

**Table E11. District heat consumption and energy intensities (Btu) by end use, 2012**

	Total district heat consumption (trillion Btu)					District heat energy intensity <sup>1</sup> (thousand Btu/square foot in buildings using district heat for the end use)				
	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
<b>All buildings</b>	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
<b>Building floorspace (square feet)</b>										
1,001 to 25,000	13	11	Q	Q	N	75.0	67.1	Q	Q	N
25,001 to 100,000	69	51	11	Q	Q	74.8	56.1	19.1	Q	Q
100,001 to 500,000	165	118	30	Q	Q	57.5	41.3	13.2	33.9	Q
Over 500,000	94	58	18	15	Q	46.9	29.6	10.9	28.4	Q
<b>Principal building activity</b>										
Education	65	54	10	Q	Q	56.2	47.0	12.3	Q	Q
Health care	68	36	19	11	Q	99.3	53.6	33.7	38.9	Q
Lodging	31	9	20	Q	Q	49.4	13.8	35.2	Q	Q
Office	76	56	5	Q	Q	42.3	31.5	3.4	Q	Q
Public assembly	64	58	1	Q	Q	71.8	65.4	1.1	Q	Q
All others	37	26	Q	Q	Q	45.6	33.2	Q	Q	Q
<b>Year constructed</b>										
Before 1945	65	51	8	Q	Q	45.7	36.0	6.7	Q	Q
1946 to 1979	168	112	28	Q	Q	70.8	47.2	15.1	34.3	Q
1980 to 1999	40	27	8	Q	Q	36.3	25.1	12.5	Q	Q
2000 to 2012	68	49	16	Q	Q	63.2	47.1	18.5	Q	Q
<b>Census region</b>										
Northeast	119	83	17	Q	Q	60.0	41.8	10.2	34.6	Q
Midwest	58	40	13	Q	Q	63.8	44.1	17.2	Q	Q
South	119	87	17	10	Q	54.2	40.0	10.8	28.8	Q
West	45	30	Q	Q	Q	51.0	34.8	22.5	Q	Q
<b>Climate region<sup>2</sup></b>										
Very cold/Cold	137	102	26	8	Q	71.3	52.8	17.3	29.5	Q
Mixed-humid	152	103	25	Q	Q	50.4	34.2	10.7	30.7	Q
Mixed-dry/Hot-dry	Q	Q	Q	Q	N	53.8	Q	Q	Q	N
Hot-humid	18	10	3	Q	Q	48.8	27.1	Q	Q	Q
Marine	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Number of floors</b>										
One	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Two	Q	Q	Q	Q	N	67.7	46.5	Q	Q	N
Three	47	39	4	Q	Q	87.3	71.1	12.2	Q	Q
Four to nine	173	123	31	13	Q	61.1	44.2	13.6	32.9	Q
Ten or more	77	46	22	6	Q	40.7	24.3	14.3	22.3	Q
<b>Number of workers (main shift)</b>										
Fewer than 10	10	8	Q	N	N	34.5	25.5	Q	N	N
10 to 99	93	73	14	Q	Q	62.3	49.5	15.8	Q	Q
100 or more	238	159	43	27	Q	56.9	38.3	12.2	30.6	Q

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	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
<b>All buildings</b>	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
<b>Weekly operating hours</b>										
Fewer than 48	22	21	Q	N	Q	38.0	35.7	Q	N	Q
49 to 84	81	66	11	Q	Q	41.5	34.4	7.9	Q	Q
85 to 167	58	49	4	Q	Q	92.6	77.7	7.5	Q	Q
Open continuously	180	104	44	25	Q	63.8	37.2	18.6	32.9	Q
<b>Ownership and occupancy</b>										
Nongovernment owned	168	116	39	10	Q	53.5	37.1	15.1	32.3	Q
Owner occupied	115	82	26	5	Q	62.5	45.1	16.4	31.6	Q
Leased to tenant(s)	25	15	Q	Q	Q	34.8	21.2	Q	Q	Q
Owner occupied and leased	27	18	6	Q	Q	48.9	31.8	11.9	Q	Q
Unoccupied	Q	Q	N	N	N	Q	Q	N	N	N
Government owned	173	124	21	Q	Q	61.1	44.2	10.6	29.5	Q
Federal	27	17	3	Q	Q	37.5	24.7	3.7	Q	Q
State	105	79	14	Q	Q	68.2	51.9	13.4	Q	Q
Local	41	28	Q	Q	Q	70.9	47.5	17.4	Q	Q
<b>Party responsible for operation and maintenance of energy systems</b>										
Building owner	324	232	58	26	Q	56.1	40.4	13.2	29.7	Q
Business owner or tenant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other	Q	Q	Q	N	N	Q	Q	Q	N	N
<b>Provider of direct input on energy-related equipment purchases</b>										
Building owner	325	233	58	26	Q	56.6	40.9	13.3	31.1	Q
Business owner or tenant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Property management	Q	Q	Q	N	N	Q	Q	Q	N	N
Other	Q	Q	Q	Q	N	Q	Q	Q	Q	N
<b>Number of establishments</b>										
One	208	148	38	Q	Q	61.1	43.7	14.3	26.9	Q
2 to 5	98	66	18	9	Q	67.5	45.6	14.8	36.6	Q
6 to 10	11	6	Q	Q	N	30.4	17.9	Q	Q	N
11 to 20	Q	Q	Q	Q	N	Q	Q	Q	Q	N
More than 20	15	12	Q	N	Q	33.9	27.8	Q	N	Q
Currently unoccupied	Q	Q	N	N	N	Q	Q	N	N	N
<b>Predominant exterior wall material</b>										
Brick, stone, or stucco	203	149	35	16	Q	59.3	44.0	12.8	29.0	Q
Concrete (block or poured)	56	36	5	Q	Q	48.1	31.1	6.4	Q	Q
Concrete panels	38	20	Q	Q	Q	51.7	27.4	25.4	Q	Q
Siding or shingles	Q	Q	N	N	N	Q	Q	N	N	N
Metal panels	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Window glass	13	13	Q	N	Q	62.4	59.2	Q	N	Q
Other	Q	Q	Q	N	Q	Q	Q	Q	N	Q
No one major type	Q	Q	Q	N	N	Q	Q	Q	N	N



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	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
<b>All buildings</b>	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
<b>Energy sources (more than one may apply)</b>										
Electricity	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Natural gas	173	112	38	20	Q	60.5	39.5	17.3	33.3	Q
Fuel oil	171	110	34	16	Q	55.1	35.7	13.6	27.6	Q
District heat	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
District chilled water	236	171	37	24	Q	63.2	45.9	13.3	32.8	Q
Propane	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other	15	10	Q	Q	N	44.0	30.7	Q	Q	N
<b>Space-heating energy sources</b>										
District heat	340	240	59	28	Q	57.3	40.5	13.2	30.4	48.8
District heat main	338	239	58	28	Q	58.3	41.2	13.1	30.4	48.8
District heat secondary	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Other excluding district heat	Q	N	Q	Q	N	Q	N	Q	Q	N
Buildings without heating	Q	N	N	Q	N	Q	N	N	Q	N
<b>Primary space-heating energy source</b>										
Electricity	Q	Q	Q	N	N	Q	Q	Q	N	N
Natural gas	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Fuel oil	Q	Q	N	N	N	Q	Q	N	N	N
District heat	338	239	58	28	Q	58.3	41.2	13.1	30.4	48.8
Propane	N	N	N	N	N	N	N	N	N	N
Other	N	N	N	N	N	N	N	N	N	N
<b>Cooling energy sources</b>										
District heat	23	7	3	Q	Q	91.8	28.5	Q	Q	48.8
Other excluding district heat	314	230	56	28	N	55.5	40.9	13.1	30.3	N
Buildings without cooling	Q	Q	Q	N	N	Q	Q	Q	N	N
<b>Water-heating energy sources</b>										
District heat	279	181	60	26	Q	61.3	40.0	13.2	30.0	48.8
Other excluding district heat	57	54	N	Q	N	45.0	43.0	N	Q	N
Buildings without water heating	Q	Q	N	Q	N	Q	Q	N	Q	N
<b>Cooking energy sources</b>										
District heat	77	37	11	29	Q	81.6	39.8	12.6	30.5	Q
Other excluding district heat	94	70	21	N	Q	42.5	32.1	12.0	N	Q
Buildings without cooking	170	133	28	N	Q	60.3	47.2	14.4	N	Q
<b>Energy end uses (more than one may apply)</b>										
Buildings with space heating	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
Buildings with cooling	337	237	59	29	Q	57.1	40.4	13.1	30.5	48.8
Buildings with water heating	336	235	60	29	Q	57.7	40.7	13.2	30.7	48.8
Buildings with cooking	171	107	32	29	Q	54.2	34.4	12.2	30.5	Q
Buildings with manufacturing	Q	Q	Q	N	Q	Q	Q	Q	N	Q
Buildings with electricity generation	208	141	40	16	Q	55.5	38.0	12.8	27.0	Q

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	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
<b>All buildings</b>	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
<b>Percent of floorspace heated</b>										
Not heated	Q	N	N	Q	N	Q	N	N	Q	N
1 to 50	Q	Q	Q	N	N	Q	Q	Q	N	N
51 to 99	39	25	10	Q	Q	35.0	21.9	13.8	Q	Q
100	300	214	50	25	Q	63.6	45.7	13.1	30.8	Q
<b>Heating equipment (more than one may apply)</b>										
Heat pumps	27	16	8	Q	Q	48.0	28.5	19.8	Q	Q
Furnaces	Q	Q	Q	N	N	Q	Q	Q	N	N
Individual space heaters	63	42	9	7	Q	46.3	31.2	8.6	28.8	Q
District heat	340	240	59	28	Q	57.3	40.5	13.2	30.4	48.8
Boilers	Q	Q	Q	Q	N	Q	Q	Q	Q	N
Packaged heating units	45	28	6	Q	Q	60.0	38.7	12.4	Q	Q
Other	Q	Q	Q	Q	N	Q	Q	Q	Q	N
<b>Water-heating equipment</b>										
Centralized system	227	155	40	22	Q	63.1	43.5	13.2	31.7	Q
Distributed system	23	19	2	Q	Q	46.4	38.8	7.3	Q	Q
Combination of centralized and distributed system	86	61	18	6	Q	49.8	35.3	14.6	26.7	Q
<b>Food preparation or serving areas in non-food service buildings (more than one may apply)</b>										
Snack bar or concession stand	81	51	16	12	Q	50.1	31.8	11.2	29.4	Q
Fast food or small restaurant	61	39	15	Q	Q	51.1	33.2	14.7	Q	Q
Cafeteria or large restaurant	105	55	21	26	Q	57.7	30.6	14.3	31.6	Q
Commercial kitchen/ food preparation area	97	50	20	25	Q	62.0	33.1	13.7	32.8	Q
Small kitchen area	55	34	Q	6	Q	48.0	30.9	12.3	25.5	Q
<b>HVAC conservation features (more than one may apply)</b>										
Economizer cycle	245	169	42	27	Q	59.9	41.5	13.1	31.6	Q
Regular HVAC maintenance	319	219	59	29	Q	56.7	39.1	13.3	30.5	48.8
Building automation system (BAS) <sup>3</sup>	266	186	53	19	Q	53.1	37.4	13.6	29.4	Q

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	Total	Space heating	Water heating	Cooking	Other	Total	Space heating	Water heating	Cooking	Other
<b>All buildings</b>	341	240	60	29	Q	57.1	40.5	13.2	30.5	48.8
<b>Equipment usage reduced when building not in full use (more than one may apply)</b>										
Heating	208	151	28	23	Q	51.6	37.6	9.5	29.7	Q
Cooling	209	154	26	22	Q	51.6	38.3	8.7	28.5	Q
Lighting	318	226	52	28	Q	57.7	41.4	12.0	30.8	Q

<sup>1</sup>The district heat intensity calculation (district heat consumption for the end use divided by the floorspace in buildings that use district heat for the particular end use) differs from the calculation used in the 2003 CBECS tables, in which the intensities were not conditional on the presence of the end use; the 2003 CBECS denominator was total floorspace in all buildings that used district heat. In this table, the intensities for each end use do not sum to the total district heat intensity, whereas they did in the 2003 CBECS table.

<sup>2</sup>These 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).

<sup>3</sup>In 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.