Release date: May 2016

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consumption		Fuel oil expenditures			
	per building (gallons)	per square foot (gallons)	per worker (gallons)	per building (thousand dollars)	per square foot (dollars)	per gallon (dollars)
All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Building floorspace (square feet)						
1,001 to 5,000	740	0.25	190.3	2.6	0.86	3.45
5,001 to 10,000	1,011	0.13	159.7	3.4	0.45	3.39
10,001 to 25,000	2,179	0.13	101.5	7.3	0.44	3.36
25,001 to 50,000	2,607	0.07	64.3	8.4	0.22	3.24
50,001 to 100,000	4,325	0.06	47.7	14.2	0.20	3.27
100,001 to 200,000	7,620	0.05	39.1	24.0	0.16	3.15
200,001 to 500,000	5,551	0.02	14.7	18.6	0.06	3.35
Over 500,000	14,515	0.02	11.5	48.8	0.05	3.36
Principal building activity						
Education	6,763	0.09	123.6	21.7	0.30	3.20
Food sales	Q	Q	Q	Q	Q	Q
Food service	Q	Q	Q	Q	Q	Q
Health care	6,075	0.05	28.4	19.0	0.16	3.12
Inpatient	13,711	0.05	28.6	42.4	0.16	3.09
Outpatient	Q	0.05	Q	Q	0.16	3.24
Lodging	2,206	0.03	49.6	7.4	0.10	3.34
Mercantile	1,574	0.06	70.5	5.5	0.22	3.51
Retail (other than mall)	1,434	0.12	Q	5.1	0.41	3.55
Enclosed and strip malls	Ω	Q	Q	Q	Q	3.38
Office	1,533	0.02	10.9	5.2	0.08	3.42
Public assembly	1,758	0.03	49.5	5.9	0.10	3.34
Public order and safety	497	0.03	14.2	1.7	0.10	3.54
Religious worship	1,656	0.10	238.1	5.7	0.34	3.44
Service		0.16	219.8	4.6	0.54	
Warehouse and storage	1,385					3.33
	1,474	0.02	50.5	5.0	0.07	3.37
Other Vacant	2,545 Q	0.10 Q	110.0 Q	8.7 Q	0.33 Q	3.42 Q
Year constructed						
Before 1920	2,133	0.11	125.3	7.1	0.36	3.35
1920 to 1945	2,368	0.07	49.3	8.0	0.25	3.39
1946 to 1959	2,505	0.09	83.4	8.1	0.28	3.22
1960 to 1969	1,923	0.06	51.2	6.4	0.20	3.33
1970 to 1979	2,043	0.05	27.6	6.6	0.15	3.24
1980 to 1989	2,260	0.03	21.4	7.6	0.10	3.38
1990 to 1999	1,918	0.03	25.3	6.4	0.10	3.36
			44.4			3.36
2000 to 2003	2,175	0.05		7.3	0.17	
2004 to 2007	1,215	0.01	15.2	4.1	0.05	3.36
2008 to 2012	1,736	0.04	30.7	5.5	0.13	3.15

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consumption		Fuel oil expenditures			
	per building (gallons)	per square foot (gallons)	per worker (gallons)	per building (thousand dollars)	per square foot (dollars)	per gallon (dollars)
All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Census region and division						
Northeast	3,008	0.11	79.8	9.9	0.35	3.29
New England	2,994	0.18	184.4	9.7	0.60	3.25
Middle Atlantic	3,023	0.07	48.8	10.1	0.24	3.34
Midwest	1,400	0.03	22.4	4.8	0.09	3.41
East North Central	1,521	0.03	21.4	5.2	0.09	3.40
West North Central	1,222	0.03	24.7	4.2	0.10	3.41
South	1,277	0.02	19.5	4.2	0.08	3.32
South Atlantic	1,706	0.03	22.6	5.6	0.09	3.28
East South Central	722	0.03	22.5	2.5	0.09	3.41
West South Central	863	0.02	11.5	2.9	0.05	3.40
West	1,128	0.02	11.7	3.9	0.05	3.42
Mountain	Q	0.01	12.8	Q	0.04	3.38
Pacific	987	0.02	11.3	3.4	0.06	3.43
Climate region ¹						
Very cold/Cold	2,189	0.07	60.7	7.3	0.25	3.32
Mixed-humid	2,391	0.04	33.7	7.9	0.14	3.32
Mixed-dry/Hot-dry	811	0.01	8.8	2.8	0.04	3.44
Hot-humid	1,189	0.02	12.2	3.7	0.05	3.13
Marine	1,084	0.01	7.5	3.7	0.04	3.44
Number of floors						
One	1,193	0.07	78.4	3.9	0.24	3.30
Two	2,208	0.07	69.7	7.4	0.23	3.36
Three	2,887	0.08	76.7	9.6	0.26	3.32
Four to nine	5,455	0.03	23.7	17.9	0.11	3.28
Ten or more	6,786	0.01	8.3	22.7	0.05	3.35
Number of workers (main shift)						
Fewer than 5	1,060	0.15	546.4	3.6	0.52	3.38
5 to 9	887	0.09	141.3	3.0	0.31	3.41
10 to 19	1,838	0.11	140.4	6.0	0.35	3.26
20 to 49	2,766	0.07	90.0	9.2	0.22	3.34
50 to 99	3,891	0.05	58.8	13.0	0.16	3.35
100 to 249	5,453	0.04	37.8	17.8	0.13	3.26
250 or more	7,694	0.02	10.2	24.8	0.06	3.22
Weekly operating hours						
Fewer than 40	1,207	0.13	218.0	4.1	0.45	3.44
40 to 48	1,544	0.07	61.5	5.1	0.24	3.28
49 to 60	1,782	0.05	26.8	5.9	0.15	3.33
61 to 84	2,919	0.05	35.7	9.7	0.15	3.34
85 to 167	2,128	0.03	40.3	7.0	0.11	3.29
Open continuously	3,146	0.04	32.9	10.4	0.13	3.30

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consumption		Fuel oil expenditures			
	per building (gallons)	per square foot (gallons)	per worker (gallons)	per building (thousand dollars)	per square foot (dollars)	per gallon (dollars)
All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Ownership and occupancy						
Nongovernment owned	1,815	0.05	35.5	6.1	0.16	3.35
Owner occupied	1,846	0.07	58.3	6.2	0.22	3.34
Leased to tenant(s)	1,576	0.04	21.7	5.3	0.12	3.38
Owner occupied and leased	2,743	0.03	21.1	9.3	0.09	3.37
Unoccupied	Q	Q	N	Q	Q	Q
Government owned	3,070	0.05	44.7	9.9	0.16	3.23
Federal	Q	Q	Q	Q	Q	3.31
State	2,649	0.03	27.1	8.5	0.09	3.22
Local	3,026	0.07	61.5	9.8	0.22	3.23
Party responsible for operation and maintenance of energy systems						
Building owner	2,130	0.05	37.9	7.1	0.16	3.31
Business owner or tenant	1,700	0.05	48.1	5.7	0.16	3.33
Property management	Q	0.02	9.2	Q	0.05	3.47
Other	Q	Q	Q	Q	Q	Q
Provider of direct input on energy- related equipment purchases						
Building owner	2,143	0.05	38.2	7.1	0.16	3.31
Business owner or tenant	1,599	0.04	37.2	5.4	0.14	3.35
Property management	2,803	0.03	27.0	9.6	0.12	3.43
Other	1,315	0.05	41.7	4.5	0.17	3.44
Number of establishments						
One	2,008	0.06	55.0	6.6	0.21	3.31
2 to 5	2,015	0.04	30.6	6.6	0.12	3.29
6 to 10	5,561	0.04	21.9	18.3	0.14	3.30
11 to 20	1,765	0.01	4.7	6.0	0.03	3.39
More than 20	6,690	0.02	9.5	23.9	0.06	3.58
Currently unoccupied	Q	Q	N	Q	Q	Q
Predominant exterior wall material						
Brick, stone, or stucco	2,762	0.05	37.4	9.1	0.16	3.28
Concrete (block or poured)	1,923	0.05	42.4	6.4	0.15	3.34
Concrete panels	4,192	0.02	12.4	13.3	0.05	3.17
Siding or shingles	1,429	0.14	131.9	4.9	0.48	3.41
Metal panels	1,344	0.08	77.9	4.5	0.28	3.37
Window glass	4,168	0.02	8.2	13.7	0.06	3.28
Other	1,677	0.03	Q	5.3	0.08	3.17
No one major type	Q	Q	Q	Q	Q	Q

Table C34. Fuel oil consumption and expenditure intensities, 2012

per building (gallons) quality (gallons) per building (gallons) quality (gallons)		Fuel oil consumption			Fuel oil expenditures		
Predominant roof material Metal surfacing 1,349 0.08 88.0 4.5 0.28 3.37 Synthetic or rubber 2,774 0.04 29.1 9.2 0.12 3.33 Built-up 3,655 0.04 27.3 11.9 0.13 3.27 Salte or tile shingles 1,820 0.04 35.4 6.5 0.16 3.60 Wooden materials (including shingles) Q Q Q Q Q Q Q Asphalt, fiberglass, or other shingles 1,404 0.08 61.7 4.7 0.26 3.36 Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Concrete Q Q Q Q Q Q Q Q No one major type Q Q Q Q Q Q Q Q No one major type Q Q Q Q Q Q Q Q Q		building	square foot	worker	(thousand	square foot	gallon
Metal surfacing 1,349 0.08 88.0 4.5 0.28 3.37 Synthetic or rubber 2,774 0.04 29.1 9.2 0.12 3.33 Silate or tile shingles 1,820 0.04 35.4 6.5 0.16 3.60 Wooden materials (including shingles) Q <t< td=""><td>All buildings</td><td>2,087</td><td>0.05</td><td>38.0</td><td>6.9</td><td>0.16</td><td>3.32</td></t<>	All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Synthetic or rubber 2,774 0.04 29.1 9.2 0.12 3.33 Built-up 3,655 0.04 37.3 11.9 0.13 3.27 Slate or tile shingles 1,820 0.04 35.4 6.5 0.16 3.60 Wooden materials (including shingles) Q <td>Predominant roof material</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Predominant roof material						
Built-up 3,655 0.04 27.3 11.9 0.13 3.27 Slate or tile shingles 1,820 0.04 35.4 6.5 0.16 3.60 Wooden materials (including shingles) Q Q Q Q Q Q Q Q A A A A A A A A Q </td <td>Metal surfacing</td> <td>1,349</td> <td>0.08</td> <td>88.0</td> <td>4.5</td> <td>0.28</td> <td>3.37</td>	Metal surfacing	1,349	0.08	88.0	4.5	0.28	3.37
Slate or tile shingles 1,820 0.04 35.4 6.5 0.16 3.60 Wooden materials (including shingles) Q	Synthetic or rubber	2,774	0.04	29.1	9.2	0.12	3.33
Wooden materials (including shingles) Q	Built-up	3,655	0.04	27.3	11.9	0.13	3.27
shingles) Q Q Q Q Q Q Q Q Appliant, fiberglass, or other shingles 1,404 0.08 61.7 4.7 0.26 3.36 Appliant, fiberglass, or other shingles 1,404 0.08 61.7 4.7 0.26 3.26 Appliant shingles 3.26 Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Appliant shingles 4.0 Q <	Slate or tile shingles	1,820	0.04	35.4	6.5	0.16	3.60
Asphalt, fiberglass, or other shingles 1,404 0.08 61.7 4.7 0.26 3.36 Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Concrete QQ	Wooden materials (including						
other shingles 1,404 0.08 61.7 4.7 0.26 3.36 Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Other Q <td>shingles)</td> <td>Q</td> <td>Q</td> <td>Q</td> <td>Q</td> <td>Q</td> <td>Q</td>	shingles)	Q	Q	Q	Q	Q	Q
Concrete 7,045 0.04 21.6 18.9 0.10 2.68 Other Q <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
Other Q <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
No one major type Q		7,045	0.04	21.6	18.9	0.10	2.68
Roof characteristics Roof tilt						Q	
Flat 2,909 0.03 24.8 9.6 0.11 3.31 Shallow pitch 1,598 0.06 67.7 5.3 0.21 3.32 Steeper pitch 1,632 0.12 118.5 5.4 0.40 3.32 Cool roof 2,983 0.04 30.8 9.9 0.13 3.34 Renovations in buildings constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,593 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.5 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other	No one major type	Q	Q	Q	Q	Q	Q
Flat 2,909 0.03 24.8 9.6 0.11 3.31 Shallow pitch 1,598 0.06 67.7 5.3 0.21 3.32 Steeper pitch 1,632 0.12 118.5 5.4 0.40 3.32 Cool roof 2,983 0.04 30.8 9.9 0.13 3.34 Renovations in buildings Constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0	Roof characteristics						
Shallow pitch 1,598 0.06 67.7 5.3 0.21 3.32 Steeper pitch 1,632 0.12 118.5 5.4 0.40 3.32 Cool roof 2,983 0.04 30.8 9.9 0.13 3.34 Renovations in buildings constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HYAC	Roof tilt						
Steeper pitch 1,632 0.12 118.5 5.4 0.40 3.32 Cool roof 2,983 0.04 30.8 9.9 0.13 3.34 Renovations in buildings constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 </td <td>Flat</td> <td>2,909</td> <td>0.03</td> <td>24.8</td> <td>9.6</td> <td>0.11</td> <td>3.31</td>	Flat	2,909	0.03	24.8	9.6	0.11	3.31
Cool roof 2,983 0.04 30.8 9.9 0.13 3.34 Renovations in buildings constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29	Shallow pitch	1,598	0.06	67.7	5.3	0.21	3.32
Renovations in buildings constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,503 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Steeper pitch	1,632	0.12	118.5	5.4	0.40	3.32
constructed before 2008 (more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,503 0.05 35.5 11.2 0.16 3.28 <td< td=""><td>Cool roof</td><td>2,983</td><td>0.04</td><td>30.8</td><td>9.9</td><td>0.13</td><td>3.34</td></td<>	Cool roof	2,983	0.04	30.8	9.9	0.13	3.34
(more than one may apply) Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,596 0.05 35.5 11.2 0.16 3.28 Plumbing system	Renovations in buildings						
Any type of renovation 2,503 0.05 34.5 8.3 0.15 3.31 Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q	constructed before 2008						
Addition or annex 3,836 0.05 47.1 12.3 0.17 3.21 Reduction in floorspace Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0	(more than one may apply)						
Reduction in floorspace Q Q Q Q Q Q Q Q 3.32 Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.	Any type of renovation	2,503	0.05	34.5	8.3	0.15	3.31
Roof replacement 3,058 0.05 41.5 10.1 0.18 3.30 Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7<	Addition or annex	3,836	0.05	47.1	12.3	0.17	3.21
Exterior wall replacement 3,640 0.05 42.1 11.7 0.16 3.22 Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q	Reduction in floorspace	Q	Q	Q	Q	Q	3.32
Interior wall reconfiguration 2,651 0.04 23.6 8.6 0.12 3.25 Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 </td <td>Roof replacement</td> <td>3,058</td> <td>0.05</td> <td>41.5</td> <td>10.1</td> <td>0.18</td> <td>3.30</td>	Roof replacement	3,058	0.05	41.5	10.1	0.18	3.30
Window replacement 3,634 0.06 46.2 11.7 0.19 3.23 HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Exterior wall replacement	3,640	0.05	42.1	11.7	0.16	3.22
HVAC equipment upgrade 3,124 0.04 27.7 10.3 0.13 3.29 Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Interior wall reconfiguration	2,651	0.04	23.6	8.6	0.12	3.25
Lighting upgrade 3,591 0.04 31.7 11.8 0.14 3.29 Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Window replacement	3,634	0.06	46.2	11.7	0.19	3.23
Electrical upgrade 3,396 0.05 35.5 11.2 0.16 3.28 Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	HVAC equipment upgrade	3,124	0.04	27.7	10.3	0.13	3.29
Plumbing system upgrade 3,503 0.05 35.6 11.8 0.17 3.37 Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Lighting upgrade	3,591	0.04	31.7	11.8	0.14	3.29
Insulation upgrade 2,836 0.04 32.0 9.4 0.13 3.33 Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Electrical upgrade	3,396	0.05	35.5	11.2	0.16	3.28
Fire, safety, or security upgrade 3,602 0.04 29.0 11.8 0.14 3.29 Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Plumbing system upgrade	3,503	0.05	35.6	11.8	0.17	3.37
Structural upgrade 2,914 0.04 36.9 9.7 0.13 3.34 Other Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Insulation upgrade	2,836	0.04	32.0	9.4	0.13	3.33
Other Q Q Q Q Q Q Q 3.55 No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Fire, safety, or security upgrade	3,602	0.04	29.0	11.8	0.14	3.29
No renovations 1,663 0.05 47.8 5.6 0.18 3.34	Structural upgrade	2,914	0.04	36.9	9.7	0.13	3.34
	Other	Q	Q	Q	Q	Q	3.55
Buildings constructed 2008 or later 1,736 0.04 30.7 5.5 0.13 3.15	No renovations	1,663	0.05	47.8	5.6	0.18	3.34
	Buildings constructed 2008 or later	1,736	0.04	30.7	5.5	0.13	3.15

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consumption		Fuel oil expenditures			
	per building (gallons)	per square foot (gallons)	per worker (gallons)	per building (thousand dollars)	per square foot (dollars)	per gallon (dollars)
All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Energy sources						
(more than one may apply)						
Electricity	2,087	0.05	38.0	6.9	0.16	3.32
Natural gas	1,820	0.02	16.7	6.1	0.07	3.36
Fuel oil	2,087	0.05	38.0	6.9	0.16	3.32
District heat	4,605	0.01	10.5	15.7	0.05	3.41
District chilled water	3,924	0.01	11.4	13.3	0.05	3.40
Propane	3,493	0.10	139.6	11.2	0.33	3.21
Other	1,435	0.05	44.0	4.9	0.18	3.41
Space-heating energy sources						
Fuel oil	2,789	0.17	181.0	9.2	0.57	3.30
Fuel oil main	3,480	0.28	357.4	11.5	0.93	3.30
Fuel oil secondary	598	0.02	17.9	2.0	0.07	3.29
Other excluding fuel oil	1,121	0.01	9.9	3.7	0.05	3.34
Buildings without heating	1,155	0.03	32.2	4.6	0.10	4.02
Primary space-heating energy source						
Electricity	827	0.02	10.9	2.6	0.05	3.19
Natural gas	1,022	0.01	9.7	3.5	0.04	3.40
Fuel oil	3,480	0.28	357.4	11.5	0.93	3.30
District heat	3,857	0.01	8.8	13.2	0.04	3.43
Propane	Q	Q	Q	Q	Q	C
Other	Q	Q	Q	Q	Q	Q
Cooling energy sources						
Fuel oil	Q	Q	Q	Q	Q	Q
Other excluding fuel oil	2,205	0.04	31.6	7.3	0.14	3.32
Buildings without cooling	1,519	0.18	377.0	5.1	0.61	3.35
Water-heating energy sources						
Fuel oil	5,595	0.23	266.4	18.1	0.73	3.23
Other excluding fuel oil	1,430	0.23	200.4	4.9	0.09	3.42
Buildings without water heating	1,142	0.03	250.7	3.6	0.40	3.42
Cooking energy sources						
Fuel oil	Q	Q	Q	Q	Q	0
Other excluding fuel oil	3,313	0.04	32.7	10.9	0.14	3.28
Buildings without cooking	1,409	0.04	47.0	4.7	0.14	3.36
	1,403	0.00	47.0		0.15	3.30
Energy end uses (more than one may apply)						
Buildings with space heating	2,111	0.05	38.1	7.0	0.16	3.31
Buildings with cooling	2,255	0.04	32.3	7.5	0.14	3.31
Buildings with water heating	2,215	0.05	35.9	7.4	0.15	3.33
Buildings with cooking	3,313	0.04	33.2	10.9	0.14	3.28
Buildings with manufacturing	1,891	0.05	43.4	6.2	0.18	3.27
Buildings with electricity	1,001	3.03	13.1		0.10	3.27
generation	2,297	0.03	21.6	7.5	0.09	3.28

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consum	Fuel oil expenditures				
	per building (gallons)	per square foot (gallons)	per worker (gallons)	per building (thousand dollars)	per square foot (dollars)	per gallon (dollars)
All buildings	2,087	0.05	38.0	6.9	0.16	3.32
Percent of floorspace heated						
Not heated	1,155	0.03	32.2	4.6	0.10	4.02
1 to 50	1,067	0.03	67.2	3.4	0.11	3.15
51 to 99	2,283	0.03	24.4	7.6	0.12	3.32
100	2,285	0.05	40.5	7.6	0.18	3.32
Heating equipment						
(more than one may apply)						
Heat pumps	1,991	0.03	20.1	6.6	0.10	3.31
Furnaces	1,284	0.06	51.9	4.4	0.21	3.43
Individual space heaters	1,553	0.05	41.2	5.1	0.16	3.31
District heat	4,378	0.01	10.0	14.9	0.05	3.41
Boilers	4,197	0.06	45.6	13.7	0.20	3.25
Packaged heating units	1,541	0.04	29.0	5.2	0.12	3.36
Other	Q	Q	Q	Q	Q	Q
Water-heating equipment						
Centralized system	1,960	0.06	44.4	6.6	0.19	3.37
Distributed system	1,886	0.04	30.3	6.3	0.13	3.32
Combination of centralized and						
distributed system	4,374	0.03	23.8	14.1	0.10	3.23
Food preparation or serving areas in non-food service buildings (more than one may apply)						
Snack bar or concession stand	4,760	0.02	19.8	16.0	0.08	3.36
Fast food or small restaurant	3,176	0.02	12.8	10.6	0.06	3.35
Cafeteria or large restaurant	8,807	0.04	30.7	28.8	0.14	3.27
Commercial kitchen/						
food preparation area	4,790	0.04	32.0	15.9	0.12	3.31
Small kitchen area	2,756	0.05	38.1	9.1	0.16	3.31
HVAC conservation features (more than one may apply)						
Economizer cycle	3,658	0.03	20.8	12.0	0.09	3.28
Regular HVAC maintenance	2,545	0.04	32.5	8.4	0.14	3.31
Building automation system (BAS) ²	3,547	0.03	21.5	11.5	0.10	3.24
Equipment usage reduced when building not in full use (more than one may apply)						
Heating	2,103	0.05	36.1	7.0	0.16	3.32
Cooling	2,229	0.04	30.2	7.4	0.13	3.32
Lighting	2,103	0.05	37.0	7.0	0.16	3.31
5	_,					

Table C34. Fuel oil consumption and expenditure intensities, 2012

	Fuel oil consum	Fuel oil consumption			Fuel oil expenditures		
	per building (gallons)	per square foot (gallons)	per worker (gallons)		per square foot (dollars)	per gallon (dollars)	
All buildings	2,087	0.05	38.0	6.9	0.16	3.32	
Annual consumption (gallons)							
1,000 or less	316	0.01	8.3	1.1	0.04	3.54	
1,001 to 5,000	2,157	0.05	38.1	7.3	0.17	3.39	
5,001 to 10,000	6,522	0.08	62.6	21.3	0.25	3.27	
10,001 to 25,000	15,386	0.07	57.6	51.1	0.23	3.32	
Over 25,000	54,423	0.19	161.8	174.4	0.62	3.20	

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).

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 F of the 2012 Commercial Buildings Energy Consumption Survey.

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.