

**Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 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 South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	19	21	16	371	288	521	50.3	73.7	30.6
5,001 to 10,000	13	25	18	674	535	674	19.5	47.0	26.6
10,001 to 25,000	25	37	28	1,097	1,073	1,237	22.7	34.8	22.6
25,001 to 50,000	30	34	41	1,071	917	1,462	27.7	37.0	27.9
50,001 to 100,000	41	30	30	1,814	976	1,258	22.3	30.9	24.1
100,001 to 200,000	20	27	25	914	960	1,130	21.7	28.4	22.2
200,001 to 500,000	28	15	29	987	568	1,144	28.4	27.3	25.1
Over 500,000	12	Q	18	560	Q	710	21.8	51.6	24.8
<b>Principal building activity</b>									
Education	23	20	13	1,252	757	748	18.2	26.6	17.3
Food sales	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food service	14	23	15	115	194	161	123.5	118.8	91.4
Health care	17	16	26	302	280	501	55.2	57.9	52.2
Inpatient	15	Q	21	235	Q	267	65.6	Q	78.4
Outpatient	Q	Q	5	Q	Q	234	Q	Q	22.3
Lodging	20	Q	26	727	809	861	28.1	47.3	30.4
Mercantile	38	34	38	1,292	913	1,034	29.1	37.7	36.6
Retail (other than mall)	8	Q	4	408	350	270	20.4	28.7	14.3
Enclosed and strip malls	29	24	34	884	562	763	33.0	43.3	44.4
Office	18	19	30	1,025	1,002	1,608	17.5	19.0	18.4
Public assembly	14	23	17	476	493	703	29.4	46.4	24.5
Public order and safety	Q	Q	Q	Q	Q	Q	Q	Q	Q
Religious worship	7	Q	8	471	Q	493	15.5	Q	15.8
Service	Q	Q	Q	Q	Q	Q	Q	Q	Q
Warehouse and storage	8	13	7	896	560	1,378	8.9	23.1	5.2
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Year constructed</b>									
Before 1920	Q	Q	Q	Q	Q	Q	Q	Q	Q
1920 to 1945	Q	Q	13	Q	Q	457	Q	Q	28.9
1946 to 1959	16	11	10	556	319	562	28.6	33.1	17.4
1960 to 1969	24	10	24	728	335	811	32.7	29.3	30.0
1970 to 1979	18	30	28	892	739	1,016	20.2	40.3	27.2
1980 to 1989	25	Q	31	1,181	1,001	1,315	21.2	47.2	23.7
1990 to 1999	27	33	25	1,136	1,033	1,255	23.4	32.2	19.7
2000 to 2009	47	53	46	1,681	1,279	1,427	27.8	41.1	32.3
2010 to 2018	24	28	24	999	850	1,172	24.2	33.5	20.3
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	N	Q	Q	N	Q	Q	N	48.9	Q
Cool	N	104	Q	N	2,695	747	N	38.4	39.6
Mixed mild	Q	Q	Q	Q	Q	1,783	33.1	44.8	24.6
Warm	78	Q	113	3,047	Q	5,060	25.6	22.0	22.3
Hot or very hot	69	24	Q	3,247	910	Q	21.4	26.6	25.0

**Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 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 South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
<b>Number of floors</b>									
1	103	114	91	4,005	2,664	3,524	25.8	42.6	25.9
2	35	45	46	1,798	1,510	2,039	19.5	29.9	22.8
3	17	14	13	648	458	624	25.5	31.5	20.0
4 to 9	23	19	41	765	688	1,511	30.1	27.8	27.0
10 or more	Q	Q	13	272	Q	440	33.2	49.1	30.4
<b>Number of workers (main shift)</b>									
Fewer than 5	22	24	24	1,054	729	1,318	21.2	33.4	18.4
5 to 9	23	20	19	919	612	995	25.1	32.7	18.7
10 to 19	30	40	28	945	873	784	31.3	45.4	35.9
20 to 49	33	46	39	1,508	1,178	1,551	22.2	39.2	24.9
50 to 99	26	24	26	1,125	810	1,155	23.3	29.2	22.6
100 to 249	28	29	28	1,094	737	1,080	25.9	39.9	25.7
250 or more	24	Q	41	843	1,010	1,255	28.5	39.6	32.6
<b>Weekly operating hours</b>									
Fewer than 40	11	8	24	560	270	934	20.4	28.4	25.8
40 to 48	31	31	23	1,773	1,043	1,606	17.4	30.0	14.1
49 to 60	30	44	26	1,567	1,810	1,721	19.4	24.4	15.2
61 to 84	34	39	40	1,250	853	1,357	27.0	45.3	29.7
85 to 167	17	33	29	501	595	785	34.2	55.7	36.4
Open continuously	64	68	63	1,837	1,378	1,734	34.6	49.6	36.1
<b>Ownership and occupancy</b>									
Nongovernment owned	140	171	171	5,538	4,464	6,504	25.2	38.2	26.3
Owner occupied	84	101	96	3,599	2,514	3,220	23.4	40.2	29.7
Leased to tenant or tenants	55	69	75	1,932	1,936	3,258	28.6	35.8	23.0
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government owned	47	53	33	1,950	1,485	1,634	24.2	35.4	20.5
Federal	Q	Q	Q	Q	Q	197	Q	Q	Q
State	21	20	7	684	492	450	30.9	39.7	15.6
Local	22	32	21	1,160	973	986	18.9	33.4	21.3
<b>Party responsible for operation of energy systems</b>									
Building owner	145	182	163	6,194	4,916	6,137	23.4	37.1	26.6
Business owner or tenant	35	30	30	1,034	756	1,580	33.8	39.6	18.8
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	160	191	167	6,602	5,134	6,372	24.3	37.2	26.2
Business owner or tenant	19	21	25	566	476	867	32.9	43.5	28.8
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	8	Q	Q	739	Q	Q	11.4



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	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
<b>Renovations since 2000 (more than one may apply)</b>									
Any type of renovation	97	115	94	3,830	2,829	3,402	25.3	40.8	27.7
Addition or annex	26	24	27	933	640	626	28.2	37.2	42.6
Reduction in floorspace	Q	Q	Q	Q	Q	Q	Q	Q	Q
Roof replacement	36	52	40	1,603	1,148	1,308	22.7	45.6	30.5
Interior wall reconfiguration	44	69	34	1,630	1,488	1,406	27.0	46.4	23.9
Window replacement	14	48	24	589	924	795	23.6	52.1	30.0
HVAC equipment upgrade	54	69	61	2,289	1,828	1,984	23.7	37.8	30.8
Lighting upgrade	59	84	71	2,307	1,997	2,340	25.7	42.0	30.5
Electrical upgrade	32	Q	33	1,170	950	1,048	27.2	47.7	31.7
Plumbing system upgrade	31	48	32	1,154	990	1,086	26.5	48.8	29.1
Insulation upgrade	15	Q	12	542	695	373	28.3	57.8	32.1
Fire, safety, or security upgrade	44	54	40	1,816	1,183	1,452	24.1	45.6	27.2
Structural upgrade	8	Q	15	238	Q	329	35.6	Q	45.1
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	74	83	93	3,013	2,416	3,838	24.7	34.4	24.1
Buildings constructed 2013 or later	15	25	18	645	704	897	23.9	35.2	19.6
<b>Energy sources (more than one may apply)</b>									
Electricity	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
Natural gas	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
Fuel oil	37	69	51	1,200	1,626	1,498	31.2	42.5	34.0
District heat	9	Q	11	372	252	553	23.3	35.0	20.2
District chilled water	Q	Q	6	442	185	439	23.5	21.8	13.8
Propane	8	Q	17	366	Q	701	21.5	Q	23.9
Solar	Q	10	27	Q	370	856	Q	26.3	31.3
Wood, coal, and other	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Space-heating energy sources</b>									
Natural gas	158	208	176	5,927	5,242	6,521	26.6	39.7	27.1
Natural gas main	141	195	151	5,010	4,523	5,404	28.1	43.0	28.0
Natural gas secondary	17	13	25	917	719	1,117	18.3	18.7	22.5
Other excluding natural gas	26	13	23	1,441	682	1,293	18.0	18.9	17.5
Buildings without heating	Q	Q	5	Q	Q	323	Q	Q	Q
<b>Primary space-heating energy source</b>									
Electricity	35	21	38	1,945	1,181	1,906	18.0	18.0	19.8
Natural gas	141	195	151	5,010	4,523	5,404	28.1	43.0	28.0
Fuel oil	Q	Q	N	Q	Q	N	Q	Q	N
District heat	8	5	8	347	214	470	21.9	23.8	18.0
Propane	N	N	Q	N	N	Q	N	N	Q
Other sources <sup>b</sup>	N	N	Q	N	N	Q	N	N	Q



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	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
<b>Cooling equipment (more than one may apply)</b>									
Packaged air-conditioning units	124	134	134	5,203	3,662	5,401	23.8	36.6	24.7
Residential-type central air conditioners	44	36	31	1,457	936	1,076	30.4	38.7	28.9
Individual air conditioners	27	23	37	1,016	549	1,115	26.4	42.1	33.6
Central chillers	39	36	76	1,365	968	1,785	28.3	37.0	42.7
Heat pumps	4	Q	42	318	1,003	1,133	14.0	40.5	37.2
District chilled water	Q	Q	6	442	185	439	23.5	21.8	13.8
Swamp coolers	Q	21	20	Q	478	466	Q	44.6	41.9
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>HVAC features (more than one may apply)</b>									
Economizer cycle	61	110	103	2,232	2,818	3,687	27.4	39.0	27.9
Variable air volume (VAV) system	46	98	72	2,046	2,328	2,652	22.4	41.9	27.3
Dedicated outside air system (DOAS)	24	Q	24	846	Q	716	28.0	50.6	33.1
Demand controlled ventilation (DCV)	22	22	24	770	606	901	28.3	35.5	27.0
Regular HVAC maintenance	165	208	181	6,583	5,469	6,937	25.1	38.1	26.0
Building automation system (BAS) controls heating or cooling	84	119	110	3,452	3,170	3,974	24.5	37.4	27.6
Internet-connected or smart thermostat	15	22	9	629	470	515	24.7	46.7	18.1
Programmable thermostat	37	44	47	1,603	1,240	2,027	22.9	35.8	23.4
<b>Main equipment replaced since 2000 (more than one may apply)</b>									
Heating	68	59	69	2,660	1,752	2,795	25.7	33.5	24.7
Cooling	40	66	43	1,528	1,434	1,552	26.5	46.0	28.0
<b>Water-heating equipment</b>									
Centralized system	124	164	127	4,890	4,167	4,674	25.4	39.4	27.3
Distributed system	29	29	28	1,200	776	1,464	23.9	36.8	19.3
Combination of centralized and distributed systems	33	25	46	1,305	841	1,754	25.3	30.3	26.0
<b>Generation technologies (more than one may apply)</b>									
Reciprocating engine generators	60	86	55	2,121	1,870	1,643	28.4	46.0	33.4
Solar panels	Q	10	26	Q	370	837	Q	26.3	31.0
Other generation technology	Q	Q	11	Q	Q	316	Q	Q	33.7

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	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	187	223	204	7,488	5,948	8,138	25.0	37.5	25.1
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	26	52	41	896	1,015	1,155	29.3	51.1	35.6
Fast food or small restaurant	30	51	41	949	945	1,181	31.6	54.0	34.9
Cafeteria or large restaurant	39	Q	38	1,259	1,149	907	31.1	47.9	41.7
Commercial kitchen or food preparation area	52	72	53	1,830	1,623	1,399	28.4	44.6	38.0
Small kitchen area	48	63	43	1,807	1,663	1,528	26.7	38.1	28.3
<b>Annual consumption (hundred cubic feet)</b>									
1,000 or less	6	4	10	1,046	569	1,677	5.3	7.5	5.9
1,001 to 5,000	31	27	28	1,696	1,130	1,701	18.3	23.8	16.3
5,001 to 10,000	24	38	26	1,070	979	1,059	22.3	39.2	24.8
10,001 to 25,000	44	52	54	1,638	1,206	1,832	27.0	42.9	29.2
25,001 to 50,000	27	27	21	863	755	628	31.4	36.4	33.3
50,001 to 100,000	23	27	22	562	578	570	41.3	45.9	38.3
Over 100,000	32	Q	44	613	Q	671	52.3	65.3	65.7

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 C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Building floorspace (square feet)</b>									
1,001 to 5,000	32.9	20.7	24.2	18.8	22.4	15.5	25.7	11.0	15.8
5,001 to 10,000	18.2	25.1	30.7	19.3	21.0	25.9	23.6	16.5	16.8
10,001 to 25,000	29.0	25.1	23.1	19.3	23.6	18.9	19.2	6.4	13.7
25,001 to 50,000	31.4	17.5	14.8	21.8	25.1	13.6	15.8	13.9	7.9
50,001 to 100,000	18.0	22.0	20.1	16.4	14.9	13.1	12.2	10.8	12.7
100,001 to 200,000	17.7	18.3	23.4	9.3	16.9	18.6	13.5	10.0	18.1
200,001 to 500,000	16.0	32.7	30.3	12.0	25.3	17.6	11.0	15.8	18.2
Over 500,000	25.6	79.7	30.6	15.5	62.8	28.5	20.2	36.0	25.4
<b>Principal building activity</b>									
Education	32.8	17.2	26.7	15.6	18.0	25.3	22.6	8.7	9.1
Food sales	65.1	43.3	66.2	52.9	17.5	51.1	82.5	52.1	31.2
Food service	28.0	17.4	41.2	20.5	23.6	35.1	21.9	15.2	19.6
Health care	22.4	23.4	23.0	16.7	26.3	21.3	11.8	13.5	15.9
Inpatient	23.7	25.4	24.4	19.9	31.1	26.3	11.4	13.0	11.0
Outpatient	38.1	37.4	29.1	22.3	33.6	27.1	25.3	14.3	41.2
Lodging	25.7	62.5	21.2	23.6	42.6	15.3	14.8	30.3	15.2
Mercantile	25.0	21.0	20.4	18.3	14.7	14.1	11.1	12.5	9.6
Retail (other than mall)	18.8	61.3	19.2	16.9	36.5	25.8	9.3	35.6	10.3
Enclosed and strip malls	31.7	29.6	21.9	23.9	22.6	17.0	12.1	18.0	10.9
Office	35.2	29.1	17.6	21.0	27.7	12.5	18.4	10.3	11.6
Public assembly	26.7	28.4	29.4	20.0	29.5	19.5	19.9	25.2	18.8
Public order and safety	57.8	35.4	50.8	53.1	37.1	44.9	14.9	8.3	14.4
Religious worship	19.0	34.1	46.1	18.7	28.1	27.5	12.0	23.6	30.0
Service	42.9	35.4	57.4	47.7	27.4	47.1	64.0	16.0	20.7
Warehouse and storage	19.8	47.1	29.0	24.7	36.1	20.9	20.9	24.4	19.5
Other	93.9	84.5	69.8	46.7	61.5	29.2	74.6	78.5	40.7
Vacant	55.2	79.3	62.8	67.3	70.9	56.8	34.4	32.5	87.6
<b>Year constructed</b>									
Before 1920	39.6	66.2	43.8	53.6	77.7	38.1	32.0	45.8	17.8
1920 to 1945	49.2	54.4	36.0	40.1	50.7	27.8	27.1	9.4	25.2
1946 to 1959	25.9	46.4	31.1	29.7	37.9	15.9	9.8	21.4	23.9
1960 to 1969	30.3	31.1	25.5	21.7	24.9	21.3	19.3	19.6	18.9
1970 to 1979	32.6	30.7	29.0	27.0	27.5	22.6	14.2	8.9	16.9
1980 to 1989	18.4	58.5	18.8	18.5	41.4	12.0	12.3	26.5	12.1
1990 to 1999	21.3	16.5	22.2	16.4	18.8	20.4	15.0	9.6	7.2
2000 to 2009	16.4	16.9	22.7	16.0	15.0	16.8	7.5	13.9	13.8
2010 to 2018	27.5	27.9	16.4	24.5	29.9	25.1	12.1	12.1	19.2
<b>Climate zone<sup>a</sup></b>									
Cold or very cold	0.0	58.4	71.1	0.0	64.0	73.2	0.0	14.5	8.0
Cool	0.0	17.6	50.9	0.0	16.5	49.6	0.0	7.2	8.9
Mixed mild	86.8	83.1	59.5	83.7	73.1	45.5	14.4	34.6	25.9
Warm	41.5	69.2	16.9	40.5	68.7	11.0	4.9	1.9	8.8
Hot or very hot	18.0	21.7	102.0	15.6	17.1	105.0	7.8	11.2	46.3



**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Number of floors</b>									
1	14.0	16.0	14.1	12.7	15.9	13.0	7.4	8.9	8.2
2	23.4	18.1	20.3	14.6	11.9	14.1	12.0	9.5	9.8
3	34.2	47.7	27.5	21.4	44.0	22.1	16.9	9.6	19.6
4 to 9	19.9	21.4	26.5	20.2	22.4	21.0	9.6	14.6	21.8
10 or more	63.9	79.2	34.4	32.2	57.2	28.4	44.5	41.9	19.0
<b>Number of workers (main shift)</b>									
Fewer than 5	16.1	35.6	26.5	20.0	25.2	22.1	22.1	16.5	16.4
5 to 9	32.0	19.0	21.1	30.1	21.5	21.0	15.6	9.5	9.7
10 to 19	25.4	20.8	18.0	23.8	18.7	16.5	7.9	13.8	14.8
20 to 49	17.0	13.8	17.9	14.7	12.7	13.1	10.8	11.5	13.3
50 to 99	30.8	15.3	23.5	24.0	16.4	16.1	19.7	13.5	15.8
100 to 249	18.4	30.7	21.2	13.7	29.3	18.8	9.3	11.5	11.0
250 or more	22.7	66.3	22.7	12.6	38.2	18.3	18.1	42.5	15.6
<b>Weekly operating hours</b>									
Fewer than 40	33.7	26.4	27.0	19.1	25.0	22.7	21.0	11.8	17.5
40 to 48	15.8	23.0	23.2	12.7	19.5	15.8	13.8	13.6	19.3
49 to 60	15.0	21.9	18.6	12.0	17.3	15.4	10.6	8.4	11.0
61 to 84	19.5	24.7	13.2	17.3	22.9	12.4	16.8	6.4	7.9
85 to 167	38.8	20.3	24.3	21.2	24.4	26.9	27.8	16.8	23.0
Open continuously	16.5	40.6	13.5	14.6	30.3	11.0	10.6	15.6	10.6
<b>Ownership and occupancy</b>									
Nongovernment owned	12.2	22.4	11.3	11.0	18.0	9.7	6.2	10.1	7.2
Owner occupied	14.3	30.9	12.9	12.5	20.5	10.5	9.7	15.6	8.8
Leased to tenant or tenants	18.7	17.9	14.4	14.4	18.8	11.8	9.9	10.8	8.4
Unoccupied	71.7	79.3	73.2	71.7	70.9	78.2	0.0	32.5	216.3
Government owned	23.9	23.2	22.7	15.2	19.3	17.9	14.6	10.1	11.5
Federal	52.8	28.3	68.9	54.7	55.4	46.1	41.4	84.9	57.4
State	43.0	27.4	36.8	25.4	24.1	33.2	25.4	16.1	12.0
Local	27.5	30.8	23.3	22.5	26.7	24.0	13.7	9.5	12.7
<b>Party responsible for operation of energy systems</b>									
Building owner	12.3	23.4	14.7	8.5	16.4	9.8	8.2	10.5	7.5
Business owner or tenant	17.5	13.2	18.4	18.2	19.1	16.1	12.3	15.1	17.7
Property management	40.0	36.0	36.9	37.1	44.3	33.4	25.6	49.7	20.1
Other	66.0	29.4	37.8	76.9	27.9	32.0	42.7	17.9	25.9
<b>Provider of direct input on energy-related equipment purchases</b>									
Building owner	13.3	21.8	14.9	9.1	15.8	10.3	7.4	10.1	7.5
Business owner or tenant	21.7	14.2	19.5	22.7	23.2	21.0	19.7	19.0	14.9
Property management	48.0	63.0	38.5	39.4	63.1	43.0	38.6	37.4	21.6
Other	47.1	52.1	22.9	41.7	57.9	10.7	19.5	17.6	17.5

**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Number of establishments</b>									
1	15.2	14.9	14.2	9.8	13.6	10.5	8.4	6.2	8.1
2 to 5	19.0	48.3	22.0	16.9	34.1	16.8	11.8	23.9	15.6
6 to 10	29.2	20.4	25.9	23.8	20.1	32.6	21.4	10.1	18.6
11 to 20	31.1	32.6	16.3	32.7	28.3	14.7	15.0	26.8	7.2
More than 20	40.6	35.0	34.5	23.2	36.6	19.1	26.4	20.7	28.7
Currently unoccupied	71.7	79.3	73.2	71.7	70.9	78.2	0.0	32.5	216.3
<b>Predominant exterior wall material</b>									
Brick, stone, or stucco	13.0	28.4	13.0	11.1	19.9	12.8	5.4	15.2	9.6
Concrete (block or poured)	19.6	21.0	17.5	15.1	13.9	14.7	19.0	12.9	13.5
Concrete panels	26.5	46.3	24.0	25.6	30.5	18.5	21.7	32.3	23.1
Siding or shingles	37.4	25.5	34.1	36.5	20.3	30.9	28.2	24.3	14.8
Metal panels	28.0	33.7	48.4	24.2	22.9	35.9	19.2	16.4	32.4
Window glass	31.0	45.7	33.3	31.4	44.6	30.2	26.5	5.9	22.3
Other	64.9	38.2	34.4	54.5	33.5	23.0	50.2	17.4	23.1
<b>Predominant roof material</b>									
Metal surfacing	18.8	21.2	42.6	15.5	17.3	30.3	14.0	9.2	19.1
Synthetic or rubber	21.4	16.1	13.8	13.4	17.0	7.5	12.1	4.3	9.3
Built-up	18.4	53.6	14.1	17.6	31.8	12.1	10.9	31.8	14.3
Slate or tile shingles	25.2	54.6	31.2	15.8	49.1	24.0	25.4	19.6	12.5
Wooden materials (including shingles)	84.5	28.7	45.8	65.3	28.5	57.1	74.8	19.6	46.7
Asphalt, fiberglass, or other shingles	15.5	37.9	28.0	14.8	23.2	24.2	8.0	18.8	16.8
Concrete	48.7	57.1	40.2	39.4	52.4	31.0	28.3	12.2	19.3
Other	35.0	32.7	20.0	23.6	35.5	20.8	15.5	22.0	19.5
<b>Roof tilt</b>									
Flat	12.3	26.7	12.0	9.5	19.5	6.8	5.7	13.1	8.5
Shallow pitch	16.2	17.8	23.9	14.7	14.9	17.9	7.8	5.9	14.4
Steeper pitch	21.7	24.1	30.1	13.0	9.2	26.8	14.5	20.3	13.1
<b>Cool roof characteristics (more than one may apply)</b>									
White or reflective coating or paint	18.4	31.3	12.0	11.7	22.2	8.4	10.0	14.4	8.2
White or reflective tiles or shingles	30.1	47.3	17.5	29.5	44.0	15.9	15.7	6.1	14.9
Aluminum coating	42.8	37.2	28.7	30.2	47.8	26.5	30.1	30.9	37.4
Ballasted roof system	50.1	59.9	33.4	19.1	37.7	26.7	42.3	35.8	24.4
Other cool roof property	79.1	61.0	40.6	61.1	60.8	36.0	57.6	2.6	20.9

**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Renovations since 2000 (more than one may apply)</b>									
Any type of renovation	13.1	27.7	15.8	12.9	20.4	9.0	9.4	12.0	8.7
Addition or annex	16.4	23.5	28.2	10.8	22.9	18.7	12.8	16.5	24.2
Reduction in floorspace	47.8	64.4	64.6	53.7	71.9	44.5	24.3	15.0	31.2
Roof replacement	17.8	46.8	15.1	17.6	31.6	11.3	8.1	25.3	11.7
Interior wall reconfiguration	17.3	42.9	25.9	13.1	30.7	12.7	10.8	16.7	18.7
Window replacement	18.9	46.8	28.9	17.5	32.0	25.8	13.9	23.7	9.0
HVAC equipment upgrade	15.1	38.9	19.3	16.3	27.6	12.3	11.7	22.1	10.3
Lighting upgrade	16.1	33.5	17.3	13.6	24.3	11.2	11.4	15.9	9.3
Electrical upgrade	20.7	54.4	17.6	23.5	38.6	12.0	14.7	27.3	12.2
Plumbing system upgrade	22.1	49.6	22.1	18.2	34.7	14.9	14.0	22.0	13.1
Insulation upgrade	17.7	58.8	29.2	22.3	45.8	25.6	20.0	25.1	20.1
Fire, safety, or security upgrade	18.0	47.1	23.2	16.2	32.4	14.2	10.4	24.3	14.1
Structural upgrade	26.8	82.8	33.8	23.4	72.5	27.9	15.6	27.6	18.4
Other	13.4	49.7	70.9	15.9	46.1	62.2	14.7	11.9	85.8
No renovations	16.4	14.9	13.5	14.1	15.3	9.7	13.2	7.7	8.8
Buildings constructed 2013 or later	27.4	26.5	15.9	24.9	29.2	22.4	10.2	12.5	19.7
<b>Energy sources (more than one may apply)</b>									
Electricity	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
Natural gas	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
Fuel oil	16.7	45.1	22.1	11.9	34.0	17.0	9.0	18.5	15.0
District heat	40.7	54.0	28.0	43.3	40.2	25.8	23.4	27.9	22.0
District chilled water	56.9	53.4	33.4	41.4	31.2	26.8	26.3	32.2	27.1
Propane	33.4	78.8	30.6	22.3	50.1	35.3	26.7	50.4	23.9
Solar	58.5	35.2	25.4	55.4	31.9	17.3	66.5	8.2	14.4
Wood, coal, and other	59.9	35.7	66.9	56.8	46.8	61.5	34.4	22.8	40.4
<b>Space-heating energy sources</b>									
Natural gas	12.8	22.4	13.7	9.4	16.7	9.2	7.3	8.7	7.0
Natural gas main	13.8	23.5	14.9	10.3	18.9	9.8	7.7	8.3	8.0
Natural gas secondary	18.7	28.0	19.0	17.1	17.7	10.5	13.6	17.4	15.8
Other excluding natural gas	14.8	19.9	19.8	12.9	26.0	18.1	14.0	22.7	25.7
Buildings without heating	68.9	51.6	49.1	45.3	29.6	40.8	63.9	38.7	52.2
<b>Primary space-heating energy source</b>									
Electricity	19.7	18.0	14.7	13.6	13.8	14.0	10.7	16.8	19.1
Natural gas	13.8	23.5	14.9	10.3	18.9	9.8	7.7	8.3	8.0
Fuel oil	49.9	99.7	0.0	49.9	99.7	0.0	0.0	0.0	0.0
District heat	43.9	43.5	28.3	46.2	37.9	26.1	22.9	22.9	29.1
Propane	0.0	0.0	48.1	0.0	0.0	48.1	0.0	0.0	0.0
Other sources <sup>b</sup>	0.0	0.0	49.5	0.0	0.0	49.5	0.0	0.0	0.0

**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Cooling energy sources</b>									
Natural gas	0.0	3.9	85.1	0.0	3.9	55.0	0.0	0.0	85.8
Other excluding natural gas	11.3	21.0	11.0	8.5	16.0	7.8	5.8	9.4	6.9
Buildings without cooling	56.0	52.7	36.6	45.3	33.6	31.7	20.8	26.0	15.4
<b>Water-heating energy sources</b>									
Natural gas	12.8	21.8	11.6	9.7	16.4	9.2	5.7	9.6	7.9
Other excluding natural gas	12.9	39.0	20.5	12.3	24.9	11.7	9.8	20.6	10.3
Buildings without water heating	64.8	36.9	45.1	44.7	22.3	39.8	55.8	28.9	23.3
<b>Cooking energy sources</b>									
Natural gas	7.3	23.9	12.1	4.9	17.7	12.0	6.1	10.0	5.2
Other excluding natural gas	26.9	27.7	33.3	17.3	16.1	25.0	13.8	21.7	18.5
Buildings without cooking	17.8	30.5	14.5	12.2	23.9	9.9	8.3	9.7	12.0
<b>Energy end uses (more than one may apply)</b>									
Buildings with space heating	11.8	21.2	12.3	9.0	16.3	9.5	5.9	9.0	7.5
Buildings with cooling	11.3	21.0	11.2	8.5	16.0	7.9	5.8	9.4	7.0
Buildings with water heating	11.5	21.4	11.6	8.6	16.8	8.6	5.9	9.1	6.8
Buildings with cooking	9.4	24.0	12.4	6.7	16.5	12.2	6.1	11.3	5.0
Buildings with manufacturing	26.0	20.1	46.9	23.2	25.3	31.8	22.3	9.4	30.8
Buildings with electricity generation	15.5	34.4	15.4	8.9	25.0	11.4	10.3	14.3	11.1
Buildings with lighting	11.4	21.0	11.8	8.6	16.2	8.9	5.8	9.0	6.7
<b>Percentage of floorspace heated</b>									
Not heated	68.9	51.6	49.1	45.3	29.6	40.8	63.9	38.7	52.2
1% to 50%	32.1	26.5	27.9	32.9	26.5	16.0	7.6	15.0	20.9
51% to 99%	21.4	14.4	14.9	15.9	17.7	10.6	12.7	9.9	8.2
100%	17.0	26.5	17.4	12.9	19.6	12.9	8.1	11.1	10.3
<b>Percentage of floorspace cooled</b>									
Not cooled	56.0	52.7	36.6	45.3	33.6	31.7	20.8	26.0	15.4
1% to 50%	34.7	33.7	30.7	29.7	29.3	15.4	23.4	8.6	26.0
51% to 99%	15.5	26.4	18.8	12.3	18.6	12.1	6.0	13.8	11.4
100%	16.0	28.4	10.3	11.6	20.8	8.3	7.7	15.4	9.0
<b>Heating equipment (more than one may apply)</b>									
Packaged heating units	14.8	22.3	13.1	11.3	15.8	11.2	7.0	11.9	9.8
Furnaces	19.9	21.2	13.2	19.3	18.1	16.5	10.2	8.0	11.6
Individual space heaters	22.3	39.3	20.5	17.2	24.9	13.6	9.4	20.9	10.0
Boilers	12.9	30.5	16.6	11.2	23.4	13.4	8.2	11.2	7.6
Heat pumps	17.1	58.2	21.0	11.9	28.5	13.3	14.9	38.8	10.1
District heat	40.7	49.5	28.0	43.3	37.0	26.6	23.4	33.1	22.2
Duct reheat	25.5	35.5	17.2	14.1	39.1	17.9	19.4	21.6	10.2
Other	99.2	31.3	106.0	99.2	31.4	95.5	0.0	18.9	70.8

**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Cooling equipment (more than one may apply)</b>									
Packaged air-conditioning units	13.2	15.1	10.8	10.5	15.5	7.4	6.3	7.2	7.5
Residential-type central air conditioners	16.1	29.3	26.2	18.3	27.9	22.3	12.7	4.9	12.3
Individual air conditioners	16.2	30.0	27.2	19.6	25.6	19.2	10.1	9.8	14.5
Central chillers	16.8	22.5	14.7	13.7	21.2	11.6	10.4	9.6	7.7
Heat pumps	37.5	56.8	22.2	26.5	32.5	16.1	20.7	34.1	10.0
District chilled water	56.9	53.4	33.4	41.4	31.2	26.8	26.3	32.2	27.1
Swamp coolers	82.7	25.2	32.7	71.0	20.1	27.8	30.9	9.9	25.2
Other	50.8	67.7	99.6	50.8	70.1	73.6	0.0	1.4	56.0
<b>HVAC features (more than one may apply)</b>									
Economizer cycle	22.9	29.8	15.2	17.3	22.4	13.7	9.8	13.9	8.8
Variable air volume (VAV) system	27.4	34.5	16.7	19.9	23.7	12.5	15.1	16.8	11.1
Dedicated outside air system (DOAS)	32.0	72.0	22.9	19.2	54.5	11.8	20.8	33.1	18.1
Demand controlled ventilation (DCV)	27.7	23.1	27.4	17.3	22.1	23.2	16.7	17.2	20.1
Regular HVAC maintenance	11.7	21.6	11.6	9.3	16.3	8.7	5.4	9.3	7.3
Building automation system (BAS) controls heating or cooling	21.4	30.3	12.7	16.0	19.3	10.0	9.9	15.6	8.6
Internet-connected or smart thermostat	22.4	38.6	41.9	20.9	29.7	24.7	13.6	12.7	30.5
Programmable thermostat	33.4	16.4	18.6	32.6	18.8	10.1	8.2	6.3	17.1
<b>Main equipment replaced since 2000 (more than one may apply)</b>									
Heating	14.9	20.2	16.3	13.4	19.1	11.9	8.6	9.8	9.7
Cooling	19.2	40.3	22.4	12.2	28.7	20.0	10.0	16.0	12.2
<b>Water-heating equipment</b>									
Centralized system	13.1	24.8	11.2	11.1	19.5	9.6	5.4	10.7	7.3
Distributed system	24.0	21.6	23.1	22.1	18.7	15.6	15.1	17.4	18.6
Combination of centralized and distributed systems	23.7	17.5	25.1	12.4	17.5	16.9	17.9	9.3	16.6
<b>Generation technologies (more than one may apply)</b>									
Reciprocating engine generators	16.7	37.5	23.7	9.1	29.1	16.5	10.8	14.5	16.7
Solar panels	58.5	35.2	23.8	55.4	31.9	16.2	66.5	8.2	14.2
Other generation technology	39.1	58.2	41.3	44.0	54.1	30.6	14.0	14.5	25.4

**Relative standard errors (RSEs) for Table C29. Natural gas consumption and conditional energy intensity by census division (part 3), 2018**

	RSEs for total natural gas consumption			RSEs for total floorspace of buildings using natural gas			RSEs for natural gas energy intensity		
	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific	West South Central	Mountain	Pacific
<b>All buildings</b>	11.4	21.0	11.9	8.6	16.2	8.9	5.8	9.0	6.8
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>									
Snack bar, concession stand, or coffee shop	16.5	48.9	20.7	13.2	31.7	17.5	10.8	23.6	10.5
Fast food or small restaurant	16.6	46.4	24.4	14.2	32.6	18.2	9.4	19.5	11.3
Cafeteria or large restaurant	18.7	50.7	20.2	8.4	33.0	19.3	14.2	23.9	7.6
Commercial kitchen or food preparation area	11.3	33.8	13.5	11.0	21.0	12.8	8.1	18.4	6.4
Small kitchen area	14.6	44.0	19.6	11.3	24.8	14.4	10.5	25.7	10.4
<b>Annual consumption (hundred cubic feet)</b>									
1,000 or less	24.9	30.5	22.0	26.6	24.0	20.1	17.7	14.8	14.2
1,001 to 5,000	17.2	19.5	16.6	11.2	17.3	10.7	12.3	8.4	11.2
5,001 to 10,000	26.1	30.3	19.6	15.8	23.9	15.6	15.0	10.7	8.8
10,001 to 25,000	19.6	18.7	18.7	18.8	16.2	16.4	15.9	8.1	11.1
25,001 to 50,000	27.2	19.4	15.3	20.6	18.7	11.4	14.0	8.4	10.6
50,001 to 100,000	25.0	15.7	25.2	19.9	17.0	20.2	11.5	13.4	11.2
Over 100,000	16.7	56.5	25.5	14.7	51.4	27.8	7.4	9.2	15.6

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.