

**Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	206	285	122	5,919	10,285	4,122	34.8	27.7	29.5
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	12	26	10	262	437	191	46.8	60.3	50.3
5,001 to 10,000	17	16	19	588	406	473	28.4	38.9	39.5
10,001 to 25,000	40	31	16	890	1,124	672	45.0	27.9	23.8
25,001 to 50,000	39	36	Q	1,092	1,422	Q	35.6	25.6	Q
50,001 to 100,000	39	50	31	1,037	2,072	803	37.3	24.0	39.1
100,001 to 200,000	27	48	20	889	1,852	926	30.5	26.0	21.5
200,001 to 500,000	17	54	11	567	1,783	384	30.6	30.1	28.2
Over 500,000	15	23	Q	595	1,189	Q	24.8	19.4	Q
<b>Principal building activity</b>									
Education	38	37	15	1,121	1,546	698	33.8	23.6	21.1
Food sales	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food service	Q	22	Q	Q	139	Q	Q	159.9	Q
Health care	13	34	7	204	436	178	65.9	78.3	41.3
Inpatient	Q	32	Q	Q	353	Q	Q	90.3	Q
Outpatient	Q	Q	Q	Q	Q	Q	Q	Q	Q
Lodging	19	27	6	436	961	282	44.0	28.3	20.3
Mercantile	26	46	15	775	1,559	585	33.0	29.8	26.0
Retail (other than mall)	13	10	7	488	505	372	27.3	20.6	18.6
Enclosed and strip malls	Q	36	Q	Q	1,054	Q	Q	34.2	Q
Office	31	26	12	998	1,580	368	30.7	16.3	32.0
Public assembly	14	28	Q	357	978	Q	38.2	28.2	Q
Public order and safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious worship	Q	13	Q	Q	704	Q	Q	19.0	14.6
Service	Q	14	Q	Q	342	Q	Q	42.3	Q
Warehouse and storage	25	22	14	902	1,421	902	27.8	15.2	15.5
Other	Q	7	Q	Q	356	Q	Q	20.8	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Year constructed</b>									
Before 1920	Q	9	Q	Q	250	Q	Q	37.2	Q
1920 to 1945	Q	6	Q	Q	247	Q	Q	23.4	Q
1946 to 1959	14	19	10	552	724	404	26.1	26.0	23.8
1960 to 1969	22	39	17	569	1,358	635	39.6	28.6	26.9
1970 to 1979	31	31	13	1,037	1,110	586	30.0	27.7	21.4
1980 to 1989	38	40	15	916	1,103	448	41.2	36.5	32.5
1990 to 1999	29	44	16	985	1,937	646	29.9	22.6	25.2
2000 to 2009	45	60	38	1,012	2,231	863	44.2	26.7	43.5
2010 to 2018	15	38	Q	512	1,323	Q	29.0	28.4	25.3
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	77	N	N	1,952	N	N	39.3	N	N
Cool	70	N	N	2,294	N	N	30.7	N	N
Mixed mild	59	101	Q	1,674	3,445	Q	35.0	29.2	27.5
Warm	N	155	104	N	5,559	3,476	N	27.8	29.9
Hot or very hot	N	29	Q	N	1,281	Q	N	22.9	Q

**Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	206	285	122	5,919	10,285	4,122	34.8	27.7	29.5
<b>Number of floors</b>									
1	87	109	75	2,316	3,901	2,061	37.4	28.0	36.2
2	63	68	20	1,835	2,336	1,059	34.3	29.2	19.1
3	29	40	12	976	1,238	496	29.7	31.9	25.2
4 to 9	22	56	13	628	2,002	372	35.0	28.0	33.8
10 or more	5	12	Q	163	807	Q	31.8	14.7	Q
<b>Number of workers (main shift)</b>									
Fewer than 5	25	30	18	871	1,105	902	28.2	26.8	19.6
5 to 9	23	22	15	546	804	582	41.9	27.3	25.3
10 to 19	32	30	15	946	968	408	34.0	30.6	35.8
20 to 49	61	47	26	1,555	1,895	946	39.5	24.9	27.3
50 to 99	25	52	29	691	1,875	509	35.6	27.7	57.3
100 to 249	24	57	11	795	2,023	489	30.4	27.9	23.0
250 or more	16	48	8	517	1,615	286	31.2	29.5	29.4
<b>Weekly operating hours</b>									
Fewer than 40	14	12	Q	559	751	Q	25.9	15.4	16.9
40 to 48	38	30	23	1,190	1,377	1,055	31.6	21.8	21.8
49 to 60	41	60	22	1,197	2,751	978	33.9	21.8	22.5
61 to 84	43	46	13	1,213	1,692	310	35.7	26.9	42.6
85 to 167	24	46	27	718	1,110	338	32.9	41.8	Q
Open continuously	46	91	26	1,042	2,604	834	44.4	35.0	31.6
<b>Ownership and occupancy</b>									
Nongovernment owned	159	224	93	4,610	7,596	2,955	34.5	29.4	31.6
Owner occupied	94	145	66	2,946	4,923	2,059	31.8	29.5	32.1
Leased to tenant or tenants	65	78	27	1,651	2,631	896	39.3	29.7	30.6
Unoccupied	Q	Q	N	Q	Q	N	Q	Q	N
Government owned	47	61	28	1,310	2,689	1,167	35.8	22.7	24.2
Federal	Q	Q	Q	Q	Q	Q	Q	13.4	Q
State	5	28	14	226	996	499	22.6	28.3	27.2
Local	36	28	Q	967	1,339	550	36.8	21.0	24.0
<b>Party responsible for operation of energy systems</b>									
Building owner	166	231	100	4,827	8,549	3,351	34.4	27.0	29.7
Business owner or tenant	29	39	20	685	1,190	610	42.2	32.5	32.7
Property management	Q	Q	Q	Q	260	Q	Q	28.7	Q
Other	Q	7	Q	Q	286	Q	Q	26.1	Q
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	170	234	104	4,967	8,898	3,583	34.3	26.3	28.9
Business owner or tenant	20	29	Q	511	760	Q	38.4	37.6	Q
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	14	18	Q	345	513	Q	41.1	34.5	Q

**Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	206	285	122	5,919	10,285	4,122	34.8	27.7	29.5
<b>Number of establishments</b>									
1	154	190	92	4,340	6,590	2,953	35.4	28.8	31.1
2 to 5	22	50	14	775	1,708	621	28.7	29.0	23.1
6 to 10	Q	15	Q	Q	798	Q	Q	18.9	Q
11 to 20	Q	16	Q	Q	553	Q	Q	28.9	Q
More than 20	Q	14	Q	Q	584	Q	Q	23.5	Q
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Predominant exterior wall material</b>									
Brick, stone, or stucco	116	179	65	2,999	5,897	2,517	38.6	30.4	25.8
Concrete (block or poured)	35	44	16	1,035	1,826	574	33.8	24.3	28.6
Concrete panels	13	27	Q	439	1,184	331	29.8	22.7	Q
Siding or shingles	17	Q	Q	Q	Q	Q	Q	Q	Q
Metal panels	23	16	10	877	739	505	26.1	21.9	19.4
Window glass	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Predominant roof material</b>									
Metal surfacing	29	50	23	1,082	1,899	963	26.8	26.4	23.4
Synthetic or rubber	85	109	44	2,421	4,010	1,114	35.2	27.1	39.3
Built-up	49	70	22	1,250	2,394	784	39.0	29.2	28.3
Slate or tile shingles	Q	7	Q	Q	289	Q	Q	23.4	Q
Wooden materials (including shingles)	Q	Q	Q	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	28	33	21	826	1,026	812	33.8	32.5	26.0
Concrete	Q	8	Q	Q	334	Q	Q	24.3	Q
Other	Q	5	Q	Q	292	Q	Q	18.4	Q
<b>Roof tilt</b>									
Flat	123	186	75	3,266	6,260	2,008	37.8	29.6	37.4
Shallow pitch	56	66	25	1,898	2,710	1,266	29.7	24.3	19.4
Steeper pitch	26	33	22	755	1,315	848	34.4	25.3	25.9
<b>Cool roof characteristics (more than one may apply)</b>									
White or reflective coating or paint	62	116	53	1,714	4,231	1,510	36.2	27.3	35.3
White or reflective tiles or shingles	Q	8	Q	Q	383	Q	Q	21.4	Q
Aluminum coating	Q	14	Q	Q	586	Q	Q	24.4	Q
Ballasted roof system	16	21	Q	450	784	Q	34.8	27.4	Q
Other cool roof property	Q	7	Q	Q	437	Q	Q	16.2	Q







**Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 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)		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	206	285	122	5,919	10,285	4,122	34.8	27.7	29.5
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	31	53	9	840	1,698	324	37.2	31.1	28.7
Fast food or small restaurant	18	40	11	522	1,440	344	35.2	28.0	31.6
Cafeteria or large restaurant	32	73	12	973	2,196	559	32.5	33.1	21.3
Commercial kitchen or food preparation area	59	92	20	1,457	2,882	702	40.2	32.0	28.9
Small kitchen area	52	64	17	1,495	2,472	694	34.5	25.7	24.0
<b>Annual consumption (hundred cubic feet)</b>									
1,000 or less	Q	7	3	Q	877	440	13.1	7.5	7.3
1,001 to 5,000	24	28	21	958	1,561	996	24.7	18.2	21.2
5,001 to 10,000	34	35	15	1,110	1,601	711	30.6	22.0	21.3
10,001 to 25,000	44	58	29	1,170	2,283	942	37.8	25.5	30.9
25,001 to 50,000	43	46	13	992	1,522	470	43.6	30.0	27.3
50,001 to 100,000	27	48	11	592	1,198	295	46.2	40.1	37.6
Over 100,000	28	62	29	714	1,242	268	39.7	50.3	109.2

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.

<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.

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.



**Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	29.0	21.7	22.3	35.9	15.1	28.4	18.1	19.3	19.6
5,001 to 10,000	26.4	30.6	43.2	41.3	23.3	31.6	43.3	30.9	16.4
10,001 to 25,000	23.1	27.3	39.9	19.4	21.6	42.3	10.2	12.2	13.4
25,001 to 50,000	29.1	14.6	36.7	34.3	12.1	40.8	12.7	12.1	9.0
50,001 to 100,000	21.7	17.2	40.6	31.5	11.8	19.1	26.0	11.3	42.4
100,001 to 200,000	19.9	14.5	44.3	14.7	14.4	34.6	10.2	12.6	15.4
200,001 to 500,000	23.1	13.6	12.4	18.7	11.0	14.3	10.1	11.8	16.3
Over 500,000	29.4	19.1	31.5	28.4	23.6	41.0	16.6	16.3	63.4
<b>Principal building activity</b>									
Education	27.7	21.4	32.8	32.0	21.9	28.2	17.4	12.4	9.3
Food sales	69.0	81.1	64.1	74.8	62.3	52.0	11.0	45.8	32.6
Food service	32.4	24.0	43.7	16.6	26.7	47.6	30.4	23.4	13.2
Health care	25.8	17.3	37.2	20.7	19.4	26.0	13.5	9.3	35.4
Inpatient	26.5	16.8	33.9	26.6	17.6	22.1	15.0	9.7	35.8
Outpatient	59.3	36.1	58.1	46.4	36.4	40.6	25.3	22.8	47.4
Lodging	15.8	14.9	40.4	15.9	18.4	42.0	9.0	10.1	8.2
Mercantile	22.0	19.5	22.1	15.3	18.4	20.3	18.0	7.1	20.8
Retail (other than mall)	26.6	22.3	43.9	30.5	25.7	40.0	19.3	10.5	18.2
Enclosed and strip malls	45.2	22.0	31.0	38.1	21.0	26.1	25.4	8.5	20.4
Office	29.2	14.3	24.5	20.5	17.3	26.2	13.8	11.7	14.7
Public assembly	31.5	23.5	45.0	22.8	14.0	53.7	28.7	16.7	17.4
Public order and safety	51.9	42.7	51.8	48.7	42.6	30.3	13.8	17.3	49.5
Religious worship	47.2	29.0	62.0	45.7	25.8	54.5	8.3	13.9	20.8
Service	47.6	41.7	51.8	37.1	25.3	37.0	37.9	32.4	49.8
Warehouse and storage	35.6	32.0	34.5	29.5	27.2	40.3	12.9	13.7	11.5
Other	72.6	45.6	57.1	74.5	49.1	55.8	7.5	17.9	41.6
Vacant	72.0	41.7	59.9	62.7	31.4	60.3	73.1	21.1	5.8
<b>Year constructed</b>									
Before 1920	64.9	28.2	51.3	57.0	30.0	79.4	47.5	10.3	125.4
1920 to 1945	47.0	31.1	48.9	55.9	33.7	51.7	36.9	17.0	31.8
1946 to 1959	46.2	28.4	42.4	49.4	24.6	35.5	16.8	15.9	11.4
1960 to 1969	20.1	14.1	19.0	24.4	14.6	21.5	24.3	7.7	8.3
1970 to 1979	18.0	14.7	17.2	20.7	14.8	8.4	11.3	7.3	15.6
1980 to 1989	26.9	20.1	23.1	21.4	15.0	19.7	6.9	16.1	24.6
1990 to 1999	28.6	14.5	30.6	33.8	14.9	39.6	13.0	11.7	26.8
2000 to 2009	22.6	19.6	42.7	27.1	13.8	45.6	10.7	8.4	41.6
2010 to 2018	26.2	19.0	61.6	26.1	20.7	54.7	14.5	21.2	31.0
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	22.8	0.0	0.0	26.1	0.0	0.0	9.3	0.0	0.0
Cool	18.2	0.0	0.0	26.1	0.0	0.0	12.1	0.0	0.0
Mixed mild	23.3	14.0	56.7	21.4	14.8	60.5	5.1	7.0	11.7
Warm	0.0	13.1	29.6	0.0	13.3	33.2	0.0	2.4	14.6
Hot or very hot	0.0	21.1	71.2	0.0	30.9	70.7	0.0	17.3	2.9



**Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Number of floors</b>									
1	17.6	14.9	27.1	20.4	12.8	26.7	15.0	6.7	19.5
2	22.3	13.9	35.0	20.7	10.7	34.8	9.3	13.3	8.2
3	19.5	24.0	20.4	22.7	20.1	29.6	17.5	15.8	33.0
4 to 9	19.4	10.7	33.9	26.7	16.1	32.4	13.7	12.5	12.2
10 or more	38.9	23.0	15.9	30.7	32.0	30.0	25.2	17.0	25.2
<b>Number of workers (main shift)</b>									
Fewer than 5	25.0	32.7	37.8	38.4	22.8	42.8	28.7	18.4	8.9
5 to 9	26.3	17.6	43.1	23.7	14.3	35.0	15.0	18.2	13.5
10 to 19	29.5	15.8	30.2	34.9	21.6	27.9	11.6	13.8	28.5
20 to 49	24.3	17.1	23.0	24.9	16.0	27.1	11.3	15.1	17.9
50 to 99	24.3	14.3	46.7	21.6	14.9	29.1	10.4	13.8	38.4
100 to 249	23.2	17.8	20.6	22.9	14.2	22.5	11.3	7.4	15.9
250 or more	20.5	13.2	23.9	20.4	14.1	20.2	18.6	17.0	23.0
<b>Weekly operating hours</b>									
Fewer than 40	40.6	36.7	50.9	37.0	25.9	51.5	7.5	16.7	3.0
40 to 48	17.4	18.7	32.6	20.5	15.4	29.4	21.8	10.7	8.7
49 to 60	25.3	13.6	20.7	21.7	10.1	19.9	10.5	8.8	11.6
61 to 84	21.1	18.1	39.7	17.0	12.9	28.3	9.8	11.1	29.4
85 to 167	21.1	17.9	44.5	22.8	10.0	41.5	19.0	14.0	53.9
Open continuously	7.9	14.1	14.5	8.5	18.6	19.5	4.2	10.1	16.6
<b>Ownership and occupancy</b>									
Nongovernment owned	9.7	6.5	23.8	12.2	7.5	27.7	4.7	4.3	18.0
Owner occupied	10.4	7.1	24.4	15.0	9.0	22.4	7.8	6.3	23.4
Leased to tenant or tenants	17.2	10.5	34.5	17.2	10.4	42.7	5.0	7.3	15.8
Unoccupied	95.7	67.5	0.0	83.6	56.4	0.0	11.0	67.0	0.0
Government owned	22.6	22.5	31.5	26.2	20.7	24.3	16.9	10.9	14.0
Federal	71.3	51.5	49.7	48.2	50.5	56.4	34.4	28.2	38.5
State	20.5	38.0	18.9	22.5	38.5	8.8	12.8	17.9	15.6
Local	25.6	22.3	56.6	32.1	18.1	44.5	20.4	10.2	19.5
<b>Party responsible for operation of energy systems</b>									
Building owner	12.3	8.2	22.3	16.5	8.1	22.4	7.1	4.6	15.3
Business owner or tenant	28.7	20.6	28.8	33.5	23.7	30.1	13.2	12.2	20.3
Property management	50.3	51.9	78.1	53.0	32.2	36.3	19.2	29.7	92.0
Other	45.1	34.9	61.9	44.0	30.0	59.4	25.8	25.4	5.8
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	12.2	8.1	21.3	15.8	8.0	23.1	6.4	4.1	14.7
Business owner or tenant	38.5	23.9	32.3	39.4	25.9	34.5	16.4	18.1	38.8
Property management	53.3	67.4	102.9	59.5	55.0	45.3	25.3	17.3	100.6
Other	31.2	23.5	44.1	29.9	18.8	34.5	18.0	11.6	56.7

**Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Number of establishments</b>									
1	14.5	10.8	22.8	17.2	11.3	22.6	10.7	4.0	15.8
2 to 5	11.4	18.3	29.9	12.5	16.3	44.3	9.9	7.8	27.0
6 to 10	34.0	20.7	37.1	32.7	19.2	26.6	33.0	17.0	16.1
11 to 20	68.0	29.1	47.4	62.7	21.9	33.5	13.8	17.9	25.0
More than 20	29.4	24.1	66.1	40.9	25.6	43.8	22.8	35.5	44.9
Currently unoccupied	86.2	62.8	59.9	56.0	41.0	60.3	21.3	46.8	5.8
<b>Predominant exterior wall material</b>									
Brick, stone, or stucco	13.8	10.6	20.6	14.4	11.7	22.7	6.7	5.1	6.7
Concrete (block or poured)	16.0	12.7	36.8	17.8	11.3	44.3	10.8	9.1	15.9
Concrete panels	22.3	20.6	51.8	29.1	18.0	40.0	11.1	21.5	57.4
Siding or shingles	35.7	27.2	38.0	53.9	22.9	30.9	55.2	16.1	24.3
Metal panels	29.3	28.0	29.0	27.3	23.9	23.4	8.3	18.2	18.1
Window glass	58.6	48.3	111.7	40.7	34.7	81.1	31.1	25.8	119.6
Other	47.5	47.2	67.7	48.3	50.1	39.0	31.4	45.1	56.2
<b>Predominant roof material</b>									
Metal surfacing	24.4	19.6	40.7	25.7	10.8	29.3	5.8	14.4	17.1
Synthetic or rubber	10.7	11.1	33.0	11.8	9.7	35.1	8.4	10.6	32.7
Built-up	26.0	14.0	15.5	23.8	10.1	10.5	7.4	8.6	12.5
Slate or tile shingles	39.5	29.1	21.5	39.2	32.6	23.9	12.9	29.2	5.3
Wooden materials (including shingles)	99.7	29.4	47.2	99.7	36.6	48.1	0.0	36.6	14.3
Asphalt, fiberglass, or other shingles	18.8	18.0	25.0	20.7	14.2	27.1	16.8	9.6	19.2
Concrete	69.8	23.4	79.0	63.3	19.8	87.4	49.7	13.0	43.0
Other	64.8	37.4	47.0	43.1	28.5	42.6	44.9	43.2	28.0
<b>Roof tilt</b>									
Flat	15.3	8.4	20.2	14.9	9.0	13.2	8.5	7.0	16.1
Shallow pitch	14.9	11.8	40.2	15.8	11.5	38.2	7.9	7.0	11.5
Steeper pitch	19.0	15.2	28.3	17.6	15.5	25.0	11.1	15.9	9.2
<b>Cool roof characteristics (more than one may apply)</b>									
White or reflective coating or paint	19.0	9.4	27.1	20.6	8.3	23.7	4.8	7.1	24.8
White or reflective tiles or shingles	73.5	28.4	42.3	73.2	30.3	36.7	7.9	22.4	14.1
Aluminum coating	29.6	32.3	35.5	31.3	21.7	33.4	16.8	22.1	17.0
Ballasted roof system	28.6	17.8	59.5	26.8	17.4	68.9	9.7	12.9	62.5
Other cool roof property	89.7	44.6	61.0	71.5	47.6	61.5	29.1	20.7	65.6



Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Cooling energy sources</b>									
Natural gas	44.4	60.4	50.2	44.4	52.9	50.2	0.0	42.1	0.0
Other excluding natural gas	11.5	6.5	20.4	12.7	7.1	22.6	5.5	3.3	12.2
Buildings without cooling	62.6	52.2	33.2	53.0	52.0	40.3	19.3	22.1	24.8
<b>Water-heating energy sources</b>									
Natural gas	15.4	8.2	14.0	15.9	10.0	15.5	8.0	4.4	4.9
Other excluding natural gas	20.9	14.6	33.6	19.0	10.6	35.5	8.8	8.9	29.8
Buildings without water heating	79.6	39.9	64.8	67.9	29.1	50.3	29.8	25.7	29.0
<b>Cooking energy sources</b>									
Natural gas	9.4	7.8	22.2	11.8	7.4	23.1	6.7	4.6	6.8
Other excluding natural gas	24.9	14.8	24.4	21.7	14.0	24.3	15.9	10.1	27.1
Buildings without cooking	19.4	11.4	26.7	21.5	10.2	24.9	6.6	6.5	20.9
<b>Energy end uses (more than one may apply)</b>									
Buildings with space heating	11.8	6.9	20.1	13.6	7.3	22.3	5.8	3.5	12.1
Buildings with cooling	11.5	6.6	20.3	12.8	7.1	22.4	5.4	3.3	12.2
Buildings with water heating	11.8	6.9	19.7	13.4	7.3	21.3	5.8	3.7	12.3
Buildings with cooking	8.8	7.9	21.4	11.3	7.5	20.9	7.6	3.9	6.0
Buildings with manufacturing	40.4	34.2	41.1	34.8	27.6	29.6	23.4	20.5	18.6
Buildings with electricity generation	11.8	7.8	22.8	12.7	9.9	28.8	5.4	7.1	10.8
Buildings with lighting	11.8	6.9	19.1	13.6	7.1	20.3	5.8	3.5	12.0
<b>Percentage of floorspace heated</b>									
Not heated	0.0	35.3	0.0	0.0	35.1	0.0	0.0	35.3	0.0
1% to 50%	37.0	29.9	23.4	43.4	22.8	17.3	44.9	23.5	15.7
51% to 99%	16.2	13.4	16.1	16.5	12.8	27.2	8.1	9.5	14.4
100%	13.2	9.1	24.5	14.3	6.8	23.2	5.9	5.1	16.3
<b>Percentage of floorspace cooled</b>									
Not cooled	62.6	52.2	33.2	53.0	52.0	40.3	19.3	22.1	24.8
1% to 50%	27.7	17.6	29.5	20.0	20.3	29.9	14.8	11.6	9.0
51% to 99%	17.1	12.8	29.7	16.0	13.3	29.9	7.7	6.7	27.6
100%	14.7	7.6	22.8	16.2	8.2	23.1	8.0	5.0	5.8
<b>Heating equipment (more than one may apply)</b>									
Packaged heating units	14.3	8.6	25.7	14.1	7.3	30.7	9.6	4.5	19.1
Furnaces	19.8	21.2	12.5	19.6	19.4	14.7	8.4	12.1	8.2
Individual space heaters	18.0	14.8	32.8	21.5	11.4	26.7	15.0	8.5	36.9
Boilers	13.3	9.8	17.3	14.3	6.8	13.5	6.4	9.1	8.6
Heat pumps	24.9	13.5	21.0	28.5	9.4	20.1	17.7	7.8	11.9
District heat	41.6	38.4	69.1	35.5	42.0	60.8	34.6	31.0	19.5
Duct reheat	31.2	16.4	38.4	23.7	15.2	24.7	16.7	11.8	23.3
Other	98.5	40.3	50.7	98.5	37.8	50.7	0.0	9.0	0.0

**Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Cooling equipment (more than one may apply)</b>									
Packaged air-conditioning units	13.1	7.8	24.1	11.5	7.7	28.2	6.5	3.7	16.7
Residential-type central air conditioners	16.3	18.8	14.0	18.0	16.1	18.7	8.6	5.5	15.9
Individual air conditioners	22.1	17.5	25.2	24.5	16.2	25.0	9.7	6.5	8.2
Central chillers	10.8	11.5	21.8	12.4	13.6	16.4	7.1	9.8	12.3
Heat pumps	33.7	19.6	36.2	37.6	14.5	24.2	23.9	14.7	28.8
District chilled water	67.2	44.9	72.1	49.2	35.5	62.3	55.0	34.9	22.6
Swamp coolers	53.0	57.9	59.6	52.8	43.1	55.5	31.7	41.6	6.2
Other	0.0	103.1	50.9	0.0	103.1	50.9	0.0	0.0	0.0
<b>HVAC features (more than one may apply)</b>									
Economizer cycle	11.7	8.0	31.6	11.6	11.2	21.8	5.7	7.5	26.8
Variable air volume (VAV) system	10.2	13.2	29.4	15.6	13.4	13.2	10.4	8.7	23.0
Dedicated outside air system (DOAS)	24.6	20.5	35.9	31.9	22.6	25.0	16.1	12.6	25.8
Demand controlled ventilation (DCV)	25.9	15.7	28.2	22.0	15.8	26.9	15.2	16.7	26.7
Regular HVAC maintenance	10.4	7.5	24.9	12.2	7.4	27.9	7.7	3.3	15.7
Building automation system (BAS) controls heating or cooling	9.9	7.6	15.3	9.5	8.0	13.5	5.5	6.1	5.5
Internet-connected or smart thermostat	33.4	23.9	42.5	28.1	32.5	48.8	30.9	20.3	27.1
Programmable thermostat	25.8	17.2	41.6	27.2	12.0	54.5	10.4	12.4	47.5
<b>Main equipment replaced since 2000 (more than one may apply)</b>									
Heating	14.4	14.3	26.4	10.5	11.4	30.4	12.7	11.4	10.8
Cooling	23.6	12.6	9.4	23.5	9.9	14.2	5.3	7.4	13.3
<b>Water-heating equipment</b>									
Centralized system	16.0	8.7	19.3	17.0	9.9	14.9	5.7	4.6	14.5
Distributed system	22.9	15.9	20.6	15.6	19.0	15.9	12.3	9.9	15.9
Combination of centralized and distributed systems	19.6	15.5	48.7	13.7	13.1	46.7	14.7	14.7	7.9
<b>Generation technologies (more than one may apply)</b>									
Reciprocating engine generators	12.8	7.8	21.9	15.5	9.8	31.0	6.9	8.0	14.8
Solar panels	36.8	26.4	103.9	35.7	37.8	83.5	14.2	34.4	88.0
Other generation technology	2.8	48.0	49.9	2.8	49.8	47.5	0.0	14.9	20.8

**Relative standard errors (RSEs) for Table C28. Natural gas consumption and conditional energy intensity by census division (part 2), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central	West North Central	South Atlantic	East South Central
<b>All buildings</b>	11.8	6.9	20.1	13.6	7.1	22.3	5.8	3.5	12.1
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	20.8	15.4	41.6	16.7	17.4	48.3	9.3	10.8	12.9
Fast food or small restaurant	18.5	17.5	18.0	20.2	13.3	16.3	11.3	17.7	21.8
Cafeteria or large restaurant	9.3	13.2	31.5	18.3	11.9	11.6	14.5	11.9	25.1
Commercial kitchen or food preparation area	15.1	11.8	20.9	14.6	9.5	18.5	6.7	6.2	10.5
Small kitchen area	11.6	13.3	21.7	13.3	15.2	28.0	11.2	9.0	20.5
<b>Annual consumption (hundred cubic feet)</b>									
1,000 or less	65.4	15.3	23.1	62.5	17.7	14.8	6.5	11.9	16.4
1,001 to 5,000	25.6	14.7	31.6	28.3	12.8	32.3	7.8	10.9	2.9
5,001 to 10,000	24.1	25.4	42.7	23.2	20.9	36.5	10.0	7.4	21.7
10,001 to 25,000	18.6	14.1	29.4	16.5	13.4	23.6	9.7	8.3	11.1
25,001 to 50,000	25.8	18.3	34.1	19.1	13.2	32.7	10.0	8.5	15.8
50,001 to 100,000	20.4	21.2	22.3	16.6	20.3	15.3	12.9	12.5	12.0
Over 100,000	18.4	12.8	44.2	29.6	20.0	15.7	16.1	18.3	32.8

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>.

<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.