

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Building floorspace (square feet)											
1,001 to 5,000	96.5	24.3	8.2	6.5	9.5	8.3	54.2	24.0	3.4	5.9	8.9
5,001 to 10,000	76.1	21.7	6.2	6.1	6.1	7.1	32.7	14.2	2.3	4.7	8.4
10,001 to 25,000	64.6	19.6	5.5	6.0	4.7	6.9	15.0	8.4	2.2	4.1	8.0
25,001 to 50,000	70.5	20.8	7.4	7.4	5.6	8.4	9.0	6.8	1.9	4.3	9.5
50,001 to 100,000	78.5	22.2	8.1	8.1	6.4	8.1	6.3	8.4	2.0	4.5	10.5
100,001 to 200,000	83.7	20.4	8.6	9.5	6.5	9.7	8.4	8.1	1.7	6.0	11.7
200,001 to 500,000	96.3	25.8	12.5	10.0	7.2	10.3	8.5	6.8	1.8	5.9	12.9
Over 500,000	109.1	26.5	14.6	11.8	8.2	11.4	15.3	3.2	2.7	6.9	15.1
Principal building activity											
Education	68.8	25.0	8.5	5.6	5.7	6.3	1.8	3.6	1.8	6.4	6.9
Food sales	209.5	26.9	5.3	9.4	2.6	12.4	31.6	117.6	1.6	2.0	11.2
Food service	282.7	27.2	18.0	17.2	25.3	10.2	120.9	62.4	4.1	2.7	11.7
Health care	172.7	51.5	19.8	19.9	19.8	14.7	20.0	4.6	4.0	8.2	19.7
Inpatient	231.1	70.2	30.0	19.3	33.0	16.7	21.8	6.0	5.1	9.0	24.9
Outpatient	94.8	26.4	6.9	20.7	2.3	11.9	10.5	2.6	2.5	7.2	12.7
Lodging	96.9	11.8	7.4	8.4	24.2	6.8	16.9	5.7	7.5	1.2	14.4
Mercantile	89.0	17.1	8.2	10.8	6.1	12.4	11.3	18.5	1.6	2.1	9.1
Retail (other than mall)	67.0	15.5	7.6	8.6	0.9	13.3	4.5	11.8	1.3	2.0	8.5
Enclosed and strip malls	109.3	18.6	8.8	12.7	10.4	11.5	13.9	23.6	1.8	2.1	9.6
Office	77.8	19.5	7.8	13.4	2.3	9.2	Q	2.0	2.3	10.5	9.6
Public assembly	86.3	36.9	18.6	4.4	1.4	6.4	5.3	5.0	1.4	3.0	13.9
Public order and safety	92.2	27.2	11.4	3.7	16.3	10.8	4.1	2.1	2.2	5.4	15.5
Religious worship	38.0	17.2	3.6	2.9	Q	2.1	3.5	0.9	0.9	0.8	6.3
Service	60.3	29.4	5.4	3.4	6.0	8.4	1.8	1.3	1.0	2.0	9.3
Warehouse and storage	34.1	11.7	3.4	1.2	1.1	7.0	Q	5.4	0.6	1.5	6.9
Other	145.1	36.9	14.4	8.5	1.2	19.3	Q	8.5	1.3	22.1	39.5
Vacant	24.4	9.5	2.2	3.1	0.8	4.4	Q	1.3	0.5	1.3	7.5
Year constructed											
Before 1920	62.7	29.0	3.6	5.3	2.8	5.5	13.0	5.0	1.3	3.2	7.8
1920 to 1945	71.3	26.1	6.6	6.2	6.6	6.6	8.4	6.8	1.7	4.4	8.0
1946 to 1959	74.5	26.0	6.6	6.9	6.4	7.1	10.7	6.5	1.7	3.9	9.0
1960 to 1969	88.4	29.0	8.2	7.4	7.4	9.0	9.6	7.9	2.3	5.9	11.8
1970 to 1979	95.8	25.6	9.2	9.6	9.8	9.5	19.4	10.0	2.5	5.9	10.9
1980 to 1989	78.7	16.2	10.2	9.0	5.7	9.0	13.0	9.0	2.2	5.5	10.6
1990 to 1999	84.0	18.7	9.5	8.5	5.8	9.4	16.2	11.1	2.2	5.3	10.8
2000 to 2003	80.5	21.0	8.9	8.7	4.5	9.4	11.7	8.8	2.0	5.7	11.2
2004 to 2007	81.4	17.8	8.6	7.6	7.0	8.9	Q	11.7	2.5	4.1	10.3
2008 to 2012	85.6	21.0	8.9	8.8	6.9	9.0	14.2	10.9	2.2	4.9	11.6

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	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Census region and division											
Northeast	95.4	34.1	6.6	9.0	7.0	8.9	11.8	8.9	1.9	5.6	11.8
New England	87.7	41.0	4.5	6.7	3.9	7.3	10.2	9.5	1.7	4.2	11.6
Middle Atlantic	98.4	31.6	7.3	9.8	8.0	9.5	12.3	8.6	1.9	6.1	11.9
Midwest	84.4	32.5	5.8	7.8	5.5	8.5	9.6	7.7	1.9	4.6	9.8
East North Central	90.2	35.6	5.9	8.2	5.6	8.9	9.5	8.0	1.9	4.7	10.3
West North Central	72.3	25.7	5.7	7.0	5.1	7.9	9.6	7.0	1.9	4.5	8.7
South	77.7	13.4	12.5	8.1	6.1	9.1	14.3	9.7	2.3	5.0	10.4
South Atlantic	77.1	12.9	12.1	8.1	5.8	8.8	13.5	10.1	2.5	5.4	10.3
East South Central	76.5	15.9	9.0	7.8	7.7	8.5	13.9	9.2	2.5	4.1	9.1
West South Central	79.2	13.0	14.9	8.2	5.9	9.7	16.1	9.2	1.9	4.8	11.3
West	76.2	16.9	5.9	7.8	7.9	7.8	19.9	9.7	2.3	5.6	10.1
Mountain	86.7	23.3	7.2	8.3	8.0	8.1	Q	8.3	2.9	5.0	9.6
Pacific	72.4	14.4	5.4	7.6	7.9	7.7	19.0	10.3	2.2	5.8	10.3
Climate region²											
Very cold/Cold	87.8	34.0	4.9	8.1	5.7	8.4	11.9	8.6	2.0	4.8	10.5
Mixed-humid	82.8	19.8	9.1	8.2	7.2	9.0	13.7	9.0	2.4	5.4	10.2
Mixed-dry/Hot-dry	68.4	11.0	7.5	6.8	7.9	7.4	20.8	9.4	2.1	5.6	9.6
Hot-humid	78.9	6.2	18.7	8.9	5.6	9.8	14.4	10.6	2.2	4.7	11.6
Marine	81.4	20.0	3.2	9.7	7.5	8.7	12.7	8.9	2.1	7.6	12.9
Number of floors											
One	74.4	18.4	7.7	6.7	5.2	8.7	18.3	14.0	1.8	3.8	9.0
Two	73.3	20.0	6.7	7.1	5.5	7.8	11.8	7.4	1.9	5.3	9.2
Three	82.5	28.7	8.0	8.1	6.0	7.9	7.6	5.3	2.3	5.5	10.5
Four to nine	106.7	31.7	12.7	11.7	10.4	9.6	10.5	4.0	2.9	7.2	15.0
Ten or more	106.5	22.5	13.3	12.6	9.8	10.2	14.6	3.1	3.5	7.7	14.4
Elevators and escalators (more than one may apply)											
Any elevators	99.7	27.4	11.4	11.0	8.4	9.6	10.9	4.6	2.6	7.5	13.5
Number of elevators											
One	79.5	24.6	7.2	8.6	6.9	7.9	8.3	5.0	2.2	5.3	9.8
Two to five	97.7	26.4	10.9	11.0	6.9	9.7	8.4	4.4	2.6	9.6	14.7
Six or more	130.4	32.9	17.7	14.1	12.6	11.6	15.4	4.2	3.4	7.3	16.6
Any escalators	103.5	20.8	13.9	11.8	7.0	11.6	Q	4.8	3.3	4.6	14.5
Number of workers (main shift)											
Fewer than 5	48.7	18.7	4.8	3.4	4.6	5.5	10.7	9.0	2.0	2.4	7.6
5 to 9	66.6	17.2	6.3	5.7	5.0	6.8	24.6	10.6	1.9	2.9	8.3
10 to 19	80.3	20.9	6.2	6.4	7.2	7.4	33.8	12.1	2.3	3.4	8.4
20 to 49	81.8	20.2	7.7	7.8	5.8	8.7	14.1	11.1	2.1	5.1	9.7
50 to 99	85.3	22.2	9.2	8.8	6.3	9.5	6.9	9.3	2.0	5.5	10.6
100 to 249	96.7	26.5	10.0	10.0	5.8	10.7	8.3	8.2	1.9	6.3	14.3
250 or more	122.0	29.5	15.5	14.6	10.6	12.1	14.6	4.4	2.8	9.2	15.0

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	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Weekly operating hours											
Fewer than 40	34.9	17.4	4.1	1.4	2.0	3.1	3.8	3.4	1.4	3.0	5.3
40 to 48	52.9	17.5	6.2	4.8	2.5	6.3	3.9	3.0	1.8	5.5	7.1
49 to 60	61.6	19.5	6.8	6.9	2.6	7.3	4.9	3.7	1.7	6.2	8.4
61 to 84	86.7	22.1	8.6	9.5	5.8	9.0	15.4	11.9	1.6	4.3	9.3
85 to 167	117.3	29.4	10.5	10.2	6.7	11.4	29.3	25.0	1.5	3.1	12.5
Open continuously	128.1	28.0	13.4	12.6	16.6	12.4	19.0	10.6	4.1	6.1	18.1
Ownership and occupancy											
Nongovernment owned	81.9	20.5	8.2	8.4	6.5	8.9	17.2	10.8	2.2	4.9	10.5
Owner occupied	86.3	23.2	8.8	7.6	7.6	8.8	17.9	10.0	2.5	4.3	11.7
Leased to tenant(s)	79.1	17.4	7.6	9.3	5.7	9.0	19.6	12.5	2.0	5.1	9.2
Owner occupied and leased	80.4	21.2	7.9	8.9	5.0	9.0	9.6	8.6	1.8	6.2	10.5
Unoccupied	15.4	8.7	1.7	0.1	Q	1.9	Q	Q	Q	Q	6.4
Government owned	82.5	28.0	10.2	7.3	6.7	8.0	6.1	3.9	1.9	6.0	10.3
Federal	87.3	26.1	9.4	10.9	4.5	9.7	12.1	1.9	1.2	4.8	13.1
State	100.4	35.5	8.7	10.2	10.5	9.3	Q	4.6	2.4	6.4	11.8
Local	73.7	24.8	10.9	5.5	5.3	7.2	3.0	3.8	1.8	6.0	9.3
Party responsible for operation and maintenance of energy systems											
Building owner	81.0	22.8	8.8	8.1	6.3	8.6	12.6	7.7	2.2	5.4	10.7
Business owner or tenant	88.3	19.5	7.5	8.2	7.2	9.2	22.1	17.6	1.7	3.6	9.0
Property management	77.3	15.7	9.1	9.9	9.3	7.5	13.3	7.2	2.8	6.0	9.6
Other	91.2	23.0	10.3	6.5	7.8	8.2	17.3	12.9	2.3	3.0	11.2
Provider of direct input on energy-related equipment purchases											
Building owner	80.7	22.6	8.6	8.0	6.4	8.6	12.6	7.9	2.2	5.3	10.6
Business owner or tenant	93.9	20.4	8.4	8.7	7.5	9.6	24.6	17.9	1.8	4.1	9.6
Property management	68.8	16.9	6.7	9.5	6.2	7.6	9.9	6.8	2.2	4.0	9.3
Other	90.9	20.4	9.1	8.2	8.9	8.2	21.3	17.4	1.9	3.0	9.0
Number of establishments											
One	82.3	23.2	8.5	7.4	7.3	8.5	15.9	8.6	2.4	5.0	10.7
2 to 5	78.9	22.5	7.7	8.1	5.4	8.2	11.4	9.4	1.7	4.1	10.3
6 to 10	84.3	20.0	8.1	10.5	5.1	8.5	10.7	12.3	1.9	6.5	8.8
11 to 20	96.6	21.9	10.1	12.5	6.1	10.4	11.2	13.1	2.0	5.3	10.0
More than 20	91.4	14.3	13.2	12.4	4.5	12.6	6.8	7.4	1.9	10.2	11.5
Currently unoccupied	15.2	9.9	1.6	0.1	Q	1.6	Q	Q	Q	Q	5.7
Predominant exterior wall material											
Brick, stone, or stucco	87.3	24.2	8.9	8.6	7.6	8.4	13.0	8.2	2.4	5.5	10.6
Concrete (block or poured)	84.3	19.6	9.5	8.2	6.7	9.2	13.5	12.9	2.0	4.2	10.7
Concrete panels	78.6	19.7	7.3	8.3	5.3	9.2	Q	6.5	2.2	6.2	11.1
Siding or shingles	71.9	20.9	5.8	6.6	5.5	7.1	20.7	10.2	2.1	4.1	8.9
Metal panels	53.1	21.4	6.9	4.5	2.3	8.5	6.1	5.3	1.1	3.3	8.6
Window glass	127.0	34.5	14.3	16.5	Q	12.8	7.3	5.7	2.5	15.9	17.5
Other	92.7	15.0	14.9	7.7	3.0	7.6	Q	15.9	1.6	5.0	11.3
No one major type	76.1	26.1	5.7	8.2	4.2	8.0	Q	7.2	1.7	4.0	10.2

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	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Predominant roof material											
Metal surfacing	57.6	17.1	7.5	4.8	3.3	8.0	14.2	8.5	1.6	3.5	8.3
Synthetic or rubber	95.3	26.7	8.8	9.7	6.6	9.6	14.7	9.7	2.2	5.8	11.9
Built-up	87.4	21.4	9.9	9.5	7.1	9.4	11.6	8.7	2.0	5.8	11.1
Slate or tile shingles	87.9	26.0	8.0	7.4	9.3	7.0	19.0	8.8	3.0	5.1	10.6
Wooden materials (including shingles)	83.7	28.4	6.2	5.6	9.5	6.3	40.0	13.7	2.4	3.4	7.8
Asphalt, fiberglass, or other shingles	75.3	19.8	7.3	6.9	7.3	7.4	13.5	8.9	2.5	4.2	9.3
Concrete	83.6	13.1	13.5	11.2	7.2	10.3	7.1	8.3	2.4	11.0	12.7
Other	85.6	17.1	9.0	7.8	5.8	7.7	13.6	14.7	1.6	3.3	11.3
No one major type	53.7	22.7	4.1	3.8	Q	5.4	Q	Q	1.0	2.7	7.2
Roof characteristics											
Roof tilt											
Flat	91.8	23.8	9.9	9.7	7.5	9.8	13.7	8.8	2.2	5.9	11.7
Shallow pitch	69.4	18.8	7.1	6.3	4.3	7.8	16.7	11.2	1.9	4.3	9.0
Steeper pitch	68.0	22.4	6.3	5.5	6.3	5.8	10.9	6.7	2.5	3.7	8.6
Cool roof	94.8	23.0	10.0	9.5	7.5	9.7	13.6	10.3	2.1	6.0	12.4
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	89.8	24.7	9.1	8.9	7.0	8.9	13.9	8.4	2.2	5.7	11.4
Addition or annex	99.6	28.8	10.6	8.7	8.6	9.1	15.8	6.9	2.5	4.6	12.3
Reduction in floorspace	130.2	30.2	13.7	13.2	16.0	13.0	Q	11.0	2.2	5.6	13.0
Roof replacement	95.6	27.5	9.4	9.5	7.7	9.2	12.3	7.5	2.1	5.9	12.5
Exterior wall replacement	94.4	21.8	10.1	9.1	6.8	8.7	18.1	8.9	2.0	6.8	11.8
Interior wall reconfiguration	96.8	26.3	10.1	10.4	6.8	9.5	14.8	7.3	2.3	7.5	12.1
Window replacement	89.0	25.6	8.6	8.3	7.5	8.0	14.4	5.7	2.5	6.3	11.4
HVAC equipment upgrade	95.5	25.3	10.0	9.5	7.7	9.2	14.1	8.0	2.2	6.1	12.2
Lighting upgrade	96.0	26.9	9.3	9.3	7.5	9.0	14.2	8.7	2.2	5.9	12.1
Electrical upgrade	99.9	27.2	10.0	9.4	7.9	9.0	17.3	8.2	2.3	6.5	13.3
Plumbing system upgrade	101.2	27.2	9.2	9.5	9.0	8.5	18.5	7.6	2.6	6.5	13.3
Insulation upgrade	102.1	27.0	10.0	8.8	7.3	8.4	22.0	9.8	2.6	7.1	12.8
Fire, safety, or security upgrade	98.2	27.0	10.4	9.7	8.5	8.8	12.6	7.4	2.3	6.8	13.0
Structural upgrade	108.4	22.2	12.3	9.0	8.0	8.9	30.0	8.2	2.9	7.7	15.4
Other	81.7	25.0	12.3	10.5	4.2	9.2	2.9	4.5	2.1	7.7	11.0
No renovations	72.9	19.6	7.9	7.1	5.9	8.4	13.6	9.7	2.1	4.5	9.3
Buildings constructed 2008 or later	85.6	21.0	8.9	8.8	6.9	9.0	14.2	10.9	2.2	4.9	11.6
Energy sources (more than one may apply)											
Electricity	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Natural gas	94.4	26.2	8.5	8.5	8.4	8.8	15.6	9.8	2.2	5.0	11.0
Fuel oil	110.5	30.0	13.3	11.3	8.3	11.1	12.4	6.1	2.6	8.0	15.7
District heat	135.5	43.0	11.1	14.1	14.0	11.5	28.4	4.0	3.3	6.9	18.2
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Propane	75.9	19.6	7.2	6.3	5.7	8.3	Q	11.1	2.4	3.1	12.4
Other	79.2	24.1	7.6	8.2	4.4	7.9	7.9	7.1	1.4	4.2	13.7

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All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Space-heating energy sources (more than one may apply)											
Electricity	79.5	15.9	9.1	8.3	5.8	8.9	12.3	9.8	2.2	5.2	10.3
Natural gas	89.8	28.2	7.6	8.0	7.0	8.4	12.7	9.4	2.0	4.8	10.0
Fuel oil	82.7	33.6	8.0	6.4	4.3	8.0	5.9	4.8	1.8	4.4	11.4
District heat	135.7	43.2	11.1	14.0	14.0	11.6	28.5	4.0	3.3	6.9	18.2
Propane	49.6	13.1	4.6	4.6	2.4	6.2	10.6	9.5	1.8	2.5	9.0
Other	49.2	17.3	2.1	5.4	2.3	6.7	10.8	6.1	1.3	2.0	7.9
Primary space-heating energy source											
Electricity	70.4	4.0	10.2	8.2	5.6	9.1	15.2	10.3	2.5	6.0	10.5
Natural gas	90.1	30.2	7.5	7.9	6.5	8.4	11.4	9.3	1.9	4.8	9.8
Fuel oil	73.7	36.1	5.1	4.7	1.7	6.8	5.3	4.2	1.7	3.7	10.9
District heat	137.0	43.7	11.2	14.2	14.1	11.7	29.4	4.1	3.2	7.0	18.3
Propane	32.3	3.9	3.0	3.2	0.2	4.7	9.6	10.3	1.3	1.6	6.5
Other	36.3	12.5	1.7	3.6	Q	6.5	Q	4.2	1.7	2.4	7.9
Cooling energy sources (more than one may apply)											
Electricity	83.1	21.1	8.5	8.1	6.2	8.7	12.7	9.3	2.1	5.1	10.4
Natural gas	133.2	49.9	20.2	11.7	12.1	9.5	11.6	3.2	2.3	5.1	14.7
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Water-heating energy sources (more than one may apply)											
Electricity	72.5	16.1	8.5	8.0	2.2	8.9	11.3	9.9	1.8	5.4	9.6
Natural gas	101.9	28.0	9.0	8.9	10.9	8.9	14.9	11.1	2.4	4.8	11.0
Fuel oil	91.1	41.8	7.1	6.8	3.2	7.1	8.0	5.6	2.2	3.8	13.3
District heat	143.3	41.3	12.1	14.7	16.3	12.3	31.2	3.9	3.5	6.9	19.7
Propane	55.1	6.2	7.3	5.2	0.7	5.9	11.9	16.5	2.2	2.3	9.8
Cooking energy sources (more than one may apply)											
Electricity	99.8	23.6	10.5	9.2	8.1	8.7	11.1	12.4	2.2	4.9	10.5
Natural gas	121.7	26.0	11.5	10.4	12.0	9.4	18.8	16.1	2.6	4.1	11.7
Propane	83.4	22.0	8.8	7.1	5.5	6.9	10.3	16.3	2.7	Q	11.3
Energy end uses (more than one may apply)											
Buildings with space heating	84.7	22.3	8.4	8.2	6.5	8.7	13.8	9.1	2.2	5.2	10.6
Buildings with cooling	85.4	22.1	8.6	8.4	6.6	8.9	13.9	9.1	2.2	5.3	10.7
Buildings with water heating	86.0	22.6	8.7	8.4	6.5	8.8	13.9	9.3	2.2	5.2	10.7
Buildings with cooking	105.8	24.1	10.6	9.5	9.5	8.8	13.8	13.7	2.5	4.6	10.9
Buildings with manufacturing	71.0	18.7	7.2	5.7	3.1	9.7	11.5	7.1	1.0	3.2	15.8
Buildings with electricity generation	109.3	27.5	12.2	11.2	8.3	10.7	11.2	8.5	2.5	7.6	15.7
Percent of floorspace heated											
Not heated	37.6	N	15.1	4.6	6.3	7.3	14.8	10.6	1.5	3.1	8.5
1 to 50	46.2	7.1	4.2	3.7	2.8	6.3	20.6	7.8	1.2	4.3	8.0
51 to 99	88.6	21.1	9.2	8.8	6.6	9.0	14.4	11.7	2.0	4.2	10.4
100	90.7	25.4	8.9	8.9	7.1	9.1	13.1	8.5	2.4	5.7	11.1

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)											
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Percent of floorspace cooled											
Not cooled	34.0	26.5	N	1.0	5.5	5.2	7.3	8.4	1.0	1.8	7.0
1 to 50	52.3	20.6	2.2	3.5	3.3	6.5	10.5	5.1	1.0	2.2	7.9
51 to 99	94.3	25.1	8.9	9.4	7.1	9.1	12.2	10.9	2.2	6.2	11.0
100	96.7	21.0	11.8	10.2	7.8	9.9	16.0	9.9	2.8	6.2	12.0
Percent lit when open											
Zero	13.5	Q	Q	Q	Q	Q	Q	Q	Q	Q	8.1
1 to 50	50.9	16.3	5.1	5.3	4.4	4.0	9.7	5.0	2.0	2.5	9.1
51 to 99	87.6	25.1	8.5	8.6	7.0	8.2	11.9	9.6	2.1	5.2	10.9
100	90.8	21.7	10.0	8.8	6.8	10.8	16.7	9.9	2.2	6.0	10.8
Building never open/electricity not used	17.4	15.1	2.1	0.1	Q	Q	Q	Q	Q	Q	4.8
Percent lit during off hours											
Zero	52.3	18.1	5.6	5.0	2.8	5.4	9.6	5.3	1.5	4.6	7.4
1 to 50	85.6	22.9	9.0	8.6	6.5	9.1	12.2	9.2	2.1	5.1	10.6
51 to 100	146.9	31.5	13.7	12.9	16.2	14.2	29.7	16.1	3.5	7.1	18.1
Building always open with no "off hours"	125.3	21.4	13.8	13.7	12.9	15.1	12.4	20.0	4.8	5.8	17.5
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	75.9	12.1	10.0	7.3	7.3	8.2	11.0	8.1	2.9	5.3	10.0
Furnaces	71.1	21.3	5.6	6.1	4.5	6.7	14.6	8.9	2.1	3.9	7.9
Individual space heaters	75.7	23.0	6.9	7.2	5.9	8.1	8.6	7.1	2.1	4.3	9.9
District heat	135.7	43.2	11.1	14.0	14.0	11.6	28.5	4.0	3.3	6.9	18.2
Boilers	100.8	33.3	10.2	9.4	9.1	8.8	7.3	5.8	2.4	6.2	12.5
Packaged heating units	83.0	19.0	8.6	8.5	5.6	8.8	15.3	11.2	1.9	4.7	9.9
Other	121.9	21.7	6.1	11.3	8.0	9.8	16.5	39.8	1.2	2.1	10.4
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	73.6	20.4	6.3	5.1	5.8	7.3	16.8	11.1	2.0	3.4	8.9
Heat pumps	74.9	12.4	9.2	7.4	7.0	8.3	10.0	8.5	2.7	5.4	10.0
Individual air conditioners	81.6	25.2	7.9	6.5	9.1	7.2	9.2	6.2	2.8	4.0	10.2
District chilled water	144.4	45.5	11.1	14.7	15.1	12.8	38.0	4.2	3.5	8.8	20.4
Central chillers	108.7	28.9	13.8	12.3	8.6	10.6	7.2	4.9	2.5	8.7	14.7
Packaged air conditioning units	88.0	22.1	8.9	9.2	6.2	9.0	14.5	11.0	1.9	4.6	10.4
Swamp coolers	91.5	24.4	7.4	7.4	8.9	8.4	21.8	13.3	1.7	3.0	9.0
Other	137.4	26.3	12.1	15.2	4.8	15.4	Q	4.5	1.3	Q	20.9
Main equipment replaced since 1990 (more than one may apply)											
Heating	78.5	20.3	7.6	7.3	6.6	7.8	12.4	9.1	2.2	5.2	9.2
Cooling	82.1	22.2	8.2	7.7	7.1	7.9	12.3	8.5	2.3	5.4	9.6

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Water-heating equipment											
Centralized system	88.6	24.5	8.7	8.3	7.2	8.8	16.6	9.0	2.4	5.1	10.7
Distributed system	65.6	16.3	6.9	6.6	3.4	8.3	11.4	7.1	1.5	4.5	10.4
Combination of centralized and distributed system	93.4	22.1	10.0	9.8	7.0	9.4	10.1	11.3	2.0	6.0	10.9
Lighting equipment types (more than one may apply)											
Incandescent	92.2	23.9	9.9	8.9	7.8	8.9	14.1	9.6	2.3	5.0	10.7
Standard fluorescent	83.8	22.5	8.6	8.3	6.6	8.7	13.4	9.1	2.1	5.2	10.6
Compact fluorescent	94.7	24.4	10.0	9.5	7.8	9.2	14.2	9.0	2.4	5.8	11.4
High-intensity discharge (HID)	93.5	24.7	10.5	9.3	7.0	9.8	11.9	8.7	2.1	4.9	11.8
Halogen	96.0	23.5	10.3	9.7	7.6	9.5	14.0	10.3	2.3	5.0	11.6
LED	107.1	26.2	11.7	11.2	8.0	10.0	13.9	11.9	2.4	5.3	13.3
Other	131.1	36.3	23.2	12.1	8.8	9.8	10.4	13.9	3.0	5.4	13.2
Refrigeration equipment (more than one may apply)											
Any refrigeration	87.9	22.7	8.9	8.5	6.9	8.8	13.8	9.1	2.2	5.1	10.8
Walk-in units	124.3	26.7	12.2	10.9	11.0	10.0	17.9	19.3	2.6	4.7	12.7
Cases or cabinets	115.5	25.0	10.7	10.7	9.7	9.8	17.4	18.2	2.4	4.5	12.1
Large cold storage areas	127.0	25.6	9.9	8.8	7.7	10.0	18.8	34.7	1.7	3.1	12.7
Commercial ice makers	114.0	24.8	12.0	10.9	10.4	10.0	16.6	14.0	2.8	5.3	12.8
Residential-type or compact units	83.1	23.2	8.6	8.3	6.5	8.6	10.9	6.6	2.1	5.4	10.6
Vending machines	95.1	24.1	10.2	9.8	7.9	10.0	11.2	8.6	2.3	5.6	11.9
No refrigeration	43.8	18.7	5.8	4.9	2.8	7.6	Q	N	1.7	5.2	8.3
Office equipment (more than one may apply)											
Desktop computers	85.5	22.5	8.7	8.4	6.6	8.9	13.2	8.9	2.1	5.2	10.8
With flat screen monitors	85.7	22.6	8.8	8.5	6.6	8.9	13.1	8.9	2.1	5.2	10.7
With multiple monitors	95.1	24.9	10.3	10.4	6.4	9.6	13.9	7.3	2.2	7.5	11.6
Laptop computers	86.1	23.2	9.2	8.8	6.6	9.0	11.4	7.3	2.1	5.7	11.1
Dedicated servers	89.6	22.6	9.4	9.3	6.6	9.3	12.0	8.5	2.2	6.4	11.2
Laser printers	88.4	23.7	8.9	9.0	6.6	9.1	12.1	8.6	2.3	5.8	10.9
Inkjet printers	80.1	20.6	8.7	7.6	5.9	8.4	13.8	8.5	1.8	4.5	10.6
FAX machines	85.6	22.3	8.8	8.7	6.3	9.2	12.5	8.9	2.1	5.2	10.7
Photocopiers	86.2	23.5	9.1	8.9	6.2	9.1	10.2	7.0	2.2	5.8	11.2
Number of desktop computers											
None	48.3	19.0	6.3	3.7	5.4	5.5	28.2	12.3	2.6	Q	7.6
1 to 4	75.6	18.9	5.8	5.4	7.7	6.8	31.0	14.3	1.9	1.4	8.7
5 to 9	78.3	21.6	6.5	6.6	4.8	8.2	17.5	13.0	2.1	2.8	10.2
10 to 19	72.0	19.7	6.4	7.5	4.7	8.4	8.4	9.5	1.8	4.4	9.3
20 to 49	85.6	21.1	9.3	9.0	6.7	10.0	9.4	10.1	2.2	4.2	11.2
50 to 99	77.9	20.6	8.8	8.8	5.3	9.3	9.0	5.9	1.9	5.0	9.7
100 to 249	98.8	26.1	9.5	10.1	7.9	10.4	Q	5.1	2.5	8.4	13.5
250 or more	109.9	30.0	15.2	12.6	7.8	10.1	7.9	3.1	2.4	11.5	13.2

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
Number of laptop computers											
None	70.0	19.3	6.5	5.9	6.1	7.6	25.3	15.9	2.2	2.8	8.8
1 to 4	71.7	20.0	6.9	6.0	5.2	7.8	17.0	9.8	1.9	2.8	9.2
5 to 9	83.6	19.4	8.2	8.9	7.4	9.7	14.7	9.5	1.9	3.9	10.2
10 to 19	86.1	20.7	10.1	9.4	8.1	9.0	10.0	8.1	2.0	4.6	10.6
20 to 49	94.1	26.3	8.5	9.9	7.2	9.4	14.3	6.1	2.6	7.6	11.5
50 to 99	96.7	29.4	11.3	10.1	6.1	9.8	4.3	4.3	2.0	7.1	16.0
100 to 249	100.6	29.3	11.5	11.1	7.5	9.6	6.4	3.4	2.3	11.7	12.6
250 or more	107.4	26.9	15.7	13.1	7.2	10.3	6.7	3.3	2.7	10.8	13.4
Number of dedicated servers											
None	69.2	21.7	7.0	5.9	6.4	7.5	18.6	10.3	2.1	2.5	9.3
1 to 4	79.7	20.0	7.5	7.8	6.3	8.7	12.2	9.8	2.0	4.0	10.1
5 to 9	90.5	22.6	9.0	9.5	6.5	9.4	13.0	9.2	2.0	5.6	10.7
10 to 19	103.8	24.8	13.4	13.0	5.2	11.0	Q	6.3	2.8	8.9	13.5
20 to 49	105.5	30.8	14.3	11.9	7.1	10.5	7.0	3.6	2.4	9.6	12.8
50 or more	143.6	34.9	18.4	14.5	10.9	11.9	12.5	4.1	2.7	23.3	16.7
Number of photocopiers											
None	72.4	19.2	7.2	6.1	7.3	7.6	28.3	15.3	1.9	3.1	8.7
One	70.4	20.3	6.3	6.0	5.5	7.4	11.6	9.3	1.8	2.9	9.0
2 to 4	78.6	21.7	7.9	8.2	5.1	8.8	7.1	7.3	2.2	5.2	10.4
5 to 9	88.5	21.5	9.2	9.5	5.7	10.3	10.5	6.8	1.9	7.5	10.9
10 or more	117.3	31.4	15.2	13.4	9.2	11.0	12.4	3.9	3.0	9.5	15.7
Number of TVs or video displays											
None	54.9	18.9	5.1	4.9	3.0	6.9	17.0	9.3	0.8	4.2	8.3
One	69.8	22.3	5.7	6.0	4.5	7.5	17.1	9.6	1.3	3.4	8.3
2 to 4	79.6	22.4	7.8	7.6	4.0	8.9	15.5	9.2	1.6	4.2	11.3
5 to 9	95.3	22.1	10.1	9.9	5.6	9.6	15.5	11.8	2.0	7.3	10.7
10 to 19	99.1	23.7	10.9	11.1	7.2	10.3	14.6	9.8	2.0	6.7	10.9
20 to 49	89.0	19.4	10.4	10.6	6.3	10.0	7.2	9.5	2.6	5.8	10.4
50 to 99	98.6	24.5	10.9	9.9	10.0	9.9	5.9	6.7	4.3	8.7	11.9
100 or more	133.4	31.1	15.7	11.5	21.0	9.6	17.1	5.5	6.1	4.9	16.3
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	112.5	28.1	13.3	10.0	8.2	9.4	12.5	13.3	2.6	5.2	12.4
Fast food or small restaurant	123.2	22.9	12.8	12.4	9.5	11.6	14.6	20.6	3.0	4.4	13.0
Cafeteria or large restaurant	106.7	26.9	12.9	10.2	10.8	9.1	11.3	6.9	2.7	5.7	11.9
Commercial kitchen/food preparation area	111.4	26.8	12.0	9.7	12.2	8.8	12.0	12.4	2.9	4.0	12.2
Small kitchen area	84.5	23.3	9.7	7.5	6.6	7.3	7.6	7.7	2.4	4.0	10.5
Separate computer areas (more than one may apply)											
Data center or server farm	122.1	31.5	17.3	12.7	8.1	11.2	13.9	4.3	2.8	13.6	14.7
Computer-based training room	95.7	24.7	12.0	10.0	6.7	9.8	10.2	7.1	2.2	6.9	11.1
Student or public computer center	88.9	26.5	10.1	7.9	8.6	7.7	8.4	5.7	2.5	5.5	9.9

Table E2. Major fuel consumption intensities (Btu) by end use, 2012

	Major fuel energy intensity ¹ (thousand Btu/square foot in buildings using any major fuel for the end use)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computing	Other
All buildings	82.0	22.3	8.6	8.1	6.5	8.7	13.8	9.1	2.1	5.2	10.5
HVAC conservation features (more than one may apply)											
Economizer cycle	102.2	27.2	10.2	11.1	7.3	10.2	12.9	8.3	2.2	6.5	13.3
Regular HVAC maintenance	89.6	23.0	9.3	9.0	6.8	9.3	13.6	9.2	2.2	5.6	11.3
Building automation system (BAS) ³	100.1	24.7	11.4	10.9	7.2	10.3	10.8	8.9	2.2	6.9	13.3
Window and interior lighting features (more than one may apply)											
Multipaned windows	87.9	23.5	8.6	8.7	6.8	8.9	13.9	9.5	2.3	5.4	10.8
Tinted window glass	89.5	22.1	9.8	9.2	6.9	9.4	14.4	9.1	2.2	5.6	11.4
Reflective window glass	104.3	24.0	11.6	11.1	7.8	10.3	16.3	10.5	2.6	7.6	12.1
External overhangs or awnings	96.3	23.0	9.5	9.3	7.6	9.3	19.1	13.0	2.3	5.1	10.9
Skylights or atriums	91.1	25.4	9.4	9.4	6.9	9.0	14.9	7.0	2.1	4.9	12.3
Light scheduling	96.8	23.0	10.4	10.6	6.6	9.4	13.4	11.6	2.3	6.2	11.7
Occupancy sensors	95.7	25.4	10.3	10.2	6.5	9.2	11.6	9.3	2.2	6.4	12.7
Multi-level lighting or dimming	111.3	25.8	11.4	11.1	9.9	9.1	17.8	13.1	2.7	5.0	13.0
Daylight harvesting	101.3	26.8	10.9	11.3	5.2	9.9	11.3	10.8	2.0	4.8	14.7
Demand responsive lighting	86.5	17.0	9.3	9.6	7.0	9.4	11.8	14.8	2.1	3.5	9.8
Building automation system (BAS) for lighting ³	99.5	21.0	11.3	12.0	5.5	10.8	9.9	14.1	1.7	5.9	12.3
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	79.5	21.3	8.2	8.0	5.5	8.1	12.2	8.5	1.9	4.9	9.7
Cooling	80.1	21.1	8.5	8.1	5.7	8.2	12.3	8.4	1.9	4.9	9.8
Lighting	81.8	22.5	8.5	8.1	6.3	8.5	13.6	8.6	2.1	5.0	10.3

¹The major fuel intensity calculation (total electricity, natural gas, fuel oil and district heat use for the end use divided by the floorspace in buildings that use any of those sources 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. In this table, the intensities for each end use do not sum to the total intensity, whereas they did in the 2003 CBECS table.

²These 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).

³In 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, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.