	32.3	35.1	23.6	38.7
District chilled water	9	10	33	10	291	595	1,415	624	30.0	17.3	23.0	16.2
Swamp coolers	Q	Q	Q	41	Q	Q	361	944	Q	Q	31.0	43.3
Other	N	N	Q	Q	N	N	Q	Q	N	N	Q	Q
HVAC features (more than one may apply)												
Economizer cycle	207	351	218	213	5,642	8,702	7,028	6,505	36.6	40.3	31.1	32.8
Variable air volume (VAV) system	148	261	178	170	4,372	6,908	6,770	4,980	33.9	37.8	26.3	34.1
Dedicated outside air system (DOAS)	65	79	75	58	1,341	1,890	2,660	1,394	48.2	41.6	28.3	41.6
Demand controlled ventilation (DCV)	78	83	76	46	2,251	2,237	2,515	1,507	34.8	36.9	30.1	30.5
Regular HVAC maintenance	366	673	536	389	9,930	17,074	19,482	12,406	36.8	39.4	27.5	31.4
Building automation system (BAS) controls heating or cooling	215	356	284	228	6,079	8,750	10,117	7,144	35.3	40.6	28.0	31.9
Internet-connected or smart thermostat	19	32	37	31	478	1,157	1,846	986	38.9	27.3	19.9	31.8
Programmable thermostat	105	189	117	92	2,696	4,852	4,234	3,267	38.9	38.9	27.5	28.1
Main equipment replaced since 2000 (more than one may apply)												
Heating	190	307	200	128	4,758	8,198	7,389	4,547	39.9	37.5	27.1	28.1
Cooling	157	205	127	109	4,102	5,265	4,480	2,986	38.4	38.9	28.4	36.7
Water-heating equipment												
Centralized system	276	546	386	292	7,142	14,289	14,116	8,840	38.7	38.2	27.4	33.0
Distributed system	68	110	88	57	2,235	2,673	3,011	2,240	30.4	41.3	29.2	25.4
Combination of centralized and distributed systems	59	122	109	71	1,699	3,195	4,171	2,595	34.5	38.3	26.2	27.4
Generation technologies (more than one may apply)												
Reciprocating engine generators	173	231	205	141	4,471	5,592	6,887	3,513	38.7	41.3	29.8	40.1
Solar panels	28	17	10	36	1,100	591	388	1,207	25.8	29.6	25.9	29.6
Other generation technology	18	Q	9	15	359	Q	351	433	49.5	Q	26.8	34.2
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar, concession stand, or coffee shop	64	116	88	93	1,393	2,702	2,918	2,170	46.0	42.9	30.3	42.9
Fast food or small restaurant	72	109	81	92	1,464	2,402	2,733	2,126	49.0	45.4	29.7	43.4
Cafeteria or large restaurant	100	147	124	93	2,623	3,805	4,014	2,056	38.2	38.7	30.8	45.2
Commercial kitchen or food preparation area	139	212	165	126	2,906	4,671	5,414	3,022	47.7	45.4	30.4	41.5
Small kitchen area	113	205	129	107	2,959	5,383	4,973	3,190	38.2	38.1	25.8	33.4

Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	409	786	593	428	11,331	20,410	21,895	14,086	36.1	38.5	27.1	30.4
Annual consumption (hundred cubic feet)												
1,000 or less	4	15	15	14	375	1,023	2,364	2,247	9.4	14.4	6.5	6.3
1,001 to 5,000	43	110	81	55	1,577	4,016	4,254	2,831	27.4	27.3	19.0	19.3
5,001 to 10,000	44	111	74	65	1,506	3,228	3,382	2,037	29.4	34.3	22.0	31.8
10,001 to 25,000	64	156	131	105	2,064	3,970	4,864	3,038	31.1	39.4	27.0	34.7
25,001 to 50,000	69	151	86	48	2,224	3,037	2,855	1,383	31.0	49.6	30.0	35.0
50,001 to 100,000	79	88	82	48	1,641	1,991	2,055	1,148	48.0	44.1	40.1	42.1
Over 100,000	106	156	124	92	1,945	3,144	2,122	1,403	54.6	49.6	58.3	65.5

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

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

^b*Other sources* includes wood, coal, solar, and all other energy sources.

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.

Preliminary release date: September 2022

Revised date: December 2022

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Building floorspace (square feet)												
1,001 to 5,000	23.1	17.0	15.7	15.8	16.5	21.4	11.0	12.7	15.9	8.3	13.0	9.3
5,001 to 10,000	19.6	15.6	20.3	19.2	18.7	17.1	14.1	17.0	15.2	14.1	15.3	12.7
10,001 to 25,000	15.7	14.7	17.6	17.3	16.1	13.7	14.6	15.0	9.0	5.7	8.8	7.4
25,001 to 50,000	15.6	12.5	14.4	11.4	13.1	13.7	11.6	12.9	10.3	6.5	8.5	6.5
50,001 to 100,000	12.9	14.2	13.9	15.0	12.1	15.4	9.0	9.9	6.6	9.7	12.2	8.5
100,001 to 200,000	15.3	13.7	13.3	14.9	13.9	11.4	11.5	12.8	8.4	6.9	7.7	10.3
200,001 to 500,000	11.0	11.3	9.4	22.7	12.2	11.9	7.6	14.4	10.0	5.7	7.7	13.2
Over 500,000	20.1	13.4	14.1	52.8	15.8	14.4	16.1	33.1	14.9	12.3	13.2	31.1
Principal building activity												
Education	11.9	13.3	15.7	15.4	12.6	13.7	12.3	16.0	5.6	6.3	8.7	6.9
Food sales	43.3	30.3	42.1	39.3	42.3	29.5	37.2	28.7	4.4	9.4	44.7	26.6
Food service	40.3	19.1	17.5	19.1	33.3	14.1	17.0	20.4	30.5	11.2	11.9	11.2
Health care	17.7	13.1	12.5	16.8	14.5	12.9	11.5	16.6	10.3	8.4	7.5	11.1
Inpatient	22.2	13.6	12.4	17.9	20.4	15.6	11.3	20.3	7.0	11.3	7.6	8.3
Outpatient	18.2	27.4	25.6	22.9	19.7	23.2	20.6	21.1	12.3	12.8	16.5	24.0
Lodging	16.1	13.5	13.3	38.1	17.5	13.0	14.0	22.1	11.8	8.2	7.6	20.7
Mercantile	27.5	17.1	13.6	14.5	18.4	16.0	11.4	10.1	12.9	9.1	6.1	7.5
Retail (other than mall)	19.8	22.1	16.1	44.5	21.2	22.5	16.2	23.3	14.8	8.4	6.7	28.7
Enclosed and strip malls	31.6	21.4	16.9	17.4	25.5	17.5	14.6	13.4	12.7	12.0	6.6	9.7
Office	15.8	14.4	13.8	15.5	14.8	11.3	12.5	13.1	10.0	8.3	8.8	8.2
Public assembly	17.1	15.3	17.0	20.5	16.8	13.4	11.7	16.7	13.2	7.6	11.8	14.7
Public order and safety	37.8	39.6	40.2	29.4	30.0	40.2	32.7	28.7	16.2	34.4	13.8	6.9
Religious worship	33.0	22.1	21.9	30.3	34.0	21.8	20.3	20.4	8.7	8.7	8.2	18.7
Service	20.5	21.3	31.4	30.1	19.1	19.5	22.5	25.3	13.9	13.8	32.0	13.5
Warehouse and storage	19.1	16.3	19.5	32.2	19.5	14.0	17.7	18.5	8.0	7.2	9.3	23.2
Other	36.1	44.7	45.3	60.1	33.5	43.4	33.1	27.3	12.0	15.7	30.2	40.4
Vacant	52.0	31.8	29.4	49.8	53.9	32.1	26.6	46.6	17.3	16.2	15.7	60.1
Year constructed												
Before 1920	25.2	21.4	21.5	41.7	22.7	17.8	26.1	50.8	11.9	15.5	15.3	25.5
1920 to 1945	17.7	17.6	24.0	30.2	15.8	22.8	23.6	24.7	16.0	18.7	12.5	16.6
1946 to 1959	18.5	19.6	17.8	28.2	19.8	24.0	16.6	17.1	8.0	13.6	7.4	17.3
1960 to 1969	13.6	12.8	12.1	20.4	13.6	12.0	10.8	16.7	10.1	6.5	7.4	14.3
1970 to 1979	17.4	11.6	12.7	21.1	17.2	10.5	11.6	17.5	13.2	7.3	6.3	10.3
1980 to 1989	18.3	14.5	12.6	36.0	12.9	13.2	10.7	19.1	14.2	6.0	10.3	20.7
1990 to 1999	16.0	15.7	11.2	13.3	14.9	15.0	11.8	14.0	9.8	8.0	8.7	6.1
2000 to 2009	10.2	10.9	14.8	13.9	13.8	11.6	12.1	11.3	11.8	4.7	9.6	9.6
2010 to 2018	17.7	15.9	16.0	17.0	21.4	17.0	15.6	19.3	11.4	6.4	11.6	13.1
Climate zone^a												
Cold or very cold	50.2	25.9	0.0	48.2	50.8	27.2	0.0	52.3	2.8	5.3	0.0	9.2
Cool	16.3	12.6	0.0	18.0	17.1	12.6	0.0	17.0	6.8	4.3	0.0	5.8
Mixed mild	10.8	26.1	24.3	52.2	12.2	24.2	22.4	39.7	6.7	4.3	6.0	23.4
Warm	0.0	0.0	14.7	16.6	0.0	0.0	15.4	12.0	0.0	0.0	4.4	7.9
Hot or very hot	0.0	0.0	14.0	31.7	0.0	0.0	14.0	31.9	0.0	0.0	6.8	8.6

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Number of floors												
1	11.3	8.9	10.3	10.8	11.9	9.9	9.2	10.2	10.1	5.1	6.0	6.3
2	13.2	14.5	11.4	13.4	12.7	11.8	9.8	9.4	7.3	5.2	7.9	6.9
3	15.0	15.5	16.4	28.6	16.2	15.7	13.3	22.6	10.3	7.5	11.2	12.6
4 to 9	14.4	11.6	9.2	19.4	12.3	12.2	11.6	16.2	7.3	6.2	8.4	15.9
10 or more	15.3	11.0	28.2	56.2	17.5	27.2	24.3	35.6	10.9	33.2	24.7	30.0
Number of workers (main shift)												
Fewer than 5	19.0	12.9	17.6	22.2	20.5	15.3	16.5	16.8	6.8	9.2	11.5	13.6
5 to 9	20.5	17.8	17.6	14.3	18.2	19.2	15.9	15.5	18.2	7.3	9.4	7.2
10 to 19	20.5	16.8	13.3	14.1	17.1	19.0	13.8	12.5	13.6	7.3	8.2	10.3
20 to 49	10.9	12.0	10.8	11.1	10.5	12.3	10.5	9.4	8.4	6.4	8.0	8.5
50 to 99	14.8	14.5	16.1	14.3	13.4	13.0	11.8	11.6	8.7	5.5	13.9	10.1
100 to 249	13.3	13.5	12.4	18.9	16.0	10.6	9.8	16.3	9.0	7.8	5.6	8.6
250 or more	11.7	9.0	10.8	34.7	12.0	13.2	9.6	19.8	8.0	13.6	11.8	21.0
Weekly operating hours												
Fewer than 40	24.2	16.6	23.5	21.4	27.5	13.7	20.5	18.6	5.8	7.8	9.0	13.7
40 to 48	18.9	12.1	12.6	16.7	16.6	10.7	10.6	12.4	7.9	8.1	7.0	12.4
49 to 60	10.6	16.1	9.5	15.3	11.1	13.3	7.7	11.5	4.5	7.1	5.9	7.7
61 to 84	14.5	11.1	12.8	14.0	13.0	10.1	9.9	11.6	10.6	6.1	9.4	6.4
85 to 167	14.2	14.1	17.7	15.6	11.6	12.1	10.6	18.6	10.4	8.8	15.3	14.6
Open continuously	8.5	9.8	9.2	22.1	11.2	9.8	10.6	14.7	6.9	4.7	6.4	10.7
Ownership and occupancy												
Nongovernment owned	8.3	7.5	6.9	12.5	9.4	7.9	7.3	9.3	6.2	3.3	4.3	6.8
Owner occupied	10.3	7.3	7.6	17.0	12.1	7.7	7.4	10.7	6.1	4.4	6.4	9.7
Leased to tenant or tenants	12.6	12.0	10.4	11.2	11.3	11.2	10.2	10.2	10.2	4.2	5.2	6.6
Unoccupied	77.4	61.2	50.3	54.7	72.2	56.7	49.1	56.9	22.6	28.5	53.7	89.7
Government owned	9.5	11.2	14.4	16.7	11.1	11.9	11.8	13.4	3.5	5.6	7.6	8.6
Federal	32.6	40.2	32.4	62.6	36.0	28.1	34.5	42.2	12.5	22.3	23.4	50.8
State	25.8	23.4	22.5	22.4	25.7	23.3	19.3	20.2	6.3	9.9	12.0	14.8
Local	12.2	11.7	18.1	21.0	12.3	12.5	14.2	18.4	4.1	6.5	7.7	9.5
Party responsible for operation of energy systems												
Building owner	7.2	8.1	7.1	14.1	8.8	8.4	6.4	9.1	4.8	3.5	4.5	7.1
Business owner or tenant	23.2	17.4	12.6	11.2	19.3	17.2	13.9	12.8	12.1	7.0	8.0	11.7
Property management	35.7	35.2	37.6	25.5	28.5	34.4	23.5	26.5	16.8	24.1	23.0	20.2
Other	48.5	22.4	28.7	23.4	26.2	21.2	27.6	21.8	30.9	13.9	15.8	16.2
Provider of direct input on energy-related equipment purchases												
Building owner	7.4	8.3	7.2	13.5	9.0	8.4	6.7	9.1	4.7	3.2	4.2	6.9
Business owner or tenant	22.1	16.8	15.2	12.7	18.3	17.8	16.1	16.3	14.4	9.6	12.6	11.8
Property management	48.0	45.7	51.4	37.0	33.7	41.6	31.1	35.5	29.4	22.1	25.8	26.7
Other	27.4	18.3	19.7	27.3	24.7	15.9	16.2	17.7	18.9	12.0	11.2	13.4

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Number of establishments												
1	6.9	8.1	8.5	10.3	9.7	8.5	7.7	8.3	5.4	4.8	4.6	5.4
2 to 5	17.7	13.1	12.0	27.6	16.2	9.9	12.1	18.2	7.5	8.2	7.1	15.2
6 to 10	20.2	23.8	16.3	17.1	20.2	21.3	13.6	19.9	14.7	10.9	11.6	9.8
11 to 20	31.4	28.6	19.8	16.2	21.9	25.6	16.6	14.2	17.0	7.9	10.8	11.0
More than 20	20.4	41.0	21.0	24.9	18.4	25.1	17.5	18.8	19.7	27.9	22.3	17.5
Currently unoccupied	61.9	41.6	38.5	54.7	62.6	33.4	31.8	56.9	18.5	22.1	24.7	89.7
Predominant exterior wall material												
Brick, stone, or stucco	8.2	8.1	7.8	15.8	9.9	8.2	8.1	11.4	6.2	3.8	3.3	9.4
Concrete (block or poured)	12.0	14.4	11.2	14.2	11.9	14.7	10.2	10.1	9.5	9.3	9.0	10.4
Concrete panels	24.4	22.9	23.2	24.5	26.1	21.1	13.8	16.0	14.7	5.0	22.5	21.7
Siding or shingles	21.1	19.1	20.8	23.4	23.5	23.8	16.2	21.0	9.4	17.7	12.4	12.2
Metal panels	24.1	16.6	17.1	27.6	21.4	15.3	14.5	22.1	14.6	7.9	11.2	17.5
Window glass	34.9	36.4	29.2	30.0	33.3	19.2	23.4	26.8	26.7	22.5	16.7	11.6
Other	47.9	46.3	34.6	25.7	43.2	43.1	31.7	20.5	12.7	12.4	28.5	16.3
Predominant roof material												
Metal surfacing	23.2	12.2	13.4	22.5	22.2	14.1	9.5	19.3	9.5	7.6	8.5	9.0
Synthetic or rubber	9.2	7.1	10.7	11.6	9.3	7.1	8.8	9.6	6.1	4.8	8.6	4.5
Built-up	9.6	14.7	9.7	27.4	11.1	12.7	7.9	14.4	8.8	6.2	6.3	18.4
Slate or tile shingles	31.7	30.6	16.2	27.6	20.0	30.5	15.0	21.5	20.7	8.3	15.3	11.2
Wooden materials (including shingles)	57.3	49.1	31.0	24.6	65.3	53.7	33.0	34.4	21.8	29.6	22.9	30.2
Asphalt, fiberglass, or other shingles	10.3	13.1	11.2	23.1	15.4	13.1	10.7	17.2	11.9	5.7	7.0	13.2
Concrete	28.7	43.3	26.4	34.8	19.8	36.4	25.7	28.4	23.2	32.6	8.6	16.2
Other	25.7	28.7	23.6	18.7	20.8	17.7	16.8	19.3	13.6	26.2	18.1	14.8
Roof tilt												
Flat	7.1	8.4	6.9	15.5	8.4	7.2	5.9	9.5	5.5	4.4	5.1	8.7
Shallow pitch	13.6	10.8	10.8	14.2	13.6	12.3	11.0	11.9	9.6	5.3	4.7	7.8
Steeper pitch	17.8	11.2	11.9	22.1	20.6	11.4	9.9	19.6	7.2	4.7	8.2	11.0
Cool roof characteristics (more than one may apply)												
White or reflective coating or paint	10.2	9.8	9.1	18.8	10.7	10.1	7.0	10.7	7.7	3.8	6.6	10.8
White or reflective tiles or shingles	34.8	29.7	18.9	20.9	23.3	25.9	19.1	18.9	25.5	12.4	12.4	9.7
Aluminum coating	28.3	24.5	22.7	23.5	18.4	28.3	16.7	24.8	19.7	10.8	14.6	22.9
Ballasted roof system	12.7	20.1	18.4	49.5	12.5	19.2	13.9	29.9	8.1	6.1	14.3	29.3
Other cool roof property	44.3	53.8	33.0	34.1	40.3	37.5	35.7	31.5	13.2	20.0	19.8	13.9

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Renovations since 2000 (more than one may apply)												
Any type of renovation	7.7	7.2	7.8	16.7	8.7	7.4	7.8	10.5	5.3	3.7	5.9	8.3
Addition or annex	13.7	12.1	16.7	18.4	12.2	11.7	10.4	14.6	8.6	6.2	15.8	14.8
Reduction in floorspace	45.2	31.4	28.2	55.7	34.3	28.7	29.5	39.2	31.8	18.4	18.2	25.3
Roof replacement	11.9	7.7	9.0	27.4	11.6	7.5	10.1	16.0	7.0	5.3	6.9	16.1
Interior wall reconfiguration	15.5	9.2	9.5	30.0	13.3	7.9	7.3	16.9	8.8	5.5	7.0	15.7
Window replacement	12.8	9.8	15.2	32.7	10.7	11.3	12.0	20.8	8.8	9.8	10.6	18.1
HVAC equipment upgrade	10.3	7.1	8.3	22.5	10.5	8.6	9.3	14.7	6.7	5.1	5.9	12.4
Lighting upgrade	9.9	8.9	8.5	19.7	10.6	7.6	7.6	12.7	6.4	4.0	5.3	10.1
Electrical upgrade	11.7	11.6	10.6	32.3	12.0	12.0	13.4	19.4	8.7	7.8	8.7	17.5
Plumbing system upgrade	13.6	8.6	11.3	31.2	13.6	11.9	10.3	18.3	8.5	10.0	7.6	16.4
Insulation upgrade	17.5	13.1	12.6	45.8	18.2	16.6	14.3	31.1	13.7	15.7	13.8	22.6
Fire, safety, or security upgrade	9.9	10.9	9.6	28.9	11.1	9.2	9.1	16.6	7.3	7.2	7.0	16.5
Structural upgrade	21.1	13.0	16.5	54.4	17.6	23.2	18.9	40.7	16.7	28.7	12.4	21.9
Other	30.7	50.3	25.2	42.1	29.8	59.9	16.0	40.6	13.6	33.3	17.7	35.4
No renovations	9.7	10.3	8.8	10.1	11.6	9.8	8.0	8.3	6.7	3.6	5.7	5.8
Buildings constructed 2013 or later	24.3	19.7	18.7	16.9	26.6	18.7	19.2	18.1	13.3	8.9	13.6	12.8
Energy sources (more than one may apply)												
Electricity	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Natural gas	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Fuel oil	11.6	10.5	7.6	27.5	12.1	11.2	8.8	19.4	7.7	7.6	6.5	13.0
District heat	18.3	21.1	26.2	28.6	13.9	22.3	27.8	21.9	19.6	24.9	17.6	19.7
District chilled water	28.6	42.5	31.4	29.3	25.7	27.4	24.2	21.0	25.1	31.7	17.8	22.2
Propane	21.4	21.3	16.6	51.0	21.8	23.3	14.9	29.8	10.6	7.2	12.2	35.4
Solar	28.0	26.3	22.5	20.9	25.8	19.1	31.2	15.5	10.2	17.3	28.2	10.9
Wood, coal, and other	44.3	37.1	39.4	32.5	52.9	34.6	29.1	39.2	31.8	25.6	34.7	16.5
Space-heating energy sources												
Natural gas	6.6	7.7	6.9	13.6	8.6	8.0	6.5	9.0	5.1	2.8	4.0	6.4
Natural gas main	6.9	7.9	7.4	14.7	8.5	8.5	7.6	10.1	5.1	2.5	4.6	6.6
Natural gas secondary	15.9	21.4	12.2	15.8	15.8	19.9	9.9	9.4	9.9	18.1	7.7	11.9
Other excluding natural gas	18.9	21.0	10.5	14.8	14.0	13.4	10.3	14.9	18.1	15.8	9.1	18.7
Buildings without heating	51.2	70.5	42.4	37.9	51.2	70.5	28.6	38.0	0.0	0.0	37.4	45.9
Primary space-heating energy source												
Electricity	18.3	15.2	11.4	11.5	17.2	15.4	9.6	10.1	10.1	11.7	6.1	13.6
Natural gas	6.9	7.9	7.4	14.7	8.5	8.5	7.6	10.1	5.1	2.5	4.6	6.6
Fuel oil	56.9	0.0	76.0	99.7	37.8	0.0	74.2	99.7	40.3	0.0	175.0	0.0
District heat	24.3	22.0	25.1	24.2	18.9	24.1	29.8	21.6	21.3	29.7	18.6	20.7
Propane	0.0	0.0	0.0	48.1	0.0	0.0	0.0	48.1	0.0	0.0	0.0	0.0
Other sources ^b	0.0	41.2	0.0	49.5	0.0	45.9	0.0	49.5	0.0	19.4	0.0	0.0
Cooling energy sources												
Natural gas	36.6	52.8	57.9	80.4	30.0	52.7	48.3	52.5	20.2	14.1	49.5	81.0
Other excluding natural gas	6.7	7.4	6.3	12.1	8.6	7.4	6.3	8.2	5.1	2.8	3.4	6.5
Buildings without cooling	27.2	24.2	36.8	32.7	31.5	24.7	31.9	23.5	16.2	8.2	15.7	17.2

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Water-heating energy sources												
Natural gas	6.8	9.1	6.4	12.6	8.6	8.5	6.5	8.7	6.0	3.0	2.8	7.0
Other excluding natural gas	12.0	9.6	13.2	22.3	11.6	9.3	9.6	12.8	7.0	6.9	9.7	11.8
Buildings without water heating	53.9	29.6	37.8	28.4	47.8	28.3	27.2	25.2	23.2	7.6	18.0	21.5
Cooking energy sources												
Natural gas	8.3	7.6	5.9	13.9	8.5	6.8	5.6	10.4	5.4	3.4	3.4	6.6
Other excluding natural gas	14.2	14.1	12.9	21.9	11.9	13.7	10.2	14.5	10.0	9.4	7.9	14.4
Buildings without cooking	9.8	9.7	10.4	17.2	12.1	10.1	8.2	10.9	5.3	3.5	6.7	9.7
Energy end uses (more than one may apply)												
Buildings with space heating	6.5	7.6	6.5	12.6	8.2	7.5	6.4	8.8	4.9	2.8	3.4	6.6
Buildings with cooling	6.5	7.5	6.3	12.1	8.4	7.4	6.2	8.2	5.0	2.8	3.4	6.5
Buildings with water heating	6.3	7.6	6.3	12.4	8.1	7.4	6.1	8.7	5.1	2.8	3.4	6.3
Buildings with cooking	7.1	7.8	6.2	13.9	7.6	7.4	5.6	10.0	5.4	4.0	3.0	6.8
Buildings with manufacturing	23.2	16.5	18.7	24.7	26.1	15.6	15.7	20.1	18.2	9.4	13.3	14.9
Buildings with electricity generation	7.7	8.0	6.9	19.7	9.6	7.4	7.4	13.2	6.3	5.7	5.1	10.0
Buildings with lighting	6.5	7.6	6.2	12.3	8.2	7.5	6.0	8.6	5.0	2.8	3.4	6.3
Percentage of floorspace heated												
Not heated	51.2	70.5	42.4	37.9	51.2	70.5	28.6	38.0	0.0	0.0	37.4	45.9
1% to 50%	34.0	15.1	17.4	20.6	29.4	18.1	15.7	14.0	21.5	13.8	10.9	14.7
51% to 99%	14.7	13.0	10.2	10.6	13.1	10.9	9.8	9.8	6.7	7.5	6.6	5.9
100%	7.7	8.5	8.3	16.8	8.5	8.0	6.8	11.6	5.9	3.3	4.7	8.3
Percentage of floorspace cooled												
Not cooled	27.2	24.2	36.8	32.7	31.5	24.7	31.9	23.5	16.2	8.2	15.7	17.2
1% to 50%	12.6	13.2	15.5	24.5	14.5	10.6	14.9	14.2	10.1	5.5	8.9	15.5
51% to 99%	8.5	11.9	10.7	15.9	9.6	10.4	9.7	10.7	5.9	5.6	7.1	8.9
100%	9.3	8.1	7.5	15.4	10.4	8.1	6.9	10.5	6.9	5.2	3.6	9.3
Heating equipment (more than one may apply)												
Packaged heating units	10.1	8.4	8.5	13.9	8.6	7.8	8.2	9.4	7.6	4.5	4.8	8.7
Furnaces	15.9	10.2	12.0	13.1	20.2	11.1	11.2	12.4	9.7	6.0	6.5	7.5
Individual space heaters	12.2	12.6	12.9	23.4	12.1	11.5	9.4	13.7	7.1	5.7	10.1	12.8
Boilers	8.2	8.4	7.2	18.5	11.2	8.3	5.4	13.3	6.3	3.2	6.0	7.8
Heat pumps	11.1	14.4	10.3	30.1	13.8	12.9	7.5	14.6	9.8	12.2	6.2	18.3
District heat	20.2	20.9	26.2	25.5	15.4	22.4	27.9	21.9	19.6	27.2	17.7	18.9
Duct reheat	27.4	17.5	13.0	16.0	20.7	13.5	11.0	19.4	16.0	9.6	9.6	11.7
Other	66.8	44.6	36.9	34.3	66.0	55.9	34.3	29.9	5.7	23.8	9.2	19.6

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Cooling equipment (more than one may apply)												
Packaged air-conditioning units	6.8	7.5	7.7	9.1	8.2	7.7	7.8	7.7	5.5	3.1	4.2	5.1
Residential-type central air conditioners	13.5	8.2	10.6	19.9	13.7	9.2	10.4	17.7	7.0	5.2	6.0	6.8
Individual air conditioners	14.2	13.1	11.2	20.2	13.3	12.5	11.2	15.3	7.5	5.5	4.8	9.7
Central chillers	9.0	10.2	8.7	12.3	10.4	11.1	9.2	10.6	6.6	8.0	6.7	6.2
Heat pumps	15.5	17.7	16.3	30.1	16.9	17.2	11.6	17.6	7.7	11.8	12.2	15.9
District chilled water	28.6	42.5	31.4	29.3	25.7	27.4	24.2	21.0	25.1	31.7	17.8	22.2
Swamp coolers	54.7	34.2	56.8	20.3	71.5	32.8	43.4	17.1	66.9	14.8	22.9	12.6
Other	0.0	0.0	75.1	58.3	0.0	0.0	72.0	61.5	0.0	0.0	65.7	40.9
HVAC features (more than one may apply)												
Economizer cycle	8.6	7.2	9.7	17.0	9.5	6.5	8.7	12.4	6.6	3.7	7.2	9.1
Variable air volume (VAV) system	8.2	7.7	11.2	20.9	11.7	7.1	9.9	12.7	7.9	5.7	7.0	11.9
Dedicated outside air system (DOAS)	12.7	16.8	15.9	43.6	11.0	18.0	14.5	27.1	9.3	7.8	10.1	22.0
Demand controlled ventilation (DCV)	12.6	12.5	12.6	18.3	14.2	12.1	11.0	16.8	5.5	7.4	11.2	13.6
Regular HVAC maintenance	6.2	7.8	7.0	12.8	8.8	7.4	6.8	8.8	5.5	3.4	3.5	6.6
Building automation system (BAS) controls heating or cooling	7.0	6.2	8.0	16.9	7.9	5.5	7.1	10.2	6.3	3.6	4.4	9.7
Internet-connected or smart thermostat	21.2	31.9	15.5	29.5	22.0	27.5	19.3	19.1	16.0	25.1	11.6	16.4
Programmable thermostat	13.0	13.8	19.0	12.4	13.9	12.9	17.6	9.5	7.6	6.2	11.9	9.2
Main equipment replaced since 2000 (more than one may apply)												
Heating	11.2	8.0	9.8	12.8	10.7	8.0	9.3	10.4	7.9	4.5	6.4	6.9
Cooling	13.3	9.6	8.8	25.9	13.7	10.1	6.7	17.2	6.1	5.4	5.6	13.4
Water-heating equipment												
Centralized system	7.1	9.2	7.2	14.8	8.6	8.8	6.7	10.5	5.0	3.5	4.3	7.5
Distributed system	12.7	17.0	12.2	15.6	11.1	14.1	12.9	12.1	12.7	8.9	7.4	12.9
Combination of centralized and distributed systems	15.6	10.7	13.6	17.2	13.3	8.4	12.5	12.8	7.0	6.7	9.6	11.1
Generation technologies (more than one may apply)												
Reciprocating engine generators	7.1	10.1	7.1	24.7	10.0	8.6	7.4	17.2	7.6	6.9	5.7	12.1
Solar panels	28.0	26.4	24.4	19.8	25.9	19.2	32.0	14.9	10.2	17.4	29.4	10.7
Other generation technology	38.3	43.0	26.5	33.9	25.1	32.8	28.7	27.0	21.3	26.2	11.3	18.2
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar, concession stand, or coffee shop	12.9	11.8	11.4	28.8	14.1	12.7	12.9	17.5	8.6	9.4	7.8	15.1
Fast food or small restaurant	15.2	11.3	11.2	27.8	11.7	10.8	9.4	17.5	8.2	7.6	10.7	13.8
Cafeteria or large restaurant	10.2	8.5	10.0	31.2	8.9	8.4	7.2	20.3	8.5	7.8	8.5	14.2
Commercial kitchen or food preparation area	10.4	9.0	8.0	20.3	11.7	10.1	6.9	12.7	5.2	6.9	4.7	11.0
Small kitchen area	8.6	11.8	9.1	27.3	8.5	11.1	9.6	14.6	6.8	6.5	6.6	16.3

Relative standard errors (RSEs) for Table C25. Natural gas consumption and conditional energy intensity by census region, 2018

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	6.5	7.6	6.4	12.3	8.2	7.5	6.3	8.6	5.0	2.8	3.4	6.3
Annual consumption (hundred cubic feet)												
1,000 or less	26.7	23.6	12.3	17.8	18.4	25.4	13.8	16.3	17.8	9.3	9.5	11.2
1,001 to 5,000	11.9	16.9	11.4	12.7	10.8	15.8	9.7	9.3	9.9	10.1	6.0	7.2
5,001 to 10,000	17.6	15.5	17.0	19.5	19.0	12.3	13.4	13.8	8.1	7.1	7.2	8.6
10,001 to 25,000	14.9	10.5	11.2	13.4	13.9	9.3	10.0	11.9	8.0	4.5	7.0	7.6
25,001 to 50,000	13.0	13.3	13.9	12.8	16.5	12.5	10.8	11.3	11.2	5.0	6.8	6.6
50,001 to 100,000	14.3	12.2	14.4	14.4	13.3	11.3	13.1	13.3	7.0	7.4	8.2	8.7
Over 100,000	9.8	9.9	13.0	31.8	12.1	12.4	12.5	29.9	7.2	6.9	13.7	8.3

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

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

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

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