

Table C38. District heat consumption and expenditure intensities, 2012

	District heat consumption		District heat expenditures			
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Building floorspace (square feet)						
1,001 to 25,000	806	75.0	50.9	17.3	1.61	21.42
25,001 to 50,000	2,940	79.8	71.9	55.3	1.50	18.80
50,001 to 100,000	4,997	73.3	64.2	84.2	1.23	16.84
100,001 to 200,000	8,650	59.0	Q	187.5	1.28	21.68
200,001 to 500,000	17,418	56.2	45.7	333.4	1.08	19.14
Over 500,000	49,493	46.9	27.5	976.0	0.93	19.72
Principal building activity						
Education	5,215	56.2	85.2	85.8	0.92	16.46
Food sales	N	N	N	N	N	N
Food service	Q	Q	Q	Q	Q	Q
Health care	33,123	99.3	50.3	597.1	1.79	18.03
Inpatient	49,661	108.4	58.3	903.2	1.97	18.19
Outpatient	Q	Q	Q	Q	Q	Q
Lodging	7,723	49.4	128.4	165.5	1.06	21.43
Mercantile	Q	Q	Q	Q	Q	Q
Retail (other than mall)	Q	Q	Q	Q	Q	Q
Enclosed and strip malls	Q	Q	Q	Q	Q	Q
Office	6,130	42.3	17.3	144.4	1.00	23.55
Public assembly	9,513	71.8	102.5	165.0	1.25	17.35
Public order and safety	Q	Q	Q	Q	Q	Q
Religious worship	N	N	N	N	N	N
Service	Q	Q	Q	Q	Q	Q
Warehouse and storage	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	Q
Year constructed						
Before 1920	5,028	47.1	40.6	103.6	0.97	20.60
1920 to 1945	5,497	44.8	25.0	124.0	1.01	22.56
1946 to 1959	Q	65.8	54.6	108.1	1.20	18.32
1960 to 1969	7,330	65.5	54.5	132.3	1.18	18.04
1970 to 1979	7,574	78.9	39.0	171.0	1.78	22.57
1980 to 1989	9,499	36.9	21.9	184.6	0.72	19.44
1990 to 1999	7,851	35.9	31.5	142.9	0.65	18.21
2000 to 2003	7,079	60.7	70.7	110.2	0.94	15.57
2004 to 2007	14,439	62.6	73.9	247.5	1.07	17.14
2008 to 2012	Q	Q	Q	Q	Q	Q

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All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Census region and division						
Northeast	7,661	60.0	29.3	196.7	1.54	25.67
New England	Q	106.4	Q	Q	1.80	16.92
Middle Atlantic	9,227	49.9	23.3	274.2	1.48	29.71
Midwest	8,553	63.8	69.3	135.1	1.01	15.79
East North Central	10,913	56.6	56.9	154.8	0.80	14.18
West North Central	6,694	76.1	96.1	119.6	1.36	17.86
South	6,483	54.2	52.6	106.9	0.89	16.49
South Atlantic	6,901	50.8	42.5	118.8	0.87	17.22
East South Central	Q	Q	72.7	Q	Q	17.98
West South Central	Q	59.3	66.5	102.7	0.86	14.54
West	6,309	51.0	41.5	105.1	0.85	16.66
Mountain	Q	48.3	43.6	Q	0.72	15.00
Pacific	4,130	54.3	39.6	76.1	1.00	18.42
Climate region¹						
Very cold/Cold	7,830	71.3	61.6	129.5	1.18	16.53
Mixed-humid	7,412	50.4	30.9	175.3	1.19	23.66
Mixed-dry/Hot-dry	Q	53.8	51.2	98.5	0.71	13.25
Hot-humid	4,057	48.8	51.6	71.0	0.85	17.51
Marine	Q	Q	Q	Q	Q	Q
Number of floors						
One	Q	Q	Q	Q	Q	Q
Two	Q	67.7	Q	Q	1.91	28.22
Three	4,951	87.3	76.4	81.7	1.44	16.50
Four to nine	9,805	61.1	60.9	168.6	1.05	17.20
Ten or more	22,931	40.7	21.4	544.5	0.97	23.74
Number of workers (main shift)						
Fewer than 5	Q	Q	Q	Q	Q	Q
5 to 9	Q	Q	Q	Q	Q	Q
10 to 19	Q	Q	Q	Q	Q	Q
20 to 49	3,890	68.5	119.0	74.1	1.30	19.04
50 to 99	5,265	56.5	82.9	81.6	0.87	15.50
100 to 249	9,759	61.1	65.7	151.7	0.95	15.54
250 or more	26,182	55.4	27.1	583.8	1.24	22.30
Weekly operating hours						
Fewer than 40	Q	Q	Q	Q	Q	Q
40 to 48	2,711	47.7	35.4	52.1	0.92	19.20
49 to 60	4,345	45.3	28.7	75.9	0.79	17.46
61 to 84	3,573	36.6	22.7	70.1	0.72	19.63
85 to 167	9,108	92.6	119.3	167.1	1.70	18.35
Open continuously	15,674	63.8	44.3	324.8	1.32	20.72

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All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Ownership and occupancy						
Nongovernment owned	7,796	53.5	37.4	150.7	1.03	19.33
Owner occupied	8,721	62.5	66.8	151.2	1.08	17.34
Leased to tenant(s)	Q	34.8	13.5	Q	0.89	25.57
Owner occupied and leased	11,621	48.9	30.8	254.7	1.07	21.91
Unoccupied	Q	Q	N	Q	Q	Q
Government owned	6,588	61.1	46.2	130.8	1.21	19.86
Federal	24,285	37.5	28.3	503.2	0.78	20.72
State	5,724	68.2	54.5	110.5	1.32	19.30
Local	6,069	70.9	47.1	125.7	1.47	20.71
Party responsible for operation and maintenance of energy systems						
Building owner	7,113	56.1	40.7	137.8	1.09	19.37
Business owner or tenant	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q
Provider of direct input on energy-related equipment purchases						
Building owner	7,123	56.6	41.3	137.5	1.09	19.30
Business owner or tenant	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q
Number of establishments						
One	5,813	61.1	50.7	110.5	1.16	19.01
2 to 5	12,148	67.5	60.0	239.6	1.33	19.73
6 to 10	7,050	30.4	15.5	174.0	0.75	24.68
11 to 20	Q	Q	Q	Q	Q	Q
More than 20	26,183	33.9	12.7	545.0	0.71	20.81
Currently unoccupied	Q	Q	N	Q	Q	Q
Predominant exterior wall material						
Brick, stone, or stucco	6,406	59.3	47.5	112.6	1.04	17.57
Concrete (block or poured)	6,479	48.1	30.6	174.1	1.29	26.87
Concrete panels	16,644	51.7	41.8	329.6	1.02	19.80
Siding or shingles	Q	Q	Q	Q	Q	Q
Metal panels	Q	Q	Q	Q	Q	Q
Window glass	Q	62.4	27.0	Q	0.93	14.95
Other	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q

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All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Predominant roof material						
Metal surfacing	Q	Q	Q	Q	Q	Q
Synthetic or rubber	5,959	57.1	45.2	112.1	1.07	18.81
Built-up	7,532	51.9	30.9	180.7	1.24	23.99
Slate or tile shingles	8,588	65.1	67.0	126.2	0.96	14.70
Wooden materials (including shingles)	Q	Q	Q	Q	Q	Q
Asphalt, fiberglass, or other shingles	7,436	73.0	47.1	141.8	1.39	19.07
Concrete	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q
Roof characteristics						
Roof tilt						
Flat	6,559	53.9	35.9	138.6	1.14	21.13
Shallow pitch	8,838	57.2	60.7	145.9	0.94	16.51
Steeper pitch	8,310	76.7	Q	139.1	1.28	16.74
Cool roof	9,339	52.8	33.9	217.6	1.23	23.30
Renovations in buildings constructed before 2008 (more than one may apply)						
Any type of renovation	8,747	60.1	40.1	179.0	1.23	20.46
Addition or annex	20,860	72.7	71.2	393.8	1.37	18.88
Reduction in floorspace	Q	Q	Q	Q	Q	Q
Roof replacement	10,453	62.5	37.6	234.2	1.40	22.41
Exterior wall replacement	22,742	50.1	25.6	488.8	1.08	21.49
Interior wall reconfiguration	11,243	60.3	40.3	220.6	1.18	19.62
Window replacement	10,669	46.7	28.2	234.4	1.02	21.97
HVAC equipment upgrade	10,714	59.0	36.7	237.5	1.31	22.17
Lighting upgrade	9,919	58.8	43.6	181.1	1.07	18.26
Electrical upgrade	10,806	56.7	38.2	219.5	1.15	20.31
Plumbing system upgrade	11,195	52.4	33.9	229.4	1.07	20.49
Insulation upgrade	9,661	56.2	41.3	182.1	1.06	18.85
Fire, safety, or security upgrade	9,617	54.9	36.1	191.6	1.09	19.92
Structural upgrade	Q	41.0	42.6	Q	0.76	18.47
Other	Q	Q	Q	Q	Q	Q
No renovations	4,544	48.9	41.6	78.7	0.85	17.31
Buildings constructed 2008 or later	Q	Q	Q	Q	Q	Q

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All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Energy sources (more than one may apply)						
Electricity	7,132	57.1	41.4	139.8	1.12	19.60
Natural gas	10,172	60.5	38.2	208.1	1.24	20.46
Fuel oil	16,949	55.1	38.5	328.2	1.07	19.36
District heat	7,132	57.1	41.4	139.8	1.12	19.60
District chilled water	9,135	63.2	48.5	171.1	1.18	18.73
Propane	Q	Q	Q	Q	Q	Q
Other	11,668	44.0	58.2	205.3	0.77	17.60
Space-heating energy sources						
District heat	7,123	57.3	41.6	139.6	1.12	19.60
District heat main	7,163	58.3	42.0	140.4	1.14	19.61
District heat secondary	Q	Q	Q	Q	Q	Q
Other excluding district heat	Q	Q	Q	Q	Q	Q
Buildings without heating	Q	Q	Q	Q	Q	Q
Primary space-heating energy source						
Electricity	Q	Q	Q	Q	Q	Q
Natural gas	Q	Q	Q	Q	Q	Q
Fuel oil	Q	Q	Q	Q	Q	Q
District heat	7,163	58.3	42.0	140.4	1.14	19.61
Propane	N	N	N	N	N	N
Other	N	N	N	N	N	N
Cooling energy sources						
District heat	24,774	91.8	36.6	612.0	2.27	24.70
Other excluding district heat	7,278	55.5	41.4	140.6	1.07	19.32
Buildings without cooling	Q	Q	Q	Q	Q	Q
Water-heating energy sources						
District heat	11,012	61.3	43.8	214.7	1.19	19.50
Other excluding district heat	2,957	45.0	31.4	56.9	0.87	19.23
Buildings without water heating	Q	Q	Q	Q	Q	Q
Cooking energy sources						
District heat	Q	81.6	39.4	Q	1.81	22.18
Other excluding district heat	9,834	42.6	25.2	195.2	0.84	19.85
Buildings without cooking	4,993	60.4	66.6	91.3	1.10	18.28
Energy end uses (more than one may apply)						
Buildings with space heating	7,132	57.1	41.4	139.8	1.12	19.60
Buildings with cooling	7,648	57.1	41.0	150.6	1.12	19.69
Buildings with water heating	7,524	57.7	41.1	146.4	1.12	19.45
Buildings with cooking	12,402	54.2	30.1	259.2	1.13	20.90
Buildings with manufacturing	Q	Q	Q	Q	Q	Q
Buildings with electricity generation	13,761	55.5	42.2	256.8	1.03	18.66

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All buildings	7,132	57.1	41.4	139.8	1.12	19.60
Percent of floorspace heated						
Not heated	Q	Q	Q	Q	Q	Q
1 to 50	Q	Q	Q	Q	Q	Q
51 to 99	5,887	35.0	23.4	134.6	0.80	22.87
100	7,448	63.6	46.2	142.8	1.22	19.18
Heating equipment (more than one may apply)						
Heat pumps	10,088	48.0	31.5	202.9	0.96	20.12
Furnaces	Q	Q	Q	Q	Q	Q
Individual space heaters	7,322	46.3	33.4	141.1	0.89	19.26
District heat	7,123	57.3	41.6	139.6	1.12	19.60
Boilers	Q	Q	Q	Q	Q	Q
Packaged heating units	12,810	60.0	35.4	248.8	1.17	19.42
Other	Q	Q	Q	Q	Q	Q
Water-heating equipment						
Centralized system	7,504	63.1	47.7	144.1	1.21	19.21
Distributed system	3,797	46.4	23.5	88.0	1.07	23.18
Combination of centralized and distributed system	10,340	49.8	35.2	197.4	0.95	19.09
Food preparation or serving areas in non-food service buildings (more than one may apply)						
Snack bar or concession stand	25,743	50.1	32.7	473.8	0.92	18.41
Fast food or small restaurant	26,948	51.1	28.3	504.2	0.96	18.71
Cafeteria or large restaurant	18,411	57.7	28.9	396.2	1.24	21.52
Commercial kitchen/ food preparation area	24,004	62.0	38.6	538.2	1.39	22.42
Small kitchen area	17,389	48.0	25.3	319.0	0.88	18.34
HVAC conservation features (more than one may apply)						
Economizer cycle	10,862	59.9	39.5	225.6	1.24	20.76
Regular HVAC maintenance	7,865	56.7	39.8	157.1	1.13	19.98
Building automation system (BAS) ²	8,974	53.1	41.1	169.6	1.00	18.90
Equipment usage reduced when building not in full use (more than one may apply)						
Heating	6,402	51.6	34.9	138.6	1.12	21.64
Cooling	6,687	51.6	34.0	141.6	1.09	21.18
Lighting	7,097	57.7	40.9	139.3	1.13	19.63

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

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

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

N = No cases in reporting sample.

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

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