

Table E9. Fuel Oil Consumption (Btu) and Energy Intensities by End Use for Non-Mall Buildings, 2003

	Total Fuel Oil Consumption (trillion Btu)					Fuel Oil Energy Intensity (thousand Btu/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Building Floorspace (Square Feet)										
1,001 to 5,000	34	32	Q	(*)	Q	57.4	52.7	Q	(*)	Q
5,001 to 10,000	36	33	Q	(*)	Q	50.6	45.8	Q	0.1	Q
10,001 to 25,000	27	25	1	(*)	Q	28.2	25.4	1.5	0.1	Q
25,001 to 50,000	16	15	Q	(*)	1	19.7	18.8	Q	(*)	0.7
50,001 to 100,000	26	23	1	Q	1	15.0	13.3	0.8	Q	0.6
100,001 to 200,000	37	34	Q	Q	1	12.5	11.6	Q	Q	0.5
200,001 to 500,000	36	25	Q	Q	2	10.5	7.5	2.4	Q	0.5
Over 500,000	10	Q	Q	Q	2	2.4	Q	Q	Q	0.5
Principal Building Activity										
Education	47	45	2	Q	Q	25.4	23.9	0.8	Q	0.3
Food Sales	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Food Service	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Health Care	11	6	2	Q	2	5.6	3.3	0.8	Q	1.3
Inpatient	9	5	2	Q	2	5.3	2.9	0.9	Q	1.4
Outpatient	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Lodging	35	25	Q	(*)	1	16.1	11.2	Q	0.2	0.3
Retail (Other Than Mall).....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Office	18	15	Q	Q	1	4.3	3.8	Q	Q	0.4
Public Assembly	29	28	Q	(*)	Q	30.7	29.7	Q	(*)	Q
Public Order and Safety	8	6	Q	(*)	Q	Q	Q	Q	Q	Q
Religious Worship	18	18	Q	(*)	Q	39.8	39.3	Q	(*)	Q
Service	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Warehouse and Storage	9	Q	Q	(*)	Q	7.3	6.3	Q	0.1	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year Constructed										
Before 1920	38	35	Q	(*)	Q	39.3	36.4	Q	0.2	Q
1920 to 1945	54	44	9	Q	(*)	27.2	22.4	4.6	Q	0.2
1946 to 1959	48	45	Q	(*)	Q	23.5	21.9	Q	(*)	Q
1960 to 1969	Q	Q	Q	Q	Q	21.7	20.0	0.7	Q	0.5
1970 to 1979	22	19	1	Q	2	10.2	8.7	0.6	Q	0.9
1980 to 1989	9	6	1	Q	2	3.0	2.1	0.2	Q	0.7
1990 to 1999	9	6	Q	Q	2	4.3	3.1	Q	Q	1.0
2000 to 2003	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Census Region and Division										
Northeast	175	156	15	Q	4	28.8	25.6	2.4	Q	0.7
New England	69	64	4	(*)	1	44.1	40.8	2.8	0.1	Q
Middle Atlantic	106	91	Q	Q	4	23.5	20.3	Q	Q	0.8
Midwest	24	Q	1	Q	1	8.3	7.6	0.2	Q	0.5
East North Central	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
West North Central	Q	Q	Q	Q	Q	14.4	12.9	0.5	0.1	Q
South	14	10	Q	Q	3	3.5	2.4	Q	Q	0.7
South Atlantic	13	10	Q	Q	3	4.9	3.6	Q	Q	0.9
East South Central	1	(*)	(*)	(*)	(*)	2.7	1.2	(*)	1.0	0.5
West South Central	1	Q	Q	(*)	(*)	0.5	0.1	Q	(*)	0.3
West	9	Q	Q	Q	1	Q	Q	Q	Q	Q
Mountain	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Pacific	4	2	Q	(*)	1	2.7	1.4	Q	(*)	0.5

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	Total Fuel Oil Consumption (trillion Btu)					Fuel Oil Energy Intensity (thousand Btu/square foot)				
	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Climate Zone: 30-Year Average										
Under 2,000 CDD and --										
More than 7,000 HDD	63	59	2	Q	2	25.0	23.5	0.7	Q	0.7
5,500-7,000 HDD	63	57	4	Q	2	15.6	14.1	1.0	Q	0.5
4,000-5,499 HDD	90	75	Q	Q	4	19.4	16.3	Q	Q	0.8
Fewer than 4,000 HDD	6	2	Q	Q	2	2.5	1.0	Q	Q	0.8
2,000 CDD or More and --										
Fewer than 4,000 HDD	1	Q	Q	(*)	(*)	0.5	0.2	Q	(*)	0.3
Number of Floors										
One	47	42	2	(*)	3	18.5	16.5	0.8	0.1	1.1
Two	69	64	Q	Q	1	25.3	23.6	Q	Q	0.5
Three	39	36	1	Q	Q	20.2	18.7	0.5	Q	0.6
Four to Nine	55	43	9	Q	3	13.5	10.5	2.2	Q	0.7
Ten or More	13	9	Q	Q	1	3.3	Q	Q	Q	0.3
Number of Workers (main shift)										
Fewer than 5	69	64	Q	(*)	Q	47.4	44.1	Q	0.1	Q
5 to 9	17	15	Q	(*)	Q	26.6	23.4	Q	(*)	Q
10 to 19	33	26	7	(*)	Q	32.3	25.4	6.7	0.1	0.3
20 to 49	36	33	1	(*)	Q	22.2	20.9	0.5	(*)	Q
50 to 99	27	25	1	(*)	1	12.7	11.5	0.7	0.2	0.3
100 to 249	19	17	1	Q	1	8.9	7.8	0.3	Q	0.6
250 or More	22	14	Q	Q	4	3.5	2.3	Q	Q	0.6
Weekly Operating Hours										
Fewer than 40	15	15	Q	(*)	Q	26.6	26.4	0.1	(*)	Q
40 to 48	58	57	(*)	(*)	1	28.9	28.4	0.2	(*)	0.3
49 to 60	32	28	Q	(*)	2	10.5	9.4	Q	0.1	0.8
61 to 84	40	37	Q	Q	1	19.1	17.6	Q	Q	0.3
85 to 167	18	16	1	Q	1	12.1	10.9	0.6	Q	0.4
Open Continuously	59	40	13	Q	5	9.9	6.8	2.2	Q	0.9
Ownership and Occupancy										
Nongovernment Owned.....	154	132	13	Q	7	13.5	11.6	1.2	Q	0.6
Owner Occupied	81	69	8	(*)	4	13.4	11.4	1.3	(*)	0.7
Nonowner Occupied	72	63	Q	Q	3	13.8	12.0	Q	Q	0.6
Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Government Owned	69	62	4	Q	2	18.1	16.3	1.0	Q	0.6
Federal	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
State	23	21	Q	Q	Q	24.0	Q	Q	Q	0.9
Local	39	35	3	Q	1	16.1	14.4	1.1	Q	0.4
Vacancy Status										
Completely Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Mostly Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Partially Vacant	30	27	2	Q	1	6.8	6.1	0.5	Q	0.2
Not At All Vacant	191	166	15	Q	9	17.9	15.5	1.4	Q	0.8
Number of Establishments										
One	183	161	14	Q	7	19.8	17.5	1.5	Q	0.7
2 to 5	28	23	3	(*)	2	10.4	8.6	1.1	(*)	0.7
6 to 10	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
11 to 20	Q	Q	Q	Q	Q	2.3	Q	Q	(*)	Q
More than 20	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Currently Unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Predominant Exterior Wall Material										
Brick, Stone or Stucco	144	126	13	Q	4	18.7	16.3	1.7	Q	0.6
Concrete (Block or Poured)	24	18	Q	Q	4	9.6	7.3	Q	Q	1.4
Concrete Panels	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Siding or Shingles	41	39	Q	(*)	Q	54.4	51.8	Q	(*)	Q
Metal Panels	8	8	Q	Q	(*)	7.1	6.6	Q	Q	0.4
Window Glass	(*)	Q	Q	(*)	(*)	0.3	Q	Q	(*)	0.3
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant Roof Material										
Built-Up	37	30	Q	Q	2	6.6	5.5	Q	Q	0.4
Shingles (Not Wood)	63	58	3	(*)	Q	34.7	31.7	1.9	0.1	Q
Metal Surfacing	21	20	Q	Q	Q	16.2	15.0	Q	Q	0.8
Synthetic or Rubber	46	39	3	Q	4	9.9	8.4	0.7	Q	0.8
Slate or Tile	12	11	Q	(*)	(*)	25.5	23.2	Q	0.5	0.4
Wooden Materials	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Concrete	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No One Major Type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Renovations in Buildings Constructed Before 1980 (more than one may apply)										
Any Type of Renovation										
Since 1980	105	95	5	Q	4	18.6	16.8	0.9	Q	0.7
Addition or Annex	Q	Q	Q	Q	Q	19.3	18.1	0.4	Q	0.6
Reduction In Floorspace	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cosmetic Improvements	77	69	5	Q	3	18.3	16.4	1.2	Q	0.7
Wall or Roof Replacement	54	47	4	Q	2	17.4	15.2	1.4	Q	0.6
Interior Wall										
Re-Configuration	44	40	3	Q	2	14.4	12.9	0.9	Q	0.6
HVAC Equipment Upgrade.....	34	28	3	Q	2	9.7	8.1	0.7	Q	0.7
Lighting Upgrade	53	48	3	Q	2	15.2	13.7	0.8	Q	0.6
Window Replacement	50	46	3	Q	1	21.6	19.8	1.2	Q	0.4
Plumbing System Upgrade	45	40	3	Q	1	16.0	14.3	0.9	Q	0.5
Insulation Upgrade	21	18	2	(*)	1	15.1	12.7	1.4	0.2	0.7
Other Renovation	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No Renovations Since 1980.....	94	82	Q	Q	Q	29.2	25.5	Q	Q	Q
Building Newer than 1980	23	17	Q	Q	5	3.7	2.7	Q	Q	0.7
Energy Sources (more than one may apply)										
Electricity	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Natural Gas	99	82	10	Q	6	9.5	7.9	0.9	Q	0.6
Fuel Oil	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
District Heat	1	Q	Q	Q	1	0.8	Q	Q	Q	0.5
District Chilled Water	2	Q	Q	Q	Q	1.7	Q	Q	Q	0.7
Propane	54	47	3	Q	2	25.1	22.2	1.5	Q	1.1
Other	Q	Q	Q	Q	Q	8.3	7.4	Q	Q	0.3
Space-Heating Energy Source										
Fuel Oil	212	194	14	Q	3	35.4	32.4	2.3	Q	0.4
Fuel Oil Main	197	181	13	Q	2	51.7	47.5	3.4	Q	0.4
Fuel Oil Secondary	16	14	1	Q	1	7.1	6.2	0.3	Q	0.5
Other Excluding Fuel Oil	7	(*)	Q	Q	6	0.8	(*)	Q	Q	0.7
Buildings without Heating	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Primary Space-Heating Energy Source										
Electricity	3	Q	Q	(*)	1	1.1	Q	Q	(*)	0.5
Natural Gas	15	10	1	Q	4	2.4	1.6	0.1	Q	0.7
Fuel Oil	197	181	13	Q	2	51.7	47.5	3.4	Q	0.4
District Heat	1	Q	Q	Q	1	0.7	Q	Q	Q	0.5
Propane	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling Energy Source										
Fuel Oil	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other Excluding Fuel Oil	175	151	14	Q	8	12.6	10.9	1.0	Q	0.6
Buildings without Cooling	46	42	Q	(*)	Q	36.6	33.4	Q	(*)	Q
Water-Heating Energy Source										
Fuel Oil	109	89	17	Q	2	58.0	47.1	9.2	Q	1.1
Other Excluding Fuel Oil	104	96	(*)	Q	7	8.2	7.6	(*)	Q	0.5
Bldgs without Water Heating	10	9	(*)	(*)	Q	16.0	14.8	(*)	(*)	Q
Cooking Energy Source										
Fuel Oil	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other Excluding Fuel Oil	114	97	12	(*)	5	12.9	10.9	1.3	(*)	0.6
Buildings without Cooking	103	94	5	(*)	4	16.7	15.2	0.8	(*)	0.6
Energy End Uses (more than one may apply)										
Buildings with Space Heating	219	194	15	Q	9	14.6	13.0	1.0	Q	0.6
Buildings with Cooling	176	151	14	Q	9	12.7	10.9	1.0	Q	0.6
Buildings with Water Heating	213	185	17	Q	9	14.6	12.7	1.2	Q	0.6
Buildings with Cooking	119	100	12	Q	6	13.3	11.1	1.4	Q	0.6
Buildings with Manufacturing	7	Q	Q	(*)	Q	6.7	4.5	Q	0.1	Q
Buildings with Electricity Generation	31	21	3	Q	7	3.2	2.1	0.3	Q	0.8
Percent of Floorspace Heated										
Not Heated	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	13	11	Q	(*)	Q	10.4	8.9	Q	(*)	Q
51 to 99	26	22	Q	Q	1	10.4	8.9	Q	Q	0.4
100	180	160	11	Q	7	16.0	14.3	1.0	Q	0.6
Heating Equipment (more than one may apply)										
Heat Pumps	6	4	Q	Q	1	2.5	1.8	Q	Q	0.5
Packaged Heat Pumps	3	Q	(*)	Q	1	Q	Q	Q	Q	Q
Split-System Heat Pumps	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Individual Room Heat Pumps ..	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Furnaces	50	47	1	(*)	Q	15.0	14.0	0.3	(*)	Q
Individual Space Heaters	31	27	2	(*)	2	9.7	8.3	0.8	(*)	0.6
District Heat	1	Q	Q	Q	1	0.7	Q	Q	Q	0.5
Boilers	171	152	13	Q	5	19.2	17.0	1.5	Q	0.6
Packaged Heating Units	17	13	1	Q	3	4.4	3.3	0.3	Q	0.8
Other	5	4	Q	Q	Q	4.6	3.9	Q	Q	Q
Water Heating Equipment										
Centralized System	161	139	16	Q	6	19.2	16.5	1.9	Q	0.7
Distributed System	31	29	Q	(*)	Q	14.2	13.5	Q	(*)	Q
Combination of Centralized and Distributed System	20	16	1	Q	2	5.1	4.1	0.3	Q	0.5

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	Total	Space Heating	Water Heating	Cooking	Other	Total	Space Heating	Water Heating	Cooking	Other
All Buildings*	222	194	17	Q	10	14.7	12.8	1.1	Q	0.6
Energy-Related Space Functions (more than one may apply)										
Commercial Food Preparation....	119	100	12	Q	6	13.3	11.1	1.4	Q	0.6
Activities with Large Amounts of Hot Water	95	76	13	Q	6	12.4	9.9	1.7	Q	0.7
Separate Computer Area	96	79	11	Q	6	9.4	7.7	1.1	Q	0.5
HVAC Conservation Features (more than one may apply)										
Variable Air-Volume System.....	35	28	3	Q	4	4.5	3.5	0.3	Q	0.6
Economizer Cycle	42	33	3	Q	5	5.3	4.2	0.4	Q	0.6
HVAC Maintenance	196	172	14	Q	9	13.9	12.1	1.0	Q	0.6
Energy Management and Control System (EMCS)	31	24	Q	Q	4	4.8	3.8	Q	Q	0.6
Equipment Usage Reduced When Building Not In Full Use (more than one may apply)										
Heating	162	144	10	Q	6	14.9	13.2	1.0	Q	0.6
Cooling	135	117	12	Q	6	12.9	11.1	1.1	Q	0.5
Lighting	156	147	4	Q	4	17.9	16.8	0.5	Q	0.5
Office Equipment	92	87	Q	Q	3	27.8	26.2	Q	Q	0.8
Annual Consumption (gallons)										
1,000 or Less	13	10	Q	Q	2	1.5	1.2	Q	Q	0.3
1,001 to 5,000	44	39	Q	Q	3	17.1	14.9	Q	Q	1.2
5,001 to 10,000	28	24	Q	(*)	Q	31.0	26.6	Q	0.1	1.4
10,001 to 25,000	30	29	(*)	(*)	1	33.4	31.8	0.5	0.1	1.0
Over 25,000	106	92	11	Q	2	50.1	43.3	5.3	Q	1.0

See "Guide to the Tables" or "Glossary" for further explanations of the terms used in this table. Both can be accessed from the CBECS web site - <http://www.eia.doe.gov/emeu/cbecs>.

* Figures in this table do not include enclosed malls and strip malls. In the 1999 CBECS, total fuel oil consumption in malls was not statistically significant.

(*)=Value rounds to zero in the units displayed.

Q=Data withheld because fewer than 20 buildings were sampled for any cell, or because the Relative Standard Error (RSE) was greater than 50 percent for a cell in the "Total" column.

Notes: • Due to rounding, data may not sum to totals. • HVAC = Heating, Ventilation, and Air Conditioning.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871A, C, and E of the 2003 Commercial Buildings Energy Consumption Survey.