

**Table E1.1. First Use of Energy for All Purposes (Fuel and Nonfuel), 1998;
Level: National and Regional Data;
Row: Values of Shipments and Employment Sizes;
Column: Energy Sources and Shipments;
Unit: Trillion Btu.**

| Economic Characteristic ^a | Total ^b | Net ^c Electricity | Residual Fuel Oil | Distillate Fuel Oil ^d | Natural Gas ^e | LPG and NGL ^f | Coal | Coke and Breeze | Other ^g | Shipments ^h | RSE Row Factors |
|---|--------------------|------------------------------|-------------------|----------------------------------|--------------------------|--------------------------|--------------|-----------------|--------------------|------------------------|-----------------|
| Total United States | | | | | | | | | | | |
| RSE Column Factors: | 0.6 | 0.5 | 2.1 | 1.5 | 0.6 | 0.6 | 1.2 | 2.0 | 1.2 | 1.1 | |
| Value of Shipments and Receipts (million dollars) | | | | | | | | | | | |
| Under 20 | 1,917 | 514 | 23 | 60 | 779 | 68 | 63 | 20 | 391 | Q | 8.9 |
| 20-49 | 1,613 | 415 | 50 | 17 | 679 | 13 | 137 | 7 | 311 | Q | 6.9 |
| 50-99 | 1,972 | 410 | 61 | 18 | 961 | 34 | 196 | 13 | 283 | Q | 5.5 |
| 100-249 | 3,307 | 639 | 92 | 14 | 1,349 | 234 | 298 | 23 | 690 | 33 | 3.9 |
| 250-499 | 3,606 | 478 | 91 | 11 | 1,109 | 515 | 291 | 8 | 1,147 | 43 | 2.9 |
| 500 and Over | 7,729 | 580 | 90 | 22 | 2,548 | 1,017 | 830 | 390 | 2,506 | 252 | 1.2 |
| Not Ascertained ⁱ | 3,653 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,653 | 0 | 0.0 |
| Total | 23,796 | 3,035 | 406 | 142 | 7,426 | 1,882 | 1,814 | 461 | 8,980 | 349 | 2.1 |
| Employment Size | | | | | | | | | | | |
| Under 50 | 1,244 | 291 | 17 | 49 | 467 | 72 | W | W | 321 | Q | 9.1 |
| 50-99 | 1,324 | 237 | 47 | 13 | 635 | 92 | W | W | 268 | 33 | 7.5 |
| 100-249 | 3,738 | 623 | 91 | 23 | 1,563 | 298 | 355 | 17 | 784 | 16 | 5.0 |
| 250-499 | 3,865 | 587 | 60 | 18 | 1,403 | 532 | 243 | 17 | 1,028 | 23 | 2.3 |
| 500-999 | 4,428 | 604 | 82 | 14 | 1,482 | 357 | 198 | 15 | 1,744 | 68 | 2.2 |
| 1000 and Over | 5,545 | 694 | 108 | 25 | 1,876 | 530 | 926 | 396 | 1,182 | 192 | 1.1 |
| Not Ascertained ⁱ | 3,653 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,653 | 0 | 0.0 |
| Total | 23,796 | 3,035 | 406 | 142 | 7,426 | 1,882 | 1,814 | 461 | 8,980 | 349 | 2.0 |
| Northeast Census Region | | | | | | | | | | | |
| RSE Column Factors: | 0.8 | 0.7 | 1.9 | 2.0 | 0.9 | 1.0 | 0.9 | 0.8 | 1.9 | 0.4 | |
| Value of Shipments and Receipts (million dollars) | | | | | | | | | | | |
| Under 20 | 262 | 83 | 10 | 19 | 116 | 3 | 9 | Q | 21 | 0 | 9.7 |
| 20-49 | 216 | 54 | 15 | W | W | W | W | 1 | 33 | 0 | 9.9 |
| 50-99 | 190 | 55 | 16 | W | W | 3 | W | 5 | 12 | 0 | 7.7 |
| 100-249 | 329 | 68 | 38 | W | W | 2 | W | 5 | 74 | 0 | 5.1 |
| 250-499 | 246 | 41 | 28 | W | W | W | W | 0 | 75 | 21 | 2.5 |
| 500 and Over | 555 | 47 | 27 | W | W | W | 223 | 23 | 261 | 134 | 2.5 |
| Not Ascertained ⁱ | 274 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 0 | 0.0 |
| Total | 2,073 | 349 | 135 | 34 | 542 | 34 | 351 | 34 | 749 | 154 | 3.0 |
| Employment Size | | | | | | | | | | | |
| Under 50 | 159 | 43 | 5 | 16 | W | W | W | * | 19 | 0 | 14.8 |
| 50-99 | 132 | 34 | 3 | W | W | W | W | W | 21 | 0 | 9.8 |
| 100-249 | 272 | 73 | 21 | 4 | 109 | 18 | 24 | 4 | 18 | 0 | 5.7 |
| 250-499 | 369 | 72 | 30 | 3 | 120 | 5 | 62 | 2 | 95 | 21 | 3.7 |
| 500-999 | 505 | 63 | 42 | 3 | W | W | 22 | W | 275 | 0 | 5.0 |
| 1000 and Over | 362 | 63 | 34 | W | W | W | 233 | 24 | 46 | 134 | 1.6 |
| Not Ascertained ⁱ | 274 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 0 | 0.0 |
| Total | 2,073 | 349 | 135 | 34 | 542 | 34 | 351 | 34 | 749 | 154 | 3.0 |

Table E1.1. First Use of Energy for All Purposes (Fuel and Nonfuel), 1998;
(Continued) Level: National and Regional Data;
Row: Values of Shipments and Employment Sizes;
Column: Energy Sources and Shipments;
Unit: Trillion Btu.

| Economic Characteristic ^a | Total ^b | Net ^c Electricity | Residual Fuel Oil | Distillate Fuel Oil ^d | Natural Gas ^e | LPG and NGL ^f | Coal | Coke and Breeze | Other ^g | Shipments ^h | RSE Row Factors |
|---|--------------------|------------------------------|-------------------|----------------------------------|--------------------------|--------------------------|------------|-----------------|--------------------|------------------------|-----------------|
| See footnotes at end of table. | | | | | | | | | | | |
| Midwest Census Region | | | | | | | | | | | |
| RSE Column Factors: | 0.9 | 0.7 | 1.4 | 1.5 | 0.5 | 0.6 | 1.2 | 1.6 | 2.0 | 0.6 | |
| Value of Shipments and Receipts (million dollars) | | | | | | | | | | | |
| Under 20 | 535 | 159 | 1 | 7 | 239 | 7 | 14 | 5 | 103 | 0 | 11.6 |
| 20-49 | 484 | 128 | W | W | W | W | 43 | 3 | 45 | 0 | 9.2 |
| 50-99 | 548 | 116 | * | W | W | 10 | 98 | 5 | 47 | Q | 5.5 |
| 100-249 | 671 | 160 | 10 | 2 | 275 | 12 | 108 | 10 | 95 | * | 6.3 |
| 250-499 | 556 | 140 | W | W | W | W | 66 | 5 | Q | * | 3.3 |
| 500 and Over | 1,918 | 225 | 43 | W | W | 52 | 391 | 264 | 427 | 31 | 1.0 |
| Not Ascertained ⁱ | 546 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 546 | 0 | 0.0 |
| Total | 5,257 | 928 | 71 | 21 | 1,754 | 122 | 721 | 292 | 1,383 | 35 | 3.2 |
| Employment Size | | | | | | | | | | | |
| Under 50 | 338 | 71 | * | 6 | W | W | 17 | W | 94 | 0 | 6.2 |
| 50-99 | 295 | 69 | Q | 1 | W | W | 15 | W | 28 | 0 | 6.6 |
| 100-249 | 871 | 186 | Q | 3 | 370 | 9 | 139 | W | 151 | W | 8.7 |
| 250-499 | 783 | 191 | 6 | 2 | 317 | 50 | 95 | 10 | 113 | * | 3.5 |
| 500-999 | 682 | 143 | 5 | 2 | W | 50 | 82 | W | 190 | W | 3.2 |
| 1000 and Over | 1,742 | 269 | 39 | 6 | W | W | 373 | 269 | 262 | 28 | 1.1 |
| Not Ascertained ⁱ | 546 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 546 | 0 | 0.0 |
| Total | 5,257 | 928 | 71 | 21 | 1,754 | 122 | 721 | 292 | 1,383 | 35 | 3.1 |
| South Census Region | | | | | | | | | | | |
| RSE Column Factors: | 0.6 | 0.7 | 1.5 | 1.9 | 0.6 | 0.6 | 0.9 | 2.9 | 1.1 | 0.9 | |
| Value of Shipments and Receipts (million dollars) | | | | | | | | | | | |
| Under 20 | 802 | 192 | 11 | 27 | 271 | 52 | 31 | Q | 204 | Q | 9.2 |
| 20-49 | 650 | 179 | 22 | W | 252 | 7 | W | 1 | 152 | 0 | 9.7 |
| 50-99 | 956 | 188 | 41 | W | 466 | 20 | W | 2 | 163 | 0 | 6.1 |
| 100-249 | 1,764 | 282 | 40 | W | 759 | 219 | W | 5 | 413 | 33 | 3.2 |
| 250-499 | 2,327 | 221 | 39 | W | 783 | 455 | W | 3 | 667 | 22 | 1.8 |
| 500 and Over | 4,604 | 252 | 19 | W | 1,742 | 946 | W | 101 | 1,439 | 87 | 1.1 |
| Not Ascertained ⁱ | 2,450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,450 | 0 | 0.0 |
| Total | 13,553 | 1,314 | 171 | 69 | 4,273 | 1,698 | 557 | 126 | 5,487 | 143 | 2.4 |
| Employment Size | | | | | | | | | | | |
| Under 50 | 582 | 129 | 12 | 22 | 193 | 60 | W | W | 152 | 0 | 12.9 |
| 50-99 | 667 | 101 | 32 | W | 285 | 84 | W | W | 169 | 33 | 8.6 |
| 100-249 | 1,842 | 271 | 40 | 12 | 828 | 264 | 95 | W | 343 | W | 4.5 |
| 250-499 | 2,274 | 257 | 21 | 9 | 837 | 469 | 62 | 4 | 619 | 2 | 3.0 |

Table E1.1. First Use of Energy for All Purposes (Fuel and Nonfuel), 1998;
(Continued) Level: National and Regional Data;
Row: Values of Shipments and Employment Sizes;
Column: Energy Sources and Shipments;
Unit: Trillion Btu.

| Economic Characteristic ^a | Total ^b | Net ^c Electricity | Residual Fuel Oil | Distillate Fuel Oil ^d | Natural Gas ^e | LPG and NGL ^f | Coal | Coke and Breeze | Other ^g | Shipments ^h | RSE Row Factors |
|--|--------------------|------------------------------|-------------------|----------------------------------|--------------------------|--------------------------|------------|-----------------|--------------------|------------------------|-----------------|
| 500-999 | 2,678 | 283 | 32 | 6 | 1,019 | 299 | 89 | W | 1,007 | W | 1.6 |
| 1000 and Over | 3,060 | 274 | 35 | W | 1,111 | 522 | W | 101 | 748 | 31 | 1.2 |
| Not Ascertained ⁱ | 2,450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,450 | 0 | 0.0 |
| Total | 13,553 | 1,314 | 171 | 69 | 4,273 | 1,698 | 557 | 126 | 5,487 | 143 | 2.4 |

See footnotes at end of table.

West Census Region

| RSE Column Factors: | 0.9 | 0.7 | 0.6 | 1.3 | 1.0 | 1.4 | 1.4 | 0.7 | 1.3 | 0.0 | |
|---|--------------|------------|-----------|-----------|------------|-----------|------------|----------|--------------|----------|------------|
| Value of Shipments and Receipts (million dollars) | | | | | | | | | | | |
| Under 20 | 318 | 79 | 1 | 6 | 153 | 6 | 8 | 1 | 63 | 0 | 13.1 |
| 20-49 | 263 | 54 | W | 4 | W | W | W | 2 | 81 | Q | 11.8 |
| 50-99 | 278 | 50 | 3 | W | W | 1 | 24 | * | 61 | 0 | 4.3 |
| 100-249 | 543 | 130 | 4 | W | W | 1 | 85 | 4 | 108 | 0 | 6.9 |
| 250-499 | 476 | 76 | W | W | W | W | W | * | 285 | 0 | 2.2 |
| 500 and Over | 652 | 55 | 1 | 1 | W | W | W | 2 | 379 | 0 | 1.9 |
| Not Ascertained ⁱ | 382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 382 | 0 | 0.0 |
| Total | 2,912 | 444 | 29 | 19 | 857 | 27 | 185 | 9 | 1,359 | Q | 5.5 |
| Employment Size | | | | | | | | | | | |
| Under 50 | 164 | 48 | 1 | 5 | W | W | W | * | 56 | Q | 9.6 |
| 50-99 | 230 | 34 | 2 | W | W | W | W | * | 50 | 0 | 15.9 |
| 100-249 | 752 | 93 | 20 | 3 | 255 | 6 | 97 | 5 | 272 | 0 | 8.1 |
| 250-499 | 439 | 67 | 4 | 4 | 128 | 8 | 25 | 1 | 202 | 0 | 3.8 |
| 500-999 | 563 | 115 | 3 | 2 | W | W | 5 | * | 272 | 0 | 1.4 |
| 1000 and Over | 381 | 88 | * | W | W | W | W | 2 | 126 | 0 | 1.5 |
| Not Ascertained ⁱ | 382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 382 | 0 | 0.0 |
| Total | 2,912 | 444 | 29 | 19 | 857 | 27 | 185 | 9 | 1,359 | Q | 5.3 |

^a Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census.

^b "Total" is the sum of all of the listed energy sources, including "Other," minus the shipments of energy sources produced onsite. It is the total amount of first use of energy for all (fuel and nonfuel) purposes.

^c "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^d "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^e "Natural Gas" includes natural gas obtained from utilities, local distribution companies, and any other supplier(s), such as independent gas producers, gas brokers, marketers, and any marketing subsidiaries of utilities.

^f Examples of Liquefied Petroleum Gases "(LPG)" are ethane, ethylene, propane, propylene, normal butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw Natural Gas Liquids "(NGL)."

^g "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote "i".

**Table E1.1. First Use of Energy for All Purposes (Fuel and Nonfuel), 1998;
(Continued) Level: National and Regional Data;
Row: Values of Shipments and Employment Sizes;
Column: Energy Sources and Shipments;
Unit: Trillion Btu.**

^h "Shipments" are shipments of energy sources produced onsite, which are those shipments produced or transformed onsite from the nonfuel use of other energy sources. For example, at an establishment that processes coal to make coke for later use, the entire quantity of coal is counted as first use. Any onsite consumption of coke is not counted as first use because it would duplicate the coal use. If some of the coke is then sold to another establishment, then that second establishment will consider this coke to be a shipment of an offsite-produced energy source. Hence, the second establishment will count this coke as its first use, thereby resulting in double counting. In order to eliminate the double counting, the energy equivalent of the coke shipment must be subtracted from first use.

ⁱ The entry in the "Not Ascertained" row and the "Other" column consists of the feedstocks and raw material inputs that were consumed by petroleum refineries for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents), as well as feedstock consumption at adjoining petrochemical plants. That entry includes all of those inputs, regardless of type. Those inputs that were converted to other energy products by petroleum refineries (e.g., crude oil converted to residual and distillate fuel oils) are excluded. The quantities of energy consumed by petroleum refineries for the production of heat and power are included in the appropriate "Value of Shipments and Receipts" or "Employment Size" rows.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5.

W=Withheld to avoid disclosing data for individual establishments.

Q=Withheld because Relative Standard Error is greater than 50 percent.

NA=Not available.

Notes: C To obtain the RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. C Totals may not equal sum of components because of independent rounding. C The derived estimates presented in this table are for the first use (formerly primary consumption) of energy for heat and power and as feedstocks or raw material inputs. First use is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials, such as wastepaper and packing materials. First use excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Consumption Division, Form EIA-846, "1998 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1998, and the Bureau of the Census, data files for the "1998 Annual Survey of Manufactures."