

Table B1. Consumption of All Major Fuels by End Use, 1989

| Building Characteristics RSE Column Factor: | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|--|---|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|----------------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| All Buildings | 5,788 | 2,017 | 303 | 278 | 499 | 1,023 | 271 | 187 | 379 | 832 | 6.11 |
| Building Floorspace (Square Feet) | | | | | | | | | | | |
| 1,001 to 5,000 | 692 | 256 | 44 | 29 | 76 | 96 | 50 | 33 | 52 | 56 | 6.01 |
| 5,001 to 10,000 | 567 | 229 | 33 | 21 | 53 | 83 | 17 | 16 | 41 | 75 | 9.94 |
| 10,001 to 25,000 | 791 | 327 | 40 | 27 | 57 | 124 | 20 | 30 | 73 | 93 | 8.17 |
| 25,001 to 50,000 | 756 | 319 | 34 | 26 | 43 | 127 | 22 | 27 | 46 | 113 | 10.13 |
| 50,001 to 100,000 | 855 | 299 | 37 | 40 | 70 | 161 | 24 | 31 | 44 | 149 | 13.81 |
| 100,001 to 200,000 | 777 | 266 | 36 | 43 | 65 | 153 | 37 | 19 | 47 | 109 | 13.60 |
| 200,001 to 500,000 | 698 | 200 | 36 | 50 | 57 | 151 | 22 | 15 | 39 | 128 | 20.86 |
| Over 500,000 | 652 | 121 | 43 | 43 | 78 | 126 | Q | 15 | 37 | 109 | 27.21 |
| Year Constructed | | | | | | | | | | | |
| 1899 or Before | 128 | 87 | 2 | 3 | 12 | 8 | 4 | 3 | 3 | 7 | 19.55 |
| 1900 to 1919 | 239 | 111 | 5 | 7 | 16 | 29 | 9 | 4 | 10 | Q | 19.01 |
| 1920 to 1945 | 636 | 285 | 26 | 29 | 64 | 76 | 28 | 14 | 23 | 89 | 19.00 |
| 1946 to 1959 | 988 | 395 | 46 | 42 | 91 | 158 | Q | 21 | 53 | 114 | 15.54 |
| 1960 to 1969 | 1,275 | 469 | 65 | 55 | 115 | 219 | 38 | 32 | 72 | 210 | 11.41 |
| 1970 to 1979 | 1,342 | 399 | 85 | 70 | 117 | 276 | 71 | 51 | 93 | 179 | 8.91 |
| 1980 to 1983 | 432 | 92 | 31 | 23 | 26 | 98 | 17 | 16 | 47 | 82 | 14.15 |
| 1984 to 1986 | 464 | 102 | 29 | 37 | 38 | 104 | 21 | 25 | 50 | 59 | 11.59 |
| 1987 to 1989 | 284 | 77 | 15 | 12 | 21 | 55 | 13 | 21 | 28 | 41 | 20.61 |
| BUILDING USE | | | | | | | | | | | |
| Principal Building Activity | | | | | | | | | | | |
| Assembly | 441 | 227 | 25 | 25 | 20 | 63 | 18 | 11 | 6 | 44 | 12.63 |
| Education | 704 | 377 | 26 | 24 | 40 | 114 | Q | 10 | 10 | 49 | 17.15 |
| Food Sales | 139 | 20 | 16 | 8 | 2 | 19 | 21 | 45 | 1 | 7 | 21.52 |
| Food Service | 255 | 48 | 19 | 13 | 49 | 27 | 59 | 16 | 2 | 21 | 9.41 |
| Health Care | 449 | 79 | 33 | 21 | 123 | 68 | 45 | 6 | 5 | Q | 25.01 |
| Lodging | 425 | 137 | 17 | 20 | 125 | 47 | 32 | 16 | 1 | 31 | 13.24 |
| Mercantile and Service | 1,048 | 358 | 53 | 26 | 56 | 201 | 23 | 12 | 115 | 204 | 10.23 |
| Office | 1,230 | 363 | 89 | 133 | 47 | 272 | 8 | 35 | 165 | 117 | 5.01 |
| Parking Garage | 42 | Q | * | * | Q | 8 | Q | 1 | 1 | 7 | 25.95 |
| Public Order and Safety | 78 | 42 | 1 | 2 | Q | 13 | 1 | 2 | 1 | 11 | 37.76 |
| Warehouse | 536 | 221 | 6 | 3 | 6 | 102 | 1 | 24 | 57 | 114 | 18.24 |
| Other | 344 | 86 | 14 | 1 | 15 | 76 | Q | 7 | Q | 126 | 34.71 |
| Vacant | 98 | 40 | 3 | * | Q | 13 | 1 | 2 | 2 | 30 | 29.15 |
| Weekly Operating Hours | | | | | | | | | | | |
| 39 or Fewer | 203 | 121 | 7 | 10 | 10 | 23 | 3 | 6 | 7 | 17 | 8.37 |
| 40 to 48 | 998 | 466 | 48 | 43 | 38 | 158 | 10 | 27 | 71 | 136 | 7.77 |
| 49 to 60 | 925 | 371 | 46 | 52 | 32 | 169 | 15 | 24 | 93 | 122 | 6.94 |
| 61 to 84 | 991 | 325 | 57 | 52 | 76 | 189 | 42 | 31 | 71 | 149 | 7.89 |
| 85 to 167 | 998 | 324 | 58 | 38 | 62 | 196 | 101 | 44 | 56 | 119 | 15.24 |
| 168 (Open Continuously) | 1,673 | 410 | 87 | 83 | 280 | 289 | 99 | 54 | 81 | 289 | 11.65 |
| Workers | | | | | | | | | | | |
| 4 or Fewer | 697 | 321 | 34 | 28 | 68 | 88 | 23 | 30 | 44 | 61 | 4.94 |
| 5 to 9 | 534 | 205 | 30 | 21 | 50 | 83 | 26 | 17 | 42 | 61 | 8.35 |
| 10 to 19 | 540 | 215 | 30 | 20 | 47 | 74 | 26 | 20 | 42 | 67 | 7.34 |
| 20 to 49 | 939 | 395 | 41 | 27 | 82 | 156 | 31 | 33 | 56 | 117 | 7.84 |
| 50 to 99 | 701 | 277 | 37 | 25 | 28 | 133 | 21 | 28 | 39 | 112 | 11.18 |
| 100 to 249 | 992 | 321 | 42 | 43 | 68 | 201 | 39 | 29 | 58 | 190 | 16.04 |
| 250 or More | 1,386 | 281 | 89 | 113 | 155 | 288 | 105 | 31 | 99 | 225 | 18.30 |

See footnotes at end of table.

Table B1. Consumption of All Major Fuels by End Use, 1989 (Continued)

| Building Characteristics | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|---|---|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| RSE Column Factor: | | | | | | | | | | | |
| Ownership and Occupancy | | | | | | | | | | | |
| Nongovernment Owned | 4,239 | 1,364 | 238 | 209 | 374 | 757 | 190 | 154 | 311 | 642 | 6.39 |
| Owner Occupied..... | 3,331 | 1,102 | 182 | 166 | 321 | 566 | 150 | 121 | 211 | 512 | 7.35 |
| Single Establishment | 2,668 | 919 | 136 | 114 | 276 | 419 | 126 | 105 | 150 | 423 | 9.03 |
| Multiple Establishment..... | 663 | 184 | 46 | 51 | 45 | 146 | 24 | 16 | 61 | 89 | 7.87 |
| Nonowner Occupied..... | 908 | 262 | 56 | 44 | 53 | 192 | 40 | 33 | 100 | 130 | 9.17 |
| Single Establishment | 471 | 147 | 25 | 21 | 23 | 98 | 24 | 22 | 51 | 60 | 14.66 |
| Multiple Establishment..... | 394 | 94 | 30 | 22 | 25 | 91 | 15 | 11 | 48 | 57 | 11.59 |
| Vacant | Q | 21 | 1 | * | Q | 3 | Q | * | * | Q | NF |
| Government Owned | 1,549 | 652 | 65 | 69 | 125 | 266 | Q | 33 | 68 | 190 | 12.24 |
| Federal | Q | Q | Q | 17 | 11 | 60 | Q | 5 | 16 | 28 | NF |
| State | 585 | 255 | 20 | 22 | 56 | 83 | 13 | 14 | 29 | 93 | 20.97 |
| Local | 692 | 327 | 27 | 31 | 58 | 122 | 20 | 15 | 23 | 69 | 11.73 |
| Multibuilding Facility | | | | | | | | | | | |
| Not on Multibuilding Facility..... | 2,887 | 1,055 | 153 | 146 | 219 | 510 | 116 | 114 | 213 | 361 | 4.76 |
| Part of Multibuilding Facility..... | 2,901 | 961 | 150 | 132 | 280 | 513 | 154 | 73 | 166 | 471 | 11.23 |
| On Facility with Central Plant | 1,593 | 510 | 72 | 67 | 183 | 250 | 111 | 38 | 64 | 298 | 19.56 |
| Percent Vacant at Least Three Months | | | | | | | | | | | |
| 0 | 4,320 | 1,561 | 216 | 194 | 373 | 756 | 178 | 151 | 287 | 604 | 6.12 |
| 1 to 50 | 1,086 | 302 | 69 | 71 | 95 | 217 | 39 | 25 | 80 | 188 | 12.86 |
| 51 to 99 | 218 | 84 | Q | 7 | 11 | 28 | Q | 4 | 6 | 16 | 47.15 |
| 100 | 164 | 70 | 6 | 6 | 21 | 21 | 3 | 6 | 6 | 24 | 17.52 |
| Months in Use Out of Past 12 Months | | | | | | | | | | | |
| 0 to 8 | 174 | 61 | 8 | 7 | 21 | 25 | 12 | 8 | 10 | 22 | 13.35 |
| 9 to 11 | 272 | 162 | 7 | 11 | 22 | 32 | 3 | 4 | 4 | 26 | 14.63 |
| 12 | 5,342 | 1,793 | 288 | 260 | 456 | 966 | 256 | 175 | 365 | 784 | 6.35 |
| LOCATION | | | | | | | | | | | |
| Census Region | | | | | | | | | | | |
| Northeast..... | 1,354 | 567 | 42 | 57 | 115 | 227 | 47 | 35 | 92 | 172 | 11.10 |
| Midwest | 1,659 | 733 | 56 | 59 | 166 | 241 | 69 | 48 | 79 | 209 | 11.11 |
| South..... | 1,648 | 423 | 136 | 93 | 113 | 341 | 63 | 65 | 122 | 291 | 11.08 |
| West..... | 1,126 | 294 | 69 | 69 | 104 | 214 | Q | 38 | 86 | 159 | 12.95 |
| Census Division | | | | | | | | | | | |
| Northeast | | | | | | | | | | | |
| New England..... | 298 | 126 | 8 | 13 | 36 | 46 | 11 | 8 | 16 | 36 | 19.75 |
| Middle Atlantic | 1,056 | 441 | 34 | 44 | 80 | 182 | 36 | 28 | 76 | 137 | 13.34 |
| Midwest | | | | | | | | | | | |
| East North Central..... | 1,086 | 494 | 30 | 37 | 106 | 160 | 47 | 34 | 54 | 125 | 12.70 |
| West North Central | 573 | 240 | 26 | 22 | 60 | 80 | 22 | 14 | 25 | 84 | 22.14 |
| South | | | | | | | | | | | |
| South Atlantic..... | 682 | 164 | 61 | 43 | 36 | 147 | 21 | 25 | 55 | 130 | 16.43 |
| East South Central..... | 373 | 100 | 20 | 17 | 30 | 71 | 15 | 15 | 30 | 73 | 22.17 |
| West South Central | 594 | 158 | 54 | 33 | 48 | 123 | 26 | 25 | 37 | 88 | 15.12 |
| West | | | | | | | | | | | |
| Mountain..... | 450 | 159 | 28 | 24 | 37 | 66 | Q | 12 | 24 | 38 | 28.59 |
| Pacific | 676 | 135 | 41 | 45 | 67 | 148 | 30 | 26 | 62 | 121 | 14.44 |
| Metropolitan Status | | | | | | | | | | | |
| Metropolitan | 4,780 | 1,561 | 266 | 244 | 418 | 873 | 236 | 156 | 324 | 701 | 6.53 |
| Nonmetropolitan..... | 1,008 | 456 | 37 | 34 | 81 | 149 | 34 | 31 | 55 | 131 | 14.99 |

See footnotes at end of table.

Table B1. Consumption of All Major Fuels by End Use, 1989 (Continued)

| Building Characteristics RSE Column Factor: | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|--|---|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|----------------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| Climate Zone: 45-Year Average | | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | | |
| Over 7,000 HDD | 617 | 298 | 10 | 16 | 67 | 84 | 18 | 23 | 30 | 70 | 20.74 |
| 5,500-7,000 HDD | 1,855 | 837 | 57 | 70 | 146 | 266 | 121 | 47 | 93 | 217 | 12.64 |
| 4,000-5,499 HDD | 1,393 | 452 | 67 | 72 | 128 | 279 | 52 | 42 | 102 | 198 | 13.62 |
| Under 4,000 HDD | 1,115 | 271 | 71 | 67 | 88 | 225 | 45 | 38 | 93 | 216 | 14.43 |
| 2,000 CDD or More and -- | | | | | | | | | | | |
| Under 4,000 HDD | 809 | 158 | 98 | 52 | 70 | 169 | 34 | 37 | 60 | 130 | 13.86 |
| 1989 Degree-Days | | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | | |
| Over 7,000 HDD | 875 | 448 | 14 | 23 | 78 | 117 | 30 | 29 | 38 | 98 | 18.16 |
| 5,500-7,000 HDD | 2,206 | 891 | 82 | 91 | 205 | 335 | 128 | 55 | 119 | 301 | 13.48 |
| 4,000-5,499 HDD | 917 | 280 | 45 | 54 | 69 | 212 | 41 | 34 | 81 | 102 | 10.88 |
| Under 4,000 HDD | 1,020 | 250 | 68 | 60 | 80 | 197 | 41 | 34 | 83 | 207 | 15.78 |
| 2,000 CDD or More and -- | | | | | | | | | | | |
| Under 4,000 HDD | 770 | 148 | 95 | 50 | 67 | 162 | 31 | 36 | 58 | 124 | 14.30 |
| STRUCTURE | | | | | | | | | | | |
| Floors | | | | | | | | | | | |
| 1 | 1,806 | 637 | 110 | 71 | 123 | 322 | 77 | 74 | 142 | 251 | 7.09 |
| 2 | 1,532 | 530 | 70 | 58 | 94 | 298 | 44 | 59 | 114 | 264 | 9.40 |
| 3 | 765 | 340 | 30 | 35 | 63 | 107 | 18 | 15 | 38 | 120 | 12.93 |
| 4 to 6 | 893 | 322 | 45 | 42 | 111 | 144 | Q | 20 | 35 | 88 | 17.64 |
| 7 or More | 791 | 187 | 48 | 73 | 107 | 151 | 46 | 19 | 51 | 109 | 18.31 |
| Wall Materials | | | | | | | | | | | |
| Masonry | 3,919 | 1,466 | 200 | 168 | 381 | 634 | 174 | 127 | 230 | 539 | 6.15 |
| Siding or Shingles | 325 | 118 | 15 | 12 | 37 | 56 | 14 | 10 | 22 | 40 | 9.21 |
| Metal Panels | 457 | 162 | 21 | 19 | 18 | 97 | 6 | 15 | 42 | 79 | 23.07 |
| Concrete Panels | 706 | 172 | 46 | 38 | 36 | 144 | Q | 24 | 46 | 134 | 20.16 |
| Window Glass | 224 | 53 | 13 | 26 | 17 | 54 | Q | 7 | 24 | 20 | 21.66 |
| Other | 156 | 46 | 7 | 14 | 9 | 39 | 3 | 4 | 15 | 20 | 20.34 |
| Roof Materials | | | | | | | | | | | |
| Built-Up | 3,019 | 1,019 | 172 | 152 | 246 | 556 | 155 | 92 | 191 | 435 | 7.81 |
| Shingles (Not Wood) | 794 | 327 | 40 | 35 | 76 | 119 | 36 | 31 | 45 | 86 | 9.59 |
| Metal Surfacing | 597 | 218 | 21 | 17 | 23 | 118 | 12 | 20 | 59 | 107 | 17.08 |
| Synthetic or Rubber | 850 | 288 | 42 | 45 | 77 | 151 | 30 | 30 | 57 | 131 | 15.49 |
| Slate or Tile | 206 | 95 | 8 | 8 | 20 | 23 | 19 | 6 | Q | 19 | 15.71 |
| Concrete | 111 | 20 | 8 | 12 | 14 | 28 | Q | 3 | 10 | 11 | 29.02 |
| Wooden Materials | 63 | 24 | 4 | 4 | 7 | 9 | 4 | 2 | 3 | 7 | 17.97 |
| Other | Q | 27 | Q | 6 | Q | 19 | Q | 2 | 5 | Q | NF |
| Building Shell Conservation | | | | | | | | | | | |
| Features (Solely or in Combination) | | | | | | | | | | | |
| Roof or Ceiling Insulation | 4,486 | 1,500 | 252 | 223 | 407 | 820 | 221 | 149 | 306 | 608 | 7.23 |
| Wall Insulation | 3,056 | 941 | 176 | 148 | 272 | 585 | 166 | 105 | 216 | 445 | 9.25 |
| Storm or Multiple Glazing | 2,557 | 848 | 130 | 128 | 287 | 455 | 126 | 92 | 180 | 310 | 7.91 |
| Tinted, Reflective, or Shading Glass | 2,385 | 657 | 150 | 143 | 193 | 490 | 135 | 76 | 189 | 352 | 9.87 |
| Exterior or Interior Shadings or Awnings | 2,720 | 848 | 158 | 149 | 230 | 496 | 162 | 82 | 195 | 399 | 9.18 |
| Weather Stripping or Caulking | 4,549 | 1,529 | 251 | 229 | 404 | 829 | 233 | 145 | 310 | 621 | 6.66 |
| None of the Above | 335 | 126 | 12 | 12 | 28 | 51 | 12 | 11 | 19 | 64 | 15.41 |

See footnotes at end of table.

Table B1. Consumption of All Major Fuels by End Use, 1989 (Continued)

| Building Characteristics RSE Column Factor: | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|--|---|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| ENERGY SOURCES AND END USES | | | | | | | | | | | |
| Energy Sources (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 5,782 | 2,013 | 303 | 278 | 498 | 1,023 | 271 | 187 | 379 | 830 | 5.86 |
| Natural Gas..... | 4,336 | 1,570 | 205 | 195 | 429 | 689 | 253 | 122 | 237 | 636 | 7.27 |
| Fuel Oil..... | 1,589 | 572 | 71 | 85 | 186 | 263 | 65 | 40 | 91 | 214 | 13.31 |
| District Heat | 1,207 | 419 | 51 | 56 | 144 | 165 | Q | 21 | 46 | 217 | 24.84 |
| Other | 873 | 284 | 38 | 34 | 73 | 152 | Q | 33 | 42 | 148 | 23.78 |
| Energy End Uses (Solely or in Combination) | | | | | | | | | | | |
| Heated Buildings..... | 5,667 | 2,013 | 288 | 268 | 484 | 993 | 265 | 179 | 369 | 807 | 6.16 |
| Air-Conditioned Buildings..... | 5,101 | 1,659 | 303 | 256 | 436 | 933 | 258 | 172 | 342 | 742 | 6.12 |
| Buildings with Water Heating..... | 5,462 | 1,877 | 284 | 263 | 499 | 958 | 267 | 179 | 347 | 788 | 6.37 |
| Buildings with Cooking..... | 2,755 | 800 | 159 | 150 | 301 | 502 | 256 | 96 | 130 | 361 | 9.05 |
| Buildings with Manufacturing..... | 709 | 236 | 26 | 15 | 18 | 112 | Q | 19 | 38 | 195 | 22.68 |
| Space-Heating Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 1,499 | 335 | 114 | 83 | 107 | 355 | 58 | 70 | 144 | 232 | 6.99 |
| Natural Gas..... | 3,418 | 1,331 | 150 | 140 | 326 | 529 | 144 | 93 | 177 | 527 | 7.46 |
| Fuel Oil..... | 1,305 | 511 | 55 | 61 | 160 | 201 | 51 | 33 | 66 | 166 | 13.51 |
| District Heat | 999 | 396 | 42 | 50 | 89 | 141 | Q | 19 | 38 | 143 | 20.27 |
| Other | 164 | 48 | 7 | 8 | 14 | 36 | 7 | Q | 12 | 17 | 35.97 |
| Main Space-Heating Energy Source | | | | | | | | | | | |
| Electricity | 978 | 132 | 93 | 68 | 68 | 263 | 46 | 59 | 120 | 130 | 6.01 |
| Natural Gas..... | 3,192 | 1,252 | 140 | 134 | 309 | 489 | 133 | 81 | 169 | 485 | 7.74 |
| Fuel Oil..... | 498 | 264 | 11 | 16 | 34 | 72 | 13 | 11 | 35 | 42 | 14.39 |
| District Heat | 979 | 385 | 41 | 49 | 88 | 139 | Q | 18 | 37 | 142 | 20.80 |
| Other | 87 | 21 | 3 | 5 | 2 | 23 | Q | Q | 9 | 9 | 40.87 |
| Air-Conditioning Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 4,580 | 1,494 | 283 | 230 | 379 | 848 | 193 | 161 | 321 | 671 | 6.08 |
| Other | 713 | 222 | 32 | 33 | 72 | 116 | Q | 16 | 32 | 119 | 22.80 |
| Water-Heating Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 1,761 | 537 | 123 | 100 | 36 | 381 | 42 | 74 | 175 | 291 | 7.58 |
| Natural Gas..... | 2,706 | 1,014 | 120 | 121 | 331 | 436 | 136 | 75 | 141 | 332 | 6.78 |
| Fuel Oil..... | 233 | 115 | 7 | 8 | 33 | 31 | 7 | 4 | 6 | 23 | 20.37 |
| District Heat | 890 | 277 | 38 | 38 | 130 | 114 | Q | 16 | 32 | 161 | 26.77 |
| Other | 108 | 29 | 6 | 5 | Q | 27 | 5 | Q | Q | 12 | 42.83 |
| HEATING AND COOLING | | | | | | | | | | | |
| Percent Heated | | | | | | | | | | | |
| Not Heated | 126 | 6 | 15 | 10 | 16 | 30 | 5 | 8 | 10 | 25 | 18.78 |
| 1 to 50 | 371 | 112 | 15 | 11 | 22 | 76 | 8 | 24 | 41 | 61 | 13.48 |
| 51 to 99 | 892 | 275 | 52 | 54 | 59 | 178 | 28 | 28 | 77 | 141 | 12.36 |
| 100 | 4,399 | 1,622 | 221 | 203 | 402 | 739 | 229 | 127 | 250 | 605 | 7.04 |
| Percent Cooled | | | | | | | | | | | |
| Not Cooled | 687 | 358 | NC | 22 | 63 | 90 | 12 | 15 | 37 | 90 | 16.76 |
| 1 to 50 | 1,336 | 661 | 31 | 29 | 74 | 172 | 26 | 34 | 75 | 234 | 10.18 |
| 51 to 99 | 1,409 | 393 | 94 | 88 | 130 | 295 | 77 | 55 | 101 | 176 | 8.80 |
| 100 | 2,356 | 605 | 178 | 138 | 232 | 466 | 155 | 83 | 166 | 332 | 8.98 |

See footnotes at end of table.

Table B1. Consumption of All Major Fuels by End Use, 1989 (Continued)

| Building Characteristics | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|---|--|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|----------------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| RSE Column Factor: | | | | | | | | | | | |
| Heating Equipment (Solely or in Combination) | | | | | | | | | | | |
| Furnaces..... | 1,387 | 562 | 55 | 45 | 95 | 219 | 52 | 52 | 99 | 207 | 9.81 |
| Boilers..... | 2,249 | 955 | 89 | 108 | 212 | 354 | 77 | 56 | 103 | 297 | 8.03 |
| Individual Space Heaters..... | 2,032 | 709 | 92 | 82 | 163 | 358 | 105 | 54 | 133 | 335 | 10.89 |
| Packaged Heating Units..... | 1,549 | 416 | 103 | 68 | 100 | 316 | 76 | 50 | 117 | 302 | 9.73 |
| Heat Pumps..... | 730 | 189 | 50 | 43 | 55 | 148 | 28 | 31 | 57 | 130 | 11.97 |
| Air Ducts..... | 3,982 | 1,237 | 224 | 205 | 347 | 753 | 214 | 125 | 275 | 603 | 8.05 |
| Heating or Reheating Coils..... | 2,098 | 603 | 115 | 127 | 204 | 401 | 127 | 52 | 123 | 345 | 13.47 |
| Fan-Coil Units..... | 1,578 | 514 | 75 | 79 | 173 | 273 | 113 | 34 | 77 | 240 | 14.15 |
| Steam or Hot Water Radiators or Baseboards..... | 1,973 | 858 | 62 | 77 | 212 | 256 | 125 | 34 | 71 | 278 | 12.30 |
| Other..... | 258 | 59 | 14 | Q | Q | 41 | 8 | 9 | 14 | Q | 41.29 |
| Cooling Equipment (Solely or in Combination) | | | | | | | | | | | |
| Central Chillers..... | 1,775 | 441 | 122 | 132 | 183 | 344 | 136 | 42 | 108 | 268 | 13.51 |
| Individual Air Conditioners..... | 1,839 | 747 | 80 | 70 | 181 | 269 | 71 | 52 | 87 | 283 | 7.64 |
| Packaged Cooling Units..... | 3,468 | 1,091 | 219 | 170 | 260 | 655 | 202 | 122 | 244 | 505 | 6.82 |
| Heat Pumps..... | 773 | 190 | 49 | 40 | 50 | 152 | 31 | 30 | 64 | 166 | 15.26 |
| Air Ducts..... | 3,669 | 1,109 | 223 | 195 | 337 | 696 | 208 | 116 | 246 | 537 | 7.24 |
| Fan-Coil Units..... | 1,527 | 385 | 94 | 108 | 177 | 288 | 122 | 35 | 89 | 229 | 15.03 |
| Other..... | Q | Q | Q | 5 | 12 | 29 | Q | 3 | 8 | 12 | NF |
| Year Main Central Chiller Installed | | | | | | | | | | | |
| 1959 or Before..... | 175 | 54 | 12 | 16 | 20 | 32 | Q | 4 | 10 | 18 | 22.39 |
| 1960 to 1969..... | 525 | 148 | 40 | 29 | 28 | 90 | Q | 9 | 26 | 92 | 30.60 |
| 1970 to 1979..... | 413 | 99 | 26 | 32 | 54 | 89 | 22 | 10 | 29 | 50 | 12.29 |
| 1980 to 1986..... | 462 | 101 | 29 | 41 | 60 | 93 | 19 | 12 | 30 | 75 | 25.31 |
| 1987 to 1989..... | 200 | 39 | 14 | 14 | 20 | 40 | 21 | 6 | 12 | 33 | 20.91 |
| Year Packaged Cooling System Installed | | | | | | | | | | | |
| 1959 or Before..... | 172 | 65 | 11 | 9 | 14 | 36 | 3 | 3 | 9 | 23 | 15.62 |
| 1960 to 1969..... | 608 | 199 | 34 | 21 | 35 | 98 | Q | 13 | 36 | 109 | 22.64 |
| 1970 to 1979..... | 1,042 | 330 | 69 | 53 | 90 | 205 | 62 | 36 | 73 | 125 | 8.08 |
| 1980 to 1986..... | 1,002 | 278 | 65 | 55 | 73 | 213 | 40 | 47 | 88 | 142 | 9.38 |
| 1987 to 1989..... | 643 | 219 | 40 | 31 | 48 | 104 | 33 | 23 | 38 | 106 | 12.80 |
| Computer Area with Separate Air-Conditioning System | | | | | | | | | | | |
| Present in Building..... | 2,274 | 619 | 133 | 145 | 189 | 452 | 119 | 63 | 181 | 374 | 11.02 |
| Not Present..... | 3,514 | 1,398 | 171 | 133 | 310 | 570 | 152 | 124 | 198 | 458 | 5.73 |
| LIGHTING AND REFRIGERATION | | | | | | | | | | | |
| Percent Lit When Open | | | | | | | | | | | |
| Not Lit..... | 22 | 12 | * | * | Q | 2 | * | 1 | Q | 4 | 25.96 |
| 1 to 50..... | 533 | 271 | 20 | 22 | 51 | 48 | 19 | 15 | 32 | 57 | 7.42 |
| 51 to 99..... | 1,625 | 565 | 83 | 85 | 125 | 293 | 64 | 43 | 114 | 252 | 8.79 |
| 100..... | 3,608 | 1,168 | 200 | 171 | 322 | 680 | 187 | 129 | 232 | 519 | 8.67 |
| Percent Lit When Closed | | | | | | | | | | | |
| Not Lit..... | 2,146 | 845 | 105 | 85 | 196 | 309 | 79 | 63 | 135 | 329 | 6.45 |
| 1 to 50..... | 3,147 | 1,063 | 163 | 160 | 225 | 613 | 154 | 102 | 220 | 449 | 8.49 |
| 51 to 99..... | 408 | 89 | 25 | 27 | 72 | 81 | 32 | 13 | 22 | 47 | 18.91 |
| 100..... | 87 | 20 | 10 | 7 | 6 | 20 | 6 | Q | 2 | 7 | 29.88 |
| Lighting Equipment (Solely or in Combination) | | | | | | | | | | | |
| Incandescent Lamps..... | 3,786 | 1,311 | 198 | 183 | 388 | 685 | 219 | 115 | 206 | 482 | 7.03 |
| Fluorescent Lamps..... | 5,683 | 1,968 | 300 | 274 | 485 | 1,008 | 268 | 185 | 375 | 820 | 6.12 |
| High-Intensity Discharge Lamps..... | 1,980 | 626 | 102 | 95 | 129 | 396 | 112 | 63 | 122 | 335 | 11.76 |
| Other Lamps..... | 51 | 11 | 4 | 4 | 6 | 12 | 3 | Q | 3 | 7 | 20.91 |
| High-Efficiency Ballasts..... | 2,730 | 858 | 148 | 152 | 227 | 490 | 109 | 99 | 213 | 434 | 9.71 |

See footnotes at end of table.

Table B1. Consumption of All Major Fuels by End Use, 1989 (Continued)

| Building Characteristics | Sum of Major Fuel Consumption (trillion Btu) | | | | | | | | | | RSE Row Factor |
|---|---|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| RSE Column Factor: | | | | | | | | | | | |
| Refrigeration Equipment (Solely or in Combination) | | | | | | | | | | | |
| Commercial | | | | | | | | | | | |
| Refrigeration Units | 2,974 | 832 | 174 | 160 | 318 | 552 | 251 | 128 | 158 | 401 | 8.57 |
| Freezers..... | 2,802 | 750 | 167 | 150 | 309 | 526 | 244 | 124 | 148 | 383 | 8.70 |
| Residential | | | | | | | | | | | |
| Refrigerators | 4,411 | 1,551 | 222 | 215 | 382 | 794 | 189 | 117 | 292 | 649 | 7.40 |
| Freezers..... | 1,479 | 448 | 84 | 63 | 172 | 248 | 129 | 42 | 65 | 227 | 13.72 |
| Ice-Making Machines..... | 2,988 | 757 | 192 | 177 | 340 | 562 | 242 | 111 | 164 | 444 | 8.67 |
| Refrigerated Vending Machines | 4,347 | 1,388 | 234 | 222 | 391 | 816 | 224 | 141 | 283 | 651 | 7.38 |
| Water Coolers..... | 4,454 | 1,513 | 236 | 224 | 365 | 811 | 193 | 124 | 289 | 699 | 8.01 |
| Other | 346 | 59 | 22 | 14 | Q | 55 | 17 | 10 | 22 | 103 | 35.63 |
| ENERGY MANAGEMENT | | | | | | | | | | | |
| Occupant Control | | | | | | | | | | | |
| Any Control of Heating | 2,331 | 805 | 126 | 97 | 251 | 393 | 110 | 67 | 147 | 334 | 7.04 |
| With Thermostats | 2,158 | 739 | 115 | 89 | 238 | 362 | 100 | 58 | 135 | 321 | 7.84 |
| Any Control of Cooling | 2,320 | 783 | 137 | 100 | 248 | 394 | 112 | 68 | 148 | 329 | 7.17 |
| With Thermostats | 2,115 | 691 | 127 | 91 | 225 | 363 | 105 | 62 | 135 | 315 | 8.28 |
| Reduced Use During Off-Hours | | | | | | | | | | | |
| Heating Only | 649 | 333 | 9 | 21 | 60 | 85 | 16 | 15 | 33 | 78 | 16.76 |
| Cooling Only | 429 | 119 | 26 | 18 | 28 | 69 | 21 | 11 | 30 | 106 | 14.79 |
| Heating and Cooling | 3,347 | 1,173 | 190 | 178 | 229 | 616 | 161 | 98 | 233 | 467 | 7.42 |
| Computerized Energy Management and Control System | | | | | | | | | | | |
| Present in Building..... | 1,714 | 458 | 109 | 115 | 164 | 356 | 108 | 56 | 99 | 248 | 12.73 |
| Controls Heating and Cooling | 1,668 | 453 | 107 | 113 | 159 | 344 | 104 | 53 | 96 | 239 | 13.31 |
| Controls Lighting | 431 | 96 | 30 | 22 | 20 | 88 | Q | 16 | 26 | 70 | 29.23 |
| Controls Other | 336 | 67 | 23 | 19 | Q | 62 | 14 | 10 | 16 | 74 | 35.31 |
| Other Energy Management | | | | | | | | | | | |
| Regular HVAC Maintenance..... | 4,773 | 1,594 | 255 | 241 | 413 | 870 | 221 | 153 | 307 | 717 | 6.86 |
| Participated in Utility Conservation Program..... | 1,206 | 412 | 66 | 75 | 115 | 214 | 53 | 40 | 71 | 160 | 9.79 |

* = Value rounds to zero in the units displayed.

NC = No cases in responding sample.

NF = No applicable RSE row/column factor.

Q = Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or data were reported for fewer than 20 buildings.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report. • Because of rounding, data may not sum to totals.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A through F of the 1989 Commercial Buildings Energy Consumption Survey.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989

| Building Characteristics RSE Column Factor: | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|---|--|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| All Buildings | 91.6 | 31.9 | 4.8 | 4.4 | 7.9 | 16.2 | 4.3 | 3.0 | 6.0 | 13.2 | 4.95 |
| Building Floorspace | | | | | | | | | | | |
| (Square Feet) | | | | | | | | | | | |
| 1,001 to 5,000 | 101.9 | 37.7 | 6.5 | 4.2 | 11.1 | 14.2 | 7.3 | 4.9 | 7.7 | 8.3 | 4.76 |
| 5,001 to 10,000 | 86.8 | 35.1 | 5.0 | 3.2 | 8.1 | 12.7 | 2.6 | 2.5 | 6.3 | 11.4 | 8.36 |
| 10,001 to 25,000 | 76.1 | 31.5 | 3.9 | 2.6 | 5.5 | 12.0 | 2.0 | 2.9 | 7.0 | 8.9 | 5.88 |
| 25,001 to 50,000 | 85.9 | 36.2 | 3.9 | 2.9 | 4.8 | 14.4 | 2.5 | 3.1 | 5.2 | 12.9 | 8.54 |
| 50,001 to 100,000 | 93.7 | 32.8 | 4.0 | 4.3 | 7.7 | 17.7 | 2.7 | 3.4 | 4.9 | 16.3 | 12.68 |
| 100,001 to 200,000 | 93.9 | 32.2 | 4.4 | 5.2 | 7.9 | 18.5 | 4.5 | 2.3 | 5.6 | 13.2 | 9.73 |
| 200,001 to 500,000 | 99.4 | 28.5 | 5.1 | 7.1 | 8.1 | 21.5 | 3.1 | 2.2 | 5.6 | 18.2 | 16.68 |
| Over 500,000 | 104.5 | 19.4 | 6.9 | 6.9 | 12.6 | 20.2 | Q | 2.5 | 6.0 | 17.5 | 20.20 |
| Year Constructed | | | | | | | | | | | |
| 1899 or Before | 77.2 | 52.7 | 1.1 | 1.5 | 7.2 | 5.1 | 2.2 | 1.5 | 1.8 | 4.0 | 12.85 |
| 1900 to 1919 | 56.4 | 26.1 | 1.2 | 1.5 | 3.7 | 6.7 | 2.0 | .9 | 2.3 | 11.9 | 25.02 |
| 1920 to 1945 | 78.5 | 35.2 | 3.2 | 3.6 | 7.9 | 9.4 | 3.5 | 1.7 | 2.9 | 11.0 | 15.75 |
| 1946 to 1959 | 94.0 | 37.5 | 4.4 | 4.0 | 8.6 | 15.0 | Q | 2.0 | 5.1 | 10.8 | 11.13 |
| 1960 to 1969 | 104.8 | 38.6 | 5.3 | 4.5 | 9.5 | 18.0 | 3.1 | 2.7 | 5.9 | 17.3 | 10.07 |
| 1970 to 1979 | 100.7 | 29.9 | 6.4 | 5.3 | 8.8 | 20.7 | 5.3 | 3.9 | 7.0 | 13.4 | 7.18 |
| 1980 to 1983 | 101.2 | 21.5 | 7.3 | 5.3 | 6.1 | 22.9 | 4.0 | 3.8 | 10.9 | 19.3 | 9.80 |
| 1984 to 1986 | 81.9 | 18.0 | 5.1 | 6.5 | 6.6 | 18.3 | 3.7 | 4.5 | 8.9 | 10.3 | 10.75 |
| 1987 to 1989 | 87.7 | 23.7 | 4.5 | 3.8 | 6.4 | 17.1 | 4.1 | 6.5 | 8.7 | 12.8 | 16.22 |
| BUILDING USE | | | | | | | | | | | |
| Principal Building Activity | | | | | | | | | | | |
| Assembly | 63.8 | 32.9 | 3.7 | 3.7 | 2.9 | 9.1 | 2.6 | 1.6 | .9 | 6.4 | 10.48 |
| Education | 87.2 | 46.7 | 3.2 | 3.0 | 5.0 | 14.1 | Q | 1.3 | 1.3 | 6.1 | 12.03 |
| Food Sales | 175.6 | 25.5 | 20.0 | 10.1 | 2.8 | 23.4 | 27.0 | 56.5 | 1.3 | 9.0 | 16.05 |
| Food Service | 218.4 | 41.5 | 16.5 | 11.0 | 42.4 | 23.0 | 50.5 | 13.7 | 1.5 | 18.3 | 12.02 |
| Health Care | 218.7 | 38.3 | 16.1 | 10.2 | 59.9 | 33.0 | 21.9 | 3.0 | 2.6 | 33.5 | 10.85 |
| Lodging | 122.4 | 39.3 | 4.9 | 5.8 | 35.9 | 13.5 | 9.2 | 4.5 | .4 | 8.8 | 12.24 |
| Mercantile and Service | 84.8 | 28.9 | 4.3 | 2.1 | 4.5 | 16.2 | 1.9 | 1.0 | 9.3 | 16.5 | 8.37 |
| Office | 104.2 | 30.7 | 7.5 | 11.3 | 4.0 | 23.1 | .7 | 2.9 | 13.9 | 9.9 | 6.82 |
| Parking Garage | 42.6 | 19.9 | .4 | .4 | Q | 8.4 | Q | .9 | 1.1 | 7.6 | 23.00 |
| Public Order and Safety | 127.0 | 67.6 | 2.3 | 3.7 | Q | 20.5 | 1.3 | 2.9 | 2.2 | 18.6 | 33.18 |
| Warehouse | 57.9 | 23.9 | .6 | .4 | .7 | 11.1 | .1 | 2.6 | 6.2 | 12.3 | 14.29 |
| Other | 224.8 | 56.0 | 9.4 | .4 | 9.7 | 49.4 | Q | 4.5 | Q | 82.7 | 28.47 |
| Vacant | 23.5 | 9.6 | .6 | .1 | Q | 3.2 | Q | .5 | .5 | 7.2 | 33.85 |
| Weekly Operating Hours | | | | | | | | | | | |
| 39 or Fewer | 33.5 | 19.9 | 1.2 | 1.6 | 1.7 | 3.8 | .5 | 1.0 | 1.1 | 2.8 | 6.43 |
| 40 to 48 | 71.8 | 33.5 | 3.5 | 3.1 | 2.8 | 11.3 | .7 | 2.0 | 5.1 | 9.8 | 5.65 |
| 49 to 60 | 68.6 | 27.6 | 3.4 | 3.9 | 2.4 | 12.5 | 1.1 | 1.8 | 6.9 | 9.1 | 6.68 |
| 61 to 84 | 92.0 | 30.1 | 5.3 | 4.8 | 7.0 | 17.6 | 3.9 | 2.9 | 6.6 | 13.8 | 6.86 |
| 85 to 167 | 106.3 | 34.5 | 6.2 | 4.0 | 6.6 | 20.8 | 10.8 | 4.7 | 6.0 | 12.7 | 11.77 |
| 168 (Open Continuously) | 174.8 | 42.8 | 9.1 | 8.7 | 29.3 | 30.2 | 10.4 | 5.6 | 8.5 | 30.2 | 8.71 |
| Workers | | | | | | | | | | | |
| 4 or Fewer | 46.0 | 21.2 | 2.2 | 1.9 | 4.5 | 5.8 | 1.5 | 2.0 | 2.9 | 4.0 | 7.15 |
| 5 to 9 | 67.3 | 25.8 | 3.8 | 2.6 | 6.3 | 10.4 | 3.3 | 2.2 | 5.3 | 7.7 | 7.34 |
| 10 to 19 | 83.8 | 33.4 | 4.6 | 3.0 | 7.3 | 11.5 | 4.0 | 3.1 | 6.6 | 10.3 | 7.59 |
| 20 to 49 | 97.2 | 40.9 | 4.3 | 2.8 | 8.5 | 16.2 | 3.2 | 3.4 | 5.8 | 12.1 | 6.65 |
| 50 to 99 | 94.8 | 37.5 | 5.0 | 3.4 | 3.8 | 18.0 | 2.8 | 3.8 | 5.2 | 15.1 | 9.85 |
| 100 to 249 | 146.5 | 47.4 | 6.3 | 6.4 | 10.1 | 29.7 | 5.8 | 4.2 | 8.6 | 28.0 | 11.25 |
| 250 or More | 141.0 | 28.6 | 9.1 | 11.5 | 15.7 | 29.3 | 10.7 | 3.1 | 10.1 | 22.9 | 10.67 |

See footnote at end of table.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989 (Continued)

| Building Characteristics RSE Column Factor: | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|---|--|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| Ownership and Occupancy | | | | | | | | | | | |
| Nongovernment Owned | 86.8 | 27.9 | 4.9 | 4.3 | 7.7 | 15.5 | 3.9 | 3.1 | 6.4 | 13.1 | 5.15 |
| Owner Occupied..... | 92.6 | 30.7 | 5.1 | 4.6 | 8.9 | 15.7 | 4.2 | 3.4 | 5.9 | 14.2 | 5.92 |
| Single Establishment | 98.5 | 33.9 | 5.0 | 4.2 | 10.2 | 15.5 | 4.6 | 3.9 | 5.5 | 15.6 | 7.47 |
| Multiple Establishment..... | 74.7 | 20.7 | 5.2 | 5.8 | 5.0 | 16.5 | 2.7 | 1.8 | 6.8 | 10.1 | 3.84 |
| Nonowner Occupied..... | 70.5 | 20.3 | 4.3 | 3.4 | 4.1 | 14.9 | 3.1 | 2.5 | 7.8 | 10.1 | 6.65 |
| Single Establishment | 75.4 | 23.6 | 4.0 | 3.4 | 3.7 | 15.6 | 3.9 | 3.4 | 8.2 | 9.6 | 9.70 |
| Multiple Establishment..... | 75.2 | 17.9 | 5.8 | 4.2 | 4.7 | 17.4 | 2.9 | 2.0 | 9.2 | 11.0 | 9.26 |
| Vacant | Q | 14.9 | .6 | .1 | Q | 2.2 | Q | .4 | .3 | Q | NF |
| Government Owned | 108.0 | 45.5 | 4.5 | 4.8 | 8.7 | 18.5 | Q | 2.3 | 4.8 | 13.3 | 9.84 |
| Federal | 142.1 | 36.9 | 9.1 | 8.7 | 5.7 | 31.2 | Q | 2.6 | 8.5 | 14.4 | 34.01 |
| State | 149.8 | 65.3 | 5.2 | 5.5 | 14.3 | 21.3 | 3.2 | 3.5 | 7.5 | 23.9 | 18.14 |
| Local | 81.2 | 38.3 | 3.2 | 3.6 | 6.8 | 14.4 | 2.4 | 1.7 | 2.7 | 8.1 | 8.90 |
| Multibuilding Facility | | | | | | | | | | | |
| Not on Multibuilding Facility..... | 77.5 | 28.3 | 4.1 | 3.9 | 5.9 | 13.7 | 3.1 | 3.1 | 5.7 | 9.7 | 4.11 |
| Part of Multibuilding Facility | 111.8 | 37.0 | 5.8 | 5.1 | 10.8 | 19.8 | 5.9 | 2.8 | 6.4 | 18.2 | 8.09 |
| On Facility with Central Plant | 190.9 | 61.1 | 8.6 | 8.0 | 21.9 | 30.0 | 13.3 | 4.6 | 7.7 | 35.7 | 11.24 |
| Percent Vacant at Least Three Months | | | | | | | | | | | |
| 0 | 100.3 | 36.2 | 5.0 | 4.5 | 8.6 | 17.6 | 4.1 | 3.5 | 6.7 | 14.0 | 5.35 |
| 1 to 50 | 87.3 | 24.3 | 5.6 | 5.7 | 7.6 | 17.4 | 3.2 | 2.0 | 6.4 | 15.1 | 8.84 |
| 51 to 99 | 62.1 | 24.0 | Q | 1.9 | 3.1 | 8.0 | Q | 1.2 | 1.8 | 4.4 | 35.57 |
| 100 | 39.5 | 16.8 | 1.5 | 1.5 | 5.0 | 5.2 | .7 | 1.5 | 1.4 | 5.9 | 17.47 |
| Months in Use Out of Past 12 Months | | | | | | | | | | | |
| 0 to 8 | 38.2 | 13.5 | 1.7 | 1.5 | 4.6 | 5.6 | 2.5 | 1.7 | 2.1 | 4.9 | 14.71 |
| 9 to 11 | 72.0 | 43.0 | 1.9 | 3.0 | 5.8 | 8.4 | .8 | 1.1 | 1.1 | 6.9 | 13.70 |
| 12 | 97.4 | 32.7 | 5.3 | 4.7 | 8.3 | 17.6 | 4.7 | 3.2 | 6.7 | 14.3 | 5.47 |
| LOCATION | | | | | | | | | | | |
| Census Region | | | | | | | | | | | |
| Northeast..... | 99.8 | 41.8 | 3.1 | 4.2 | 8.5 | 16.8 | 3.5 | 2.6 | 6.8 | 12.7 | 10.72 |
| Midwest | 104.0 | 46.0 | 3.5 | 3.7 | 10.4 | 15.1 | 4.3 | 3.0 | 4.9 | 13.1 | 8.40 |
| South..... | 74.8 | 19.2 | 6.2 | 4.2 | 5.1 | 15.5 | 2.8 | 3.0 | 5.5 | 13.2 | 7.20 |
| West..... | 96.9 | 25.3 | 6.0 | 6.0 | 8.9 | 18.4 | Q | 3.3 | 7.4 | 13.7 | 11.61 |
| Census Division | | | | | | | | | | | |
| Northeast | | | | | | | | | | | |
| New England..... | 94.0 | 39.6 | 2.6 | 4.0 | 11.2 | 14.4 | 3.5 | 2.4 | 5.1 | 11.2 | 18.57 |
| Middle Atlantic | 101.6 | 42.4 | 3.3 | 4.2 | 7.7 | 17.5 | 3.4 | 2.7 | 7.3 | 13.1 | 12.82 |
| Midwest | | | | | | | | | | | |
| East North Central..... | 101.7 | 46.2 | 2.8 | 3.4 | 9.9 | 15.0 | 4.4 | 3.2 | 5.0 | 11.7 | 10.95 |
| West North Central | 108.7 | 45.4 | 5.0 | 4.2 | 11.5 | 15.2 | 4.2 | 2.7 | 4.7 | 16.0 | 12.60 |
| South | | | | | | | | | | | |
| South Atlantic..... | 67.6 | 16.3 | 6.1 | 4.3 | 3.5 | 14.5 | 2.1 | 2.5 | 5.5 | 12.9 | 12.26 |
| East South Central..... | 86.8 | 23.4 | 4.8 | 4.0 | 6.9 | 16.6 | 3.5 | 3.5 | 7.0 | 17.1 | 13.77 |
| West South Central | 77.6 | 20.7 | 7.1 | 4.3 | 6.3 | 16.1 | 3.5 | 3.3 | 4.9 | 11.5 | 8.12 |
| West | | | | | | | | | | | |
| Mountain..... | 102.5 | 36.3 | 6.3 | 5.5 | 8.4 | 15.0 | Q | 2.7 | 5.6 | 8.7 | 18.04 |
| Pacific | 93.4 | 18.6 | 5.7 | 6.3 | 9.3 | 20.5 | 4.2 | 3.6 | 8.6 | 16.8 | 12.01 |
| Metropolitan Status | | | | | | | | | | | |
| Metropolitan | 94.1 | 30.7 | 5.2 | 4.8 | 8.2 | 17.2 | 4.7 | 3.1 | 6.4 | 13.8 | 5.28 |
| Nonmetropolitan..... | 81.5 | 36.8 | 3.0 | 2.7 | 6.6 | 12.1 | 2.8 | 2.5 | 4.5 | 10.6 | 11.42 |

See footnote at end of table.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989 (Continued)

| Building Characteristics | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|--|--|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| RSE Column Factor: | | | | | | | | | | | |
| Climate Zone: 45-Year Average | | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | | |
| Over 7,000 HDD..... | 121.8 | 58.9 | 2.0 | 3.2 | 13.2 | 16.6 | 3.6 | 4.5 | 6.0 | 13.9 | 13.94 |
| 5,500-7,000 HDD..... | 103.3 | 46.6 | 3.2 | 3.9 | 8.1 | 14.8 | 6.8 | 2.6 | 5.2 | 12.1 | 9.27 |
| 4,000-5,499 HDD..... | 90.5 | 29.4 | 4.3 | 4.7 | 8.3 | 18.1 | 3.4 | 2.8 | 6.6 | 12.9 | 9.34 |
| Under 4,000 HDD..... | 86.4 | 21.0 | 5.5 | 5.2 | 6.8 | 17.4 | 3.5 | 3.0 | 7.2 | 16.8 | 8.37 |
| 2,000 CDD or More and -- | | | | | | | | | | | |
| Under 4,000 HDD..... | 68.1 | 13.3 | 8.3 | 4.4 | 5.9 | 14.2 | 2.8 | 3.1 | 5.1 | 11.0 | 8.70 |
| 1989 Degree-Days | | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | | |
| Over 7,000 HDD..... | 114.3 | 58.5 | 1.9 | 3.0 | 10.2 | 15.3 | 3.9 | 3.7 | 5.0 | 12.8 | 12.22 |
| 5,500-7,000 HDD..... | 100.3 | 40.5 | 3.7 | 4.1 | 9.3 | 15.2 | 5.8 | 2.5 | 5.4 | 13.7 | 8.10 |
| 4,000-5,499 HDD..... | 87.9 | 26.8 | 4.3 | 5.2 | 6.6 | 20.3 | 3.9 | 3.2 | 7.8 | 9.8 | 8.07 |
| Under 4,000 HDD..... | 84.7 | 20.8 | 5.6 | 5.0 | 6.6 | 16.3 | 3.4 | 2.8 | 6.9 | 17.2 | 9.50 |
| 2,000 CDD or More and -- | | | | | | | | | | | |
| Under 4,000 HDD..... | 69.6 | 13.4 | 8.6 | 4.5 | 6.0 | 14.6 | 2.8 | 3.2 | 5.2 | 11.2 | 8.66 |
| STRUCTURE | | | | | | | | | | | |
| Floors | | | | | | | | | | | |
| 1 | 76.0 | 26.8 | 4.6 | 3.0 | 5.2 | 13.6 | 3.2 | 3.1 | 6.0 | 10.5 | 5.52 |
| 2 | 95.1 | 32.9 | 4.4 | 3.6 | 5.9 | 18.5 | 2.7 | 3.7 | 7.1 | 16.4 | 7.35 |
| 3 | 88.9 | 39.5 | 3.5 | 4.0 | 7.3 | 12.4 | 2.1 | 1.8 | 4.4 | 13.9 | 13.73 |
| 4 to 6 | 107.5 | 38.7 | 5.4 | 5.1 | 13.4 | 17.3 | Q | 2.4 | 4.2 | 10.6 | 11.16 |
| 7 or More | 123.7 | 29.2 | 7.5 | 11.4 | 16.8 | 23.7 | 7.2 | 3.0 | 7.9 | 17.0 | 11.84 |
| Wall Materials | | | | | | | | | | | |
| Masonry..... | 93.2 | 34.8 | 4.7 | 4.0 | 9.1 | 15.1 | 4.1 | 3.0 | 5.5 | 12.8 | 4.96 |
| Siding or Shingles..... | 68.0 | 24.7 | 3.2 | 2.6 | 7.7 | 11.6 | 2.9 | 2.1 | 4.7 | 8.4 | 9.84 |
| Metal Panels..... | 80.4 | 28.4 | 3.8 | 3.3 | 3.2 | 17.0 | 1.0 | 2.6 | 7.3 | 13.8 | 20.05 |
| Concrete Panels..... | 97.7 | 23.8 | 6.4 | 5.3 | 5.0 | 20.0 | Q | 3.3 | 6.4 | 18.5 | 15.57 |
| Window Glass..... | 116.4 | 27.7 | 6.9 | 13.6 | 9.0 | 27.9 | Q | 3.8 | 12.6 | 10.2 | 14.95 |
| Other | 105.1 | 30.8 | 5.0 | 9.6 | 5.9 | 25.9 | 2.0 | 2.4 | 9.8 | 13.6 | 25.71 |
| Roof Materials | | | | | | | | | | | |
| Built-Up..... | 97.2 | 32.8 | 5.5 | 4.9 | 7.9 | 17.9 | 5.0 | 3.0 | 6.2 | 14.0 | 7.03 |
| Shingles (Not Wood)..... | 72.8 | 29.9 | 3.7 | 3.2 | 7.0 | 10.9 | 3.3 | 2.9 | 4.1 | 7.9 | 6.79 |
| Metal Surfacing..... | 72.8 | 26.6 | 2.6 | 2.1 | 2.8 | 14.4 | 1.5 | 2.4 | 7.2 | 13.1 | 16.25 |
| Synthetic or Rubber..... | 123.0 | 41.6 | 6.0 | 6.5 | 11.2 | 21.8 | 4.4 | 4.4 | 8.2 | 18.9 | 10.56 |
| Slate or Tile..... | 79.8 | 36.6 | 3.3 | 3.0 | 7.6 | 8.8 | 7.3 | 2.2 | Q | 7.2 | 15.64 |
| Concrete..... | 57.4 | 10.3 | 4.4 | 6.2 | 7.3 | 14.3 | Q | 1.7 | 5.0 | 5.5 | 13.60 |
| Wooden Materials..... | 87.2 | 32.4 | 6.0 | 4.9 | 9.5 | 12.7 | 5.7 | 3.3 | 3.5 | 9.0 | 11.88 |
| Other | 172.1 | 31.4 | 8.2 | 7.2 | 40.9 | 22.5 | 10.0 | 2.4 | 5.8 | Q | 28.73 |
| Building Shell Conservation | | | | | | | | | | | |
| Features (Solely or in Combination) | | | | | | | | | | | |
| Roof or Ceiling Insulation..... | 99.5 | 33.3 | 5.6 | 4.9 | 9.0 | 18.2 | 4.9 | 3.3 | 6.8 | 13.5 | 5.47 |
| Wall Insulation..... | 102.9 | 31.7 | 5.9 | 5.0 | 9.2 | 19.7 | 5.6 | 3.5 | 7.3 | 15.0 | 6.77 |
| Storm or Multiple Glazing..... | 106.2 | 35.2 | 5.4 | 5.3 | 11.9 | 18.9 | 5.2 | 3.8 | 7.5 | 12.9 | 5.24 |
| Tinted, Reflective, or Shading Glass | 108.2 | 29.8 | 6.8 | 6.5 | 8.8 | 22.2 | 6.1 | 3.4 | 8.6 | 16.0 | 7.29 |
| Exterior or Interior Shadings or Awnings..... | 103.9 | 32.4 | 6.1 | 5.7 | 8.8 | 18.9 | 6.2 | 3.1 | 7.5 | 15.3 | 6.84 |
| Weather Stripping or Caulking..... | 101.8 | 34.2 | 5.6 | 5.1 | 9.0 | 18.5 | 5.2 | 3.2 | 6.9 | 13.9 | 4.76 |
| None of the Above..... | 43.2 | 16.2 | 1.6 | 1.6 | 3.6 | 6.6 | 1.5 | 1.5 | 2.5 | 8.2 | 16.63 |

See footnote at end of table.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989 (Continued)

| Building Characteristics RSE Column Factor: | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|--|--|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| ENERGY SOURCES AND END USES | | | | | | | | | | | |
| Energy Sources (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 93.9 | 32.7 | 4.9 | 4.5 | 8.1 | 16.6 | 4.4 | 3.0 | 6.2 | 13.5 | 4.52 |
| Natural Gas..... | 105.4 | 38.1 | 5.0 | 4.7 | 10.4 | 16.8 | 6.2 | 3.0 | 5.8 | 15.5 | 5.19 |
| Fuel Oil..... | 126.1 | 45.4 | 5.6 | 6.7 | 14.8 | 20.9 | 5.2 | 3.2 | 7.2 | 17.0 | 10.84 |
| District Heat | 183.5 | 63.6 | 7.7 | 8.5 | 21.9 | 25.0 | 13.6 | 3.2 | 7.0 | 32.9 | 13.79 |
| Other | 108.9 | 35.4 | 4.8 | 4.2 | 9.1 | 19.0 | Q | 4.1 | 5.3 | 18.4 | 17.31 |
| Energy End Uses (Solely or in Combination) | | | | | | | | | | | |
| Heated Buildings..... | 97.9 | 34.8 | 5.0 | 4.6 | 8.4 | 17.2 | 4.6 | 3.1 | 6.4 | 13.9 | 4.91 |
| Air-Conditioned Buildings..... | 98.5 | 32.0 | 5.9 | 4.9 | 8.4 | 18.0 | 5.0 | 3.3 | 6.6 | 14.3 | 4.92 |
| Buildings with Water Heating..... | 101.9 | 35.0 | 5.3 | 4.9 | 9.3 | 17.9 | 5.0 | 3.3 | 6.5 | 14.7 | 5.05 |
| Buildings with Cooking..... | 116.4 | 33.8 | 6.7 | 6.4 | 12.7 | 21.2 | 10.8 | 4.1 | 5.5 | 15.2 | 6.63 |
| Buildings with Manufacturing..... | 126.5 | 42.1 | 4.7 | 2.7 | 3.2 | 20.0 | Q | 3.4 | 6.7 | 34.7 | 16.09 |
| Space-Heating Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 80.1 | 17.9 | 6.1 | 4.5 | 5.7 | 19.0 | 3.1 | 3.7 | 7.7 | 12.4 | 5.43 |
| Natural Gas..... | 103.5 | 40.3 | 4.6 | 4.2 | 9.9 | 16.0 | 4.4 | 2.8 | 5.4 | 16.0 | 6.03 |
| Fuel Oil..... | 124.0 | 48.6 | 5.3 | 5.8 | 15.2 | 19.1 | 4.9 | 3.1 | 6.3 | 15.8 | 10.75 |
| District Heat | 164.7 | 65.3 | 6.9 | 8.3 | 14.7 | 23.3 | Q | 3.1 | 6.3 | 23.5 | 11.29 |
| Other | 60.0 | 17.8 | 2.5 | 2.9 | 5.3 | 13.0 | 2.7 | Q | 4.4 | 6.2 | 30.29 |
| Main Space-Heating Energy Source | | | | | | | | | | | |
| Electricity | 72.7 | 9.8 | 6.9 | 5.1 | 5.0 | 19.6 | 3.4 | 4.4 | 8.9 | 9.7 | 4.84 |
| Natural Gas..... | 102.6 | 40.2 | 4.5 | 4.3 | 9.9 | 15.7 | 4.3 | 2.6 | 5.4 | 15.6 | 6.28 |
| Fuel Oil..... | 88.9 | 47.1 | 1.9 | 2.9 | 6.0 | 12.9 | 2.3 | 2.0 | 6.2 | 7.5 | 10.79 |
| District Heat | 164.2 | 64.6 | 6.9 | 8.2 | 14.8 | 23.3 | Q | 3.1 | 6.2 | 23.8 | 11.20 |
| Other | 43.7 | 10.3 | 1.7 | 2.4 | 1.0 | 11.4 | Q | Q | 4.6 | 4.6 | 36.22 |
| Air-Conditioning Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 95.6 | 31.2 | 5.9 | 4.8 | 7.9 | 17.7 | 4.0 | 3.4 | 6.7 | 14.0 | 4.74 |
| Other | 147.6 | 45.9 | 6.7 | 6.9 | 14.9 | 24.0 | Q | 3.4 | 6.6 | 24.6 | 13.60 |
| Water-Heating Energy Source (Solely or in Combination) | | | | | | | | | | | |
| Electricity | 82.0 | 25.0 | 5.7 | 4.7 | 1.7 | 17.7 | 2.0 | 3.5 | 8.2 | 13.6 | 6.24 |
| Natural Gas..... | 104.4 | 39.1 | 4.6 | 4.7 | 12.8 | 16.8 | 5.3 | 2.9 | 5.4 | 12.8 | 5.46 |
| Fuel Oil..... | 102.2 | 50.3 | 2.9 | 3.6 | 14.6 | 13.7 | 2.9 | 1.7 | 2.5 | 10.1 | 14.40 |
| District Heat | 189.8 | 59.2 | 8.0 | 8.0 | 27.8 | 24.3 | 17.9 | 3.5 | 6.8 | 34.3 | 16.20 |
| Other | 76.1 | 20.4 | 3.9 | 3.7 | Q | 18.8 | 3.4 | Q | 5.4 | 8.3 | 34.01 |
| HEATING AND COOLING | | | | | | | | | | | |
| Percent Heated | | | | | | | | | | | |
| Not Heated | 23.3 | 1.2 | 2.7 | 1.8 | 2.9 | 5.6 | 1.0 | 1.5 | 1.9 | 4.7 | 14.83 |
| 1 to 50 | 39.8 | 12.1 | 1.6 | 1.2 | 2.4 | 8.1 | .9 | 2.6 | 4.5 | 6.5 | 12.68 |
| 51 to 99 | 102.8 | 31.7 | 6.0 | 6.2 | 6.8 | 20.5 | 3.2 | 3.2 | 8.9 | 16.3 | 9.19 |
| 100 | 110.6 | 40.8 | 5.6 | 5.1 | 10.1 | 18.6 | 5.8 | 3.2 | 6.3 | 15.2 | 5.23 |
| Percent Cooled | | | | | | | | | | | |
| Not Cooled | 60.2 | 31.3 | NC | 2.0 | 5.5 | 7.9 | 1.1 | 1.3 | 3.3 | 7.9 | 16.82 |
| 1 to 50 | 75.0 | 37.1 | 1.8 | 1.6 | 4.2 | 9.6 | 1.5 | 1.9 | 4.2 | 13.1 | 9.13 |
| 51 to 99 | 107.2 | 29.9 | 7.1 | 6.7 | 9.9 | 22.4 | 5.8 | 4.2 | 7.7 | 13.4 | 6.40 |
| 100 | 113.2 | 29.1 | 8.6 | 6.6 | 11.1 | 22.4 | 7.5 | 4.0 | 8.0 | 16.0 | 6.25 |

See footnotes at end of table.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989 (Continued)

| Building Characteristics | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|--|--|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|----------------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| RSE Column Factor: | | | | | | | | | | | |
| Heating Equipment (Solely or in Combination) | | | | | | | | | | | |
| Furnaces | 89.0 | 36.1 | 3.6 | 2.9 | 6.1 | 14.1 | 3.4 | 3.4 | 6.4 | 13.3 | 7.95 |
| Boilers | 113.0 | 48.0 | 4.5 | 5.4 | 10.6 | 17.8 | 3.8 | 2.8 | 5.2 | 14.9 | 5.63 |
| Individual Space Heaters | 90.1 | 31.4 | 4.1 | 3.6 | 7.2 | 15.9 | 4.6 | 2.4 | 5.9 | 14.9 | 7.90 |
| Packaged Heating Units | 99.3 | 26.7 | 6.6 | 4.4 | 6.4 | 20.3 | 4.9 | 3.2 | 7.5 | 19.4 | 7.53 |
| Heat Pumps | 87.4 | 22.6 | 6.0 | 5.1 | 6.5 | 17.7 | 3.3 | 3.7 | 6.9 | 15.6 | 9.94 |
| Air Ducts | 106.8 | 33.2 | 6.0 | 5.5 | 9.3 | 20.2 | 5.7 | 3.4 | 7.4 | 16.2 | 5.41 |
| Heating or Reheating Coils | 133.7 | 38.4 | 7.3 | 8.1 | 13.0 | 25.6 | 8.1 | 3.3 | 7.9 | 22.0 | 7.57 |
| Fan-Coil Units | 133.3 | 43.4 | 6.4 | 6.7 | 14.6 | 23.0 | 9.5 | 2.9 | 6.5 | 20.3 | 9.53 |
| Steam or Hot Water Radiators or Baseboards | 124.7 | 54.2 | 3.9 | 4.9 | 13.4 | 16.2 | 7.9 | 2.2 | 4.5 | 17.6 | 9.10 |
| Other | 174.6 | 39.7 | 9.4 | 12.2 | 27.6 | 27.8 | 5.7 | 6.0 | 9.3 | 36.9 | 20.74 |
| Cooling Equipment (Solely or in Combination) | | | | | | | | | | | |
| Central Chillers | 126.4 | 31.4 | 8.6 | 9.4 | 13.0 | 24.5 | 9.7 | 3.0 | 7.7 | 19.1 | 9.05 |
| Individual Air Conditioners | 95.6 | 38.8 | 4.1 | 3.6 | 9.4 | 14.0 | 3.7 | 2.7 | 4.5 | 14.7 | 8.69 |
| Packaged Cooling Units | 99.8 | 31.4 | 6.3 | 4.9 | 7.5 | 18.9 | 5.8 | 3.5 | 7.0 | 14.5 | 5.15 |
| Heat Pumps | 98.7 | 24.3 | 6.2 | 5.1 | 6.4 | 19.4 | 4.0 | 3.9 | 8.1 | 21.3 | 13.69 |
| Air Ducts | 107.2 | 32.4 | 6.5 | 5.7 | 9.9 | 20.3 | 6.1 | 3.4 | 7.2 | 15.7 | 4.96 |
| Fan-Coil Units | 141.5 | 35.7 | 8.7 | 10.0 | 16.4 | 26.7 | 11.3 | 3.2 | 8.3 | 21.3 | 9.52 |
| Other | 118.9 | 24.5 | 11.3 | 3.3 | Q | 19.7 | 35.7 | 1.8 | 5.7 | 8.3 | 24.32 |
| Year Main Central Chiller Installed | | | | | | | | | | | |
| 1959 or Before | 118.5 | 36.8 | 8.2 | 10.8 | 13.6 | 21.7 | 6.1 | 2.5 | 7.0 | 12.0 | 13.11 |
| 1960 to 1969 | 141.3 | 39.8 | 10.7 | 7.7 | 7.4 | 24.2 | Q | 2.6 | 7.0 | 24.7 | 22.49 |
| 1970 to 1979 | 116.6 | 28.0 | 7.4 | 9.2 | 15.3 | 25.2 | 6.2 | 3.0 | 8.1 | 14.2 | 9.02 |
| 1980 to 1986 | 131.5 | 28.6 | 8.4 | 11.8 | 17.2 | 26.5 | 5.5 | 3.5 | 8.7 | 21.4 | 15.28 |
| 1987 to 1989 | 111.3 | 21.9 | 7.7 | 7.8 | 11.3 | 22.1 | 11.9 | 3.6 | 6.6 | 18.4 | 19.39 |
| Year Packaged Cooling System Installed | | | | | | | | | | | |
| 1959 or Before | 99.3 | 37.2 | 6.1 | 5.3 | 7.9 | 20.7 | 2.0 | 1.8 | 5.3 | 13.1 | 12.62 |
| 1960 to 1969 | 125.5 | 41.1 | 7.1 | 4.4 | 7.1 | 20.3 | Q | 2.6 | 7.5 | 22.5 | 16.95 |
| 1970 to 1979 | 99.5 | 31.5 | 6.6 | 5.0 | 8.6 | 19.5 | 5.9 | 3.4 | 6.9 | 12.0 | 6.40 |
| 1980 to 1986 | 88.4 | 24.5 | 5.8 | 4.9 | 6.4 | 18.8 | 3.6 | 4.2 | 7.8 | 12.5 | 8.17 |
| 1987 to 1989 | 101.2 | 34.5 | 6.3 | 4.9 | 7.6 | 16.3 | 5.3 | 3.7 | 5.9 | 16.7 | 11.70 |
| Computer Area with Separate Air-Conditioning System | | | | | | | | | | | |
| Present in Building | 136.3 | 37.1 | 7.9 | 8.7 | 11.3 | 27.1 | 7.1 | 3.8 | 10.9 | 22.4 | 7.24 |
| Not Present | 75.6 | 30.1 | 3.7 | 2.9 | 6.7 | 12.3 | 3.3 | 2.7 | 4.3 | 9.9 | 5.15 |
| LIGHTING AND REFRIGERATION | | | | | | | | | | | |
| Percent Lit When Open | | | | | | | | | | | |
| Not Lit | 9.1 | 4.9 | .2 | .2 | Q | .8 | * | .3 | .5 | 1.9 | 22.17 |
| 1 to 50 | 49.1 | 25.0 | 1.8 | 2.0 | 4.7 | 4.4 | 1.7 | 1.4 | 2.9 | 5.2 | 8.38 |
| 51 to 99 | 95.9 | 33.4 | 4.9 | 5.0 | 7.4 | 17.3 | 3.8 | 2.5 | 6.7 | 14.9 | 7.53 |
| 100 | 109.3 | 35.4 | 6.0 | 5.2 | 9.8 | 20.6 | 5.7 | 3.9 | 7.0 | 15.7 | 5.76 |
| Percent Lit When Closed | | | | | | | | | | | |
| Not Lit | 76.5 | 30.1 | 3.8 | 3.0 | 7.0 | 11.0 | 2.8 | 2.2 | 4.8 | 11.7 | 6.47 |
| 1 to 50 | 98.9 | 33.4 | 5.1 | 5.0 | 7.1 | 19.3 | 4.8 | 3.2 | 6.9 | 14.1 | 6.04 |
| 51 to 99 | 176.5 | 38.4 | 10.7 | 11.5 | 31.1 | 35.0 | 14.0 | 5.7 | 9.7 | 20.4 | 14.68 |
| 100 | 87.3 | 20.1 | 10.2 | 6.6 | 5.9 | 20.0 | 5.8 | Q | 1.8 | 7.4 | 23.17 |
| Lighting Equipment (Solely or in Combination) | | | | | | | | | | | |
| Incandescent Lamps | 97.6 | 33.8 | 5.1 | 4.7 | 10.0 | 17.7 | 5.6 | 3.0 | 5.3 | 12.4 | 5.53 |
| Fluorescent Lamps | 96.5 | 33.4 | 5.1 | 4.7 | 8.2 | 17.1 | 4.5 | 3.1 | 6.4 | 13.9 | 4.87 |
| High-Intensity Discharge Lamps | 108.9 | 34.4 | 5.6 | 5.2 | 7.1 | 21.7 | 6.2 | 3.5 | 6.7 | 18.4 | 7.76 |
| Other Lamps | 98.5 | 21.3 | 7.4 | 7.0 | 11.9 | 22.7 | 5.3 | Q | 5.2 | 13.4 | 16.93 |
| High-Efficiency Ballasts | 112.7 | 35.4 | 6.1 | 6.3 | 9.4 | 20.2 | 4.5 | 4.1 | 8.8 | 17.9 | 6.61 |

See footnotes at end of table.

Table B2. Energy End-Use Intensities for All Major Fuels, 1989 (Continued)

| Building Characteristics RSE Column Factor: | Energy Intensity for Major Fuels (thousand Btu per sq. ft.) | | | | | | | | | | RSE Row Factor |
|---|--|------------------|---------|------------------|------------------|----------|---------|--------------------|--------------------------|-------|----------------------|
| | Total | Space Heating | Cooling | Ventil- ation | Water Heating | Lighting | Cooking | Refrig- eration | Office Equip- ment | Other | |
| | 1.0 | NF | NF | NF | NF | NF | NF | NF | NF | NF | |
| Refrigeration Equipment (Solely or in Combination) | | | | | | | | | | | |
| Commercial | | | | | | | | | | | |
| Refrigeration Units | 120.6 | 33.8 | 7.0 | 6.5 | 12.9 | 22.4 | 10.2 | 5.2 | 6.4 | 16.3 | 5.99 |
| Freezers..... | 129.3 | 34.6 | 7.7 | 6.9 | 14.3 | 24.3 | 11.2 | 5.7 | 6.8 | 17.7 | 5.62 |
| Residential | | | | | | | | | | | |
| Refrigerators | 99.6 | 35.0 | 5.0 | 4.9 | 8.6 | 17.9 | 4.3 | 2.6 | 6.6 | 14.7 | 6.13 |
| Freezers..... | 119.0 | 36.1 | 6.8 | 5.1 | 13.9 | 20.0 | 10.4 | 3.4 | 5.2 | 18.2 | 10.67 |
| Ice-Making Machines..... | 127.5 | 32.3 | 8.2 | 7.6 | 14.5 | 24.0 | 10.3 | 4.7 | 7.0 | 18.9 | 5.94 |
| Refrigerated Vending Machines | 111.9 | 35.7 | 6.0 | 5.7 | 10.0 | 21.0 | 5.8 | 3.6 | 7.3 | 16.7 | 5.22 |
| Water Coolers..... | 103.9 | 35.3 | 5.5 | 5.2 | 8.5 | 18.9 | 4.5 | 2.9 | 6.7 | 16.3 | 5.65 |
| Other | 245.4 | 42.0 | 15.6 | 9.8 | 31.1 | 39.0 | 12.3 | 7.3 | 15.5 | 72.8 | 22.72 |
| ENERGY MANAGEMENT | | | | | | | | | | | |
| Occupant Control | | | | | | | | | | | |
| Any Control of Heating | 86.2 | 29.8 | 4.6 | 3.6 | 9.3 | 14.5 | 4.1 | 2.5 | 5.4 | 12.4 | 7.08 |
| With Thermostats | 87.1 | 29.8 | 4.7 | 3.6 | 9.6 | 14.6 | 4.0 | 2.4 | 5.5 | 13.0 | 7.65 |
| Any Control of Cooling | 88.2 | 29.8 | 5.2 | 3.8 | 9.4 | 15.0 | 4.3 | 2.6 | 5.6 | 12.5 | 6.94 |
| With Thermostats | 87.9 | 28.8 | 5.3 | 3.8 | 9.4 | 15.1 | 4.4 | 2.6 | 5.6 | 13.1 | 7.48 |
| Reduced Use During Off-Hours | | | | | | | | | | | |
| Heating Only | 90.8 | 46.6 | 1.3 | 2.9 | 8.3 | 11.9 | 2.2 | 2.1 | 4.6 | 10.9 | 15.32 |
| Cooling Only | 104.3 | 29.0 | 6.4 | 4.3 | 6.8 | 16.8 | 5.1 | 2.7 | 7.4 | 25.8 | 17.11 |
| Heating and Cooling | 86.5 | 30.3 | 4.9 | 4.6 | 5.9 | 15.9 | 4.2 | 2.5 | 6.0 | 12.1 | 6.66 |
| Computerized Energy Management and Control System | | | | | | | | | | | |
| Present in Building..... | 119.5 | 32.0 | 7.6 | 8.0 | 11.4 | 24.8 | 7.5 | 3.9 | 6.9 | 17.3 | 8.29 |
| Controls Heating and Cooling | 120.9 | 32.8 | 7.7 | 8.2 | 11.6 | 24.9 | 7.6 | 3.9 | 6.9 | 17.3 | 8.63 |
| Controls Lighting | 111.9 | 24.8 | 7.8 | 5.7 | 5.2 | 22.9 | Q | 4.1 | 6.7 | 18.2 | 13.87 |
| Controls Other | 145.1 | 29.0 | 9.9 | 8.2 | 21.5 | 27.0 | 6.0 | 4.4 | 7.0 | 32.0 | 21.81 |
| Other Energy Management | | | | | | | | | | | |
| Regular HVAC Maintenance..... | 111.0 | 37.1 | 5.9 | 5.6 | 9.6 | 20.2 | 5.1 | 3.6 | 7.1 | 16.7 | 5.04 |
| Participated in Utility Conservation Program..... | 111.4 | 38.0 | 6.1 | 7.0 | 10.7 | 19.7 | 4.9 | 3.7 | 6.5 | 14.8 | 7.95 |

* = Value rounds to zero in the units displayed.

NC = No cases in responding sample.

NF = No applicable RSE row/column factor.

Q = Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or data were reported for fewer than 20 buildings.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report. • Because of rounding, data may not sum to totals.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A through F of the 1989 Commercial Buildings Energy Consumption Survey.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|--|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| All Buildings | 100 | 35 | 5 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| Building Floorspace (Square Feet) | | | | | | | | | | |
| 1,001 to 5,000 | 100 | 37 | 6 | 4 | 11 | 14 | 7 | 5 | 8 | 8 |
| 5,001 to 10,000 | 100 | 40 | 6 | 4 | 9 | 15 | 3 | 3 | 7 | 13 |
| 10,001 to 25,000 | 100 | 41 | 5 | 3 | 7 | 16 | 3 | 4 | 9 | 12 |
| 25,001 to 50,000 | 100 | 42 | 5 | 3 | 6 | 17 | 3 | 4 | 6 | 15 |
| 50,001 to 100,000 | 100 | 35 | 4 | 5 | 8 | 19 | 3 | 4 | 5 | 17 |
| 100,001 to 200,000 | 100 | 34 | 5 | 6 | 8 | 20 | 5 | 2 | 6 | 14 |
| 200,001 to 500,000 | 100 | 29 | 5 | 7 | 8 | 22 | 3 | 2 | 6 | 18 |
| Over 500,000 | 100 | 19 | 7 | 7 | 12 | 19 | 12 | 2 | 6 | 17 |
| Year Constructed | | | | | | | | | | |
| 1899 or Before | 100 | 68 | 1 | 2 | 9 | 7 | 3 | 2 | 2 | 5 |
| 1900 to 1919 | 100 | 46 | 2 | 3 | 7 | 12 | 4 | 2 | 4 | 21 |
| 1920 to 1945 | 100 | 45 | 4 | 5 | 10 | 12 | 4 | 2 | 4 | 14 |
| 1946 to 1959 | 100 | 40 | 5 | 4 | 9 | 16 | Q | 2 | 5 | 12 |
| 1960 to 1969 | 100 | 37 | 5 | 4 | 9 | 17 | 3 | 3 | 6 | 16 |
| 1970 to 1979 | 100 | 30 | 6 | 5 | 9 | 21 | 5 | 4 | 7 | 13 |
| 1980 to 1983 | 100 | 21 | 7 | 5 | 6 | 23 | 4 | 4 | 11 | 19 |
| 1984 to 1986 | 100 | 22 | 6 | 8 | 8 | 22 | 5 | 5 | 11 | 13 |
| 1987 to 1989 | 100 | 27 | 5 | 4 | 7 | 19 | 5 | 7 | 10 | 15 |
| BUILDING USE | | | | | | | | | | |
| Principal Building Activity | | | | | | | | | | |
| Assembly | 100 | 52 | 6 | 6 | 5 | 14 | 4 | 3 | 1 | 10 |
| Education | 100 | 54 | 4 | 3 | 6 | 16 | Q | 1 | 1 | 7 |
| Food Sales | 100 | 15 | 11 | 6 | 2 | 13 | 15 | 32 | 1 | 5 |
| Food Service | 100 | 19 | 8 | 5 | 19 | 11 | 23 | 6 | 1 | 8 |
| Health Care | 100 | 18 | 7 | 5 | 27 | 15 | 10 | 1 | 1 | 15 |
| Lodging | 100 | 32 | 4 | 5 | 29 | 11 | 8 | 4 | * | 7 |
| Mercantile and Service | 100 | 34 | 5 | 2 | 5 | 19 | 2 | 1 | 11 | 20 |
| Office | 100 | 30 | 7 | 11 | 4 | 22 | 1 | 3 | 13 | 10 |
| Parking Garage | 100 | 47 | 1 | Q | Q | 20 | Q | 2 | 3 | 18 |
| Public Order and Safety | 100 | 53 | 2 | 3 | 6 | 16 | 1 | 2 | 2 | 15 |
| Warehouse | 100 | 41 | 1 | 1 | 1 | 19 | * | 5 | 11 | 21 |
| Other | 100 | 25 | 4 | * | 4 | 22 | 2 | 2 | 4 | 37 |
| Vacant | 100 | 41 | 3 | 1 | 6 | 14 | Q | 2 | 2 | 30 |
| Weekly Operating Hours | | | | | | | | | | |
| 39 or Fewer | 100 | 60 | 3 | 5 | 5 | 11 | 2 | 3 | 3 | 8 |
| 40 to 48 | 100 | 47 | 5 | 4 | 4 | 16 | 1 | 3 | 7 | 14 |
| 49 to 60 | 100 | 40 | 5 | 6 | 3 | 18 | 2 | 3 | 10 | 13 |
| 61 to 84 | 100 | 33 | 6 | 5 | 8 | 19 | 4 | 3 | 7 | 15 |
| 85 to 167 | 100 | 32 | 6 | 4 | 6 | 20 | 10 | 4 | 6 | 12 |
| 168 (Open Continuously) | 100 | 24 | 5 | 5 | 17 | 17 | 6 | 3 | 5 | 17 |
| Workers | | | | | | | | | | |
| 4 or Fewer | 100 | 46 | 5 | 4 | 10 | 13 | 3 | 4 | 6 | 9 |
| 5 to 9 | 100 | 38 | 6 | 4 | 9 | 16 | 5 | 3 | 8 | 11 |
| 10 to 19 | 100 | 40 | 6 | 4 | 9 | 14 | 5 | 4 | 8 | 12 |
| 20 to 49 | 100 | 42 | 4 | 3 | 9 | 17 | 3 | 4 | 6 | 12 |
| 50 to 99 | 100 | 40 | 5 | 4 | 4 | 19 | 3 | 4 | 6 | 16 |
| 100 to 249 | 100 | 32 | 4 | 4 | 7 | 20 | 4 | 3 | 6 | 19 |
| 250 or More | 100 | 20 | 6 | 8 | 11 | 21 | 8 | 2 | 7 | 16 |

See footnotes at end of table.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989 (Continued)

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|---|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| Ownership and Occupancy | | | | | | | | | | |
| Nongovernment Owned | 100 | 32 | 6 | 5 | 9 | 18 | 4 | 4 | 7 | 15 |
| Owner Occupied..... | 100 | 33 | 5 | 5 | 10 | 17 | 5 | 4 | 6 | 15 |
| Single Establishment | 100 | 34 | 5 | 4 | 10 | 16 | 5 | 4 | 6 | 16 |
| Multiple Establishment..... | 100 | 28 | 7 | 8 | 7 | 22 | 4 | 2 | 9 | 13 |
| Nonowner Occupied..... | 100 | 29 | 6 | 5 | 6 | 21 | 4 | 4 | 11 | 14 |
| Single Establishment | 100 | 31 | 5 | 4 | 5 | 21 | 5 | 5 | 11 | 13 |
| Multiple Establishment..... | 100 | 24 | 8 | 6 | 6 | 23 | 4 | 3 | 12 | 15 |
| Vacant | 100 | 48 | 2 | * | 12 | 7 | Q | 1 | 1 | 28 |
| Government Owned | 100 | 42 | 4 | 4 | 8 | 17 | 5 | 2 | 4 | 12 |
| Federal | 100 | 26 | 6 | 6 | 4 | 22 | 18 | 2 | 6 | 10 |
| State | 100 | 44 | 3 | 4 | 10 | 14 | 2 | 2 | 5 | 16 |
| Local | 100 | 47 | 4 | 4 | 8 | 18 | 3 | 2 | 3 | 10 |
| Multibuilding Facility | | | | | | | | | | |
| Not on Multibuilding Facility..... | 100 | 37 | 5 | 5 | 8 | 18 | 4 | 4 | 7 | 13 |
| Part of Multibuilding Facility | 100 | 33 | 5 | 5 | 10 | 18 | 5 | 3 | 6 | 16 |
| On Facility with Central Plant | 100 | 32 | 5 | 4 | 11 | 16 | 7 | 2 | 4 | 19 |
| Percent Vacant at Least Three Months | | | | | | | | | | |
| 0 | 100 | 36 | 5 | 4 | 9 | 18 | 4 | 4 | 7 | 14 |
| 1 to 50 | 100 | 28 | 6 | 7 | 9 | 20 | 4 | 2 | 7 | 17 |
| 51 to 99 | 100 | 39 | 5 | 3 | 5 | 13 | 23 | 2 | 3 | 7 |
| 100 | 100 | 43 | 4 | 4 | 13 | 13 | 2 | 4 | 4 | 15 |
| Months in Use Out of Past 12 Months | | | | | | | | | | |
| 0 to 8 | 100 | 35 | 4 | 4 | 12 | 15 | 7 | 5 | 6 | 13 |
| 9 to 11 | 100 | 60 | 3 | 4 | 8 | 12 | 1 | 2 | 1 | 10 |
| 12 | 100 | 34 | 5 | 5 | 9 | 18 | 5 | 3 | 7 | 15 |
| LOCATION | | | | | | | | | | |
| Census Region | | | | | | | | | | |
| Northeast..... | 100 | 42 | 3 | 4 | 9 | 17 | 3 | 3 | 7 | 13 |
| Midwest | 100 | 44 | 3 | 4 | 10 | 14 | 4 | 3 | 5 | 13 |
| South..... | 100 | 26 | 8 | 6 | 7 | 21 | 4 | 4 | 7 | 18 |
| West..... | 100 | 26 | 6 | 6 | 9 | 19 | 8 | 3 | 8 | 14 |
| Census Division | | | | | | | | | | |
| Northeast | | | | | | | | | | |
| New England..... | 100 | 42 | 3 | 4 | 12 | 15 | 4 | 3 | 5 | 12 |
| Middle Atlantic | 100 | 42 | 3 | 4 | 8 | 17 | 3 | 3 | 7 | 13 |
| Midwest | | | | | | | | | | |
| East North Central..... | 100 | 45 | 3 | 3 | 10 | 15 | 4 | 3 | 5 | 11 |
| West North Central | 100 | 42 | 5 | 4 | 11 | 14 | 4 | 2 | 4 | 15 |
| South | | | | | | | | | | |
| South Atlantic..... | 100 | 24 | 9 | 6 | 5 | 22 | 3 | 4 | 8 | 19 |
| East South Central..... | 100 | 27 | 5 | 5 | 8 | 19 | 4 | 4 | 8 | 20 |
| West South Central | 100 | 27 | 9 | 6 | 8 | 21 | 4 | 4 | 6 | 15 |
| West | | | | | | | | | | |
| Mountain..... | 100 | 35 | 6 | 5 | 8 | 15 | 14 | 3 | 5 | 8 |
| Pacific | 100 | 20 | 6 | 7 | 10 | 22 | 4 | 4 | 9 | 18 |
| Metropolitan Status | | | | | | | | | | |
| Metropolitan | 100 | 33 | 6 | 5 | 9 | 18 | 5 | 3 | 7 | 15 |
| Nonmetropolitan..... | 100 | 45 | 4 | 3 | 8 | 15 | 3 | 3 | 5 | 13 |

See footnotes at end of table.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989 (Continued)

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|---|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| Climate Zone: 45-Year Average | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | |
| Over 7,000 HDD..... | 100 | 48 | 2 | 3 | 11 | 14 | 3 | 4 | 5 | 11 |
| 5,500-7,000 HDD..... | 100 | 45 | 3 | 4 | 8 | 14 | 7 | 3 | 5 | 12 |
| 4,000-5,499 HDD..... | 100 | 32 | 5 | 5 | 9 | 20 | 4 | 3 | 7 | 14 |
| Under 4,000 HDD..... | 100 | 24 | 6 | 6 | 8 | 20 | 4 | 3 | 8 | 19 |
| 2,000 CDD or More and -- | | | | | | | | | | |
| Under 4,000 HDD..... | 100 | 20 | 12 | 6 | 9 | 21 | 4 | 5 | 7 | 16 |
| 1989 Degree-Days | | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | | |
| Over 7,000 HDD..... | 100 | 51 | 2 | 3 | 9 | 13 | 3 | 3 | 4 | 11 |
| 5,500-7,000 HDD..... | 100 | 40 | 4 | 4 | 9 | 15 | 6 | 3 | 5 | 14 |
| 4,000-5,499 HDD..... | 100 | 30 | 5 | 6 | 8 | 23 | 4 | 4 | 9 | 11 |
| Under 4,000 HDD..... | 100 | 25 | 7 | 6 | 8 | 19 | 4 | 3 | 8 | 20 |
| 2,000 CDD or More and -- | | | | | | | | | | |
| Under 4,000 HDD..... | 100 | 19 | 12 | 7 | 9 | 21 | 4 | 5 | 8 | 16 |
| STRUCTURE | | | | | | | | | | |
| Floors | | | | | | | | | | |
| 1..... | 100 | 35 | 6 | 4 | 7 | 18 | 4 | 4 | 8 | 14 |
| 2..... | 100 | 35 | 5 | 4 | 6 | 19 | 3 | 4 | 7 | 17 |
| 3..... | 100 | 44 | 4 | 5 | 8 | 14 | 2 | 2 | 5 | 16 |
| 4 to 6..... | 100 | 36 | 5 | 5 | 12 | 16 | 10 | 2 | 4 | 10 |
| 7 or More..... | 100 | 24 | 6 | 9 | 14 | 19 | 6 | 2 | 6 | 14 |
| Wall Materials | | | | | | | | | | |
| Masonry..... | 100 | 37 | 5 | 4 | 10 | 16 | 4 | 3 | 6 | 14 |
| Siding or Shingles..... | 100 | 36 | 5 | 4 | 11 | 17 | 4 | 3 | 7 | 12 |
| Metal Panels..... | 100 | 35 | 5 | 4 | 4 | 21 | 1 | 3 | 9 | 17 |
| Concrete Panels..... | 100 | 24 | 7 | 5 | 5 | 20 | Q | 3 | 7 | 19 |
| Window Glass..... | 100 | 24 | 6 | 12 | 8 | 24 | 4 | 3 | 11 | 9 |
| Other..... | 100 | 29 | 5 | 9 | 6 | 25 | 2 | 2 | 9 | 13 |
| Roof Materials | | | | | | | | | | |
| Built-Up..... | 100 | 34 | 6 | 5 | 8 | 18 | 5 | 3 | 6 | 14 |
| Shingles (Not Wood)..... | 100 | 41 | 5 | 4 | 10 | 15 | 5 | 4 | 6 | 11 |
| Metal Surfacing..... | 100 | 37 | 4 | 3 | 4 | 20 | 2 | 3 | 10 | 18 |
| Synthetic or Rubber..... | 100 | 34 | 5 | 5 | 9 | 18 | 4 | 4 | 7 | 15 |
| Slate or Tile..... | 100 | 46 | 4 | 4 | 10 | 11 | 9 | 3 | 5 | 9 |
| Concrete..... | 100 | 18 | 8 | 11 | 13 | 25 | Q | 3 | 9 | 10 |
| Wooden Materials..... | 100 | 37 | 7 | 6 | 11 | 15 | 7 | 4 | 4 | 10 |
| Other..... | 100 | 18 | 5 | 4 | 24 | 13 | 6 | 1 | Q | 25 |
| Building Shell Conservation | | | | | | | | | | |
| Features (Solely or in Combination) | | | | | | | | | | |
| Roof or Ceiling Insulation..... | 100 | 33 | 6 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| Wall Insulation..... | 100 | 31 | 6 | 5 | 9 | 19 | 5 | 3 | 7 | 15 |
| Storm or Multiple Glazing..... | 100 | 33 | 5 | 5 | 11 | 18 | 5 | 4 | 7 | 12 |
| Tinted, Reflective, or Shading Glass..... | 100 | 28 | 6 | 6 | 8 | 21 | 6 | 3 | 8 | 15 |
| Exterior or Interior Shadings or Awnings..... | 100 | 31 | 6 | 5 | 8 | 18 | 6 | 3 | 7 | 15 |
| Weather Stripping or Caulking..... | 100 | 34 | 6 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| None of the Above..... | 100 | 38 | 4 | 4 | 8 | 15 | 3 | 3 | 6 | 19 |

See footnotes at end of table.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989 (Continued)

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|---|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| ENERGY SOURCES AND END USES | | | | | | | | | | |
| Energy Sources | | | | | | | | | | |
| (Solely or in Combination) | | | | | | | | | | |
| Electricity | 100 | 35 | 5 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| Natural Gas..... | 100 | 36 | 5 | 5 | 10 | 16 | 6 | 3 | 5 | 15 |
| Fuel Oil..... | 100 | 36 | 4 | 5 | 12 | 17 | 4 | 3 | 6 | 13 |
| District Heat | 100 | 35 | 4 | 5 | 12 | 14 | 7 | 2 | 4 | 18 |
| Other | 100 | 33 | 4 | 4 | 8 | 17 | Q | 4 | 5 | 17 |
| Energy End Uses | | | | | | | | | | |
| (Solely or in Combination) | | | | | | | | | | |
| Heated Buildings..... | 100 | 36 | 5 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| Air-Conditioned Buildings..... | 100 | 33 | 6 | 5 | 9 | 18 | 5 | 3 | 7 | 15 |
| Buildings with Water Heating..... | 100 | 34 | 5 | 5 | 9 | 18 | 5 | 3 | 6 | 14 |
| Buildings with Cooking | 100 | 29 | 6 | 5 | 11 | 18 | 9 | 3 | 5 | 13 |
| Buildings with Manufacturing..... | 100 | 33 | 4 | 2 | 3 | 16 | Q | 3 | 5 | 27 |
| Space-Heating Energy Source | | | | | | | | | | |
| (Solely or in Combination) | | | | | | | | | | |
| Electricity | 100 | 22 | 8 | 6 | 7 | 24 | 4 | 5 | 10 | 15 |
| Natural Gas..... | 100 | 39 | 4 | 4 | 10 | 15 | 4 | 3 | 5 | 15 |
| Fuel Oil..... | 100 | 39 | 4 | 5 | 12 | 15 | 4 | 3 | 5 | 13 |
| District Heat | 100 | 40 | 4 | 5 | 9 | 14 | 8 | 2 | 4 | 14 |
| Other | 100 | 30 | 4 | 5 | 9 | 22 | 5 | 8 | 7 | 10 |
| Main Space-Heating Energy Source | | | | | | | | | | |
| Electricity | 100 | 13 | 9 | 7 | 7 | 27 | 5 | 6 | 12 | 13 |
| Natural Gas..... | 100 | 39 | 4 | 4 | 10 | 15 | 4 | 3 | 5 | 15 |
| Fuel Oil..... | 100 | 53 | 2 | 3 | 7 | 15 | 3 | 2 | 7 | 8 |
| District Heat | 100 | 39 | 4 | 5 | 9 | 14 | 8 | 2 | 4 | 14 |
| Other | 100 | 24 | 4 | 6 | 2 | 26 | 4 | 14 | 10 | 11 |
| Air-Conditioning Energy Source | | | | | | | | | | |
| (Solely or in Combination) | | | | | | | | | | |
| Electricity | 100 | 33 | 6 | 5 | 8 | 19 | 4 | 4 | 7 | 15 |
| Other | 100 | 31 | 5 | 5 | 10 | 16 | 10 | 2 | 4 | 17 |
| Water-Heating Energy Source | | | | | | | | | | |
| (Solely or in Combination) | | | | | | | | | | |
| Electricity | 100 | 30 | 7 | 6 | 2 | 22 | 2 | 4 | 10 | 17 |
| Natural Gas..... | 100 | 37 | 4 | 4 | 12 | 16 | 5 | 3 | 5 | 12 |
| Fuel Oil..... | 100 | 49 | 3 | 3 | 14 | 13 | 3 | 2 | 2 | 10 |
| District Heat | 100 | 31 | 4 | 4 | 15 | 13 | 9 | 2 | 4 | 18 |
| Other | 100 | 27 | 5 | 5 | Q | 25 | 4 | 14 | 7 | 11 |
| HEATING AND COOLING | | | | | | | | | | |
| Percent Heated | | | | | | | | | | |
| Not Heated | 100 | 5 | 12 | 8 | 12 | 24 | 4 | 6 | 8 | 20 |
| 1 to 50 | 100 | 30 | 4 | 3 | 6 | 20 | 2 | 7 | 11 | 16 |
| 51 to 99 | 100 | 31 | 6 | 6 | 7 | 20 | 3 | 3 | 9 | 16 |
| 100 | 100 | 37 | 5 | 5 | 9 | 17 | 5 | 3 | 6 | 14 |
| Percent Cooled | | | | | | | | | | |
| Not Cooled | 100 | 52 | NC | 3 | 9 | 13 | 2 | 2 | 5 | 13 |
| 1 to 50 | 100 | 49 | 2 | 2 | 6 | 13 | 2 | 3 | 6 | 17 |
| 51 to 99 | 100 | 28 | 7 | 6 | 9 | 21 | 5 | 4 | 7 | 12 |
| 100 | 100 | 26 | 8 | 6 | 10 | 20 | 7 | 4 | 7 | 14 |

See footnotes at end of table.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989 (Continued)

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|--|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| Heating Equipment (Solely or in Combination) | | | | | | | | | | |
| Furnaces..... | 100 | 41 | 4 | 3 | 7 | 16 | 4 | 4 | 7 | 15 |
| Boilers..... | 100 | 42 | 4 | 5 | 9 | 16 | 3 | 2 | 5 | 13 |
| Individual Space Heaters..... | 100 | 35 | 5 | 4 | 8 | 18 | 5 | 3 | 7 | 17 |
| Packaged Heating Units..... | 100 | 27 | 7 | 4 | 6 | 20 | 5 | 3 | 8 | 20 |
| Heat Pumps..... | 100 | 26 | 7 | 6 | 7 | 20 | 4 | 4 | 8 | 18 |
| Air Ducts..... | 100 | 31 | 6 | 5 | 9 | 19 | 5 | 3 | 7 | 15 |
| Heating or Reheating Coils..... | 100 | 29 | 5 | 6 | 10 | 19 | 6 | 2 | 6 | 16 |
| Fan-Coil Units..... | 100 | 33 | 5 | 5 | 11 | 17 | 7 | 2 | 5 | 15 |
| Steam or Hot Water Radiators or Baseboards..... | 100 | 43 | 3 | 4 | 11 | 13 | 6 | 2 | 4 | 14 |
| Other..... | 100 | 23 | 5 | 7 | 16 | 16 | 3 | 3 | 5 | 21 |
| Cooling Equipment (Solely or in Combination) | | | | | | | | | | |
| Central Chillers..... | 100 | 25 | 7 | 7 | 10 | 19 | 8 | 2 | 6 | 15 |
| Individual Air Conditioners..... | 100 | 41 | 4 | 4 | 10 | 15 | 4 | 3 | 5 | 15 |
| Packaged Cooling Units..... | 100 | 31 | 6 | 5 | 7 | 19 | 6 | 4 | 7 | 15 |
| Heat Pumps..... | 100 | 25 | 6 | 5 | 6 | 20 | 4 | 4 | 8 | 22 |
| Air Ducts..... | 100 | 30 | 6 | 5 | 9 | 19 | 6 | 3 | 7 | 15 |
| Fan-Coil Units..... | 100 | 25 | 6 | 7 | 12 | 19 | 8 | 2 | 6 | 15 |
| Other..... | 100 | 21 | 10 | 3 | 7 | 17 | 30 | 2 | 5 | 7 |
| Year Main Central Chiller Installed | | | | | | | | | | |
| 1959 or Before..... | 100 | 31 | 7 | 9 | 11 | 18 | 5 | 2 | 6 | 10 |
| 1960 to 1969..... | 100 | 28 | 8 | 5 | 5 | 17 | 12 | 2 | 5 | 17 |
| 1970 to 1979..... | 100 | 24 | 6 | 8 | 13 | 22 | 5 | 3 | 7 | 12 |
| 1980 to 1986..... | 100 | 22 | 6 | 9 | 13 | 20 | 4 | 3 | 7 | 16 |
| 1987 to 1989..... | 100 | 20 | 7 | 7 | 10 | 20 | 11 | 3 | 6 | 17 |
| Year Packaged Cooling System Installed | | | | | | | | | | |
| 1959 or Before..... | 100 | 37 | 6 | 5 | 8 | 21 | 2 | 2 | 5 | 13 |
| 1960 to 1969..... | 100 | 33 | 6 | 3 | 6 | 16 | Q | 2 | 6 | 18 |
| 1970 to 1979..... | 100 | 32 | 7 | 5 | 9 | 20 | 6 | 3 | 7 | 12 |
| 1980 to 1986..... | 100 | 28 | 7 | 6 | 7 | 21 | 4 | 5 | 9 | 14 |
| 1987 to 1989..... | 100 | 34 | 6 | 5 | 7 | 16 | 5 | 4 | 6 | 17 |
| Computer Area with Separate Air-Conditioning System | | | | | | | | | | |
| Present in Building..... | 100 | 27 | 6 | 6 | 8 | 20 | 5 | 3 | 8 | 16 |
| Not Present..... | 100 | 40 | 5 | 4 | 9 | 16 | 4 | 4 | 6 | 13 |
| LIGHTING AND REFRIGERATION | | | | | | | | | | |
| Percent Lit When Open | | | | | | | | | | |
| Not Lit..... | 100 | 54 | 2 | 2 | Q | 9 | * | 3 | 5 | 20 |
| 1 to 50..... | 100 | 51 | 4 | 4 | 10 | 9 | 4 | 3 | 6 | 11 |
| 51 to 99..... | 100 | 35 | 5 | 5 | 8 | 18 | 4 | 3 | 7 | 16 |
| 100..... | 100 | 32 | 6 | 5 | 9 | 19 | 5 | 4 | 6 | 14 |
| Percent Lit When Closed | | | | | | | | | | |
| Not Lit..... | 100 | 39 | 5 | 4 | 9 | 14 | 4 | 3 | 6 | 15 |
| 1 to 50..... | 100 | 34 | 5 | 5 | 7 | 19 | 5 | 3 | 7 | 14 |
| 51 to 99..... | 100 | 22 | 6 | 7 | 18 | 20 | 8 | 3 | 6 | 12 |
| 100..... | 100 | 23 | 12 | 8 | 7 | 23 | 7 | Q | 2 | 8 |
| Lighting Equipment (Solely or in Combination) | | | | | | | | | | |
| Incandescent Lamps..... | 100 | 35 | 5 | 5 | 10 | 18 | 6 | 3 | 5 | 13 |
| Fluorescent Lamps..... | 100 | 35 | 5 | 5 | 9 | 18 | 5 | 3 | 7 | 14 |
| High-Intensity Discharge Lamps..... | 100 | 32 | 5 | 5 | 7 | 20 | 6 | 3 | 6 | 17 |
| Other Lamps..... | 100 | 22 | 8 | 7 | 12 | 23 | 5 | Q | 5 | 14 |
| High-Efficiency Ballasts..... | 100 | 31 | 5 | 6 | 8 | 18 | 4 | 4 | 8 | 16 |

See footnotes at end of table.

Table B3. End-Use Consumption Percentages for All Major Fuels, 1989 (Continued)

| Building Characteristics | Percent of Major Fuel Consumption | | | | | | | | | |
|---|-----------------------------------|---------------|---------|-------------|---------------|----------|---------|---------------|------------------|-------|
| | Total | Space Heating | Cooling | Ventilation | Water Heating | Lighting | Cooking | Refrigeration | Office Equipment | Other |
| Refrigeration Equipment (Solely or in Combination) | | | | | | | | | | |
| Commercial | | | | | | | | | | |
| Refrigeration Units..... | 100 | 28 | 6 | 5 | 11 | 19 | 8 | 4 | 5 | 13 |
| Freezers..... | 100 | 27 | 6 | 5 | 11 | 19 | 9 | 4 | 5 | 14 |
| Residential | | | | | | | | | | |
| Refrigerators..... | 100 | 35 | 5 | 5 | 9 | 18 | 4 | 3 | 7 | 15 |
| Freezers..... | 100 | 30 | 6 | 4 | 12 | 17 | 9 | 3 | 4 | 15 |
| Ice-Making Machines..... | 100 | 25 | 6 | 6 | 11 | 19 | 8 | 4 | 5 | 15 |
| Refrigerated Vending Machines..... | 100 | 32 | 5 | 5 | 9 | 19 | 5 | 3 | 7 | 15 |
| Water Coolers..... | 100 | 34 | 5 | 5 | 8 | 18 | 4 | 3 | 6 | 16 |
| Other..... | 100 | 17 | 6 | 4 | 13 | 16 | 5 | 3 | 6 | 30 |
| ENERGY MANAGEMENT | | | | | | | | | | |
| Occupant Control | | | | | | | | | | |
| Any Control of Heating..... | 100 | 35 | 5 | 4 | 11 | 17 | 5 | 3 | 6 | 14 |
| With Thermostats..... | 100 | 34 | 5 | 4 | 11 | 17 | 5 | 3 | 6 | 15 |
| Any Control of Cooling..... | 100 | 34 | 6 | 4 | 11 | 17 | 5 | 3 | 6 | 14 |
| With Thermostats..... | 100 | 33 | 6 | 4 | 11 | 17 | 5 | 3 | 6 | 15 |
| Reduced Use During Off-Hours | | | | | | | | | | |
| Heating Only..... | 100 | 51 | 1 | 3 | 9 | 13 | 2 | 2 | 5 | 12 |
| Cooling Only..... | 100 | 28 | 6 | 4 | 7 | 16 | 5 | 3 | 7 | 25 |
| Heating and Cooling..... | 100 | 35 | 6 | 5 | 7 | 18 | 5 | 3 | 7 | 14 |
| Computerized Energy Management and Control System | | | | | | | | | | |
| Present in Building..... | 100 | 27 | 6 | 7 | 10 | 21 | 6 | 3 | 6 | 14 |
| Controls Heating and Cooling..... | 100 | 27 | 6 | 7 | 10 | 21 | 6 | 3 | 6 | 14 |
| Controls Lighting..... | 100 | 22 | 7 | 5 | 5 | 20 | 15 | 4 | 6 | 16 |
| Controls Other..... | 100 | 20 | 7 | 6 | 15 | 19 | 4 | 3 | 5 | 22 |
| Other Energy Management | | | | | | | | | | |
| Regular HVAC Maintenance..... | 100 | 33 | 5 | 5 | 9 | 18 | 5 | 3 | 6 | 15 |
| Participated in Utility Conservation Program..... | 100 | 34 | 5 | 6 | 10 | 18 | 4 | 3 | 6 | 13 |

* = Value rounds to zero in the units displayed.

NC = No cases in responding sample.

Q = Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or data were reported for fewer than 20 buildings.

Notes: • See Glossary for explanation of abbreviations and definitions of terms used in this report. • Because of rounding, data may not sum to totals.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A through F of the 1989 Commercial Buildings Energy Consumption Survey.