

Table B39. Heating Equipment, Floorspace for Non-Mall Buildings, 2003

| | Total Floorspace (million square feet) | | | | | | | | |
|--|--|------------------|---|----------|--------------------------|---------------|---------|------------------------|-------|
| | All Buildings* | Heated Buildings | Heating Equipment (more than one may apply) | | | | | | Other |
| | | | Heat Pumps | Furnaces | Individual Space Heaters | District Heat | Boilers | Packaged Heating Units | |
| All Buildings* | 64,783 | 60,028 | 8,814 | 19,615 | 12,545 | 5,166 | 20,423 | 18,021 | 3,262 |
| Building Floorspace (Square Feet) | | | | | | | | | |
| 1,001 to 5,000 | 6,789 | 5,668 | 685 | 2,902 | 1,047 | Q | 461 | 1,159 | 330 |
| 5,001 to 10,000 | 6,585 | 5,786 | 462 | 2,891 | 1,282 | Q | 773 | 1,599 | Q |
| 10,001 to 25,000 | 11,535 | 10,387 | 1,400 | 4,653 | 2,129 | 289 | 2,164 | 2,765 | 456 |
| 25,001 to 50,000 | 8,668 | 8,060 | 1,150 | 2,761 | 1,748 | 325 | 2,829 | 2,449 | 419 |
| 50,001 to 100,000 | 9,057 | 8,718 | 1,524 | 2,086 | 1,819 | 549 | 3,497 | 3,328 | 450 |
| 100,001 to 200,000 | 9,064 | 8,710 | 1,245 | 1,974 | 1,625 | 1,365 | 4,283 | 2,797 | Q |
| 200,001 to 500,000 | 7,176 | 6,907 | 1,295 | 1,456 | 1,313 | 1,010 | 3,844 | 2,156 | 514 |
| Over 500,000 | 5,908 | 5,792 | 1,053 | 891 | 1,582 | 1,528 | 2,573 | 1,769 | Q |
| Principal Building Activity | | | | | | | | | |
| Education | 9,874 | 9,755 | 1,787 | 1,855 | 1,500 | 1,106 | 5,171 | 2,596 | Q |
| Food Sales | 1,255 | 1,131 | Q | 567 | Q | N | Q | 422 | Q |
| Food Service | 1,654 | 1,608 | 168 | 675 | 186 | Q | 328 | 591 | Q |
| Health Care | 3,163 | 3,100 | 641 | 786 | 600 | 410 | 1,857 | 942 | Q |
| Inpatient | 1,905 | 1,905 | 424 | 386 | 409 | 353 | 1,477 | 672 | Q |
| Outpatient | 1,258 | 1,195 | 217 | 400 | 191 | Q | 380 | 270 | Q |
| Lodging | 5,096 | 4,994 | 1,183 | 1,065 | 1,462 | Q | 2,773 | 1,356 | Q |
| Retail (Other Than Mall)..... | 4,317 | 4,075 | 444 | 2,049 | 667 | Q | 383 | 1,397 | Q |
| Office | 12,208 | 11,929 | 1,795 | 2,405 | 2,186 | 1,526 | 4,117 | 3,754 | 970 |
| Public Assembly | 3,939 | 3,777 | 409 | 1,028 | 677 | 530 | 1,421 | 879 | Q |
| Public Order and Safety | 1,090 | 1,083 | Q | 260 | Q | Q | 437 | 328 | Q |
| Religious Worship | 3,754 | 3,581 | 577 | 1,945 | 875 | Q | 1,148 | 733 | Q |
| Service | 4,050 | 3,687 | 457 | 1,974 | 1,010 | Q | 791 | 957 | 393 |
| Warehouse and Storage | 10,078 | 8,126 | 913 | 3,757 | 2,457 | Q | 1,031 | 3,118 | Q |
| Other | 1,738 | 1,691 | Q | 700 | 311 | Q | 546 | 498 | Q |
| Vacant | 2,567 | 1,491 | Q | 550 | Q | Q | Q | Q | Q |
| Year Constructed | | | | | | | | | |
| Before 1920 | 3,769 | 3,667 | Q | 1,350 | 782 | Q | 1,926 | 390 | Q |
| 1920 to 1945 | 6,871 | 6,236 | 622 | 2,085 | 1,427 | 1,203 | 2,744 | 979 | Q |
| 1946 to 1959 | 7,045 | 6,534 | 848 | 2,475 | 1,442 | 661 | 3,081 | 1,422 | Q |
| 1960 to 1969 | 8,101 | 7,510 | 827 | 2,346 | 1,469 | 786 | 2,957 | 1,993 | 242 |
| 1970 to 1979 | 10,772 | 10,223 | 1,378 | 3,612 | 2,393 | 573 | 3,339 | 3,443 | 779 |
| 1980 to 1989 | 10,332 | 9,808 | 2,018 | 2,418 | 1,799 | 780 | 2,803 | 3,816 | 641 |
| 1990 to 1999 | 12,360 | 11,254 | 1,974 | 3,971 | 2,433 | 691 | 2,257 | 4,067 | 814 |
| 2000 to 2003 | 5,533 | 4,796 | 999 | 1,359 | 800 | Q | 1,316 | 1,911 | 401 |
| Census Region | | | | | | | | | |
| Northeast | 12,905 | 12,596 | 1,213 | 3,596 | 2,786 | 1,245 | 6,228 | 2,912 | 579 |
| Midwest | 17,080 | 16,331 | 1,058 | 7,229 | 4,169 | 1,623 | 6,141 | 3,666 | 820 |
| South | 23,489 | 20,998 | 4,942 | 5,715 | 3,608 | 1,683 | 4,393 | 8,130 | 1,381 |
| West | 11,310 | 10,102 | 1,600 | 3,075 | 1,981 | 615 | 3,662 | 3,312 | 481 |
| Climate Zone: 30-Year Average | | | | | | | | | |
| Under 2,000 CDD and -- | | | | | | | | | |
| More than 7,000 HDD | 10,622 | 10,109 | 727 | 4,587 | 3,014 | 801 | 4,060 | 2,126 | 816 |
| 5,500-7,000 HDD | 17,335 | 16,720 | 1,471 | 6,411 | 3,582 | 1,749 | 6,835 | 3,708 | 674 |
| 4,000-5,499 HDD | 11,504 | 11,239 | 1,971 | 2,648 | 2,524 | 1,266 | 4,693 | 3,204 | 497 |
| Fewer than 4,000 HDD | 15,739 | 13,965 | 3,283 | 4,313 | 2,569 | 918 | 3,334 | 5,619 | 525 |
| 2,000 CDD or More and -- | | | | | | | | | |
| Fewer than 4,000 HDD | 9,584 | 7,995 | 1,361 | 1,658 | 856 | 432 | 1,500 | 3,365 | 750 |

CONTINUED

Table B39. Heating Equipment, Floorspace for Non-Mall Buildings, 2003

| | Total Floorspace (million square feet) | | | | | | | | | |
|---|--|------------------|---|----------|--------------------------|---------------|---------|--------|------------------------|-------|
| | All Buildings* | Heated Buildings | Heating Equipment (more than one may apply) | | | | | | Packaged Heating Units | Other |
| | | | Heat Pumps | Furnaces | Individual Space Heaters | District Heat | Boilers | | | |
| All Buildings* | 64,783 | 60,028 | 8,814 | 19,615 | 12,545 | 5,166 | 20,423 | 18,021 | 3,262 | |
| Number of Floors | | | | | | | | | | |
| One | 25,981 | 22,744 | 3,440 | 9,476 | 4,914 | Q | 3,267 | 8,267 | 1,236 | |
| Two | 16,270 | 15,408 | 2,146 | 6,368 | 2,908 | 501 | 5,116 | 4,671 | 874 | |
| Three | 7,501 | 7,198 | 1,139 | 2,231 | 1,709 | 385 | 3,856 | 1,822 | Q | |
| Four to Nine | 10,085 | 9,744 | 1,146 | 1,054 | 2,087 | 2,350 | 5,793 | 1,987 | 426 | |
| Ten or More | 4,947 | 4,933 | 943 | Q | 927 | 1,298 | 2,391 | 1,273 | 502 | |
| Number of Workers (main shift) | | | | | | | | | | |
| Fewer than 5 | 15,492 | 12,182 | 1,196 | 5,347 | 2,782 | Q | 1,986 | 2,269 | 544 | |
| 5 to 9 | 6,166 | 5,822 | 647 | 3,043 | 938 | Q | 1,140 | 1,571 | Q | |
| 10 to 19 | 7,803 | 7,410 | 932 | 3,057 | 1,542 | Q | 1,884 | 2,209 | 394 | |
| 20 to 49 | 10,989 | 10,822 | 1,460 | 3,814 | 2,364 | 653 | 3,588 | 3,526 | 799 | |
| 50 to 99 | 7,934 | 7,650 | 1,398 | 1,899 | 1,628 | 460 | 3,556 | 2,835 | 372 | |
| 100 to 249 | 6,871 | 6,766 | 1,513 | 1,290 | 1,300 | 972 | 3,401 | 2,736 | Q | |
| 250 or More | 9,528 | 9,376 | 1,668 | 1,165 | 1,991 | 2,063 | 4,869 | 2,874 | 808 | |
| Weekly Operating Hours | | | | | | | | | | |
| Fewer than 40 | 6,863 | 5,246 | 550 | 2,374 | 1,106 | Q | 1,023 | 1,058 | 239 | |
| 40 to 48 | 11,622 | 10,928 | 1,623 | 3,978 | 2,013 | 493 | 3,381 | 3,119 | 479 | |
| 49 to 60 | 15,723 | 14,763 | 1,910 | 4,950 | 3,172 | 1,576 | 4,113 | 4,185 | 949 | |
| 61 to 84 | 10,334 | 10,012 | 1,545 | 3,426 | 1,810 | 760 | 3,491 | 2,806 | 804 | |
| 85 to 167 | 7,092 | 6,680 | 818 | 1,989 | 1,476 | 773 | 1,974 | 2,690 | Q | |
| Open Continuously | 13,149 | 12,399 | 2,367 | 2,899 | 2,969 | 1,384 | 6,441 | 4,163 | 449 | |
| Multibuilding Facility | | | | | | | | | | |
| Not Part of a Multibuilding | | | | | | | | | | |
| Facility | 40,048 | 37,438 | 4,995 | 14,226 | 7,979 | 1,144 | 11,924 | 12,056 | 1,874 | |
| College or University | 3,480 | 3,456 | 324 | Q | 279 | 1,977 | 1,175 | 440 | Q | |
| Primary or Secondary School | 3,947 | 3,910 | 911 | 818 | 637 | Q | 1,691 | 1,168 | Q | |
| Office Complex | 2,712 | 2,665 | 455 | 212 | 626 | Q | 1,055 | 992 | Q | |
| Retail Complex | 1,238 | 941 | Q | 422 | 271 | N | Q | 280 | Q | |
| Religious Campus or Complex | 2,347 | 2,245 | 320 | 731 | 302 | Q | 988 | 406 | Q | |
| Health Care Complex | 2,303 | 2,231 | 543 | 489 | 413 | 409 | 1,551 | 655 | Q | |
| Lodging or Resort Complex | 912 | 830 | 251 | Q | 380 | Q | 356 | 302 | Q | |
| Government Complex | 2,014 | 1,987 | Q | 319 | 273 | Q | 610 | 463 | Q | |
| Other | 5,783 | 4,325 | 696 | 2,019 | 1,384 | Q | 1,024 | 1,259 | 568 | |
| Renovations in Buildings Constructed Before 1980 (more than one may apply) | | | | | | | | | | |
| Any Type of Renovation | | | | | | | | | | |
| Since 1980 | 17,844 | 17,204 | 2,367 | 5,768 | 4,345 | 1,644 | 8,140 | 5,138 | 548 | |
| Addition or Annex | 6,551 | 6,439 | 1,187 | 2,481 | 1,627 | 435 | 3,417 | 1,982 | Q | |
| Reduction In Floorspace | 1,012 | 1,012 | Q | Q | Q | Q | 698 | Q | Q | |
| Cosmetic Improvements | 13,119 | 12,739 | 1,687 | 4,128 | 3,186 | 1,169 | 6,277 | 3,773 | 346 | |
| Wall or Roof Replacement | 8,070 | 7,919 | 1,141 | 2,258 | 2,080 | 833 | 4,224 | 2,478 | Q | |
| Interior Wall | | | | | | | | | | |
| Re-Configuration | 8,518 | 8,385 | 1,144 | 2,539 | 2,330 | 1,007 | 4,470 | 2,668 | Q | |
| HVAC Equipment Upgrade | 10,768 | 10,634 | 1,765 | 3,438 | 2,925 | 1,262 | 5,534 | 3,539 | 361 | |
| Lighting Upgrade | 10,275 | 10,049 | 1,441 | 2,892 | 2,563 | 1,283 | 5,421 | 3,036 | 288 | |
| Window Replacement | 6,354 | 6,157 | 788 | 1,973 | 1,680 | 686 | 3,361 | 1,763 | Q | |
| Plumbing System Upgrade | 7,144 | 6,988 | 1,042 | 2,063 | 1,891 | 924 | 3,891 | 2,293 | Q | |
| Insulation Upgrade | 4,015 | 3,974 | 516 | 1,664 | 1,192 | 351 | 1,735 | 1,526 | Q | |
| Other Renovation | 523 | 497 | Q | Q | Q | Q | 302 | Q | N | |
| No Renovations Since 1980 | 18,714 | 16,967 | 1,456 | 6,100 | 3,167 | 1,862 | 5,907 | 3,089 | 859 | |
| Building Newer than 1980 | 28,225 | 25,857 | 4,991 | 7,747 | 5,032 | 1,660 | 6,376 | 9,794 | 1,856 | |

CONTINUED

Table B39. Heating Equipment, Floorspace for Non-Mall Buildings, 2003

| | Total Floorspace (million square feet) | | | | | | | | |
|---|--|------------------|---|----------|--------------------------|---------------|---------|------------------------|-------|
| | All Buildings* | Heated Buildings | Heating Equipment (more than one may apply) | | | | | | |
| | | | Heat Pumps | Furnaces | Individual Space Heaters | District Heat | Boilers | Packaged Heating Units | Other |
| All Buildings* | 64,783 | 60,028 | 8,814 | 19,615 | 12,545 | 5,166 | 20,423 | 18,021 | 3,262 |
| Energy Sources (more than one may apply) | | | | | | | | | |
| Electricity | 63,307 | 59,991 | 8,814 | 19,604 | 12,540 | 5,166 | 20,423 | 18,021 | 3,242 |
| Natural Gas | 43,468 | 42,974 | 5,552 | 15,304 | 8,969 | 2,291 | 18,174 | 13,618 | 1,801 |
| Fuel Oil | 15,157 | 14,942 | 2,417 | 3,330 | 3,236 | 1,592 | 8,930 | 3,862 | 1,095 |
| District Heat | 5,443 | 5,378 | 413 | Q | 605 | 5,166 | Q | 589 | Q |
| District Chilled Water | 2,853 | 2,734 | Q | Q | Q | 2,231 | 391 | 370 | Q |
| Propane | 7,076 | 6,790 | 944 | 2,831 | 1,968 | Q | 1,949 | 1,983 | 599 |
| Other | 1,401 | 1,399 | Q | 617 | 448 | Q | 613 | 296 | 405 |
| Space-Heating Energy Sources (more than one may apply) | | | | | | | | | |
| Electricity | 28,600 | 28,600 | 8,688 | 8,653 | 9,838 | 1,088 | 7,766 | 11,947 | 2,139 |
| Natural Gas | 36,959 | 36,959 | 4,643 | 14,562 | 7,947 | 486 | 16,417 | 12,283 | 1,524 |
| Fuel Oil | 5,988 | 5,988 | 295 | 1,827 | 1,438 | Q | 4,355 | 593 | 265 |
| District Heat | 5,198 | 5,198 | 413 | Q | 560 | 5,166 | Q | 528 | Q |
| Propane | 3,204 | 3,204 | 516 | 1,946 | 1,178 | Q | 761 | 833 | 443 |
| Other | 842 | 842 | Q | 435 | 317 | N | 286 | Q | 384 |
| Primary Space-Heating Energy Source | | | | | | | | | |
| Electricity | 15,996 | 15,996 | 4,812 | 3,655 | 3,736 | Q | 2,115 | 6,767 | 1,286 |
| Natural Gas | 32,970 | 32,970 | 3,430 | 13,476 | 6,907 | Q | 15,138 | 10,115 | 1,275 |
| Fuel Oil | 3,818 | 3,818 | Q | 1,153 | 739 | N | 2,714 | Q | Q |
| District Heat | 4,907 | 4,907 | 388 | Q | 533 | 4,875 | Q | 466 | Q |
| Propane | 1,955 | 1,955 | Q | 1,140 | 522 | Q | Q | 469 | Q |
| Other | 382 | 382 | Q | Q | Q | N | Q | Q | Q |
| Energy End Uses (more than one may apply) | | | | | | | | | |
| Buildings with Space Heating | 60,028 | 60,028 | 8,814 | 19,615 | 12,545 | 5,166 | 20,423 | 18,021 | 3,262 |
| Buildings with Cooling | 56,940 | 55,188 | 8,780 | 17,494 | 11,526 | 4,376 | 19,051 | 17,745 | 2,961 |
| Buildings with Water Heating | 56,478 | 55,154 | 8,390 | 17,920 | 11,659 | 4,354 | 19,904 | 16,821 | 3,031 |
| Buildings with Cooking | 22,237 | 21,725 | 4,202 | 5,351 | 4,804 | 1,747 | 11,586 | 7,112 | 868 |
| Buildings with Manufacturing | 3,138 | 3,072 | 293 | 1,486 | 1,087 | Q | 1,145 | 1,087 | Q |
| Buildings with Electricity Generation | 12,821 | 12,635 | 2,580 | 2,377 | 2,750 | 1,953 | 6,863 | 4,166 | 915 |
| Percent of Floorspace Heated | | | | | | | | | |
| Not Heated | 4,756 | N | N | N | N | N | N | N | N |
| 1 to 50 | 6,850 | 6,850 | 670 | 2,852 | 2,055 | Q | 792 | 2,390 | 279 |
| 51 to 99 | 8,107 | 8,107 | 1,497 | 2,597 | 1,943 | 631 | 3,110 | 2,546 | 476 |
| 100 | 45,071 | 45,071 | 6,647 | 14,165 | 8,547 | 4,509 | 16,521 | 13,085 | 2,507 |
| Heating Equipment (more than one may apply) | | | | | | | | | |
| Heat Pumps | 8,814 | 8,814 | 8,814 | 2,117 | 1,861 | 413 | 2,787 | 3,069 | 358 |
| Packaged Heat Pumps | 5,442 | 5,442 | 5,442 | 1,125 | 1,114 | Q | 1,699 | 2,236 | Q |
| Split-System Heat Pumps | 2,581 | 2,581 | 2,581 | 774 | 872 | Q | 622 | 717 | Q |
| Individual Room Heat Pumps | 2,691 | 2,691 | 2,691 | 592 | 594 | Q | 1,227 | 1,376 | Q |
| Furnaces | 19,615 | 19,615 | 2,117 | 19,615 | 4,858 | Q | 2,986 | 3,483 | 883 |
| Individual Space Heaters | 12,545 | 12,545 | 1,861 | 4,858 | 12,545 | 543 | 3,830 | 3,900 | 373 |
| District Heat | 5,166 | 5,166 | 413 | Q | 543 | 5,166 | Q | 512 | Q |
| Boilers | 20,423 | 20,423 | 2,787 | 2,986 | 3,830 | Q | 20,423 | 3,910 | Q |
| Packaged Heating Units | 18,021 | 18,021 | 3,069 | 3,483 | 3,900 | 512 | 3,910 | 18,021 | 482 |
| Other | 3,262 | 3,262 | 358 | 883 | 373 | Q | Q | 482 | 3,262 |

CONTINUED

Table B39. Heating Equipment, Floorspace for Non-Mall Buildings, 2003

| | Total Floorspace (million square feet) | | | | | | | | |
|--|--|------------------|---|----------|--------------------------|---------------|---------|------------------------|-------|
| | All Buildings* | Heated Buildings | Heating Equipment (more than one may apply) | | | | | | |
| | | | Heat Pumps | Furnaces | Individual Space Heaters | District Heat | Boilers | Packaged Heating Units | Other |
| All Buildings* | 64,783 | 60,028 | 8,814 | 19,615 | 12,545 | 5,166 | 20,423 | 18,021 | 3,262 |
| Cooling Equipment (more than one may apply) | | | | | | | | | |
| Residential-Type Central | | | | | | | | | |
| Air Conditioners | 11,035 | 10,617 | 1,356 | 6,251 | 2,933 | Q | 3,352 | 2,812 | 495 |
| Heat Pumps | 9,041 | 8,921 | 8,366 | 2,111 | 1,774 | 404 | 2,919 | 3,065 | 381 |
| Packaged Heat Pumps | 5,426 | 5,407 | 5,174 | 1,128 | 1,054 | Q | 1,694 | 2,147 | Q |
| Split-System Heat Pumps | 2,606 | 2,559 | 2,452 | 761 | 840 | Q | 650 | 711 | Q |
| Individual Room Heat Pumps | 2,940 | 2,887 | 2,610 | 596 | 568 | Q | 1,336 | 1,453 | Q |
| Individual Air Conditioners | 12,558 | 12,167 | 2,049 | 4,077 | 4,558 | 758 | 5,926 | 3,722 | 579 |
| District Chilled Water | 2,853 | 2,734 | Q | Q | Q | 2,231 | 391 | 370 | Q |
| Central Chillers | 11,636 | 11,440 | 1,992 | 1,352 | 2,175 | 1,737 | 7,857 | 2,703 | 979 |
| Packaged Air Conditioning | | | | | | | | | |
| Units | 29,969 | 29,007 | 3,446 | 9,995 | 6,288 | 1,023 | 9,946 | 14,747 | 1,255 |
| Swamp Coolers | 1,561 | 1,451 | Q | 718 | 611 | Q | 620 | 347 | Q |
| Other | 1,232 | 1,203 | Q | Q | Q | Q | 596 | Q | Q |
| Main Equipment Replaced Since 1990 (more than one may apply) | | | | | | | | | |
| Heating | 16,403 | 16,403 | 2,455 | 6,420 | 4,563 | Q | 5,746 | 5,315 | 730 |
| Cooling | 20,995 | 20,633 | 3,375 | 6,935 | 4,979 | 917 | 9,022 | 6,277 | 912 |
| HVAC Conservation Features (more than one may apply) | | | | | | | | | |
| Variable Air-Volume System | 19,597 | 19,108 | 2,747 | 3,619 | 3,962 | 2,886 | 9,385 | 5,938 | 1,192 |
| Economizer Cycle | 21,108 | 20,828 | 3,558 | 3,846 | 4,517 | 2,873 | 10,246 | 7,804 | 1,274 |
| HVAC Maintenance | 51,163 | 49,812 | 7,769 | 15,148 | 9,459 | 4,956 | 18,923 | 15,677 | 2,579 |
| Energy Management and Control System (EMCS) | 15,630 | 15,457 | 2,897 | 2,092 | 2,973 | 2,662 | 7,451 | 5,128 | 1,124 |
| Equipment Usage Reduced When Building Not In Full Use (more than one may apply)^a | | | | | | | | | |
| Heating | 42,722 | 42,722 | 6,388 | 14,172 | 9,211 | 3,047 | 14,636 | 12,799 | 2,411 |
| Cooling | 43,205 | 41,977 | 6,693 | 13,252 | 8,795 | 3,273 | 14,480 | 13,342 | 2,336 |
| Lighting | 46,987 | 44,799 | 6,227 | 15,787 | 8,942 | 3,568 | 13,430 | 12,979 | 2,563 |
| Office Equipment | 19,397 | 18,638 | 2,508 | 7,119 | 3,604 | 1,313 | 5,788 | 4,887 | 990 |

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. Mall buildings add an estimated 213 thousand buildings comprising 6.9 billion square feet.

^a The definition for one or more of these row items has changed and may not be directly comparable with past CBECS estimates. See "Guide to the Tables" for discussion of the differences.

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

N=No responding cases in sample.

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

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