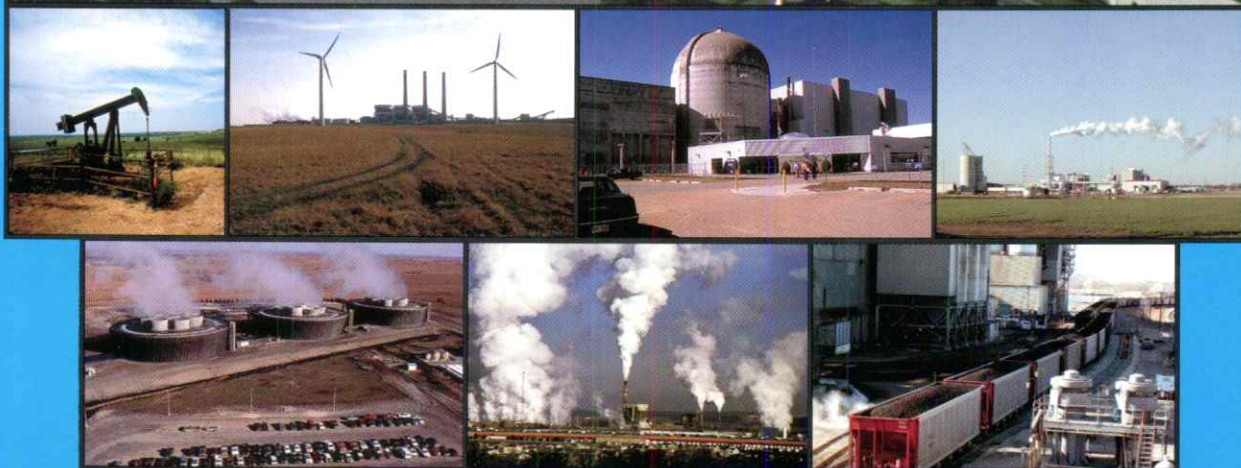


Technical Series 18

# Kansas Energy Abstract



# 2003

Published by the Kansas Geological Survey  
in association with the  
State Energy Resources Coordination Council



# Kansas Energy Abstract 2003

Compiled by Liz Brosius, Kansas Geological Survey,  
and Scott White, Energy Research Center,  
University of Kansas

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State Energy Resources Coordination Council



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## Preface

Energy plays a vital role in the Kansas economy and in the daily lives of the people of the state. As demand for energy grows and finite energy sources approach depletion, understanding energy use and production becomes increasingly important.

The *Kansas Energy Abstract* is a compilation of data relating to the state's energy-related activities. It was originally compiled as a working document for the State Energy Resources Coordination Council (SERCC), at the suggestion of M. Lee Allison, KGS Director and SERCC Chair.

The tables and figures contained herein provide the most up-to-date information available on the major sources of energy in Kansas, as well as historical and current data on energy production, consumption, expenditures, and prices on a state and national level.\* The abstract also contains sections on specific energy sources—coal, petroleum, natural gas, electricity, and renewables. These data should be of use to anyone wanting to learn more about energy production and use in Kansas.

## Acknowledgments

The production of this abstract was facilitated by the expert assistance of several KGS staff. Dana Adkins-Heljeson compiled data and provided tables from the KGS oil and gas data bases; Jennifer Sims created clear, consistent graphics from a variety of sources; Janice Sorensen helped locate data in the oil and gas literature; Marla Adkins-Heljeson retyped many tables and edited the abstract; Tim Carr contributed oil and gas data; and Rex Buchanan reviewed the draft abstract. We also thank Michael Volker, Midwest Energy, Inc., for his review and helpful suggestions.

\* Much of the data used in this abstract comes from annual reports produced by the U.S. Department of Energy, Energy Information Administration. At press time, most of these annual reports for 2001 and 2002 had not yet been published.



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## Section 1—Kansas Energy Overview

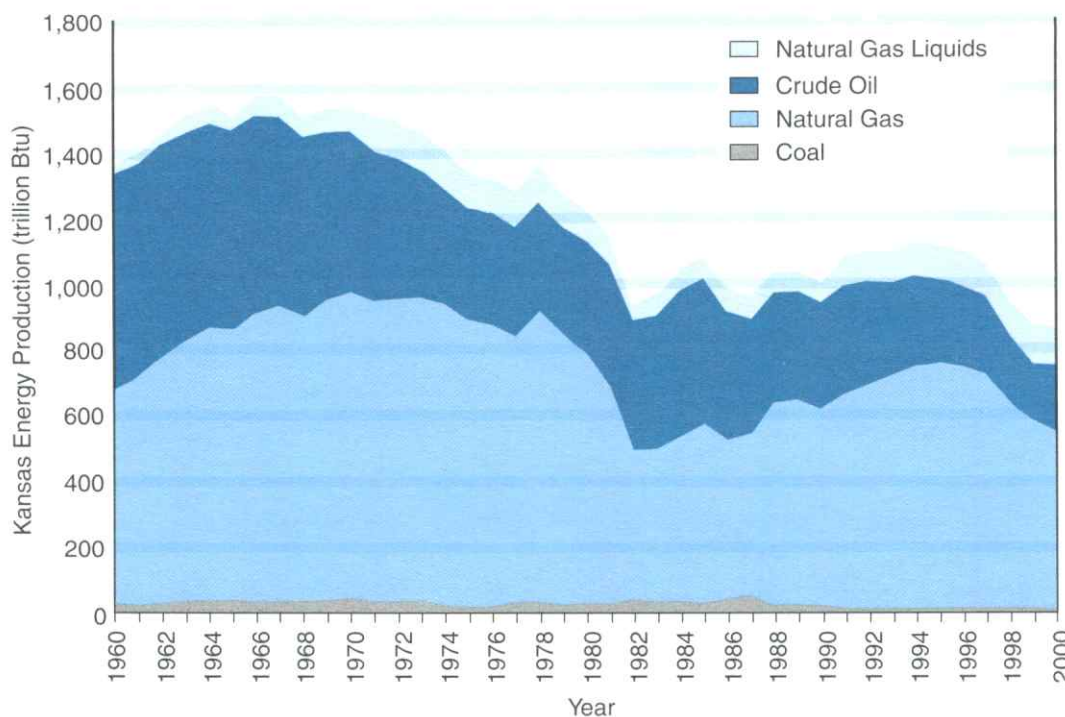
For much of the past century, Kansas was an energy exporter, producing more energy than it consumed. Since 1997, however, Kansas has consistently consumed more energy than it produced, due primarily to declining production in the state's oil and gas fields and increasing demand for electricity (SERCC, 2003). The following tables and graphs summarize the state's overall production and consumption trends.

**Table 1—Kansas Primary Energy Production by Source, 1960–2000** (physical units). NGL = natural gas liquids; Wind & Other = non-utility wind generation; dash (—) = no data. \*Shown in terms of their converted electrical value. Sources: Coal production data, 1960–1977, 1980–1983 (Larry Brady, Kansas Geological Survey, personal communication, 1999); 1978–1979 (EIA, 1979), 1984 (EIA, 1993a), 1985 (EIA, 1994), 1986–1987 (EIA, 1989a, 1992), 1988, 1993–1997 (EIA, 1997a); 1999–2000 (EIA, 2000a). Natural gas and oil production data, 1960–1969 (Beene, 1969, 1970, 1971; Oros and Beene, 1968; Schoewe, 1961); 1970 to present (Kansas Geological Survey, 2003). NGL production data, 1960–1964 (Goebel et al., 1961, 1962, 1963; Hilpman et al., 1964; Beene and Oros, 1965); 1965–1977 (American Petroleum Institute, 1973, 1974, 1975, 1976, 1977); 1978 (estimated, based on Independent Petroleum Association of America data); 1979–1998, 2000 (EIA, 1979–2000); 1999 (EIA, 1999). Hydroelectric production data (David Readio, Bowersock Electric Company, personal communication, 2003). Other production data, 1990–1995 (EIA, 2000h).

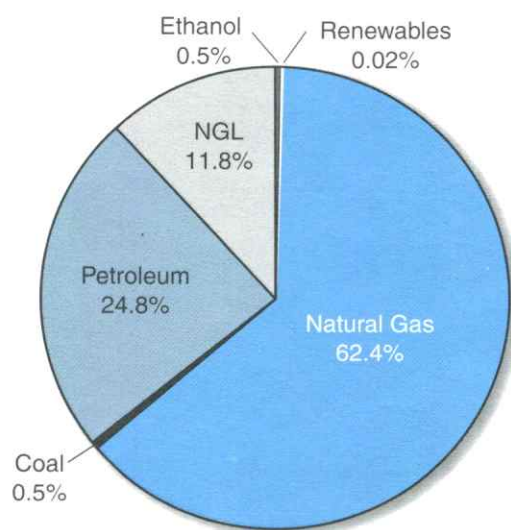
| Year | Coal                | Natural Gas        | Crude Oil        | NGL              | Ethanol         | Hydro-electric*       | Biomass* | Other* |
|------|---------------------|--------------------|------------------|------------------|-----------------|-----------------------|----------|--------|
|      | Thousand Short Tons | Billion Cubic Feet | Thousand Barrels | Thousand Barrels | Million Gallons | Million Kilowatthours |          |        |
| 1960 | 876                 | 633                | 113,345          | 4,862            | —               | 12.4                  | —        | —      |
| 1961 | 667                 | 676                | 112,211          | 6,150            | —               | 11.1                  | —        | —      |
| 1962 | 918                 | 725                | 112,026          | 7,159            | —               | 12.1                  | —        | —      |
| 1963 | 1,164               | 773                | 109,063          | 14,038           | —               | 13.9                  | —        | —      |
| 1964 | 1,265               | 809                | 106,252          | 19,166           | —               | 11.2                  | —        | —      |
| 1965 | 1,311               | 808                | 104,658          | 10,811           | —               | 11.4                  | —        | —      |
| 1966 | 1,123               | 856                | 103,713          | 14,462           | —               | 12.4                  | —        | —      |
| 1967 | 1,136               | 881                | 99,200           | 18,206           | —               | 7.7                   | —        | —      |
| 1968 | 1,269               | 848                | 94,600           | 17,472           | —               | 10.2                  | —        | —      |
| 1969 | 1,312               | 888                | 88,700           | 18,937           | —               | 6.4                   | —        | —      |
| 1970 | 1,621               | 901                | 85,085           | 19,970           | —               | 7.0                   | —        | —      |
| 1971 | 1,153               | 885                | 78,476           | 28,626           | —               | 6.5                   | —        | —      |
| 1972 | 1,227               | 890                | 73,636           | 30,604           | —               | 4.6                   | —        | —      |
| 1973 | 1,310               | 893                | 66,262           | 31,378           | —               | 3.1                   | —        | —      |
| 1974 | 679                 | 892                | 61,701           | 30,718           | —               | 6.6                   | —        | —      |
| 1975 | 517                 | 850                | 59,298           | 28,799           | —               | 4.5                   | —        | —      |
| 1976 | 576                 | 833                | 58,747           | 26,810           | —               | 4.7                   | —        | —      |
| 1977 | 1,043               | 784                | 57,492           | 30,000           | —               | 3.1                   | —        | —      |
| 1978 | 1,226               | 865                | 56,569           | 32,300           | —               | 4.8                   | —        | —      |
| 1979 | 806                 | 810                | 56,817           | 29,000           | —               | 3.7                   | —        | —      |
| 1980 | 982                 | 692                | 59,873           | 26,000           | —               | 8.3                   | —        | —      |
| 1981 | 876                 | 615                | 66,303           | 24,000           | —               | 7.6                   | —        | —      |
| 1982 | 1,401               | 435                | 70,029           | 14,000           | —               | 6.4                   | —        | —      |
| 1983 | 1,271               | 437                | 71,694           | 17,000           | —               | 5.5                   | —        | —      |
| 1984 | 1,328               | 495                | 75,343           | 20,000           | —               | 7.4                   | —        | —      |
| 1985 | 994                 | 536                | 75,417           | 20,000           | —               | 9.5                   | —        | —      |
| 1986 | 1,486               | 475                | 66,838           | 19,000           | —               | 8.3                   | —        | —      |
| 1987 | 2,021               | 472                | 60,946           | 19,000           | —               | 8.5                   | —        | —      |
| 1988 | 737                 | 597                | 58,960           | 18,000           | —               | 11.1                  | —        | —      |
| 1989 | 856                 | 612                | 57,329           | 18,000           | —               | 9.5                   | —        | —      |
| 1990 | 721                 | 592                | 57,284           | 17,000           | —               | 11.4                  | —        | 0.045  |
| 1991 | 416                 | 650                | 58,364           | 26,000           | —               | 9.4                   | —        | 0.042  |
| 1992 | 363                 | 659                | 54,774           | 27,000           | —               | 9.3                   | —        | 0.113  |
| 1993 | 341                 | 683                | 50,723           | 27,000           | —               | 4.6                   | —        | 0.058  |
| 1994 | 284                 | 729                | 48,423           | 29,000           | —               | 8.9                   | —        | 0.055  |
| 1995 | 285                 | 736                | 45,638           | 29,000           | —               | 10.4                  | —        | 0.026  |
| 1996 | 232                 | 736                | 43,815           | 31,000           | —               | 10.1                  | —        | —      |
| 1997 | 360                 | 691                | 41,290           | 25,000           | —               | 13.0                  | —        | —      |
| 1998 | 341                 | 608                | 36,413           | 28,000           | —               | 10.7                  | —        | —      |
| 1999 | 409                 | 567                | 33,989           | 34,455           | —               | 11.7                  | —        | —      |
| 2000 | 201                 | 533                | 35,145           | 28,000           | 43.5            | 14.5                  | —        | —      |

**Table 2—Kansas Primary Energy Production by Source, 1960–2000** (trillion Btu). NGL = Natural gas liquids; Other = non-utility wind generation; dash (–) = no data. Sources: see Table 1.

| Year | Trillion Btu |             |           |        |                |                |         |        |
|------|--------------|-------------|-----------|--------|----------------|----------------|---------|--------|
|      | Coal         | Natural Gas | Crude Oil | NGL    | Ethanol (corn) | Hydro-electric | Biomass | Other  |
| 1960 | 21.1         | 650         | 657.40    | 28.55  | —              | 0.042          | —       | —      |
| 1961 | 16.1         | 694         | 650.82    | 26.84  | —              | 0.038          | —       | —      |
| 1962 | 22.1         | 745         | 649.75    | 29.98  | —              | 0.041          | —       | —      |
| 1963 | 28.1         | 794         | 632.57    | 54.17  | —              | 0.048          | —       | —      |
| 1964 | 30.5         | 831         | 616.26    | 64.21  | —              | 0.038          | —       | —      |
| 1965 | 31.6         | 830         | 607.02    | 43.36  | —              | 0.039          | —       | —      |
| 1966 | 27.1         | 880         | 601.54    | 58.01  | —              | 0.042          | —       | —      |
| 1967 | 27.4         | 904.8       | 575.36    | 69.87  | —              | 0.026          | —       | —      |
| 1968 | 30.6         | 870.9       | 548.68    | 66.71  | —              | 0.035          | —       | —      |
| 1969 | 31.6         | 911.6       | 514.46    | 72.06  | —              | 0.022          | —       | —      |
| 1970 | 39.1         | 925.3       | 493.49    | 75.47  | —              | 0.024          | —       | —      |
| 1971 | 27.8         | 908.9       | 455.16    | 107.98 | —              | 0.022          | —       | —      |
| 1972 | 29.6         | 914.0       | 427.09    | 115.07 | —              | 0.016          | —       | —      |
| 1973 | 31.6         | 917.1       | 384.32    | 117.54 | —              | 0.010          | —       | —      |
| 1974 | 16.4         | 916.1       | 357.87    | 114.58 | —              | 0.023          | —       | —      |
| 1975 | 12.5         | 873.0       | 343.93    | 106.99 | —              | 0.015          | —       | —      |
| 1976 | 13.9         | 855.5       | 340.73    | 99.49  | —              | 0.016          | —       | —      |
| 1977 | 25.1         | 805.2       | 333.45    | 110.31 | —              | 0.011          | —       | —      |
| 1978 | 29.5         | 888.4       | 328.10    | 118.51 | —              | 0.016          | —       | —      |
| 1979 | 19.4         | 831.9       | 329.54    | 106.72 | —              | 0.012          | —       | —      |
| 1980 | 23.7         | 710.7       | 347.26    | 95.52  | —              | 0.028          | —       | —      |
| 1981 | 21.1         | 631.6       | 384.56    | 87.43  | —              | 0.026          | —       | —      |
| 1982 | 33.8         | 446.7       | 406.17    | 50.61  | —              | 0.022          | —       | —      |
| 1983 | 28.9         | 448.8       | 415.83    | 61.44  | —              | 0.019          | —       | —      |
| 1984 | 32.0         | 508.4       | 436.99    | 71.98  | —              | 0.025          | —       | —      |
| 1985 | 24.0         | 550.5       | 437.42    | 72.06  | —              | 0.033          | —       | —      |
| 1986 | 35.8         | 487.8       | 387.66    | 69.16  | —              | 0.028          | —       | —      |
| 1987 | 48.7         | 484.7       | 353.49    | 69.52  | —              | 0.029          | —       | —      |
| 1988 | 17.8         | 613.1       | 341.97    | 65.74  | —              | 0.038          | —       | —      |
| 1989 | 20.6         | 628.5       | 332.51    | 66.29  | —              | 0.033          | —       | —      |
| 1990 | 17.4         | 608.0       | 332.25    | 61.63  | —              | 0.039          | —       | 0.0002 |
| 1991 | 10.1         | 667.6       | 338.51    | 93.96  | —              | 0.032          | —       | 0.0001 |
| 1992 | 8.9          | 676.8       | 317.69    | 97.85  | —              | 0.032          | —       | 0.0004 |
| 1993 | 8.2          | 701.4       | 294.19    | 97.36  | —              | 0.016          | —       | 0.0002 |
| 1994 | 6.8          | 749.4       | 280.85    | 105.42 | —              | 0.030          | —       | 0.0002 |
| 1995 | 6.9          | 755.9       | 264.70    | 105.07 | —              | 0.035          | —       | 0.0001 |
| 1996 | 5.6          | 755.9       | 254.13    | 112.00 | —              | 0.035          | —       | 0.0000 |
| 1997 | 8.1          | 709.0       | 239.48    | 90.40  | —              | 0.044          | —       | —      |
| 1998 | 7.7          | 624.4       | 211.19    | 101.25 | —              | 0.037          | —       | —      |
| 1999 | 9.2          | 582.3       | 197.14    | 124.59 | —              | 0.040          | —       | —      |
| 2000 | 4.5          | 547.4       | 203.84    | 101.25 | 3.3            | 0.050          | —       | —      |



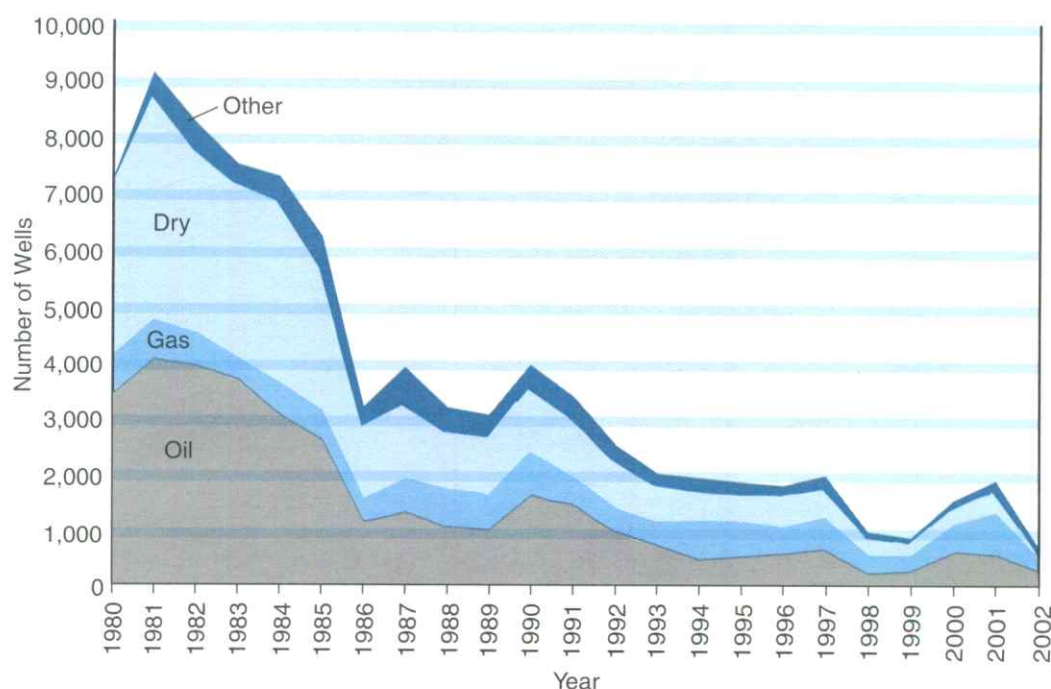
**Figure 1—Kansas Primary Energy Production, 1960–2000.** Kansas total energy production peaked in 1967.  
Source: Based on production data in Table 1.



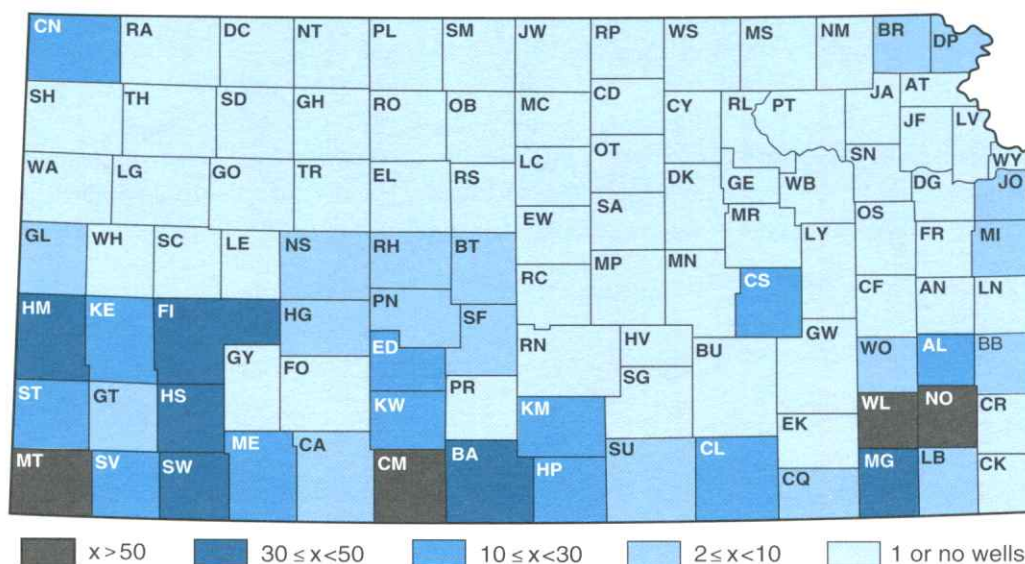
**Figure 2—Kansas Primary Energy Production, 2001.** Total energy production in 2001 was approximately 796 trillion Btu; NGL = Natural gas liquids. Sources: Coal, U.S. Department of Energy, Energy Information Administration (EIA), *Weekly Coal Production*, DOE/EIA ([www.eia.doe.gov/cneaf/coal/weekly/weekly\\_html/archweek.html](http://www.eia.doe.gov/cneaf/coal/weekly/weekly_html/archweek.html)); Renewables, David Readio, Bowersock Electric Company (personal communication, March 2003); NGL, DOE/EIA-0216(01) (EIA, 2002); Ethanol, Renewable Fuels Association web site ([www.rfa.org](http://www.rfa.org)), based on ethanol plants at full capacity; Petroleum and Natural Gas, Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

**Table 3—Numbers of Wells Drilled in Kansas Each Year, 1980–2002.** Other = wells associated with oil and gas wells, such as those drilled for saltwater disposal or water supply. Note: 2002 data were incomplete at press time. Source: Kansas Geological Survey, Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).

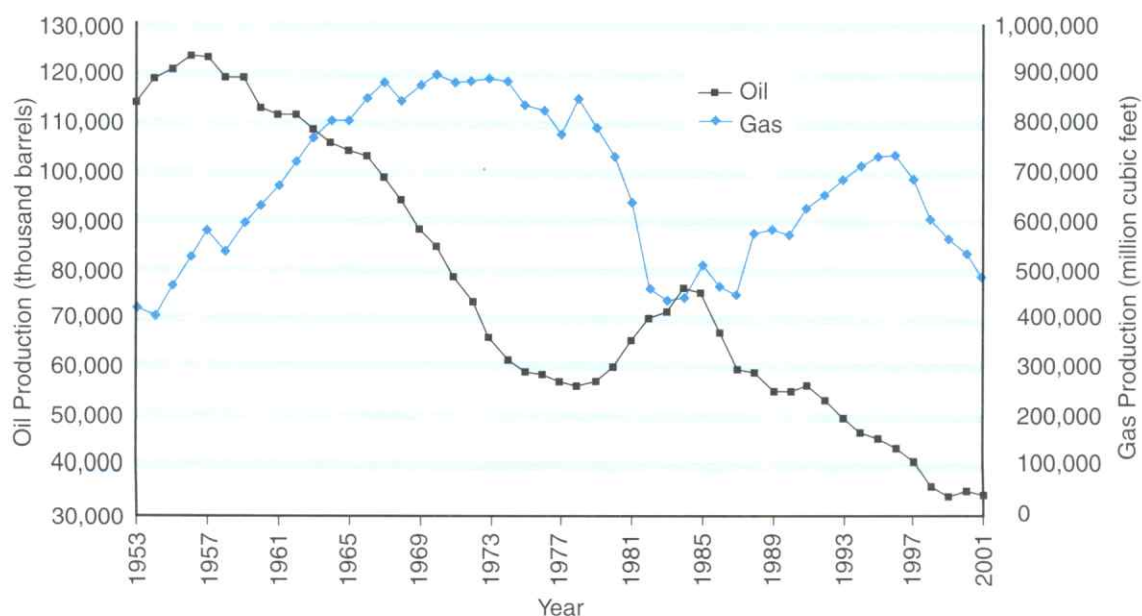
| Year | Oil   | Gas | Dry   | Other | Total |
|------|-------|-----|-------|-------|-------|
| 1980 | 3,440 | 728 | 2,874 | 254   | 7,296 |
| 1981 | 4,112 | 722 | 3,919 | 402   | 9,155 |
| 1982 | 3,989 | 590 | 3,275 | 432   | 8,286 |
| 1983 | 3,706 | 401 | 3,076 | 369   | 7,552 |
| 1984 | 3,091 | 575 | 3,237 | 424   | 7,327 |
| 1985 | 2,652 | 526 | 2,547 | 553   | 6,278 |
| 1986 | 1,212 | 412 | 1,264 | 322   | 3,210 |
| 1987 | 1,335 | 609 | 1,367 | 636   | 3,947 |
| 1988 | 1,074 | 711 | 1,034 | 410   | 3,229 |
| 1989 | 1,054 | 624 | 1,028 | 389   | 3,095 |
| 1990 | 1,649 | 779 | 1,104 | 464   | 3,996 |
| 1991 | 1,481 | 503 | 1,057 | 387   | 3,428 |
| 1992 | 1,003 | 432 | 823   | 302   | 2,560 |
| 1993 | 763   | 417 | 648   | 216   | 2,044 |
| 1994 | 497   | 700 | 530   | 228   | 1,955 |
| 1995 | 549   | 644 | 469   | 210   | 1,872 |
| 1996 | 604   | 493 | 540   | 193   | 1,830 |
| 1997 | 666   | 584 | 527   | 205   | 1,982 |
| 1998 | 223   | 345 | 321   | 86    | 975   |
| 1999 | 274   | 296 | 211   | 97    | 878   |
| 2000 | 611   | 522 | 255   | 132   | 1,520 |
| 2001 | 581   | 784 | 354   | 171   | 1,890 |
| 2002 | 294   | 242 | 73    | 33    | 642   |



**Figure 3—Wells Drilled in Kansas, 1980–2002.** Other = wells associated with oil and gas wells, such as those drilled for saltwater disposal or water supply. Note: 2002 data were incomplete at press time. Source: Kansas Geological Survey, Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).



**Figure 4—Number of New Wells Drilled in Kansas Counties, 2001.** Wells include oil, gas, dry, and other (wells associated with oil and gas wells, such as as those drilled for saltwater disposal or water supply). Source: Kansas Geological Survey, Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).



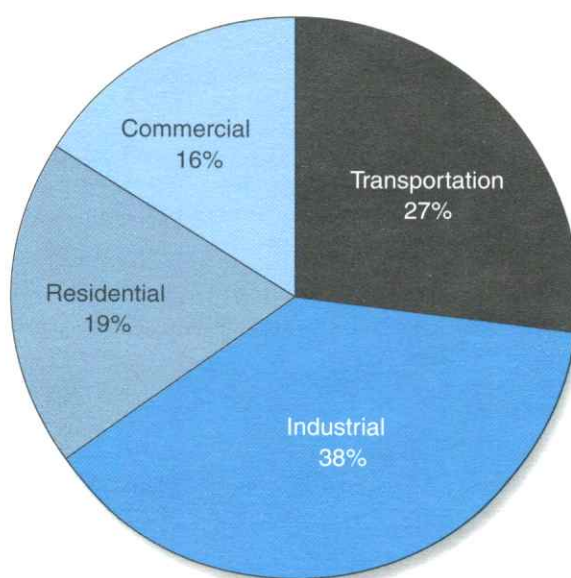
**Figure 5—Kansas Oil and Gas Production, 1953–2001.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

**Table 4—Proven Reserves of Crude Oil, Natural Gas, and Natural Gas Liquids in Kansas, 1977–2000.** Gas volumes (Bcf = billion cubic feet) were measured at 14.73 psi and 60° F. An asterisk (\*) marks those estimates associated with sampling errors (95% confidence interval) greater than 20% of the value estimated. NA is used for data that are unavailable or may be proprietary. Liquid volumes are in million barrels of oil (mbo); one barrel = 42 gallons (U.S.). Sources: historical statistics were previously published in the 1977–2000 annual reports (1–23) of the U.S. Department of Energy, Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, DOE/EIA-0216.

| Year | Crude Oil<br>Proven Reserves<br>(mbo) | Crude Oil Indicated<br>Additional Reserves<br>(mbo) | Dry Natural Gas<br>Proven Reserves<br>(Bcf) | Natural Gas Liquids<br>Proven Reserves<br>(Bcf) |
|------|---------------------------------------|-----------------------------------------------------|---------------------------------------------|-------------------------------------------------|
| 1977 | *349                                  | 3                                                   | 11,457                                      | NA                                              |
| 1978 | 303                                   | 3                                                   | 10,992                                      | NA                                              |
| 1979 | *377                                  | 3                                                   | 10,243                                      | 402                                             |
| 1980 | 310                                   | 2                                                   | 9,508                                       | 389                                             |
| 1981 | 371                                   | 2                                                   | 9,860                                       | 409                                             |
| 1982 | 378                                   | 13                                                  | 9,724                                       | 302                                             |
| 1983 | 344                                   | 13                                                  | 9,553                                       | 443                                             |
| 1984 | 377                                   | 2                                                   | 9,387                                       | 424                                             |
| 1985 | 423                                   | <1                                                  | 9,337                                       | 373                                             |
| 1986 | 312                                   | <1                                                  | 10,509                                      | 440                                             |
| 1987 | 357                                   | <1                                                  | 10,494                                      | 462                                             |
| 1988 | 327                                   | <1                                                  | 10,104                                      | 345                                             |
| 1989 | 338                                   | 3                                                   | 10,091                                      | 329                                             |
| 1990 | 321                                   | <1                                                  | 9,614                                       | 313                                             |
| 1991 | 300                                   | <1                                                  | 9,358                                       | 428                                             |
| 1992 | 310                                   | 0                                                   | 9,681                                       | 444                                             |
| 1993 | 271                                   | 0                                                   | 9,348                                       | 380                                             |
| 1994 | 260                                   | 0                                                   | 9,156                                       | 398                                             |
| 1995 | 275                                   | <1                                                  | 8,571                                       | 369                                             |
| 1996 | 266                                   | <1                                                  | 7,694                                       | 338                                             |
| 1997 | 238                                   | 0                                                   | 6,989                                       | 271                                             |
| 1998 | 246                                   | 0                                                   | 6,402                                       | 334                                             |
| 1999 | 175                                   | 0                                                   | 5,753                                       | 358                                             |
| 2000 | 237                                   | NA                                                  | 5,299                                       | 306                                             |

**Table 5—Energy Consumption by Sector in Kansas, 1999** (trillion Btu). Note: some totals may not equal sum of contents due to independent rounding; na = not applicable; s = Btu value less than 0.05; electrical system energy losses include losses incurred in electrical generation, transmission, and distribution, plus plant use and other, unaccounted-for losses. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report, 1999: Consumption Estimates*, tables 114–117 (EIA, 2001c), <http://www.eia.doe.gov/emeu/sedr/contents.html>.

|                                 | Residential  | Commercial   | Industrial<br>(Trillion Btu) | Transportation | Total          |
|---------------------------------|--------------|--------------|------------------------------|----------------|----------------|
| Fuel Source                     |              |              |                              |                |                |
| Coal                            | 0.1          | 0.1          | 2.7                          | 0.0            | 2.9            |
| Natural Gas                     | 67.8         | 39.5         | 127.1                        | 31.6           | 266.0          |
| Petroleum                       | 14.1         | 5.0          | 157.6                        | 256.2          | 432.9          |
| Hydroelectric Power             | 0.0          | na           | 0.1                          | 0.0            | 0.1            |
| Wood and Waste                  | 4.3          | 0.6          | 1.6                          | 0.0            | 6.5            |
| Ethanol                         | na           | na           | na                           | 0.5            | 0.5            |
| Solar                           | s            | na           | 0.0                          | 0.0            | s              |
| Geothermal                      | s            | 0.2          | 0.0                          | 0.0            | 0.2            |
| Electricity                     | 38.7         | 41.8         | 34.9                         | 0.0            | 115.4          |
| Net Energy                      | 125.0        | 87.2         | 323.9                        | 287.8          | 824.4          |
| Electric System Energy Losses   | 75.9         | 81.9         | 68.3                         | 0.0            | 226.1          |
| <b>Total Energy Consumption</b> | <b>200.9</b> | <b>169.2</b> | <b>392.2</b>                 | <b>287.8</b>   | <b>1,050.0</b> |



Total Kansas Energy Consumption, 1999: 1,050 trillion Btu

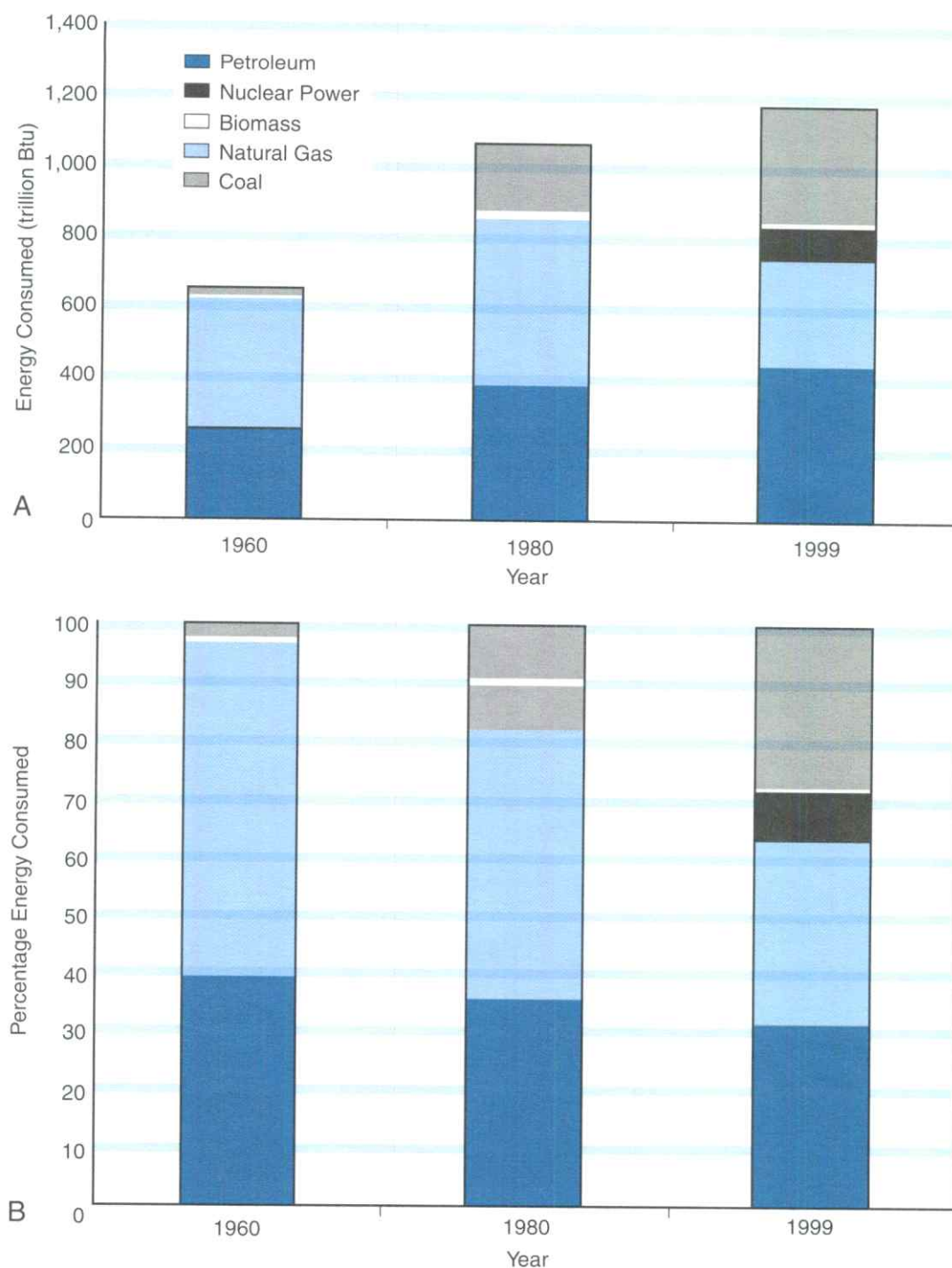
**Figure 6—Kansas Energy Consumption by Sector, 1999** (percentage of total annual consumption). Source: Based on consumption data in Table 5.

**Table 6—Kansas Energy Consumption by Fuel Source, 1960–2000** (physical units). Dash (—) = no data.  
 Sources: Consumption data, 1960, 1965, 1970, 1975, 1980, 1985, 1990–1999 (EIA, 2001c); 1961–1964, 1966–1969 (EIA, 2003c); 1971–1974, 1976–1979 (EIA, 1995b); 1981–1984 (EIA, 1996); 1986–1989 (EIA, 1997c). Consumption data for 2000: natural gas (EIA, 2000f); coal (EIA, 2000b); all others (EIA, 2003c).

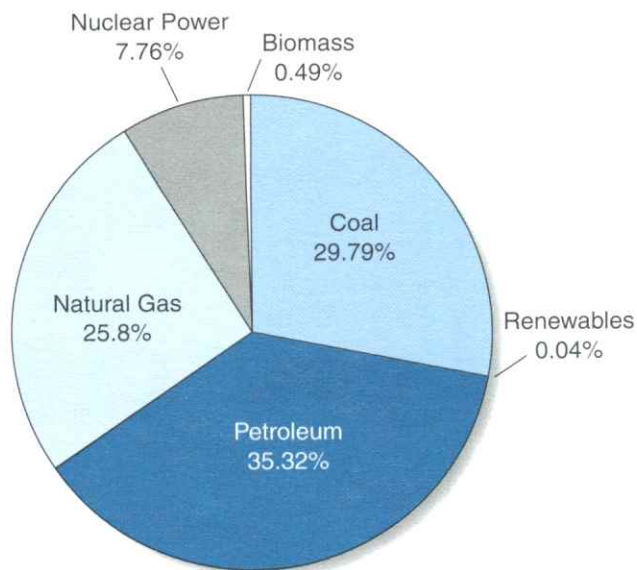
|      | Coal<br>(thousand<br>short<br>tons) | Natu-<br>ral<br>Gas<br>(bcf) | Petroleum             |                      |                         |             |               |        |                 |                   |                  |       |        | Nuclear<br>Electric<br>Power | Hydro-<br>electric | Biomass | Other |
|------|-------------------------------------|------------------------------|-----------------------|----------------------|-------------------------|-------------|---------------|--------|-----------------|-------------------|------------------|-------|--------|------------------------------|--------------------|---------|-------|
|      |                                     |                              | Asphalt               |                      | Distil-<br>late<br>Fuel | Jet<br>Fuel | Kero-<br>sene | LPG    | Lubri-<br>cants | Motor<br>Gasoline | Residual<br>Fuel | Other | Total  |                              |                    |         |       |
|      |                                     |                              | &<br>Road<br>Oil      | Aviation<br>Gasoline |                         |             |               |        |                 |                   |                  |       |        |                              |                    |         |       |
|      |                                     |                              | Thousand Barrels      |                      |                         |             |               |        |                 |                   |                  |       |        |                              |                    |         |       |
|      |                                     |                              | Million Kilowatthours |                      |                         |             |               |        |                 |                   |                  |       |        |                              |                    |         |       |
| 1960 | 675                                 | 361                          | 2,198                 | 170                  | 4,739                   | 952         | 696           | 5,590  | 737             | 23,712            | 2,403            | 5,801 | 46,998 | 0                            | 20                 | —       | —     |
| 1961 | 577                                 | 352                          | 2,718                 | 173                  | 5,170                   | 970         | 539           | 5,768  | 717             | 24,012            | 1,511            | 6,455 | 48,033 | 0                            | 16                 | —       | —     |
| 1962 | 625                                 | 361                          | 3,034                 | 310                  | 5,223                   | 1,042       | 431           | 6,310  | 690             | 24,872            | 1,605            | 6,629 | 50,146 | 0                            | 15                 | —       | —     |
| 1963 | 713                                 | 369                          | 2,859                 | 367                  | 5,570                   | 1,072       | 388           | 6,705  | 690             | 25,148            | 1,653            | 6,798 | 51,250 | 0                            | 17                 | —       | —     |
| 1964 | 626                                 | 394                          | 2,979                 | 426                  | 5,434                   | 1,242       | 386           | 5,954  | 724             | 24,773            | 1,169            | 6,740 | 49,827 | 0                            | 13                 | —       | —     |
| 1965 | 644                                 | 443                          | 3,061                 | 493                  | 5,257                   | 1,053       | 1,813         | 6,521  | 770             | 25,525            | 1,066            | 6,186 | 51,745 | 0                            | 13                 | —       | —     |
| 1966 | 580                                 | 484                          | 2,860                 | 455                  | 6,123                   | 1,147       | 944           | 6,320  | 799             | 25,872            | 1,070            | 7,377 | 52,967 | 0                            | 13                 | —       | —     |
| 1967 | 516                                 | 451                          | 2,349                 | 373                  | 5,824                   | 1,606       | 528           | 7,064  | 711             | 26,501            | 1,372            | 7,340 | 53,668 | 0                            | 9                  | —       | —     |
| 1968 | 536                                 | 497                          | 1,984                 | 391                  | 6,628                   | 1,745       | 578           | 7,838  | 781             | 27,901            | 1,670            | 7,647 | 57,163 | 0                            | 10                 | —       | —     |
| 1969 | 416                                 | 547                          | 2,046                 | 316                  | 6,408                   | 1,685       | 584           | 8,638  | 643             | 28,530            | 1,523            | 8,035 | 58,408 | 0                            | 6                  | —       | —     |
| 1970 | 458                                 | 576                          | 2,188                 | 326                  | 7,550                   | 1,561       | 306           | 8,009  | 655             | 28,849            | 1,127            | 6,618 | 57,189 | 0                            | 7                  | —       | —     |
| 1971 | 459                                 | 607                          | 2,554                 | 299                  | 8,385                   | 1,525       | 183           | 7,769  | 738             | 29,136            | 811              | 7,189 | 58,589 | 0                            | 7                  | —       | —     |
| 1972 | 531                                 | 628                          | 2,385                 | 262                  | 9,010                   | 1,452       | 150           | 8,293  | 790             | 31,075            | 2,256            | 7,617 | 63,290 | 0                            | 5                  | —       | —     |
| 1973 | 1,185                               | 604                          | 2,628                 | 212                  | 10,303                  | 1,399       | 137           | 8,472  | 933             | 31,273            | 2,541            | 8,271 | 66,169 | 0                            | 3                  | —       | —     |
| 1974 | 1,952                               | 587                          | 2,743                 | 236                  | 10,778                  | 1,404       | 114           | 8,439  | 894             | 31,000            | 2,791            | 8,487 | 66,886 | 0                            | 7                  | —       | —     |
| 1975 | 3,117                               | 499                          | 2,162                 | 177                  | 11,273                  | 1,310       | 100           | 8,857  | 773             | 32,004            | 6,365            | 8,568 | 71,589 | 0                            | 5                  | —       | —     |
| 1976 | 3,597                               | 515                          | 2,343                 | 231                  | 12,071                  | 1,239       | 238           | 9,952  | 859             | 33,850            | 6,220            | 8,210 | 75,213 | 0                            | 5                  | —       | —     |
| 1977 | 4,682                               | 507                          | 2,597                 | 253                  | 12,456                  | 1,426       | 333           | 10,087 | 1,011           | 33,273            | 6,282            | 8,606 | 76,324 | 0                            | 3                  | —       | —     |
| 1978 | 7,469                               | 519                          | 3,378                 | 211                  | 14,250                  | 1,506       | 210           | 9,046  | 1,085           | 33,496            | 6,771            | 8,704 | 78,657 | 0                            | 5                  | —       | —     |
| 1979 | 7,878                               | 584                          | 3,164                 | 244                  | 19,555                  | 1,922       | 798           | 9,862  | 1,136           | 31,885            | 4,718            | 8,963 | 82,247 | 0                            | 4                  | —       | —     |
| 1980 | 10,370                              | 488                          | 3,019                 | 221                  | 14,764                  | 2,466       | 492           | 8,404  | 1,011           | 29,584            | 1,498            | 8,430 | 69,889 | 0                            | 8                  | —       | —     |
| 1981 | 11,684                              | 428                          | 1,869                 | 214                  | 13,414                  | 2,442       | 240           | 7,438  | 970             | 29,272            | 1,037            | 7,259 | 64,155 | 0                            | 8                  | —       | —     |
| 1982 | 11,895                              | 401                          | 1,890                 | 190                  | 13,814                  | 1,834       | 226           | 11,948 | 884             | 28,588            | 1,028            | 5,678 | 66,080 | 0                            | 7                  | —       | —     |
| 1983 | 13,103                              | 346                          | 1,450                 | 176                  | 14,009                  | 1,492       | 182           | 12,021 | 926             | 28,603            | 1,956            | 6,236 | 67,051 | 0                            | 6                  | —       | —     |
| 1984 | 15,565                              | 364                          | 1,928                 | 154                  | 15,150                  | 3,338       | 142           | 26,692 | 987             | 28,499            | 1,154            | 6,573 | 84,617 | 0                            | 7                  | —       | —     |
| 1985 | 14,715                              | 355                          | 1,700                 | 137                  | 15,040                  | 4,424       | 57            | 24,510 | 920             | 28,209            | 86               | 5,705 | 80,788 | 3,856                        | 9                  | —       | —     |
| 1986 | 14,359                              | 313                          | 2,657                 | 162                  | 14,319                  | 7,038       | 75            | 16,615 | 900             | 28,453            | 487              | 6,075 | 76,781 | 6,959                        | 8                  | —       | —     |
| 1987 | 15,194                              | 328                          | 2,614                 | 121                  | 16,713                  | 4,285       | 72            | 16,113 | 1,017           | 29,123            | 353              | 6,524 | 76,935 | 6,471                        | 9                  | —       | —     |
| 1988 | 14,951                              | 353                          | 4,378                 | 148                  | 16,591                  | 4,176       | 42            | 19,029 | 981             | 30,819            | 811              | 7,687 | 84,662 | 6,650                        | 12                 | —       | —     |
| 1989 | 14,963                              | 341                          | 3,109                 | 156                  | 15,785                  | 3,833       | 56            | 18,889 | 1,006           | 29,852            | 370              | 7,763 | 80,819 | 9,709                        | 10                 | —       | —     |
| 1990 | 15,175                              | 353                          | 3,875                 | 136                  | 16,561                  | 3,701       | 27            | 15,565 | 1,035           | 28,626            | 232              | 7,809 | 77,567 | 7,874                        | 24                 | —       | 0.1   |
| 1991 | 14,881                              | 371                          | 3,721                 | 124                  | 15,714                  | 3,296       | 24            | 13,293 | 926             | 28,041            | 128              | 5,973 | 71,240 | 5,859                        | 21                 | —       | 0.1   |
| 1992 | 14,227                              | 343                          | 3,715                 | 142                  | 15,154                  | 4,164       | 33            | 16,816 | 944             | 27,821            | 180              | 6,595 | 75,564 | 8,491                        | 13                 | —       | 0.1   |
| 1993 | 17,386                              | 392                          | 3,635                 | 151                  | 16,268                  | 3,617       | 36            | 8,269  | 962             | 28,480            | 373              | 5,563 | 67,354 | 7,900                        | 12                 | —       | 0.1   |
| 1994 | 17,158                              | 418                          | 4,741                 | 142                  | 15,770                  | 1,981       | 17            | 7,754  | 1,005           | 29,073            | 190              | 6,137 | 66,810 | 8,529                        | 12                 | —       | 0.2   |
| 1995 | 16,521                              | 368                          | 3,911                 | 146                  | 19,446                  | 2,414       | 28            | 4,924  | 988             | 29,402            | 31               | 5,872 | 67,162 | 10,062                       | 14                 | —       | 0.2   |
| 1996 | 19,084                              | 363                          | 3,581                 | 177                  | 16,964                  | 2,009       | 37            | 10,442 | 959             | 30,927            | 292              | 7,941 | 73,329 | 8,205                        | 14                 | —       | 0.2   |
| 1997 | 17,673                              | 339                          | 2,115                 | 247                  | 17,142                  | 2,130       | 58            | 14,557 | 1,013           | 30,695            | 260              | 8,119 | 76,336 | 8,430                        | 15                 | —       | 0.2   |
| 1998 | 17,736                              | 327                          | 2,699                 | 199                  | 16,215                  | 2,157       | 50            | 14,121 | 1,060           | 32,001            | 286              | 7,344 | 76,132 | 10,411                       | 14                 | —       | 0.3   |
| 1999 | 19,004                              | 303                          | 2,358                 | 240                  | 15,514                  | 3,476       | 360           | 21,741 | 1,071           | 33,550            | 616              | 7,585 | 86,511 | 9,157                        | 13                 | —       | 0.3   |
| 2000 | 20,845                              | 321                          | 2,470                 | 215                  | 15,113                  | 3,234       | 32            | 17,401 | 1,055           | 31,894            | 1,025            | 7,173 | 79,612 | 9,061                        | 16                 | —       | —     |

**Table 7—Kansas Energy Consumption by Fuel Source, 1960–2000** (trillion Btu). Dash (—) = no data.  
 Sources: Consumption data, 1960, 1965, 1970, 1975, 1980, 1985, 1990–1999 (EIA, 2001c); 1961–1964, 1966–1969 (EIA, 2003c); 1971–1974, 1976–1979 (EIA, 1995b); 1981–1984 (EIA, 1996); 1986–1989 (EIA, 1997c). Consumption data for 2000: natural gas (EIA, 2000f); coal (EIA, 2000b); all others (EIA, 2003c).

| Trillion Btu |       |             |                    |                   |                 |          |          |      |            |                |               |       |       |                        |               |         |       |
|--------------|-------|-------------|--------------------|-------------------|-----------------|----------|----------|------|------------|----------------|---------------|-------|-------|------------------------|---------------|---------|-------|
|              | Coal  | Natural Gas | Asphalt & Road Oil | Aviation Gasoline | Distillate Fuel | Jet Fuel | Kerosene | LPG  | Lubricants | Motor Gasoline | Residual Fuel | Other | Total | Nuclear Electric Power | Hydroelectric | Biomass | Other |
| 1960         | 15.7  | 373.7       | 14.6               | 0.9               | 27.6            | 5.1      | 3.9      | 22.4 | 4.5        | 124.6          | 15.1          | 34.8  | 253.5 | 0                      | 0.2           | 3.9     | —     |
| 1961         | 13.5  | 364.0       | 18.0               | 0.9               | 30.1            | 5.2      | 3.1      | 23.1 | 4.4        | 126.1          | 9.5           | 38.7  | 259.1 | 0                      | 0.2           | 3.7     | —     |
| 1962         | 14.6  | 373.7       | 20.1               | 1.6               | 30.4            | 5.6      | 2.4      | 25.3 | 4.2        | 130.7          | 10.1          | 39.8  | 270.2 | 0                      | 0.2           | 3.5     | —     |
| 1963         | 16.7  | 367.8       | 19.0               | 1.9               | 32.4            | 5.7      | 2.2      | 26.9 | 4.2        | 132.1          | 10.4          | 40.8  | 275.6 | 0                      | 0.2           | 3.6     | —     |
| 1964         | 14.8  | 391.3       | 19.8               | 2.1               | 31.7            | 6.7      | 2.2      | 23.9 | 4.4        | 130.1          | 7.4           | 40.4  | 268.7 | 0                      | 0.1           | 3.5     | —     |
| 1965         | 15.3  | 440.8       | 20.3               | 2.5               | 30.6            | 5.7      | 10.3     | 26.2 | 4.7        | 134.1          | 6.7           | 37.0  | 278.1 | 0                      | 0.1           | 3.4     | —     |
| 1966         | 13.7  | 481.1       | 19.0               | 2.3               | 35.7            | 6.2      | 5.4      | 25.4 | 4.8        | 135.9          | 6.7           | 44.1  | 285.5 | 0                      | 0.1           | 3.4     | —     |
| 1967         | 12.2  | 446.5       | 15.6               | 1.9               | 33.9            | 8.8      | 3.0      | 27.1 | 4.3        | 139.2          | 8.6           | 43.9  | 286.3 | 0                      | 0.1           | 3.3     | —     |
| 1968         | 12.7  | 490.6       | 13.2               | 2.0               | 38.6            | 9.5      | 3.3      | 29.9 | 4.7        | 146.6          | 10.5          | 45.7  | 304.0 | 0                      | 0.1           | 3.4     | —     |
| 1969         | 9.8   | 540.7       | 13.6               | 1.6               | 37.3            | 9.2      | 3.3      | 32.9 | 3.9        | 149.9          | 9.6           | 48.0  | 309.3 | 0                      | 0.1           | 3.2     | —     |
| 1970         | 10.7  | 574.5       | 14.5               | 1.6               | 44.0            | 8.6      | 1.7      | 30.3 | 4.0        | 151.5          | 7.1           | 39.5  | 302.8 | 0                      | 0.1           | 3.7     | —     |
| 1971         | 10.8  | 605.8       | 16.9               | 1.5               | 48.8            | 8.4      | 1.0      | 29.3 | 4.5        | 153.1          | 5.1           | 42.9  | 311.5 | 0                      | 0.1           | 3.9     | —     |
| 1972         | 12.4  | 626.9       | 15.8               | 1.3               | 52.5            | 8.0      | 0.9      | 31.2 | 4.8        | 163.2          | 14.2          | 45.5  | 337.4 | 0                      | NA            | 5.7     | —     |
| 1973         | 24.6  | 597.2       | 17.4               | 1.1               | 60.0            | 7.7      | 0.8      | 31.7 | 5.7        | 164.3          | 16.0          | 49.4  | 354.1 | 0                      | NA            | 6       | —     |
| 1974         | 39.1  | 578.8       | 18.2               | 1.2               | 62.8            | 7.7      | 0.6      | 31.5 | 5.4        | 162.8          | 17.5          | 50.7  | 358.4 | 0                      | 0.1           | 5.8     | —     |
| 1975         | 62.3  | 490.7       | 14.3               | 0.9               | 65.7            | 7.2      | 0.6      | 32.9 | 4.7        | 168.1          | 40.0          | 51.2  | 385.6 | 0                      | NA            | 5.8     | —     |
| 1976         | 73.4  | 505.4       | 15.5               | 1.2               | 70.3            | 6.8      | 1.4      | 36.9 | 5.2        | 177.8          | 39.1          | 49.0  | 403.2 | 0                      | 0.1           | 6.5     | —     |
| 1977         | 89.5  | 497.3       | 17.2               | 1.3               | 72.6            | 7.9      | 1.9      | 37.1 | 6.1        | 174.8          | 39.5          | 51.3  | 409.7 | 0                      | NA            | 6.8     | —     |
| 1978         | 136.8 | 508.0       | 22.4               | 1.1               | 83.0            | 8.4      | 1.2      | 33.2 | 6.6        | 176.0          | 42.6          | 51.9  | 426.4 | 0                      | NA            | 7.5     | —     |
| 1979         | 147.5 | 571.3       | 21.0               | 1.2               | 113.9           | 10.7     | 4.5      | 36.3 | 6.9        | 167.5          | 29.7          | 53.4  | 445.1 | 0                      | NA            | 7.9     | —     |
| 1980         | 191.6 | 482.0       | 20.0               | 1.1               | 86.0            | 13.8     | 2.8      | 30.9 | 6.1        | 155.4          | 9.4           | 50.1  | 375.6 | 0                      | 0.1           | 10.8    | —     |
| 1981         | 212.9 | 422.6       | 12.4               | 1.1               | 78.1            | 13.6     | 1.4      | 27.1 | 5.9        | 153.8          | 6.5           | 43.7  | 343.6 | 0                      | 0.1           | 10.9    | —     |
| 1982         | 212.5 | 400.5       | 12.5               | 1.0               | 80.5            | 10.2     | 1.3      | 43.2 | 5.4        | 150.2          | 6.5           | 34.0  | 344.8 | 0                      | 0.1           | 11.8    | —     |
| 1983         | 231.2 | 345.9       | 9.6                | 0.9               | 81.6            | 8.2      | 1.0      | 43.4 | 5.6        | 150.3          | 12.3          | 37.3  | 350.2 | 0                      | 0.1           | 11.6    | —     |
| 1984         | 274.8 | 360.8       | 12.8               | 0.8               | 88.3            | 18.7     | 0.8      | 96.1 | 6.0        | 149.7          | 7.3           | 38.8  | 419.3 | 0                      | 0.1           | 10.5    | —     |
| 1985         | 259.5 | 354.8       | 11.3               | 0.7               | 87.6            | 24.8     | 0.3      | 88.3 | 5.6        | 148.2          | 0.5           | 34.1  | 401.4 | 41.7                   | 0.1           | 10.3    | —     |
| 1986         | 251.7 | 308.0       | 17.6               | 0.8               | 83.4            | 39.7     | 0.4      | 60.5 | 5.5        | 149.5          | 3.1           | 36.7  | 397.2 | 75.1                   | 0.1           | 13.7    | —     |
| 1987         | 267.4 | 343.2       | 17.3               | 0.6               | 97.4            | 24.1     | 0.4      | 59.0 | 6.2        | 153.0          | 2.2           | 38.8  | 399.0 | 69.7                   | 0.1           | 12.6    | —     |
| 1988         | 269.3 | 348.0       | 29.1               | 0.7               | 96.6            | 23.4     | 0.2      | 69.5 | 5.9        | 161.9          | 5.1           | 45.7  | 438.1 | 71.4                   | 0.1           | 13.1    | 0.1   |
| 1989         | 266.5 | 338.6       | 20.6               | 0.8               | 91.9            | 21.5     | 0.3      | 69.6 | 6.1        | 156.8          | 2.3           | 45.8  | 415.7 | 104.1                  | 0.1           | 11.4    | 0.1   |
| 1990         | 272.6 | 352.6       | 25.7               | 0.7               | 96.5            | 20.7     | 0.2      | 56.4 | 6.3        | 150.4          | 1.5           | 46.1  | 404.5 | 84.1                   | 0.2           | 8.1     | 0.1   |
| 1991         | 268.7 | 373.2       | 24.7               | 0.6               | 91.5            | 18.3     | 0.1      | 48.0 | 5.6        | 147.3          | 0.8           | 35.8  | 372.7 | 62.9                   | 0.2           | 8.3     | 0.1   |
| 1992         | 254.3 | 338.8       | 24.7               | 0.7               | 88.3            | 23.2     | 0.2      | 60.9 | 5.7        | 146.1          | 1.1           | 39.1  | 390.0 | 90.7                   | 0.1           | 8.6     | 0.1   |
| 1993         | 301.9 | 386.5       | 24.1               | 0.8               | 94.8            | 20.2     | 0.2      | 29.8 | 5.8        | 149.6          | 2.3           | 33.1  | 360.7 | 84.4                   | 0.1           | 7.5     | 0.1   |
| 1994         | 300.0 | 417.2       | 31.5               | 0.7               | 91.9            | 11.0     | 0.1      | 28.2 | 6.1        | 152.1          | 1.2           | 36.4  | 359.2 | 91.1                   | 0.1           | 7.7     | 0.2   |
| 1995         | 289.6 | 369.1       | 26.0               | 0.7               | 113.3           | 13.7     | 0.2      | 17.8 | 6.0        | 153.3          | 0.2           | 34.9  | 366.1 | 107.2                  | 0.1           | 8.8     | 0.2   |
| 1996         | 338.6 | 362.0       | 23.8               | 0.9               | 98.8            | 11.4     | 0.2      | 37.7 | 5.8        | 161.3          | 1.8           | 46.0  | 387.7 | 87.2                   | 0.1           | 8.9     | 0.2   |
| 1997         | 310.8 | 339.5       | 14.0               | 1.2               | 99.9            | 12.1     | 0.3      | 52.6 | 6.1        | 160.0          | 1.6           | 47.1  | 394.9 | 89.6                   | 0.1           | 7.1     | 0.2   |
| 1998         | 309.3 | 325.3       | 17.9               | 1.0               | 94.5            | 12.2     | 0.3      | 51.0 | 6.4        | 166.8          | 1.8           | 42.6  | 394.5 | 110.7                  | 0.1           | 4.9     | 0.3   |
| 1999         | 328.8 | 302.2       | 15.6               | 1.2               | 90.4            | 19.7     | 2.0      | 78.6 | 6.5        | 174.8          | 3.9           | 43.9  | 436.5 | 97.3                   | 0.1           | 6.4     | 0.3   |
| 2000         | 362.6 | 323.7       | 16.4               | 1.1               | 88              | 18.3     | 0.2      | 62.8 | 6.4        | 166.2          | 6.4           | 41.5  | 407.3 | 94.5                   | 0.2           | 6       | 0.3   |

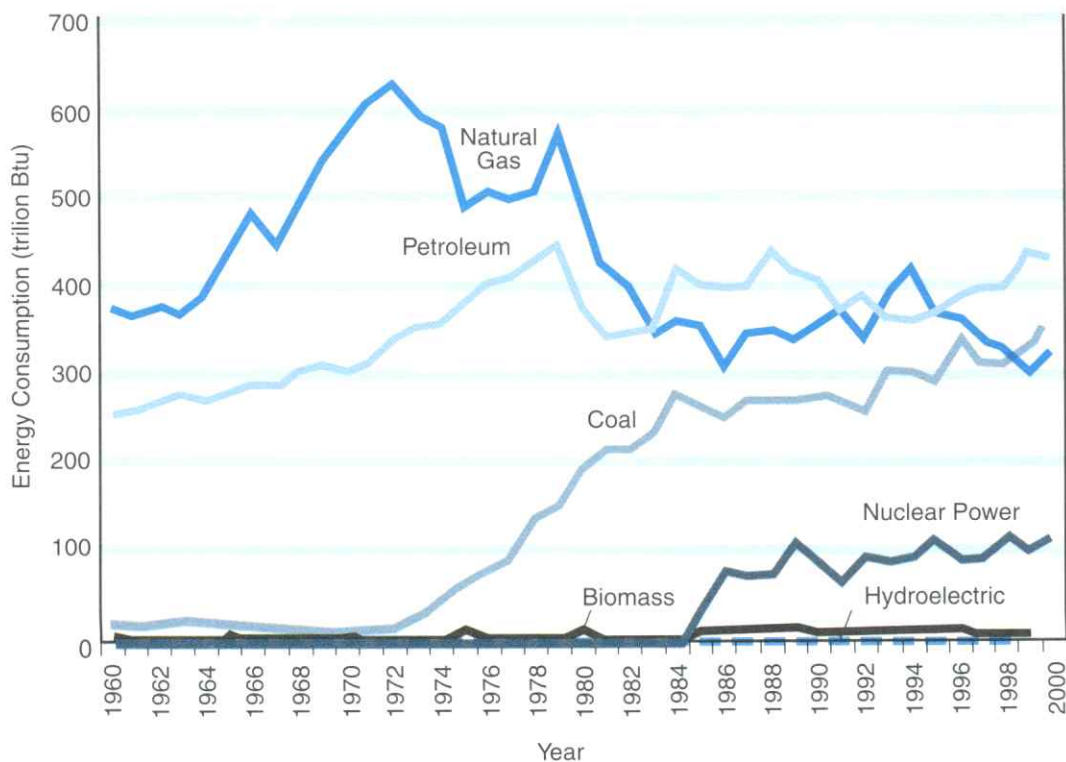


**Figure 7A,B—Kansas Energy Consumption by Fuel Source, 1960, 1980, and 1999.** (A) annual consumption by fuel source (trillion Btu); (B) annual consumption by fuel source as percentage of total energy consumption. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report, 1999*, DOE/EIA-0214(99) (EIA, 2001c).

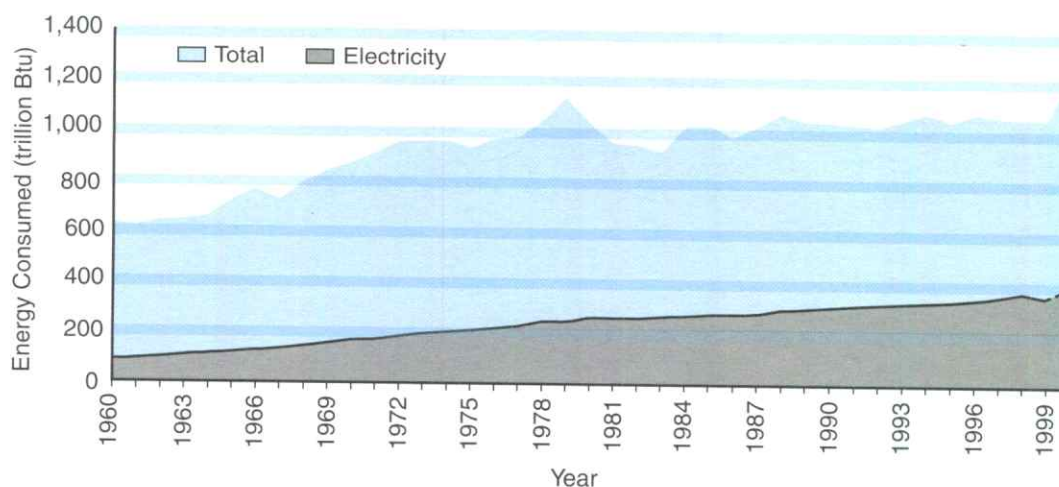


Total Kansas Energy Consumption, 2000: 1,117.2 trillion Btu

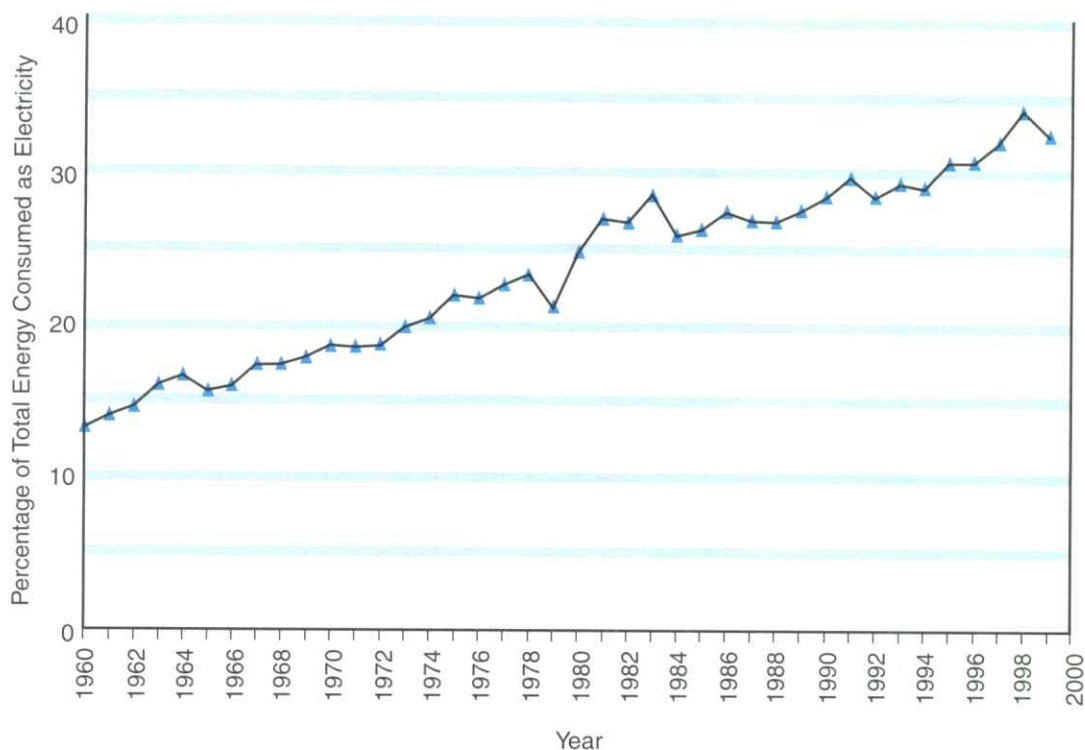
**Figure 8—Kansas Primary Energy Consumption by Fuel Source, 2000** (percentage). Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report*, 2000, which was in draft form at press time (EIA, 2003c).



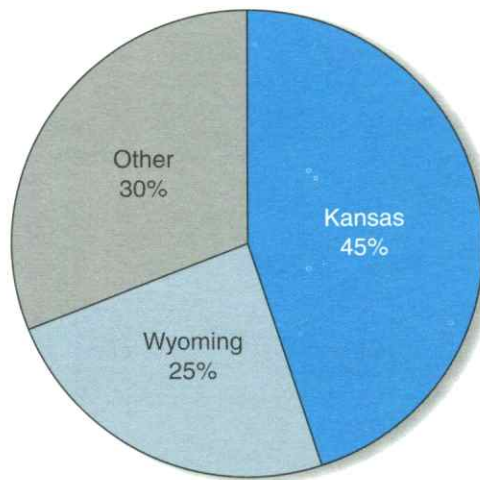
**Figure 9—Kansas Primary Energy Consumption by Fuel Source, 1960–1999** (trillion Btu). Note: In this figure, the years fall between the hatch marks. Source: Based on consumption data in Table 7.



**Figure 10—Electricity Consumption as Part of Total Kansas Energy Consumption, 1960–2000 (trillion Btu).** Note: Electricity consumption for 2000 is estimated. Source: U.S. Department of Energy, Energy Information Agency (EIA), *State Energy Data Report* (various years), DOE/EIA-0214 (EIA, 1995b, 1996, 1997c, 2000d, 2001c, 2003c).



**Figure 11—Electricity Consumption as a Percentage of Total Kansas Energy Consumption, 1960–2000.** Source: U.S. Department of Energy, Energy Information Agency (EIA), *State Energy Data Report* (various years), DOE/EIA-0214 (EIA, 1995b, 1996, 1997c, 2000d, 2001c, 2003c).



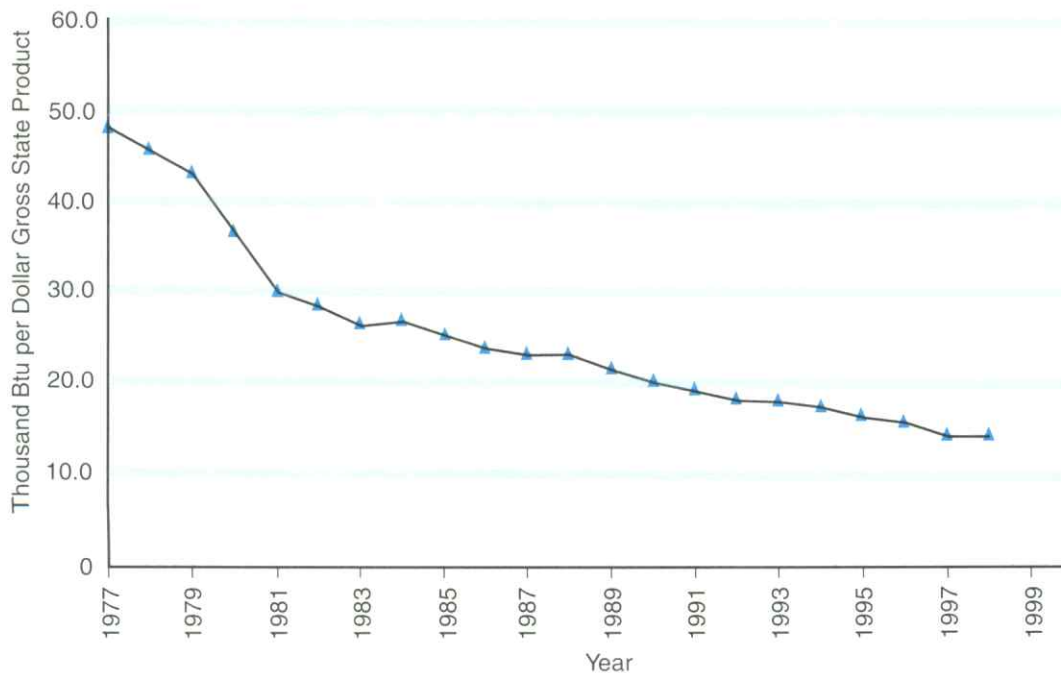
**Figure 12—Sources of Primary Energy Consumed in Kansas, 2000.** More than half the energy consumed in Kansas is imported from outside the state. Sources: U.S. Department of Energy, Energy Information Agency (EIA), *Coal Industry Annual 2000*, DOE/EIA-0584(00) (EIA, 2000b); *State Energy Data 2000*, draft report (EIA, 2003c); Kansas Oil and Gas Data Bases (Kansas Geological Survey, 2003).

**Table 8—Kansas Net Energy Balance, 1960–2000** (trillion Btu). Sources: Production data (see Tables 1, 2); consumption data (see Tables 6, 7).

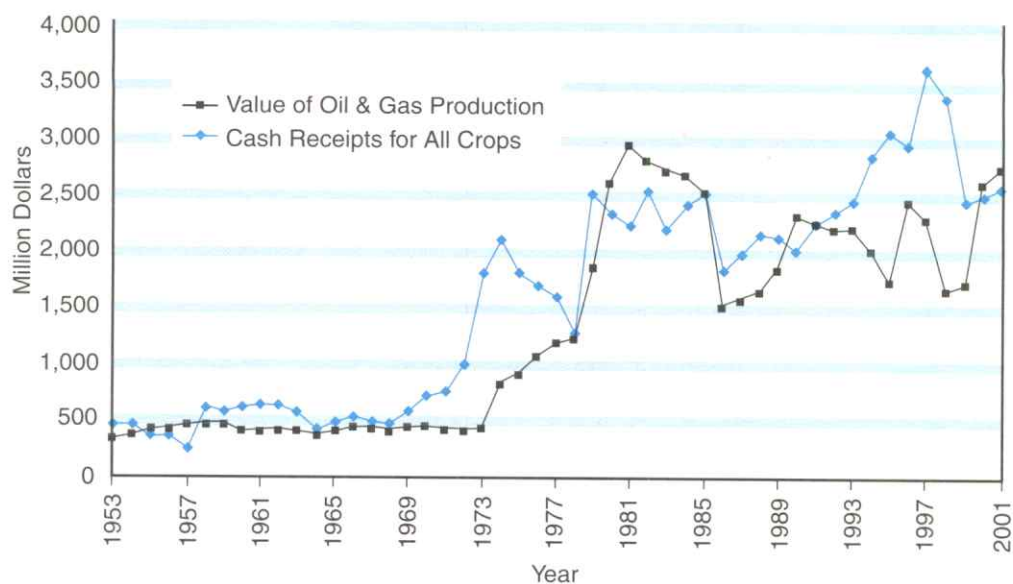
| Year | Total Energy Production | Total Energy Consumption | Net Energy Production |
|------|-------------------------|--------------------------|-----------------------|
|      |                         | Trillion Btu             |                       |
| 1960 | 1,357                   | 633                      | 724                   |
| 1961 | 1,388                   | 624                      | 764                   |
| 1962 | 1,447                   | 646                      | 801                   |
| 1963 | 1,509                   | 648                      | 861                   |
| 1964 | 1,542                   | 663                      | 879                   |
| 1965 | 1,512                   | 725                      | 787                   |
| 1966 | 1,566                   | 770                      | 796                   |
| 1967 | 1,577                   | 727                      | 850                   |
| 1968 | 1,517                   | 798                      | 719                   |
| 1969 | 1,530                   | 844                      | 686                   |
| 1970 | 1,533                   | 874                      | 659                   |
| 1971 | 1,500                   | 914                      | 586                   |
| 1972 | 1,486                   | 966                      | 520                   |
| 1973 | 1,451                   | 969                      | 482                   |
| 1974 | 1,402                   | 965                      | 440                   |
| 1975 | 1,336                   | 927                      | 409                   |
| 1976 | 1,310                   | 974                      | 335                   |
| 1977 | 1,274                   | 983                      | 291                   |
| 1978 | 1,365                   | 1,042                    | 323                   |
| 1979 | 1,288                   | 1,140                    | 148                   |
| 1980 | 1,177                   | 1,029                    | 148                   |
| 1981 | 1,125                   | 962                      | 163                   |
| 1982 | 937                     | 957                      | -20                   |
| 1983 | 955                     | 927                      | 28                    |
| 1984 | 1,049                   | 1,028                    | 21                    |
| 1985 | 1,084                   | 1,022                    | 62                    |
| 1986 | 980                     | 977                      | 3                     |
| 1987 | 956                     | 1,017                    | -61                   |
| 1988 | 1,039                   | 1,071                    | -32                   |
| 1989 | 1,048                   | 1,036                    | 12                    |
| 1990 | 1,019                   | 1,037                    | -17                   |
| 1991 | 1,110                   | 1,027                    | 83                    |
| 1992 | 1,101                   | 1,017                    | 85                    |
| 1993 | 1,101                   | 1,043                    | 59                    |
| 1994 | 1,143                   | 1,073                    | 70                    |
| 1995 | 1,133                   | 1,040                    | 93                    |
| 1996 | 1,128                   | 1,070                    | 58                    |
| 1997 | 1,047                   | 1,058                    | -11                   |
| 1998 | 942                     | 1,046                    | -102                  |
| 1999 | 913                     | 1,050                    | -137                  |
| 2000 | 860                     | 1,095                    | -234                  |



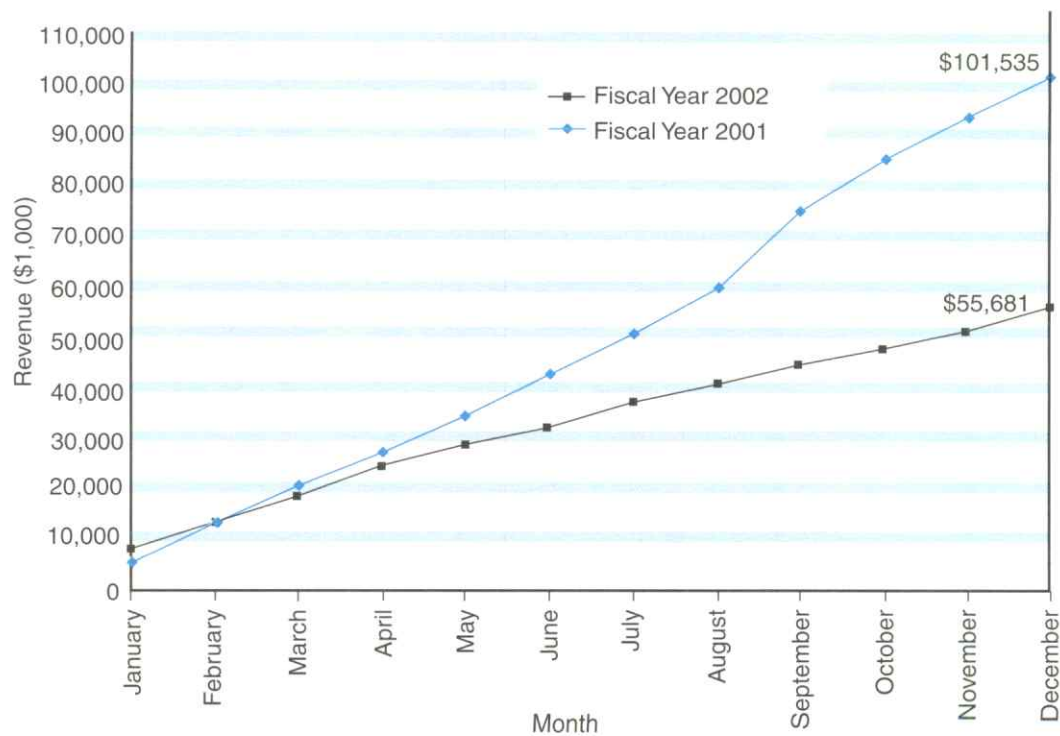
**Figure 13—Kansas Net Energy Balance, 1960–1999, with Projections to 2007.** Positive numbers show energy produced in excess of consumption (exports), while negative numbers show energy consumed in excess of production (imports). Sources: Production data (see Tables 1, 2); consumption data (see Tables 6, 7); projected production and consumption (Carr, 2002a; SERCC, 2003).



**Figure 14—Energy Needed to Fuel Kansas Economy, 1977–1998.** Source: Kansas Geological Survey, Open-file Report 2000-69 (Carr and White, 2000).



**Figure 15—Wellhead Value of Kansas Oil and Gas Production Compared to Cash Receipts for All Kansas Crops, 1953–2001.** Source: Kansas Geological Survey, Open-file Report 2000-69 (Carr and White, 2000).



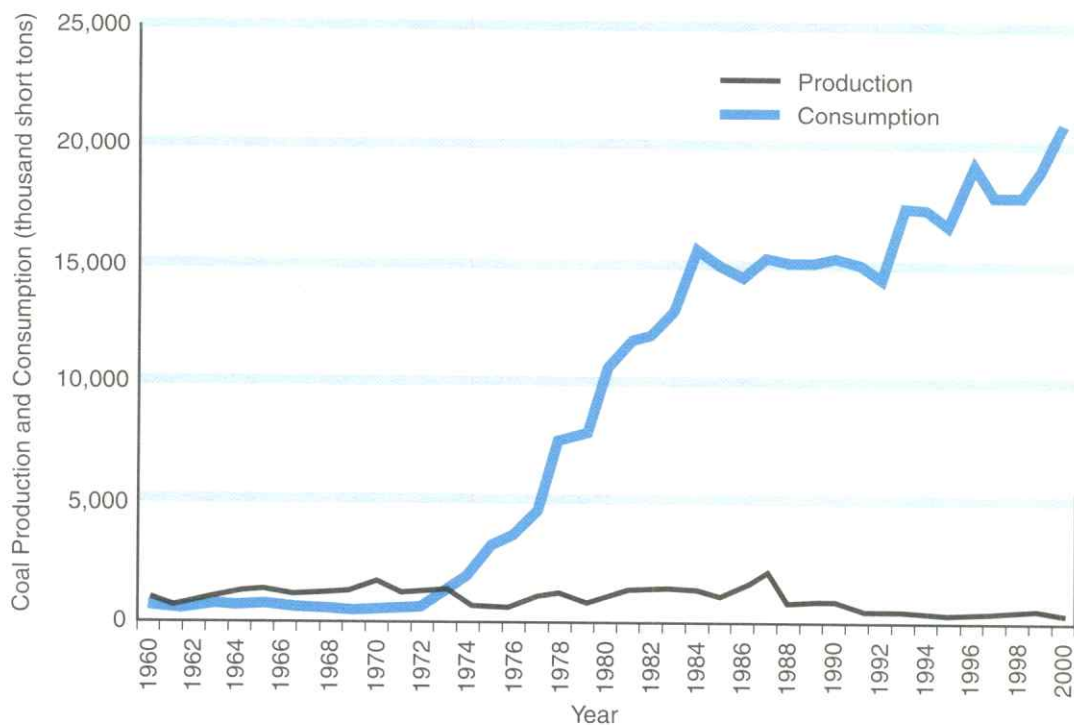
**Figure 16—Kansas Mineral Severance Tax Revenues, Fiscal Years 2001 and 2002** (in thousands of dollars). Source: Kansas Geological Survey, Open-file Report 2002-38 (Carr, 2002a).

## Section 2—Coal

Coal production plays a small but significant role in the Kansas energy picture. Currently, Kansas has only one operating coal mine. Coal consumption, on the other hand, has risen dramatically since the early 1970's, primarily for use in generating electricity (SERCC, 2003).

**Table 9—Annual Kansas Coal Production, 1930–2000** (in thousand short tons). Dash (—) = no data. Sources: Schoewe, 1958a, 1958b; Larry Brady, Kansas Geological Survey (personal communication, 1999); U.S. Department of Energy, Energy Information Administration (EIA), *Coal Industry Annual*, DOE/EIA-0584, various years (EIA, 1979, 1989a, 1992, 1993a, 1994, 1997a, 2000a).

| Year | Total<br>(thousand<br>short tons) | Number of<br>Coal Mines | Year | Total<br>(thousand<br>short tons) | Number of<br>Coal Mines |
|------|-----------------------------------|-------------------------|------|-----------------------------------|-------------------------|
| 1930 | 2,603                             | —                       | 1966 | 1,123                             | 8                       |
| 1931 | 2,248                             | —                       | 1967 | 1,136                             | 8                       |
| 1932 | 2,348                             | —                       | 1968 | 1,269                             | 7                       |
| 1933 | 2,412                             | —                       | 1969 | 1,312                             | 7                       |
| 1934 | 2,551                             | —                       | 1970 | 1,621                             | 6                       |
| 1935 | 2,773                             | —                       | 1971 | 1,153                             | 6                       |
| 1936 | 3,147                             | —                       | 1972 | 1,227                             | 4                       |
| 1937 | 3,148                             | —                       | 1973 | 1,310                             | 6                       |
| 1938 | 2,790                             | —                       | 1974 | 679                               | 6                       |
| 1939 | 3,007                             | —                       | 1975 | 517                               | 6                       |
| 1940 | 3,693                             | —                       | 1976 | 576                               | 5                       |
| 1941 | 4,008                             | —                       | 1977 | 1,043                             | 10                      |
| 1942 | 4,209                             | —                       | 1978 | 1,226                             | 9                       |
| 1943 | 3,388                             | —                       | 1979 | 806                               | 8                       |
| 1944 | 3,316                             | —                       | 1980 | 982                               | 8                       |
| 1945 | 3,198                             | —                       | 1981 | 1,313                             | 8                       |
| 1946 | 2,520                             | —                       | 1982 | 1,401                             | 6                       |
| 1947 | 2,720                             | —                       | 1983 | 1,271                             | 7                       |
| 1948 | 2,504                             | —                       | 1984 | 1,328                             | 6                       |
| 1949 | 1,878                             | —                       | 1985 | 994                               | 4                       |
| 1950 | 2,146                             | —                       | 1986 | 1,486                             | 6                       |
| 1951 | 1,951                             | —                       | 1987 | 2,021                             | 5                       |
| 1952 | 2,016                             | —                       | 1988 | 737                               | 6                       |
| 1953 | 1,720                             | —                       | 1989 | 856                               | 5                       |
| 1954 | 1,315                             | —                       | 1990 | 721                               | 4                       |
| 1955 | 739                               | —                       | 1991 | 416                               | 3                       |
| 1956 | 876                               | —                       | 1992 | 363                               | 2                       |
| 1957 | 749                               | —                       | 1993 | 341                               | 2                       |
| 1958 | 823                               | —                       | 1994 | 284                               | 1                       |
| 1959 | 772                               | —                       | 1995 | 285                               | 1                       |
| 1960 | 876                               | 17                      | 1996 | 232                               | 1                       |
| 1961 | 667                               | 15                      | 1997 | 360                               | 3                       |
| 1962 | 918                               | 17                      | 1998 | 341                               | 4                       |
| 1963 | 1,164                             | 15                      | 1999 | 409                               | 4                       |
| 1964 | 1,265                             | 11                      | 2000 | 201                               | 1                       |
| 1965 | 1,311                             | 10                      |      |                                   |                         |



**Figure 17—Kansas Coal Production and Consumption, 1960–2000.** Note: In this figure, the years fall between the hatch marks. Sources: U.S. Department of Energy, Energy Information Agency (EIA), *State Energy Data Report* (various years), DOE/EIA-0214 (EIA, 1995b, 1996, 1997c, 2001c, 2003c), and *Archived Weekly Coal Production*, DOE/EIA-0218 (EIA, 2000a, 2003a).

## Section 3—Crude Oil and Petroleum Products

Although Kansas oil production is declining, the state remains one of the top ten oil-producing states. Oil and other petroleum products accounted for over a third of total Kansas energy consumption in 2000, with more than half of the petroleum consumed in the form of transportation fuels (SERCC, 2003). The following tables and graphs outline the production, consumption, and prices of crude oil and other petroleum products in Kansas.

**Table 10—Oil Production in Kansas, 1890–2001, Selected Years.** Sources: production data before 1970 (Beene, 1969, 1970, 1971; Oros and Beene, 1968; Schoewe, 1958a, 1958b, 1961); 1970 to present from Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

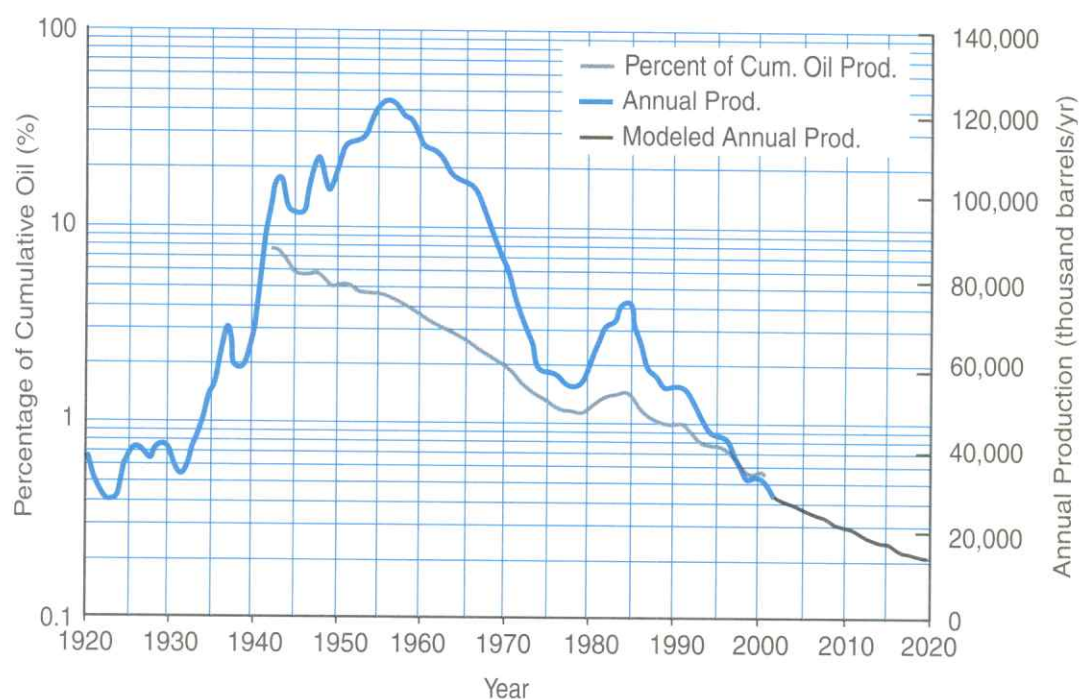
| Year | Production<br>(thousand barrels) | Year | Production<br>(thousand barrels) |
|------|----------------------------------|------|----------------------------------|
| 1890 | 1                                | 1973 | 66,262                           |
| 1900 | 75                               | 1974 | 61,701                           |
| 1910 | 1,129                            | 1975 | 59,298                           |
| 1920 | 39,005                           | 1976 | 58,747                           |
| 1930 | 41,638                           | 1977 | 57,492                           |
| 1940 | 66,139                           | 1978 | 56,569                           |
| 1950 | 107,339                          | 1979 | 56,817                           |
| 1951 | 113,912                          | 1980 | 59,873                           |
| 1952 | 114,400                          | 1981 | 66,303                           |
| 1953 | 114,390                          | 1982 | 70,029                           |
| 1954 | 118,309                          | 1983 | 71,694                           |
| 1955 | 121,161                          | 1984 | 75,343                           |
| 1956 | 124,468                          | 1985 | 75,417                           |
| 1957 | 124,054                          | 1986 | 66,838                           |
| 1958 | 119,942                          | 1987 | 60,946                           |
| 1959 | 119,474                          | 1988 | 58,960                           |
| 1960 | 113,345                          | 1989 | 57,329                           |
| 1961 | 112,211                          | 1990 | 57,284                           |
| 1962 | 112,026                          | 1991 | 58,364                           |
| 1963 | 109,063                          | 1992 | 54,774                           |
| 1964 | 106,252                          | 1993 | 50,723                           |
| 1965 | 104,658                          | 1994 | 48,423                           |
| 1966 | 103,713                          | 1995 | 45,638                           |
| 1967 | 99,200                           | 1996 | 43,815                           |
| 1968 | 94,600                           | 1997 | 41,290                           |
| 1969 | 88,700                           | 1998 | 36,413                           |
| 1970 | 85,085                           | 1999 | 33,989                           |
| 1971 | 78,476                           | 2000 | 35,145                           |
| 1972 | 73,636                           | 2001 | 34,090                           |

**Table 11—Kansas Oil Production and Number of Producing Wells by County, 1999–2002.** Note: 2002 data were incomplete at press time. Sources: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>) and Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).

| County     | 1999                    |       | 2000                    |       | 2001                    |       | 2002                    |       |
|------------|-------------------------|-------|-------------------------|-------|-------------------------|-------|-------------------------|-------|
|            | Production<br>(barrels) | Wells | Production<br>(barrels) | Wells | Production<br>(barrels) | Wells | Production<br>(barrels) | Wells |
| Anderson   | 203,735                 | 1,439 | 200,118                 | 1,419 | 188,043                 | 1,392 | 117,873                 | 1,316 |
| Atchison   |                         |       |                         |       |                         |       |                         |       |
| Barber     | 470,288                 | 610   | 473,796                 | 628   | 463,374                 | 649   | 345,616                 | 622   |
| Barton     | 1,528,182               | 1,558 | 1,600,114               | 1,577 | 1,480,976               | 1,567 | 967,739                 | 1,517 |
| Bourbon    | 41,175                  | 534   | 40,456                  | 519   | 38,293                  | 519   | 23,382                  | 432   |
| Brown      |                         |       |                         |       |                         |       |                         |       |
| Butler     | 1,216,702               | 1,341 | 1,277,954               | 1,358 | 1,282,138               | 1,305 | 772,506                 | 1,261 |
| Chase      | 37,592                  | 35    | 39,912                  | 55    | 38,535                  | 60    | 26,927                  | 66    |
| Chautauqua | 246,812                 | 1,075 | 238,488                 | 1,196 | 218,035                 | 1,154 | 139,173                 | 1,091 |
| Cherokee   |                         |       |                         |       |                         |       |                         |       |
| Cheyenne   | 61,970                  | 21    | 75,936                  | 23    | 95,935                  | 21    | 77,049                  | 18    |
| Clark      | 126,300                 | 127   | 126,464                 | 133   | 111,011                 | 106   | 79,124                  | 101   |
| Clay       | 2,928                   | 3     | 2,500                   | 3     | 2,399                   | 3     | 1,533                   | 3     |
| Coffey     | 133,453                 | 711   | 137,402                 | 701   | 148,705                 | 728   | 97,872                  | 713   |
| Comanche   | 192,308                 | 159   | 318,980                 | 166   | 724,295                 | 203   | 691,726                 | 194   |
| Cowley     | 466,866                 | 768   | 470,878                 | 779   | 488,140                 | 735   | 330,206                 | 716   |
| Crawford   | 17,467                  | 332   | 18,253                  | 338   | 18,987                  | 347   | 12,533                  | 350   |
| Decatur    | 120,455                 | 131   | 130,423                 | 126   | 131,553                 | 131   | 98,319                  | 126   |
| Dickinson  | 15,677                  | 34    | 14,501                  | 32    | 12,163                  | 34    | 8,535                   | 28    |
| Douglas    | 41,913                  | 272   | 36,632                  | 269   | 32,671                  | 261   | 20,188                  | 254   |
| Edwards    | 212,679                 | 302   | 203,564                 | 289   | 212,338                 | 291   | 153,505                 | 273   |
| Elk        | 69,366                  | 308   | 76,333                  | 322   | 77,674                  | 306   | 47,981                  | 288   |
| Ellis      | 2,502,824               | 2,080 | 2,761,846               | 2,108 | 2,808,143               | 2,122 | 1,925,543               | 2,087 |
| Ellsworth  | 316,172                 | 313   | 325,931                 | 312   | 304,696                 | 302   | 198,792                 | 282   |
| Finney     | 2,888,154               | 485   | 2,426,745               | 530   | 2,097,049               | 497   | 1,272,678               | 473   |
| Ford       | 74,338                  | 43    | 75,802                  | 41    | 70,398                  | 38    | 44,932                  | 37    |
| Franklin   | 90,855                  | 1,535 | 97,005                  | 1,622 | 90,503                  | 1,574 | 58,466                  | 1,524 |
| Geary      | 1,423                   | 1     | 1,376                   | 2     | 664                     | 1     | 866                     | 1     |
| Gove       | 451,340                 | 251   | 451,486                 | 262   | 427,392                 | 264   | 267,484                 | 255   |
| Graham     | 860,018                 | 665   | 940,594                 | 650   | 925,390                 | 655   | 658,903                 | 652   |
| Grant      | 296,599                 | 39    | 307,306                 | 42    | 344,321                 | 45    | 272,173                 | 44    |
| Gray       | 106,338                 | 36    | 101,539                 | 36    | 92,888                  | 36    | 59,487                  | 35    |
| Greeley    | 129,961                 | 36    | 184,831                 | 44    | 140,936                 | 43    | 84,248                  | 39    |
| Greenwood  | 557,146                 | 1,401 | 596,150                 | 1,428 | 554,947                 | 1,385 | 345,452                 | 1,346 |
| Hamilton   | 2,043                   | 3     | 334                     | 1     | 1,161                   | 1     | 1,353                   | 1     |
| Harper     | 348,845                 | 405   | 306,196                 | 410   | 330,045                 | 417   | 218,092                 | 390   |
| Harvey     | 136,517                 | 121   | 133,121                 | 124   | 138,524                 | 125   | 94,142                  | 124   |
| Haskell    | 1,700,579               | 426   | 2,336,890               | 469   | 2,130,866               | 513   | 1,174,337               | 478   |
| Hodgeman   | 369,323                 | 215   | 398,401                 | 207   | 379,981                 | 206   | 245,434                 | 207   |
| Jackson    | 4                       | 7     |                         |       |                         |       |                         |       |
| Jefferson  | 20,555                  | 53    | 21,547                  | 45    | 27,217                  | 45    | 17,281                  | 64    |
| Johnson    | 177,086                 | 652   | 168,286                 | 679   | 156,875                 | 649   | 90,773                  | 617   |
| Kearny     | 347,049                 | 110   | 337,118                 | 107   | 301,307                 | 105   | 191,643                 | 108   |
| Kingman    | 503,080                 | 660   | 466,472                 | 630   | 480,517                 | 628   | 326,617                 | 617   |
| Kiowa      | 360,999                 | 276   | 341,781                 | 272   | 311,762                 | 247   | 228,005                 | 241   |
| Labette    | 13,970                  | 114   | 10,867                  | 88    | 13,921                  | 79    | 6,218                   | 73    |
| Lane       | 516,786                 | 276   | 546,922                 | 274   | 472,905                 | 264   | 283,365                 | 252   |

Table 11, continued.

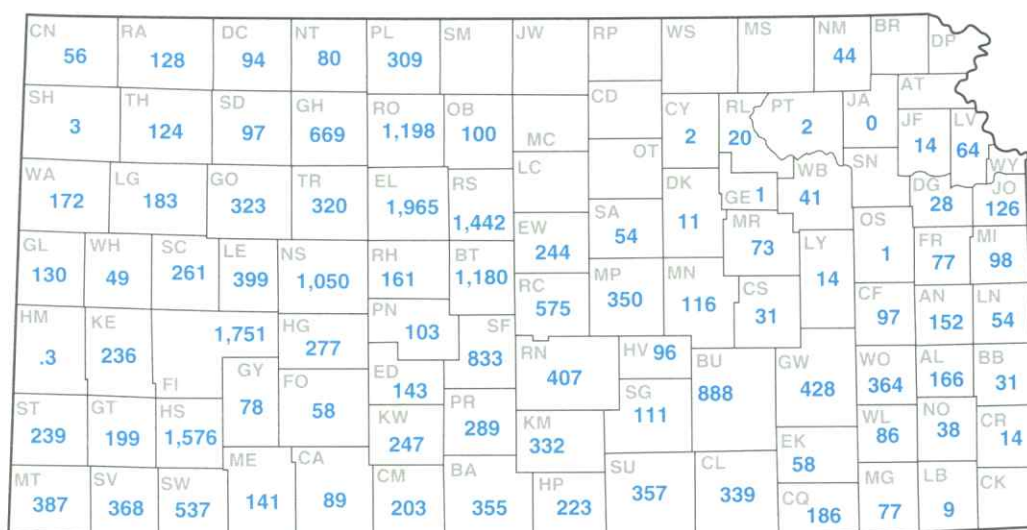
| County             | 1999                    |               | 2000                    |               | 2001                    |               | 2002                    |               |
|--------------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|
|                    | Production<br>(barrels) | Wells         | Production<br>(barrels) | Wells         | Production<br>(barrels) | Wells         | Production<br>(barrels) | Wells         |
| Leavenworth        | 78,638                  | 162           | 81,564                  | 162           | 73,523                  | 163           | 53,019                  | 165           |
| Linn               | 67,510                  | 795           | 71,304                  | 814           | 73,660                  | 782           | 53,777                  | 678           |
| Logan              | 27,1831                 | 98            | 254,805                 | 100           | 219,281                 | 102           | 154,236                 | 93            |
| Lyon               | 21,756                  | 55            | 19,656                  | 51            | 19,840                  | 50            | 13,325                  | 43            |
| McPherson          | 47,4208                 | 603           | 455,567                 | 603           | 440,270                 | 595           | 291,615                 | 567           |
| Marion             | 151,501                 | 443           | 155,875                 | 447           | 141,472                 | 420           | 90,094                  | 395           |
| Meade              | 207,288                 | 210           | 193,603                 | 129           | 198,450                 | 126           | 157,578                 | 120           |
| Miami              | 133,582                 | 2,038         | 135,909                 | 2,047         | 122,088                 | 1,948         | 79,672                  | 1,792         |
| Montgomery         | 100,192                 | 998           | 99,025                  | 1,078         | 88,279                  | 1,039         | 68,086                  | 914           |
| Morris             | 101,709                 | 91            | 102,751                 | 89            | 96,051                  | 89            | 62,672                  | 85            |
| Morton             | 574,126                 | 203           | 512,880                 | 202           | 508,705                 | 200           | 334,181                 | 204           |
| Nemaha             | 64,531                  | 29            | 58,470                  | 28            | 54,957                  | 26            | 33,573                  | 27            |
| Neosho             | 41,558                  | 787           | 48,025                  | 861           | 45,035                  | 788           | 27,516                  | 713           |
| Ness               | 1,405,351               | 788           | 1,473,128               | 785           | 1,344,587               | 791           | 880,214                 | 767           |
| Norton             | 104,908                 | 91            | 100,883                 | 82            | 98,291                  | 84            | 65,831                  | 79            |
| Osage              | 178                     | 2             | 642                     | 2             | 735                     | 2             | 762                     | 4             |
| Osborne            | 144,797                 | 95            | 142,062                 | 91            | 137,777                 | 96            | 87,073                  | 97            |
| Pawnee             | 134,054                 | 144           | 142,944                 | 140           | 143,000                 | 136           | 105,888                 | 129           |
| Phillips           | 435,149                 | 302           | 435,242                 | 292           | 428,416                 | 291           | 273,419                 | 289           |
| Pottawatomie       | 2,655                   | 6             | 3,174                   | 3             | 3,165                   | 3             | 2,242                   | 3             |
| Pratt              | 383,983                 | 514           | 397,497                 | 525           | 353,068                 | 501           | 214,211                 | 467           |
| Rawlins            | 190,403                 | 139           | 175,117                 | 135           | 182,353                 | 137           | 121,669                 | 142           |
| Reno               | 590,437                 | 409           | 557,072                 | 410           | 506,163                 | 424           | 333,347                 | 412           |
| Rice               | 761,953                 | 840           | 780,538                 | 922           | 725,717                 | 894           | 482,956                 | 809           |
| Riley              | 30,792                  | 33            | 26,629                  | 33            | 24,866                  | 33            | 16,423                  | 33            |
| Rooks              | 1,539,830               | 1,337         | 1,632,813               | 1,358         | 1,562,927               | 1,351         | 1,053,422               | 1,335         |
| Rush               | 230,066                 | 172           | 221,014                 | 171           | 221,602                 | 167           | 167,142                 | 167           |
| Russell            | 2,035,038               | 1,813         | 1,989,826               | 1,776         | 1,911,856               | 1,747         | 1,237,337               | 1,739         |
| Saline             | 68,296                  | 80            | 71,693                  | 83            | 69,129                  | 85            | 49,193                  | 91            |
| Scott              | 271,882                 | 85            | 383,720                 | 91            | 278,553                 | 84            | 180,605                 | 85            |
| Sedgwick           | 153,471                 | 116           | 156,542                 | 135           | 154,191                 | 130           | 97,999                  | 132           |
| Seward             | 871,418                 | 311           | 761,539                 | 304           | 694,115                 | 293           | 409,630                 | 278           |
| Sheridan           | 135,043                 | 92            | 135,095                 | 95            | 144,250                 | 97            | 91,609                  | 94            |
| Sherman            | 6,344                   | 3             | 4,431                   | 3             | 3,123                   | 4             | 4,054                   | 5             |
| Stafford           | 1,037,658               | 1,011         | 1,168,592               | 1,004         | 1,103,476               | 1,014         | 754,149                 | 1,000         |
| Stanton            | 277,175                 | 63            | 361,505                 | 67            | 405,609                 | 64            | 241,821                 | 62            |
| Stevens            | 538,820                 | 129           | 659,761                 | 151           | 825,597                 | 157           | 451,141                 | 122           |
| Sumner             | 490,091                 | 457           | 509,851                 | 469           | 520,558                 | 472           | 311,381                 | 460           |
| Thomas             | 195,023                 | 92            | 173,851                 | 89            | 146,098                 | 88            | 94,520                  | 89            |
| Trego              | 457,278                 | 447           | 463,143                 | 449           | 453,342                 | 444           | 291,170                 | 430           |
| Wabaunsee          | 53,959                  | 43            | 60,412                  | 43            | 55,676                  | 42            | 37,338                  | 39            |
| Wallace            | 350,271                 | 40            | 251,161                 | 19            | 255,604                 | 19            | 129,719                 | 19            |
| Wichita            | 39,370                  | 9             | 64,278                  | 10            | 55,521                  | 10            | 33,574                  | 10            |
| Wilson             | 106,580                 | 864           | 112,530                 | 976           | 113,678                 | 978           | 66,114                  | 915           |
| Woodson            | 460,831                 | 2,534         | 493,232                 | 2,652         | 482,477                 | 2,612         | 277,798                 | 2,441         |
| Wyandotte          |                         |               |                         |               |                         |               |                         |               |
| <b>State Total</b> | <b>33,989,688</b>       | <b>41,483</b> | <b>35,145,137</b>       | <b>42,218</b> | <b>34,090,146</b>       | <b>41,473</b> | <b>22,217,105</b>       | <b>39,624</b> |



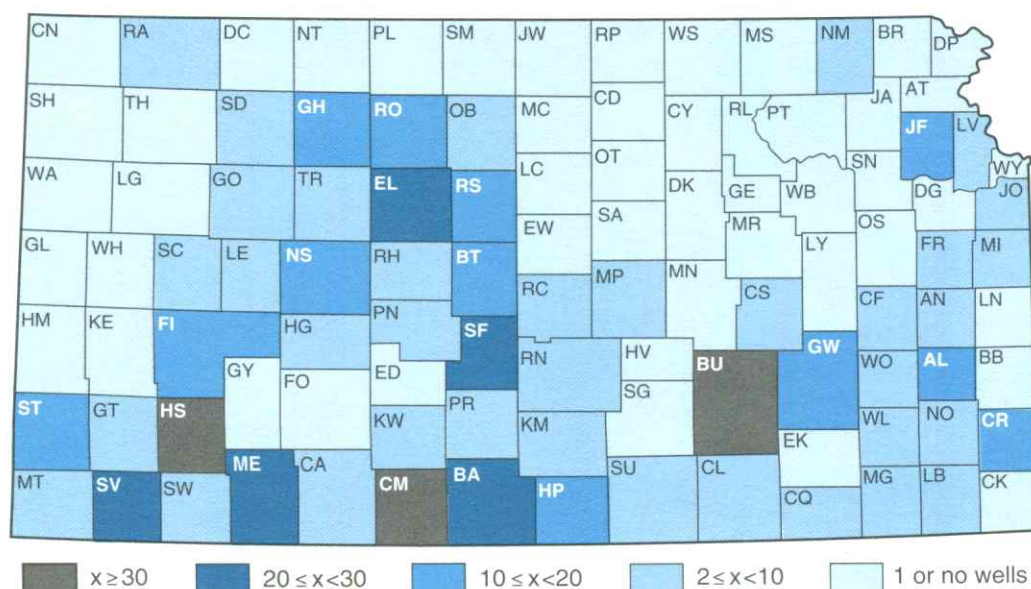
**Figure 18—Annual Kansas Oil Production, 1920–2020.** Summary of annual oil production (blue line) and annual production as a percentage of the cumulative production to that date (grey line). Projections are based on current decline rates, which would result in annual production of approximately 16 million barrels by 2020. Sources: U.S. Geological Survey, *Mineral Resources of the United States*, 1918–1925; U.S. Department of Interior, Bureau of Mines, *Minerals Yearbook*, 1926–1963; Kansas Geological Survey, Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

**Table 12—Kansas Crude Oil Refinery Capacity, as of January 1, 2002.** Capacity shown in barrels per calendar day. Source: U.S. Department of Energy, Energy Information Administration (EIA), *Petroleum Supply Annual 2000*, DOE/EIA-0340(00)/1, table 38 (EIA, 2001d).

| Refinery                            | Location            | Capacity (barrels/day) |
|-------------------------------------|---------------------|------------------------|
| Farmland Industries, Inc.           | Coffeyville, Kansas | 112,000                |
| Frontier Refining & Marketing, Inc. | El Dorado, Kansas   | 107,000                |
| NCRA                                | McPherson, Kansas   | 812,000                |



**Figure 19—Kansas Oil Production by County, 2000** (in thousands of barrels). Total state production was 35,133,000 barrels of oil. Source: Kansas Geological Survey, Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).



**Figure 20—Number of New Oil Wells in Kansas Counties, 2001.** Source: Kansas Geological Survey, Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).

**Table 13—Top 20 Oil-producing Counties in Kansas, 1990.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

| County       | Production (bbls) | Percent of Total State Production |
|--------------|-------------------|-----------------------------------|
| Ellis        | 4,092,086         | 7.13                              |
| Russell      | 3,374,653         | 5.88                              |
| Rooks        | 3,172,363         | 5.53                              |
| Barton       | 2,861,812         | 4.99                              |
| Ness         | 2,267,308         | 3.95                              |
| Stafford     | 2,193,492         | 3.82                              |
| Butler       | 2,156,498         | 3.76                              |
| Graham       | 1,957,195         | 3.41                              |
| Morton       | 1,686,320         | 2.94                              |
| Finney       | 1,626,570         | 2.84                              |
| Seward       | 1,521,427         | 2.65                              |
| Rice         | 1,368,586         | 2.39                              |
| Haskell      | 1,316,397         | 2.29                              |
| Cowley       | 1,176,951         | 2.05                              |
| Pratt        | 1,103,214         | 1.92                              |
| Gove         | 999,354           | 1.74                              |
| Greenwood    | 936,416           | 1.63                              |
| Lane         | 922,170           | 1.61                              |
| Barber       | 911,399           | 1.59                              |
| Trego        | 900,124           | 1.57                              |
| <b>Total</b> | <b>57,361,199</b> | <b>63.69</b>                      |

**Table 14—Top 20 Oil-producing Counties in Kansas, 2001.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

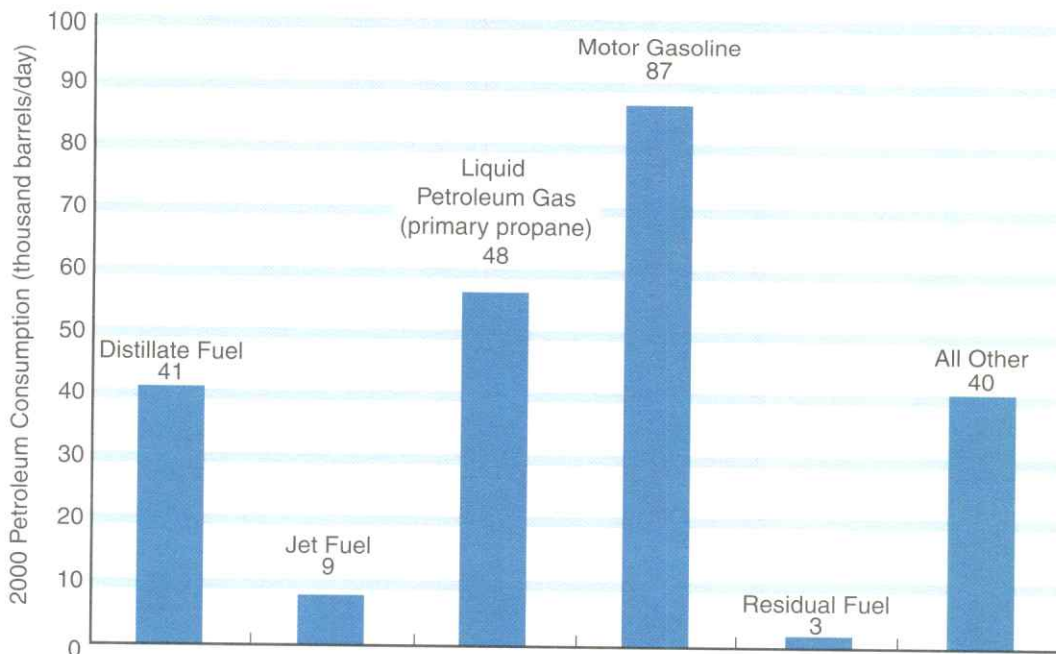
| County       | Production (bbls) | Percent of Total State Production |
|--------------|-------------------|-----------------------------------|
| Ellis        | 2,808,143         | 8.23                              |
| Haskell      | 2,127,883         | 6.24                              |
| Finney       | 2,097,049         | 6.15                              |
| Russell      | 1,911,856         | 5.61                              |
| Rooks        | 1,562,927         | 4.58                              |
| Barton       | 1,480,976         | 4.34                              |
| Ness         | 1,344,587         | 3.94                              |
| Butler       | 1,282,138         | 3.76                              |
| Stafford     | 1,103,476         | 3.24                              |
| Graham       | 925,390           | 2.71                              |
| Stevens      | 825,597           | 2.42                              |
| Rice         | 728,783           | 2.14                              |
| Comanche     | 724,134           | 2.12                              |
| Seward       | 713,758           | 2.09                              |
| Greenwood    | 554,947           | 1.63                              |
| Sumner       | 520,558           | 1.53                              |
| Morton       | 508,268           | 1.49                              |
| Reno         | 506,163           | 1.48                              |
| Cowley       | 488,140           | 1.43                              |
| Woodson      | 482,477           | 1.41                              |
| <b>Total</b> | <b>34,109,187</b> | <b>66.54</b>                      |

**Table 15—Top 20 Oil-producing Fields in Kansas, 1990.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

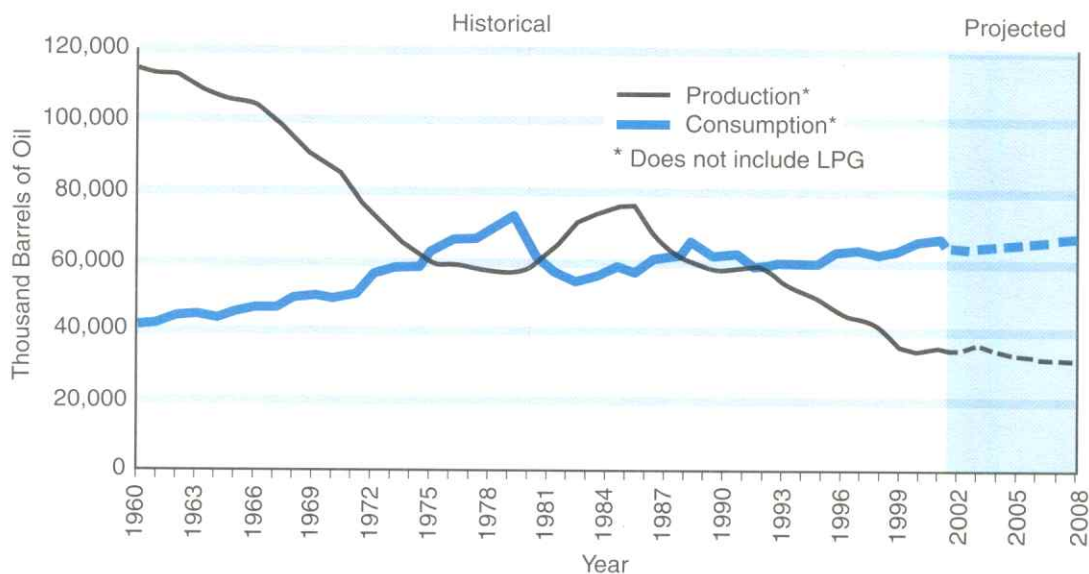
| Field name         | Barrels           | Percent of Total State Production |
|--------------------|-------------------|-----------------------------------|
| Bemis–Shutts       | 1,237,336         | 2.16                              |
| Trapp              | 1,109,649         | 1.93                              |
| Hall–Gurney        | 1,044,514         | 1.82                              |
| Big Bow            | 979,326           | 1.71                              |
| Chase–Silica       | 944,327           | 1.65                              |
| El Dorado          | 855,609           | 1.49                              |
| Shuck              | 821,179           | 1.43                              |
| Spivey–Grabs–Basil | 705,582           | 1.23                              |
| Fairport           | 554,338           | 0.97                              |
| Kraft–Prusa        | 509,642           | 0.89                              |
| Burrton            | 468,353           | 0.82                              |
| Stewart            | 431,249           | 0.75                              |
| Paola–Rantoul      | 429,699           | 0.75                              |
| Marcotte           | 405,174           | 0.71                              |
| Eubank             | 404,207           | 0.70                              |
| Gorham             | 399,286           | 0.70                              |
| Riffe              | 362,696           | 0.63                              |
| Pleasant Prairie   | 337,823           | 0.59                              |
| Morel              | 337,049           | 0.59                              |
| Damme              | 330,960           | 0.58                              |
| <b>Total</b>       | <b>57,361,199</b> | <b>22.10</b>                      |

**Table 16—Top 20 Oil-producing Fields in Kansas, 2001.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

| Field name                | Barrels           | Percent of Total State Production |
|---------------------------|-------------------|-----------------------------------|
| Bemis–Shutts              | 892,396           | 2.62                              |
| Pleasant Prairie          | 777,560           | 2.28                              |
| Chase–Silica              | 594,751           | 1.74                              |
| El Dorado                 | 589,382           | 1.73                              |
| Stewart                   | 567,388           | 1.66                              |
| Hall–Gurney               | 546,588           | 1.60                              |
| Trapp                     | 517,394           | 1.52                              |
| Spivey–Grabs–Basil        | 470,886           | 1.38                              |
| Eubank                    | 428,432           | 1.26                              |
| Fairport                  | 421,790           | 1.24                              |
| Burrton                   | 366,863           | 1.08                              |
| Terry                     | 290,409           | 0.85                              |
| Kraft–Prusa               | 288,089           | 0.84                              |
| Amazon Ditch              | 260,245           | 0.76                              |
| Herd                      | 258,520           | 0.76                              |
| Damme                     | 246,392           | 0.72                              |
| Gorham                    | 244,681           | 0.72                              |
| Mount Sunflower Southeast | 202,804           | 0.59                              |
| Victory                   | 202,650           | 0.59                              |
| Marcotte                  | 199,782           | 0.59                              |
| <b>Total</b>              | <b>34,109,187</b> | <b>24.53</b>                      |



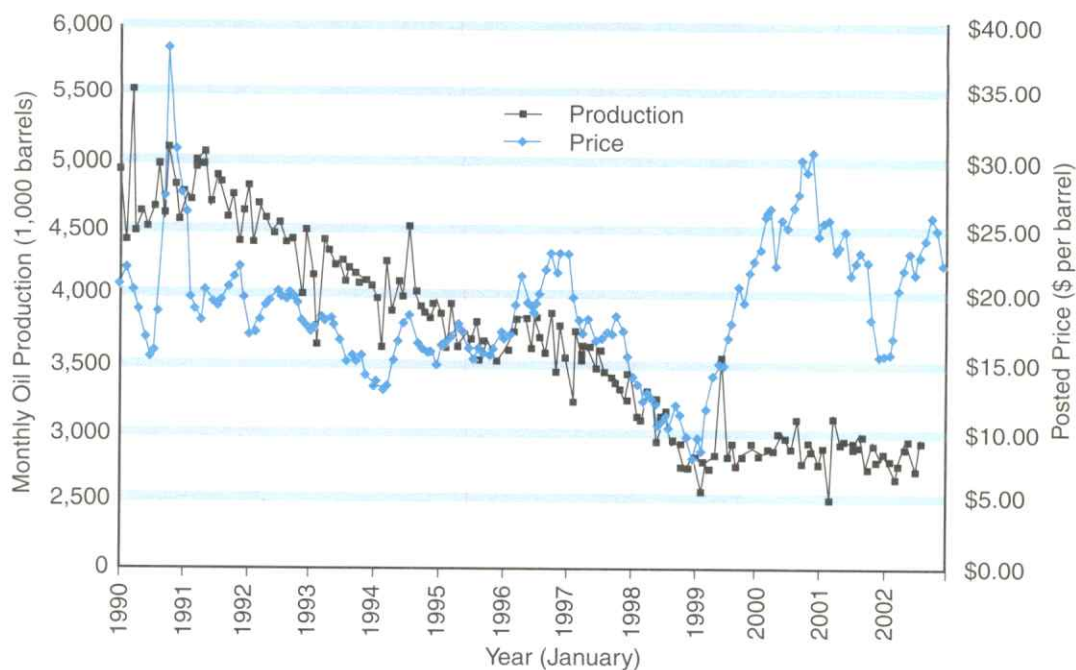
**Figure 21—Overview of Petroleum Consumption in Kansas, 2000.** Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).



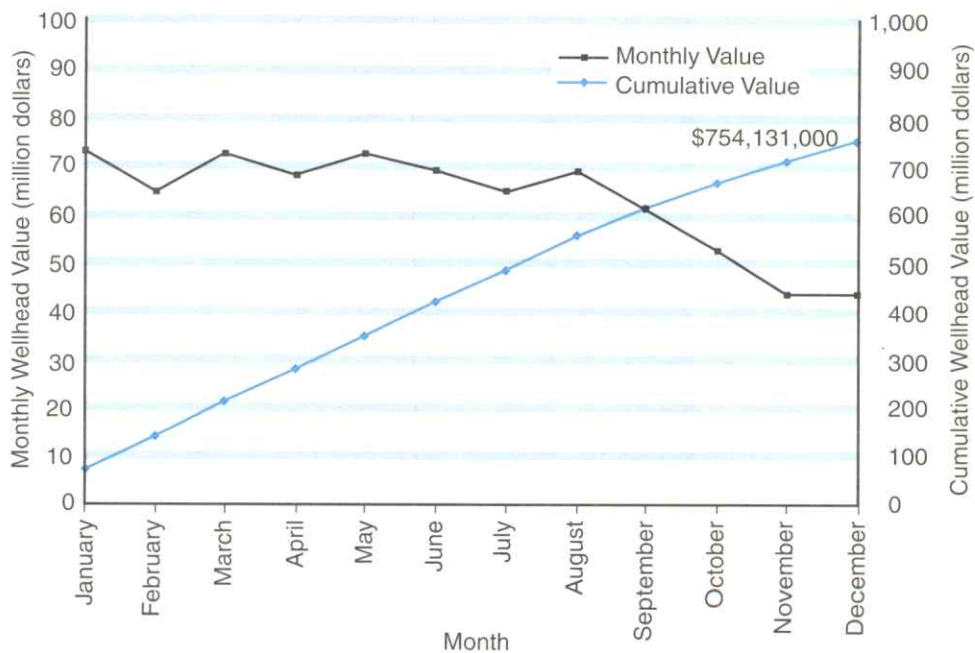
**Figure 22—Kansas Oil Production and Consumption, 1960–2008.** Production estimates begin with 2002; consumption estimates begin with 2001. Sources: Kansas Geological Survey, Open-file Reports, 2000-69, 2002-57 (Carr and White, 2000; Carr, 2000b).

**Table 17—Annual Kansas Oil Consumption Estimates, 1960–2000** (thousand barrels per year). NGL = Natural gas liquids; Other = subtotal of 16 petroleum products (including petroleum coke, plant condensate, waxes, unfinished oils, and others). Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report* (various years), DOE/EIA-0214 (EIA, 1995b, 1996, 1997c, 2000d, 2001c, 2003c).

| Year | Asphalt | Aviation | Distillate | Jet   | Kerosene | LPG    | Lubricants | Motor  | Residual | Other | Total  |
|------|---------|----------|------------|-------|----------|--------|------------|--------|----------|-------|--------|
| 1960 | 2,198   | 170      | 4,739      | 952   | 696      | 5,590  | 737        | 23,712 | 2,403    | 5,801 | 46,998 |
| 1961 | 2,718   | 173      | 5,170      | 970   | 539      | 5,768  | 717        | 24,012 | 1,511    | 6,455 | 48,033 |
| 1962 | 3,034   | 310      | 5,223      | 1,042 | 431      | 6,310  | 690        | 24,872 | 1,605    | 6,629 | 50,146 |
| 1963 | 2,859   | 367      | 5,570      | 1,072 | 388      | 6,705  | 690        | 25,148 | 1,653    | 6,798 | 51,250 |
| 1964 | 2,979   | 426      | 5,434      | 1,242 | 386      | 5,954  | 724        | 24,773 | 1,169    | 6,740 | 49,827 |
| 1965 | 3,061   | 493      | 5,257      | 1,053 | 1,813    | 6,521  | 770        | 25,525 | 1,066    | 6,186 | 51,745 |
| 1966 | 2,860   | 455      | 6,123      | 1,147 | 944      | 6,320  | 799        | 25,872 | 1,070    | 7,377 | 52,967 |
| 1967 | 2,349   | 373      | 5,824      | 1,606 | 528      | 7,064  | 711        | 26,501 | 1,372    | 7,340 | 53,668 |
| 1968 | 1,984   | 391      | 6,628      | 1,745 | 578      | 7,838  | 781        | 27,901 | 1,670    | 7,647 | 57,163 |
| 1969 | 2,046   | 316      | 6,408      | 1,685 | 584      | 8,638  | 643        | 28,530 | 1,523    | 8,035 | 58,408 |
| 1970 | 2,188   | 326      | 7,550      | 1,561 | 306      | 8,009  | 655        | 28,849 | 1,127    | 6,618 | 57,189 |
| 1971 | 2,554   | 299      | 8,385      | 1,525 | 183      | 7,769  | 738        | 29,136 | 811      | 7,189 | 58,589 |
| 1972 | 2,385   | 262      | 9,010      | 1,452 | 150      | 8,293  | 790        | 31,075 | 2,256    | 7,617 | 63,290 |
| 1973 | 2,628   | 212      | 10,303     | 1,399 | 137      | 8,472  | 933        | 31,273 | 2,541    | 8,271 | 66,169 |
| 1974 | 2,743   | 236      | 10,778     | 1,404 | 114      | 8,439  | 894        | 31,000 | 2,791    | 8,487 | 66,886 |
| 1975 | 2,162   | 177      | 11,273     | 1,310 | 100      | 8,857  | 773        | 32,004 | 6,365    | 8,568 | 71,589 |
| 1976 | 2,343   | 231      | 12,071     | 1,239 | 238      | 9,952  | 859        | 33,850 | 6,220    | 8,210 | 75,213 |
| 1977 | 2,597   | 253      | 12,456     | 1,426 | 333      | 10,087 | 1,011      | 33,273 | 6,282    | 8,606 | 76,324 |
| 1978 | 3,378   | 211      | 14,250     | 1,506 | 210      | 9,046  | 1,085      | 33,496 | 6,771    | 8,704 | 78,657 |
| 1979 | 3,164   | 244      | 19,555     | 1,922 | 798      | 9,862  | 1,136      | 31,885 | 4,718    | 8,963 | 82,247 |
| 1980 | 3,019   | 221      | 14,764     | 2,466 | 492      | 8,404  | 1,011      | 29,584 | 1,498    | 8,430 | 69,889 |
| 1981 | 1,869   | 214      | 13,414     | 2,442 | 240      | 7,438  | 970        | 29,272 | 1,037    | 7,259 | 64,155 |
| 1982 | 1,890   | 190      | 13,814     | 1,834 | 226      | 11,948 | 884        | 28,588 | 1,028    | 5,678 | 66,080 |
| 1983 | 1,450   | 176      | 14,009     | 1,492 | 182      | 12,021 | 926        | 28,603 | 1,956    | 6,236 | 67,051 |
| 1984 | 1,928   | 154      | 15,150     | 3,338 | 142      | 26,692 | 987        | 28,499 | 1,154    | 6,573 | 84,617 |
| 1985 | 1,700   | 137      | 15,040     | 4,424 | 57       | 24,510 | 920        | 28,209 | 86       | 5,705 | 80,788 |
| 1986 | 2,657   | 162      | 14,319     | 7,038 | 75       | 16,615 | 900        | 28,453 | 487      | 6,075 | 76,781 |
| 1987 | 2,614   | 121      | 16,713     | 4,285 | 72       | 16,113 | 1,017      | 29,123 | 353      | 6,524 | 76,935 |
| 1988 | 4,378   | 148      | 16,591     | 4,176 | 42       | 19,029 | 981        | 30,819 | 811      | 7,687 | 84,662 |
| 1989 | 3,109   | 156      | 15,785     | 3,833 | 56       | 18,889 | 1,006      | 29,852 | 370      | 7,763 | 80,819 |
| 1990 | 3,875   | 136      | 16,561     | 3,701 | 27       | 15,565 | 1,035      | 28,626 | 232      | 7,809 | 77,567 |
| 1991 | 3,721   | 124      | 15,714     | 3,296 | 24       | 13,293 | 926        | 28,041 | 128      | 5,973 | 71,240 |
| 1992 | 3,715   | 142      | 15,154     | 4,164 | 33       | 16,816 | 944        | 27,821 | 180      | 6,595 | 75,564 |
| 1993 | 3,635   | 151      | 16,268     | 3,617 | 36       | 8,269  | 962        | 28,480 | 373      | 5,563 | 67,354 |
| 1994 | 4,741   | 142      | 15,770     | 1,981 | 17       | 7,754  | 1,005      | 29,073 | 190      | 6,137 | 66,810 |
| 1995 | 3,911   | 146      | 19,446     | 2,414 | 28       | 4,924  | 988        | 29,402 | 31       | 5,872 | 67,162 |
| 1996 | 3,581   | 177      | 16,964     | 2,009 | 37       | 10,442 | 959        | 30,927 | 292      | 7,941 | 73,329 |
| 1997 | 2,115   | 247      | 17,142     | 2,130 | 58       | 14,557 | 1,013      | 30,695 | 260      | 8,119 | 76,336 |
| 1998 | 2,699   | 199      | 16,215     | 2,157 | 50       | 14,121 | 1,060      | 32,001 | 286      | 7,344 | 76,132 |
| 1999 | 2,358   | 240      | 15,514     | 3,476 | 360      | 21,741 | 1,071      | 33,550 | 616      | 7,585 | 86,511 |
| 2000 | 2,470   | 215      | 15,113     | 3,234 | 32       | 17,401 | 1,055      | 31,894 | 1,025    | 7,173 | 79,612 |



**Figure 23—Monthly Kansas Oil Production and Average Wellhead Price, 1990–2003.** Prices (in nominal dollars) are average monthly posted prices from Koch Petroleum Group for central Kansas crude (<http://www.kochoil.com/>). Source: Kansas Geological Survey ([www.kgs.ku.edu/](http://www.kgs.ku.edu/)).



**Figure 24—Cumulative and Monthly Wellhead Values for Kansas Oil Production, 2001** (millions of dollars). Source: Kansas Geological Survey, Open-file Report 2002-38 (Carr, 2002a).

## Section 4—Natural Gas

Natural gas accounts for over 60% of the state's current primary energy production. Kansas is one of the top gas-producing states in the nation and remains a net exporter of natural gas. Kansas continues to consume large amounts of natural gas: in 2000, natural gas accounted for roughly one-quarter of the state's total energy consumption. In 1960, natural gas made up almost 60% of the state's consumption (SERCC, 2003). The tables and graphs in this section contain data on the production, consumption, and prices of natural gas in Kansas.

**Table 18—Natural Gas Production in Kansas, 1886–2000, Selected Years** (thousand cubic feet). Note: 2002 data were incomplete at press time (2/2003). Sources: production data before 1970 (Beene, 1969, 1970, 1971; Oros and Beene, 1968; Schoewe, 1958a, 1958b, 1961), 1970 to present from Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

| Year | Quantity<br>(mcf) | Year | Quantity<br>(mcf) |
|------|-------------------|------|-------------------|
| 1886 | 68,220            | 1974 | 892,980,437       |
| 1896 | 1,218,408         | 1975 | 850,619,667       |
| 1906 | 69,323,000        | 1976 | 833,152,269       |
| 1916 | 31,710,000        | 1977 | 786,139,953       |
| 1926 | 38,095,000        | 1978 | 865,515,364       |
| 1936 | 69,178,000        | 1979 | 810,947,571       |
| 1946 | 143,005,000       | 1980 | 692,446,204       |
| 1950 | 361,874,912       | 1981 | 615,833,698       |
| 1951 | 407,192,252       | 1982 | 435,477,059       |
| 1952 | 408,732,836       | 1983 | 437,826,904       |
| 1953 | 420,588,383       | 1984 | 495,028,801       |
| 1954 | 405,841,987       | 1985 | 536,352,832       |
| 1955 | 466,180,157       | 1986 | 475,092,574       |
| 1956 | 525,931,757       | 1987 | 471,924,748       |
| 1957 | 580,698,954       | 1988 | 597,054,233       |
| 1958 | 894,308,000       | 1989 | 612,066,522       |
| 1959 | 595,244,836       | 1990 | 592,478,200       |
| 1960 | 632,609,850       | 1991 | 650,356,666       |
| 1961 | 676,235,505       | 1992 | 658,890,848       |
| 1962 | 725,303,140       | 1993 | 683,486,077       |
| 1963 | 773,373,504       | 1994 | 728,949,703       |
| 1964 | 809,328,250       | 1995 | 735,772,926       |
| 1965 | 808,788,878       | 1996 | 736,064,951       |
| 1966 | 856,421,989       | 1997 | 691,015,494       |
| 1967 | 881,138,736       | 1998 | 608,639,645       |
| 1968 | 848,380,950       | 1999 | 567,360,350       |
| 1969 | 888,038,529       | 2000 | 533,125,284       |
| 1970 | 901,017,449       | 2001 | 483,869,126       |
| 1971 | 885,121,377       | 2002 | 308,513,129       |
| 1972 | 890,668,767       |      |                   |
| 1973 | 892,676,144       |      |                   |

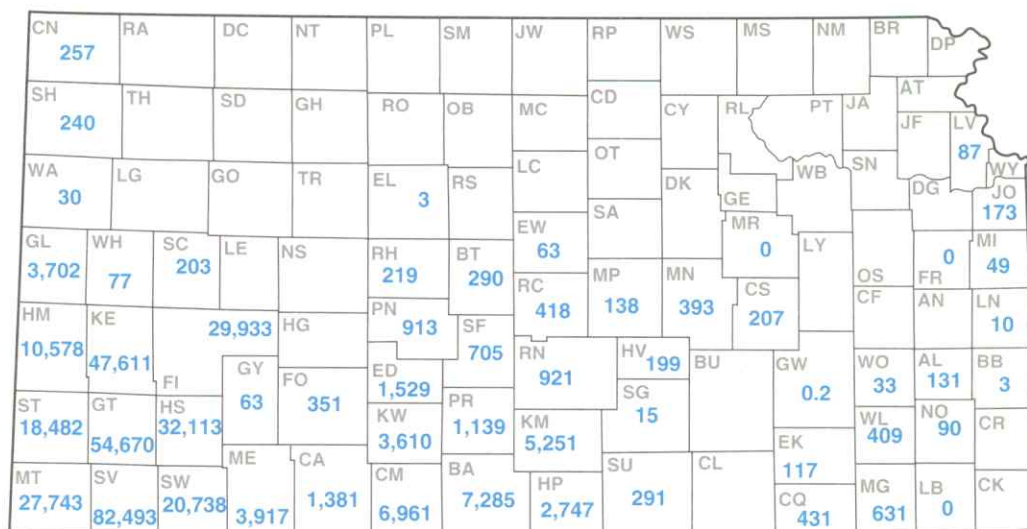
**Table 19—Kansas Natural Gas Production and Number of Producing Wells by County, 1999–2002**

(thousand cubic feet). Note: 2002 data incomplete at press time. Sources: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>) and Master List of Oil and Gas Wells in Kansas (<http://www.kgs.ku.edu/Magellan/Qualified/index.html>).

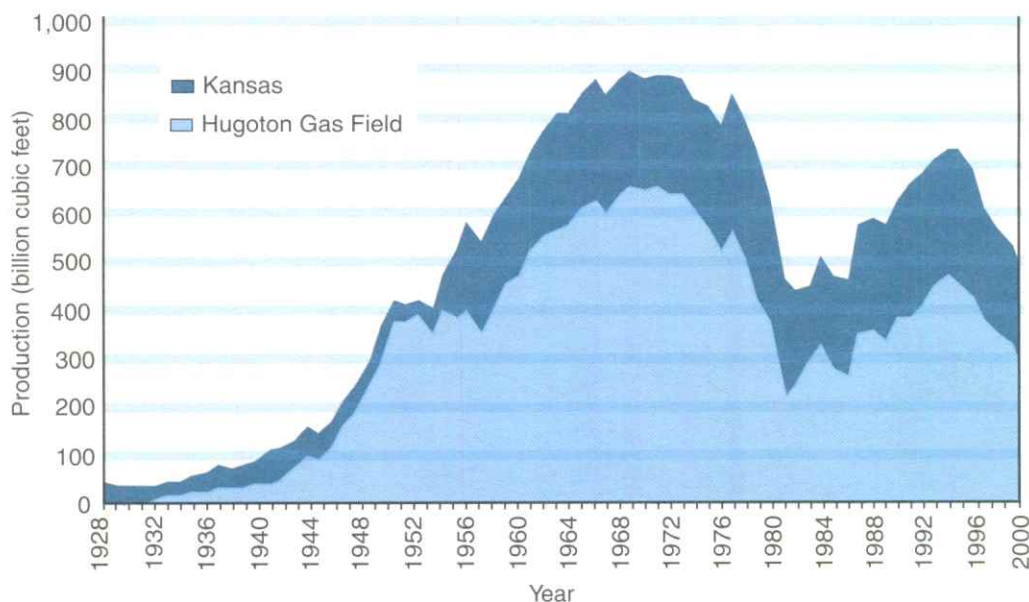
| County      | 1999                |       | 2000                |       | 2001                |       | 2002                |       |
|-------------|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|-------|
|             | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells |
| Allen       | 170,168             | 38    | 193,163             | 38    | 144,776             | 43    | 98,991              | 53    |
| Anderson    |                     |       |                     |       |                     |       |                     |       |
| Atchison    |                     |       |                     |       |                     |       |                     |       |
| Barber      | 10,973,731          | 683   | 11,546,118          | 695   | 10,667,264          | 683   | 7,377,040           | 699   |
| Barton      | 420,650             | 30    | 425,352             | 31    | 588,408             | 39    | 388,502             | 39    |
| Bourbon     | 5,568               | 5     | 4,832               | 5     | 3,620               | 5     | 2,224               | 5     |
| Brown       |                     |       |                     |       |                     |       |                     |       |
| Butler      |                     |       |                     |       |                     |       |                     |       |
| Chase       | 244,183             | 120   | 288,281             | 134   | 223,745             | 67    | 252,413             | 120   |
| Chautauqua  | 583,860             | 123   | 695,686             | 136   | 733,283             | 145   | 442,127             | 135   |
| Cherokee    |                     |       |                     |       | 11,392              | 1     | 6,927               | 1     |
| Cheyenne    | 388,061             | 61    | 340,131             | 74    | 503,228             | 118   | 715,537             | 114   |
| Clark       | 2,885,573           | 161   | 3,252,064           | 165   | 2,558,607           | 165   | 1,588,730           | 155   |
| Clay        |                     |       |                     |       |                     |       |                     |       |
| Coffey      |                     |       |                     |       |                     |       |                     |       |
| Comanche    | 9,412,469           | 200   | 9,828,252           | 261   | 10,976,953          | 267   | 5,794,814           | 256   |
| Cowley      | 67,774              | 54    | 60,959              | 51    | 16,925              | 44    | 21,649              | 35    |
| Crawford    |                     |       |                     |       |                     |       |                     |       |
| Decatur     |                     |       |                     |       |                     |       |                     |       |
| Dickinson   |                     |       |                     |       |                     |       |                     |       |
| Douglas     |                     |       |                     |       |                     |       |                     |       |
| Edwards     | 2,400,327           | 204   | 2,331,009           | 205   | 2,381,239           | 215   | 1,630,686           | 206   |
| Elk         | 168,072             | 32    | 163,870             | 29    | 135,319             | 31    | 84,133              | 25    |
| Ellis       | 7,906               | 1     | 3,935               | 1     | 3,589               | 1     | 1,415               | 0     |
| Ellsworth   | 125,068             | 14    | 87,411              | 14    | 68,467              | 15    | 47,407              | 11    |
| Finney      | 44,619,311          | 1,277 | 41,475,030          | 1,297 | 38,351,448          | 1,323 | 23,504,592          | 1,313 |
| Ford        | 564,140             | 26    | 463,088             | 24    | 373,024             | 23    | 219,478             | 22    |
| Franklin    | 24,044              | 47    | 5,320               | 44    | 39,638              | 47    | 18,275              | 13    |
| Geary       |                     |       |                     |       |                     |       |                     |       |
| Gove        |                     |       |                     |       |                     |       |                     |       |
| Graham      |                     |       |                     |       |                     |       |                     |       |
| Grant       | 85,915,206          | 1,727 | 77,308,221          | 1,730 | 68,329,745          | 1,727 | 42,697,403          | 1,727 |
| Gray        | 112,122             | 4     | 97,513              | 4     | 93,418              | 3     | 47,242              | 3     |
| Greeley     | 5,327,747           | 148   | 4,969,652           | 153   | 4,177,311           | 156   | 2,391,638           | 151   |
| Greenwood   | 1,929               | 1     | 1,476               | 1     | 5,166               | 1     | 1,558               | 1     |
| Hamilton    | 14,885,579          | 453   | 13,103,994          | 466   | 13,285,016          | 487   | 8,793,944           | 490   |
| Harper      | 4,100,533           | 319   | 3,954,368           | 317   | 3,972,952           | 335   | 2,756,198           | 326   |
| Harvey      | 295,316             | 54    | 265,329             | 50    | 271,752             | 49    | 162,239             | 46    |
| Haskell     | 45,809,294          | 1,130 | 44,426,206          | 1,207 | 40,413,250          | 1,236 | 25,490,473          | 1,191 |
| Hodgeman    |                     |       | 37,098              | 1     | 8,075               | 1     |                     |       |
| Jackson     |                     |       |                     |       |                     |       |                     |       |
| Jefferson   | 0                   | 0     |                     |       | 4,126               | 1     |                     |       |
| Johnson     | 417,981             | 87    | 217,046             | 83    | 146,259             | 81    | 74,082              | 74    |
| Kearny      | 70,720,932          | 1,737 | 65,584,904          | 1,771 | 60,499,960          | 1,777 | 38,160,933          | 1,771 |
| Kingman     | 7,767,312           | 602   | 7,340,323           | 604   | 7,485,888           | 609   | 4,716,015           | 603   |
| Kiowa       | 6,026,023           | 203   | 5,602,715           | 200   | 5,425,494           | 200   | 3,555,355           | 200   |
| Labette     | 36,980              | 52    | 47,342              | 33    | 78,921              | 40    | 53,982              | 36    |
| Lane        |                     |       |                     |       |                     |       |                     |       |
| Leavenworth | 131,605             | 66    | 124,877             | 83    | 113,391             | 75    | 61,401              | 69    |
| Linn        | 14,729              | 9     | 14,834              | 9     | 9,093               | 9     | 6,108               | 9     |
| Logan       |                     |       |                     |       |                     |       |                     |       |

Table 19, continued.

| County       | 1999                |       | 2000                |       | 2001                |       | 2002                |       |
|--------------|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|-------|
|              | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells | Production<br>(mcf) | Wells |
| Lyon         |                     |       |                     |       |                     |       |                     |       |
| McPherson    | 216,171             | 68    | 181,888             | 59    | 172,804             | 57    | 100,836             | 49    |
| Marion       | 581,190             | 194   | 587,830             | 208   | 550,457             | 203   | 333,195             | 201   |
| Meade        | 6,925,131           | 292   | 6,277,538           | 299   | 6,209,578           | 302   | 4,724,297           | 283   |
| Miami        |                     |       | 83,959              | 20    | 108,227             | 22    | 92,658              | 24    |
| Montgomery   | 1,048,442           | 239   | 1,181,672           | 278   | 1,596,151           | 350   | 985,034             | 350   |
| Morris       |                     |       |                     |       |                     |       |                     |       |
| Morton       | 47,203,827          | 1,306 | 43,211,379          | 1,296 | 41,183,627          | 1,300 | 30,147,883          | 1,280 |
| Nemaha       |                     |       |                     |       |                     |       |                     |       |
| Neosho       | 180,754             | 60    | 181,027             | 48    | 609,612             | 50    | 842,597             | 57    |
| Ness         |                     |       |                     |       |                     |       |                     |       |
| Norton       |                     |       |                     |       |                     |       |                     |       |
| Osage        |                     |       |                     |       |                     |       |                     |       |
| Osborne      |                     |       |                     |       |                     |       |                     |       |
| Pawnee       | 1,391,383           | 189   | 1,242,403           | 186   | 1,020,028           | 171   | 635,226             | 158   |
| Phillips     |                     |       |                     |       |                     |       |                     |       |
| Pottawatomie |                     |       |                     |       |                     |       |                     |       |
| Pratt        | 1,857,264           | 233   | 1,620,755           | 231   | 1,550,970           | 231   | 950,556             | 225   |
| Rawlins      |                     |       |                     |       |                     |       |                     |       |
| Reno         | 1,426,631           | 119   | 1,208,333           | 115   | 1,045,706           | 107   | 645,876             | 104   |
| Rice         | 585,564             | 60    | 572,081             | 56    | 574,285             | 57    | 380,504             | 58    |
| Riley        |                     |       |                     |       |                     |       |                     |       |
| Rooks        |                     |       |                     |       |                     |       |                     |       |
| Rush         | 685,125             | 56    | 300,572             | 53    | 322,331             | 55    | 207,197             | 55    |
| Russell      |                     |       |                     |       |                     |       |                     |       |
| Saline       |                     |       |                     |       |                     |       |                     |       |
| Scott        | 338,613             | 22    | 317,998             | 22    | 307,499             | 20    | 184,378             | 20    |
| Sedgwick     | 23,768              | 4     | 19,871              | 4     | 18,665              | 5     | 18,373              | 5     |
| Seward       | 33,812,781          | 1,068 | 31,771,152          | 1,078 | 28,932,264          | 1,096 | 17,196,206          | 1,085 |
| Sheridan     |                     |       |                     |       |                     |       |                     |       |
| Sherman      | 281,403             | 37    | 289,978             | 42    | 407,668             | 50    | 227,126             | 50    |
| Stafford     | 1,250,226           | 93    | 1,060,411           | 88    | 925,295             | 96    | 661,187             | 102   |
| Stanton      | 27,078,546          | 750   | 24,921,846          | 756   | 23,091,075          | 772   | 14,919,402          | 767   |
| Stevens      | 126,167,633         | 2,216 | 122,209,107         | 2,224 | 101,098,252         | 2,235 | 62,660,244          | 2,220 |
| Sumner       | 698,100             | 41    | 711,635             | 33    | 633,084             | 33    | 481,493             | 29    |
| Thomas       |                     |       |                     |       |                     |       |                     |       |
| Trego        |                     |       |                     |       |                     |       |                     |       |
| Wabaunsee    |                     |       |                     |       |                     |       |                     |       |
| Wallace      | 167,492             | 1     | 140,639             | 4     | 260,391             | 4     | 56,249              | 2     |
| Wichita      | 112,161             | 4     | 104,365             | 4     | 118,433             | 5     | 66,986              | 5     |
| Wilson       | 635,785             | 122   | 604,290             | 122   | 796,291             | 139   | 816,547             | 168   |
| Woodson      | 50,086              | 20    | 43,181              | 21    | 35,683              | 21    | 15,568              | 20    |
| Wyandotte    |                     |       |                     |       |                     |       |                     |       |



**Figure 25—Kansas Natural Gas Production by County, 2000** (in million cubic feet). Source: Kansas Geological Survey, KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).



**Figure 26—Kansas Natural Gas Production from the Hugoton Field and the State as a Whole, 1928–2000.** Source: Kansas Geological Survey, Public Information Circular 5, fig. 4, and KGS Oil and Gas Data Bases (<http://www.kgs.ku.edu/PRS/petroDB.html>).

**Table 20—Kansas Gross Withdrawal and Marketed Production of Natural Gas, 1967–2000.** All volumes are shown in million cubic feet. Sources: Gross withdrawal data, 1967–1981 (EIA, 1986); 1982–1988, 1999 (EIA, 2000e); 1989–1992 (EIA, 1993b); 1993–1996 (EIA, 1997b); 1997–2001 (EIA, 2001a). Marketed production data, 1967–1996 (EIA, 2000g); 1997–2000 (EIA, 2001a). Losses data, 1967–1984, 1999 (EIA, 1999); 1990 (EIA, 1991); 1991–1995b (EIA, 1995a); 1996 (EIA, 1997b); 1997–2001 (EIA, 2001a).

| Year | Gross Withdrawals |                |         | Losses       |                 | Marketed Production |
|------|-------------------|----------------|---------|--------------|-----------------|---------------------|
|      | From Gas Wells    | From Oil Wells | Total   | Repressuring | Vented & Flared |                     |
| 1967 | 730,762           | 145,591        | 876,353 | 1,752        | 2,630           | 871,971             |
| 1968 | 690,216           | 149,557        | 839,773 | 1,689        | 2,529           | 835,555             |
| 1969 | 744,631           | 142,972        | 887,603 | 1,781        | 2,666           | 883,156             |
| 1970 | 752,934           | 151,541        | 904,475 | 1,807        | 2,713           | 899,955             |
| 1971 | 729,262           | 160,330        | 889,592 | 1,779        | 2,669           | 885,144             |
| 1972 | 751,921           | 141,815        | 893,736 | 1,787        | 2,681           | 889,268             |
| 1973 | 745,662           | 151,627        | 897,289 | 1,794        | 2,377           | 893,118             |
| 1974 | 747,580           | 141,870        | 889,450 | 1,779        | 889             | 886,782             |
| 1975 | 705,746           | 140,418        | 846,164 | 1,693        | 846             | 843,625             |
| 1976 | 704,197           | 127,467        | 831,664 | 1,663        | 831             | 829,170             |
| 1977 | 678,286           | 105,351        | 783,637 | 1,565        | 783             | 781,289             |
| 1978 | 737,575           | 119,496        | 857,071 | 1,726        | 861             | 854,484             |
| 1979 | 677,727           | 122,436        | 800,163 | 1,600        | 801             | 797,762             |
| 1980 | 604,778           | 132,468        | 737,246 | 1,474        | 737             | 735,035             |
| 1981 | 532,385           | 109,448        | 641,833 | 1,078        | 641             | 640,114             |
| 1982 | 354,602           | 87,641         | 442,243 | 861          | 431             | 440,951             |
| 1983 | 358,943           | 89,572         | 448,515 | 872          | 436             | 447,207             |
| 1984 | 384,825           | 96,788         | 481,613 | 935          | 467             | 480,211             |
| 1985 | 423,502           | 106,073        | 529,575 | 1,028        | 514             | 528,032             |
| 1986 | 468,220           | NA             | 468,220 | 753          | 450             | 478,963             |
| 1987 | 377,625           | 96,501         | 474,126 | 917          | 458             | 472,752             |
| 1988 | 483,257           | 111,129        | 594,386 | 963          | 578             | 592,845             |
| 1989 | 510,391           | 92,331         | 602,722 | 1,017        | 509             | 601,196             |
| 1990 | 467,467           | 107,622        | 575,089 | 930          | 557             | 573,603             |
| 1991 | 550,241           | 79,943         | 630,184 | 1,098        | 628             | 628,459             |
| 1992 | 580,572           | 79,169         | 659,741 | 1,092        | 642             | 658,007             |
| 1993 | 605,578           | 82,579         | 688,157 | 1,140        | 670             | 686,347             |
| 1994 | 628,900           | 85,759         | 714,659 | 1,215        | 715             | 712,730             |
| 1995 | 636,582           | 86,807         | 723,389 | 1,230        | 723             | 721,436             |
| 1996 | 629,755           | 85,876         | 715,631 | 2,120        | 716             | 712,796             |
| 1997 | 618,016           | 71,037         | 689,053 | 1,157        | 680             | 687,215             |
| 1998 | 532,594           | 72,626         | 605,220 | 1,029        | 605             | 603,586             |
| 1999 | 488,328           | 66,590         | 554,918 | 943          | 555             | 553,419             |
| 2000 | 463,929           | 63,222         | 527,151 | 994          | 556             | 525,729             |
| 2001 | 423,672           | 57,773         | 481,445 | 818          | 481             | 480,145             |

**Table 21—Top 20 Natural Gas-producing Counties in Kansas, 1990** (thousand cubic feet). Source: Kansas Geological Survey, KGS Oil and Gas Data Bases ([www.kgs.ku.edu/PRS/petro.html](http://www.kgs.ku.edu/PRS/petro.html)).

| County       | Production         | Percent      |
|--------------|--------------------|--------------|
| Stevens      | 149,619,004        | 25.08        |
| Grant        | 107,412,586        | 18.00        |
| Kearny       | 58,280,495         | 9.77         |
| Morton       | 50,053,067         | 8.39         |
| Haskell      | 37,398,294         | 6.27         |
| Finney       | 35,991,543         | 6.03         |
| Seward       | 35,015,368         | 5.87         |
| Stanton      | 15,346,607         | 2.57         |
| Barber       | 14,635,973         | 2.45         |
| Kingman      | 12,553,998         | 2.10         |
| Kiowa        | 11,579,159         | 1.94         |
| Hamilton     | 10,287,735         | 1.72         |
| Meade        | 9,186,337          | 1.54         |
| Comanche     | 7,936,788          | 1.33         |
| Greeley      | 5,392,775          | 0.90         |
| Harper       | 5,341,887          | 0.90         |
| Clark        | 4,557,888          | 0.76         |
| Edwards      | 3,518,282          | 0.59         |
| Pratt        | 3,345,701          | 0.56         |
| Pawnee       | 2,093,986          | 0.35         |
| <b>Total</b> | <b>596,655,915</b> | <b>97.12</b> |

**Table 22—Top 20 Natural Gas-producing Counties in Kansas, 2001** (thousand cubic feet). Source: Kansas Geological Survey, KGS Oil and Gas Data Bases ([www.kgs.ku.edu/PRS/petro.html](http://www.kgs.ku.edu/PRS/petro.html)).

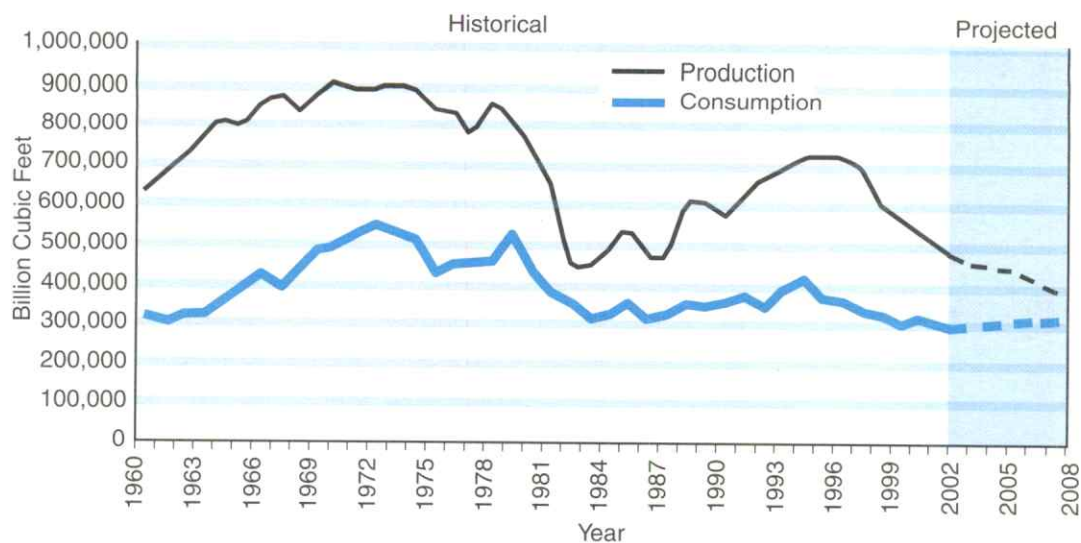
| County       | Production         | Percent      |
|--------------|--------------------|--------------|
| Stevens      | 101,070,545        | 20.91        |
| Grant        | 68,330,552         | 14.14        |
| Kearny       | 60,504,594         | 12.52        |
| Morton       | 41,181,916         | 8.52         |
| Haskell      | 40,423,120         | 8.36         |
| Finney       | 38,339,989         | 7.93         |
| Seward       | 28,751,606         | 5.95         |
| Stanton      | 23,111,671         | 4.78         |
| Hamilton     | 13,261,877         | 2.74         |
| Comanche     | 10,976,953         | 2.27         |
| Barber       | 10,635,438         | 2.20         |
| Kingman      | 7,483,556          | 1.55         |
| Meade        | 6,169,935          | 1.28         |
| Kiowa        | 5,424,572          | 1.12         |
| Greeley      | 4,177,311          | 0.86         |
| Harper       | 3,995,363          | 0.83         |
| Clark        | 2,558,901          | 0.53         |
| Edwards      | 2,381,239          | 0.49         |
| Montgomery   | 1,599,192          | 0.33         |
| Pratt        | 1,550,970          | 0.32         |
| <b>Total</b> | <b>483,411,603</b> | <b>97.63</b> |

**Table 23—Top 20 Natural Gas-producing Fields in Kansas, 1990.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases ([www.kgs.ku.edu/PRS/petro.html](http://www.kgs.ku.edu/PRS/petro.html)).

| Field Name           | MCF                | Percent      |
|----------------------|--------------------|--------------|
| Hugoton Gas Area     | 329,390,484        | 55.21        |
| Panoma Gas Area      | 99,985,177         | 16.76        |
| Spivey-Grabs-Basil   | 10,777,593         | 1.81         |
| Greenwood Gas Area   | 10,535,781         | 1.77         |
| Bradshaw Gas Area    | 9,913,320          | 1.66         |
| Glick                | 8,456,181          | 1.42         |
| Aetna Gas Area       | 6,076,389          | 1.02         |
| McKinney             | 4,778,642          | 0.80         |
| Hitch                | 3,264,942          | 0.55         |
| Byerly               | 2,197,611          | 0.37         |
| Wilmore              | 2,075,526          | 0.35         |
| Wide Awake           | 2,058,399          | 0.34         |
| Kinsler              | 2,023,658          | 0.34         |
| Feterita             | 2,021,017          | 0.34         |
| Victory              | 1,885,394          | 0.32         |
| Will-Bros            | 1,749,247          | 0.29         |
| Pleasant Valley      | 1,696,892          | 0.28         |
| Cave West            | 1,446,374          | 0.24         |
| Thirty-One Southwest | 1,383,222          | 0.23         |
| Larrabee             | 1,327,465          | 0.22         |
| <b>Total</b>         | <b>596,655,915</b> | <b>84.32</b> |

**Table 24—Top 20 Natural Gas-producing Fields in Kansas, 2001.** Source: Kansas Geological Survey, KGS Oil and Gas Data Bases ([www.kgs.ku.edu/PRS/petro.html](http://www.kgs.ku.edu/PRS/petro.html)).

| Field Name           | MCF                | Percent      |
|----------------------|--------------------|--------------|
| Hugoton Gas Area     | 282,699,393        | 58.48        |
| Panoma Gas Area      | 70,753,271         | 14.64        |
| Greenwood Gas Area   | 11,657,849         | 2.41         |
| Bradshaw Gas Area    | 10,990,416         | 2.27         |
| Spivey-Grabs-Basil   | 7,109,424          | 1.47         |
| Glick                | 3,899,518          | 0.81         |
| Aetna Gas Area       | 3,645,638          | 0.75         |
| McKinney             | 2,440,471          | 0.50         |
| Christopher          | 2,076,076          | 0.43         |
| Byerly               | 1,609,011          | 0.33         |
| Eubank               | 1,445,266          | 0.30         |
| Medicine Lodge-Boggs | 1,391,215          | 0.29         |
| Sharon Northwest     | 1,277,206          | 0.26         |
| Richfield            | 1,261,377          | 0.26         |
| Colter West          | 1,149,677          | 0.24         |
| Kinsler              | 1,073,803          | 0.22         |
| Bird Northeast       | 1,007,337          | 0.21         |
| Nescatunga           | 960,165            | 0.20         |
| Arkalon              | 940,545            | 0.19         |
| Jefferson-Sycamore   | 839,816            | 0.17         |
| <b>Total</b>         | <b>483,411,603</b> | <b>84.43</b> |



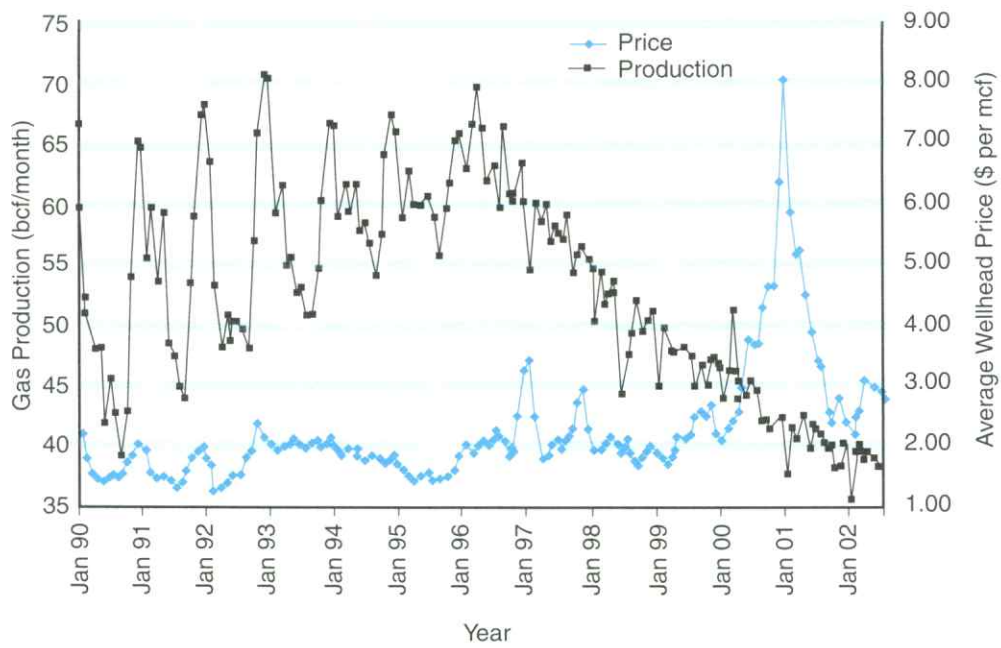
**Figure 27—Kansas Natural Gas Production and Consumption, 1960 to 2008.** Production estimates begin with 2002; consumption estimates begin with 2001. Sources: Kansas Geological Survey, Open-file Reports 2000-69, 2002-57 (Carr and White, 2000; Carr, 2002b).

**Table 25—Kansas Monthly Natural Gas Prices, 1997 through July 2002.** Note: For commercial and industrial customers, the price is the On-System Sales price (see U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly*, table 25 for percentage of total deliveries). Data not reported are indicated by a dash (—); City Gate = a point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system; NA = not available; W = withheld to avoid disclosure of individual company data. Sources: Natural gas prices are extracted from the Oil and Gas Information Retrieval System. City Gate: *Natural Gas Monthly*, table 20. Residential: average price of natural gas sold to residential customers (including taxes), *Natural Gas Monthly*, table 21. Commercial: average price of natural gas sold to commercial customers (including taxes), *Natural Gas Monthly*, table 22. Industrial: average price of natural gas sold to industrial customers (including taxes), *Natural Gas Monthly*, table 23. Utilities: natural gas prices for utility customers (including taxes), *Natural Gas Monthly*, table 24.

|              | At City Gate | Residential | Commercial<br>U.S. Dollars | Industrial | Utilities |
|--------------|--------------|-------------|----------------------------|------------|-----------|
| <b>2002</b>  |              |             |                            |            |           |
| July         | \$3.63       | \$12.64     | \$8.46                     | \$3.83     | \$ NA     |
| June         | 4.39         | 11.69       | 8.84                       | 3.88       | NA        |
| May          | 4.26         | 10.43       | 8.09                       | 3.99       | 3.39      |
| April        | 4.77         | 8.69        | 7.59                       | 4          | 3.45      |
| March        | 3.98         | 7.39        | 6.64                       | 4.02       | 2.94      |
| February     | 3.8          | 7.15        | 6.55                       | 4.86       | 2.27      |
| January      | 3.65         | 7.54        | 7.05                       | 5.22       | 2.26      |
| 2002 Average | NA           | NA          | NA                         | NA         | —         |
| <b>2001</b>  |              |             |                            |            |           |
| December     | 3.92         | 7.84        | 7.24                       | 3.89       | 2.63      |
| November     | 4.23         | 9.11        | 7.27                       | 3.02       | 2.56      |
| October      | 3.01         | 10.69       | 7.5                        | 3.18       | 2.35      |
| September    | 3.12         | 13.5        | 7.85                       | 4.12       | 2.37      |
| August       | 4.12         | 12.31       | 8.33                       | 4.49       | 3.23      |
| July         | 4.17         | 12.28       | 8.39                       | 4.77       | 3.26      |
| June         | 4.84         | 12.5        | 9.61                       | 5.15       | 3.89      |
| May          | 6.45         | 11.74       | 10.13                      | 6.04       | 4.51      |
| April        | 6.59         | 9.76        | 8.66                       | 7.03       | 5.33      |
| March        | 5.92         | 9.19        | 8.83                       | 7.49       | 5.78      |
| February     | 8.32         | 10          | 9.88                       | 10.27      | 6.06      |
| January      | 10.13        | 10.84       | 10.56                      | 8.66       | 9.1       |
| 2001 Average | 6.05         | 10.07       | 9.15                       | 4.83       | 3.64      |
| <b>2000</b>  |              |             |                            |            |           |
| December     | 6.21         | 8.84        | 8.49                       | 6.59       | 8.79      |
| November     | 5.21         | 9.07        | 8.57                       | 5.34       | 5.74      |
| October      | 6.46         | 10.57       | 8.69                       | 5.16       | 5.12      |
| September    | 5.87         | 10.9        | 7.5                        | 3.74       | 4.91      |
| August       | 4.91         | 12.2        | 8.17                       | 3.97       | 4.41      |
| July         | 5.57         | 10.76       | 7.95                       | 4.1        | 3.99      |
| June         | 4.82         | 9.91        | 7.36                       | 3.81       | 3.87      |
| May          | 3.8          | 8.13        | 6.55                       | 3.32       | 3.54      |
| April        | 3.44         | 6.89        | 5.94                       | 3.85       | 3.15      |
| March        | 3.49         | 6.44        | 5.86                       | 3.56       | 2.92      |
| February     | 3.26         | 6.07        | 5.55                       | 4.02       | 2.69      |
| January      | 3.03         | 6.02        | 5.69                       | 3.61       | 2.56      |
| 2000 Average | 4.52         | 7.64        | 6.8                        | 4.01       | 4.18      |

Table 25, continued.

|              | At City Gate | Residential | Commercial<br>U.S. Dollars | Industrial | Utilities |
|--------------|--------------|-------------|----------------------------|------------|-----------|
| <b>1999</b>  |              |             |                            |            |           |
| December     | \$3.12       | \$6.08      | \$5.53                     | \$3.49     | \$2.57    |
| November     | 3.6          | 6.9         | 5.79                       | 3.76       | 2.87      |
| October      | 3.5          | 7.41        | 5.24                       | 3.39       | 2.81      |
| September    | 3.95         | 8.86        | 4.51                       | 2.83       | 2.73      |
| August       | 4.77         | 8.48        | 4.65                       | 2.63       | 2.6       |
| July         | 2.61         | 8.6         | 5.19                       | 2.55       | 2.31      |
| June         | 3.08         | 7.55        | 5.52                       | 2.51       | 2.35      |
| May          | 2.97         | 6.55        | 5.27                       | 2.97       | 2.35      |
| April        | 2.54         | 5.51        | 4.68                       | 2.98       | 2.08      |
| March        | 2.49         | 5.26        | 4.92                       | 3.18       | 1.8       |
| February     | 2.52         | 5.47        | 4.9                        | 3.26       | 1.96      |
| January      | 2.64         | 5.34        | 4.95                       | 3.25       | 2.24      |
| 1999 Average | 2.96         | 5.98        | 5.04                       | 2.93       | 2.36      |
| <b>1998</b>  |              |             |                            |            |           |
| December     | 2.79         | 5.52        | 5.11                       | 3.26       | 2.21      |
| November     | 3.19         | 5.88        | 5.1                        | 3.17       | 2.25      |
| October      | 2.94         | 7.43        | 5.34                       | 2.86       | 2.03      |
| September    | 2.67         | 7.95        | 5.5                        | 2.45       | 1.87      |
| August       | 2.92         | 7.85        | 4.3                        | 2.82       | 1.99      |
| July         | 3.86         | 7.75        | 5.35                       | 2.94       | 2.28      |
| June         | 3.42         | 7.39        | 5.51                       | 3.2        | 2.14      |
| May          | 3.17         | 6.5         | 5.61                       | 3.48       | 2.2       |
| April        | 2.87         | 5.83        | 5.94                       | 3.73       | 2.4       |
| March        | 2.86         | 5.67        | 3.76                       | 3.74       | 2.36      |
| February     | 2.75         | 5.68        | 5.26                       | 3.78       | 1.97      |
| January      | 2.94         | 5.72        | 5.28                       | 4.03       | 3.35      |
| 1998 Average | 2.96         | 6           | 4.98                       | 3.17       | 2.14      |
| <b>1997</b>  |              |             |                            |            |           |
| December     | 3.6          | 5.92        | 5.14                       | 3.6        | 3.33      |
| November     | 4.28         | 6.42        | 5.72                       | 3.81       | 3.02      |
| October      | 3.67         | 7.68        | 5.63                       | 3.95       | 3.06      |
| September    | 3.47         | 8.49        | 5.42                       | 3.14       | 2.7       |
| August       | 3.09         | 8.21        | 4.65                       | 2.84       | 2.13      |
| July         | 2.88         | 7.47        | 4.71                       | 2.74       | 2.06      |
| June         | 3.02         | 7.98        | 4.65                       | 2.76       | 2.11      |
| May          | 2.85         | 6.2         | 4.98                       | 3.17       | 2.14      |
| April        | 2.38         | 6           | 4.89                       | 2.49       | 2         |
| March        | 2.67         | 5.94        | 5.16                       | 2.62       | 1.8       |
| February     | 3.67         | 6.54        | 5.91                       | 3.66       | 2.92      |
| January      | 4.37         | 6.29        | 5.78                       | 4.82       | 4.56      |
| 1997 Average | 3.47         | 6.42        | 5.38                       | 3.32       | 2.53      |



**Figure 28—Monthly Kansas Natural Gas Production and Average Monthly Wellhead Price, 1990–2002.**

Note: As a result of additional late production updates, the current month's production is usually revised upwards. Source: Gas production data (bcf/month) from Kansas Geological Survey (<http://www.kgs.ku.edu/PRS/petroDB.html>); prices (in nominal dollars) are from the Energy Information Agency (EIA) ([http://www.eia.doe.gov/pub/oil\\_gas/natural\\_gas/data\\_publications/natural\\_gas\\_monthly/current/pdf/table\\_04.pdf](http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/natural_gas_monthly/current/pdf/table_04.pdf)).

## Section 5—Electricity

In the past 40 years, Kansas has seen a fivefold increase in its consumption of electricity. This increase in demand was met almost entirely by coal and nuclear power (SERCC, 2003). The tables and figures in this section summarize the state's electricity data.

**Table 26—Electricity Summary Statistics for Kansas, 1999.** Coal is the primary energy source. Source: U.S. Department of Energy, Energy Information Agency (EIA), *State Electricity Profiles, Kansas* ([http://www.eia.doe.gov/cneaf/electricity/st\\_profiles/toc.html](http://www.eia.doe.gov/cneaf/electricity/st_profiles/toc.html) ).

| Item                                                           | Value (U.S. \$) | U.S. Rank |
|----------------------------------------------------------------|-----------------|-----------|
| Net Summer Capability (megawatts)                              | \$10,067        | 29        |
| Utility                                                        | 10,020          | 27        |
| Nonutility                                                     | 47              | 47        |
| Net Generation (megawatthours)                                 | 42,070,297      | 30        |
| Utility                                                        | 42,002,924      | 29        |
| Nonutility                                                     | 67,373          | 49        |
| Emissions (thousand short tons)                                |                 |           |
| Sulfur Dioxide                                                 | 89              | 26        |
| Nitrogen Oxide                                                 | 137             | 21        |
| Carbon Dioxide                                                 | 36,417          | 28        |
| Sulfur Dioxide/sq. mile                                        | 1               | 34        |
| Nitrogen Oxide/sq. mile                                        | 2               | 33        |
| Carbon Dioxide/sq. mile                                        | 445             | 37        |
| Electricity Consumption (megawatthours) (excludes line losses) | 33,865,932      | 32        |
| Utility Retail Electricity Sales (megawatthours)               | 33,820,108      | 32        |
| Nonutility Retail Sales and Direct Use (megawatthours)         | 45,824          | 50        |
| Utility Average Retail Price (cents/kilowatthour)              | 6.22            | 25        |

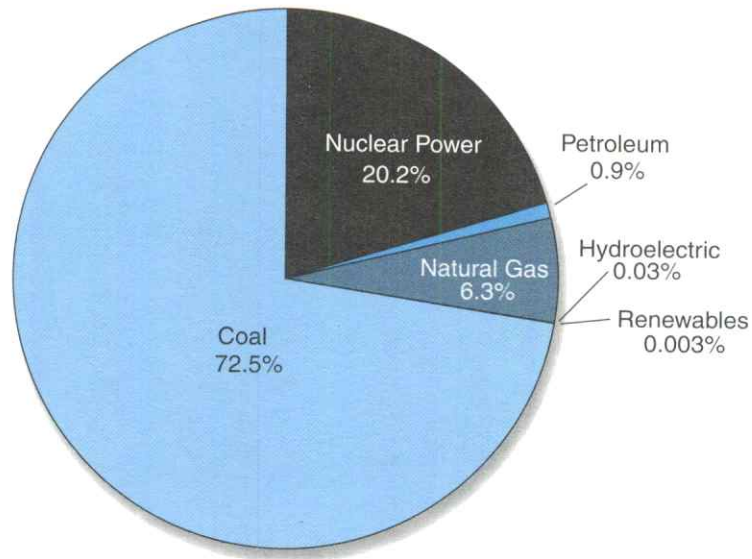
**Table 27—Ten Largest Electrical Generation Plants in Kansas, Ranked by Generating Capability, 1999.**

Source: U.S. Department of Energy, Energy Information Agency (EIA), *State Electricity Profiles, Kansas* ([http://www.eia.doe.gov/cneaf/electricity/st\\_profiles/toc.html](http://www.eia.doe.gov/cneaf/electricity/st_profiles/toc.html) ).

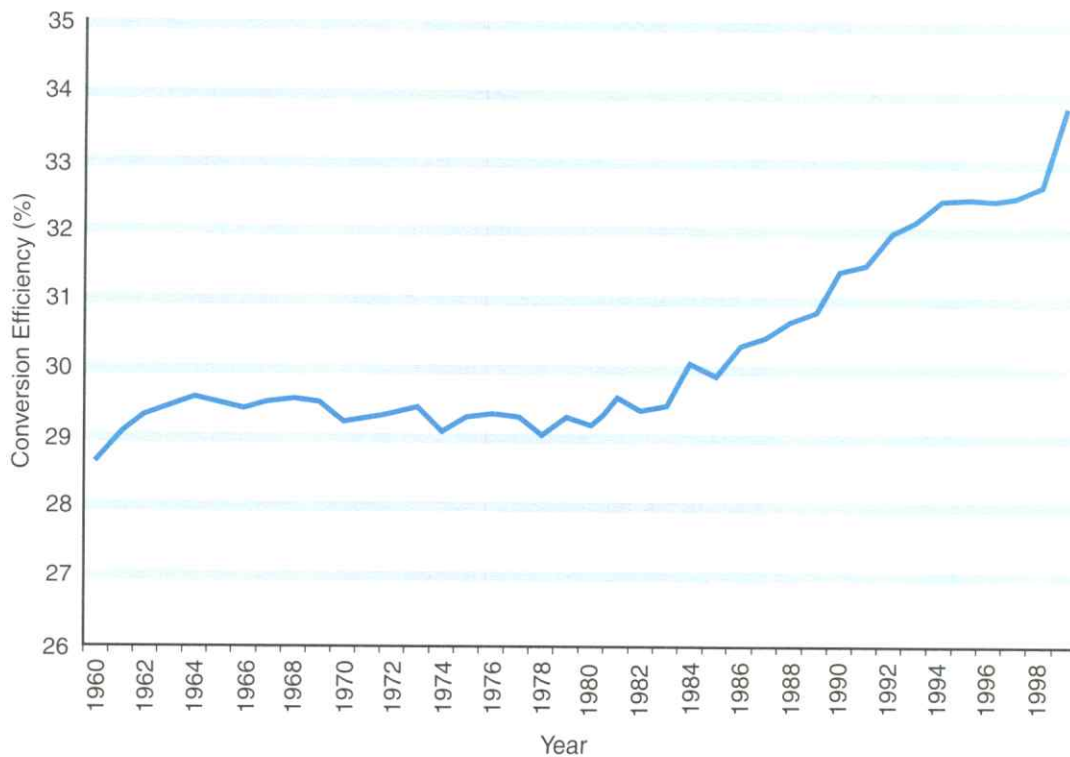
| Plant              | Primary Energy Sources | Operating Company             | Net Summer Capability (MW) |
|--------------------|------------------------|-------------------------------|----------------------------|
| 1. Jeffrey EC      | Petroleum, Coal        | KPL Western Resources Co      | 2,227                      |
| 2. La Cygne        | Petroleum, Coal        | Kansas City Power & Light Co  | 1,362                      |
| 3. Wolf Creek      | Nuclear                | Wolf Creek Nuclear Oper Corp  | 1,170                      |
| 4. Lawrence EC     | Gas, Coal              | KPL Western Resources Co      | 598                        |
| 5. Gordon Evans EC | Petroleum, Gas         | Kansas Gas & Electric Co      | 527                        |
| 6. Hutchinson EC   | Petroleum, Gas         | KPL Western Resources Co      | 498                        |
| 7. Holcomb         | Gas, Coal              | Sunflower Electric Power Corp | 360                        |
| 8. Murray Gill EC  | Petroleum, Gas         | Kansas Gas & Electric Co      | 332                        |
| 9. Quindaro        | Petroleum, Gas, Coal   | Kansas City City of           | 316                        |
| 10. Tecumseh EC    | Gas, Coal              | KPL Western Resources Co      | 284                        |

**Table 28—Estimated Energy Input at Kansas Electric Utilities, 1995–1999** (trillion Btu). Note: Some totals may not equal sum of contents due to independent rounding; Other = geothermal, wind, photovoltaic, and solar thermal energy; s = Btu less than 0.05. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report 1999: Consumption Estimates*, table 118 (EIA, 2001c), <http://www.eia.doe.gov/emeu/sedr/contents.html>.

|                | 1995           | 1996         | 1997         | 1998         | 1999         |
|----------------|----------------|--------------|--------------|--------------|--------------|
|                | (trillion Btu) |              |              |              |              |
| Coal           | 285.4          | 332.8        | 307.4        | 306.6        | 325.9        |
| Natural Gas    | 27.4           | 22.5         | 25.3         | 36.9         | 36.2         |
| Petroleum      | 0.9            | 2.0          | 1.5          | 3.8          | 3.8          |
| Nuclear Energy | 107.2          | 87.2         | 89.6         | 110.6        | 97.3         |
| Hydroelectric  | 0.0            | 0.0          | s            | s            | s            |
| Wood/Waste     | 0.0            | 0.0          | 0.0          | 0.0          | 0.0          |
| Other          | s              | 0.0          | 0.0          | 0.0          | 0.0          |
| <b>Total</b>   | <b>420.9</b>   | <b>444.5</b> | <b>423.7</b> | <b>455.9</b> | <b>463.2</b> |



**Figure 29—Kansas Electricity Production by Fuel Source, 2000.** Source: U.S. Department of Energy, Energy Information Agency (EIA), *Electric Power Annual 2000*, v. 1, DOE/EIA-0348(01/1) (EIA, 2000d).



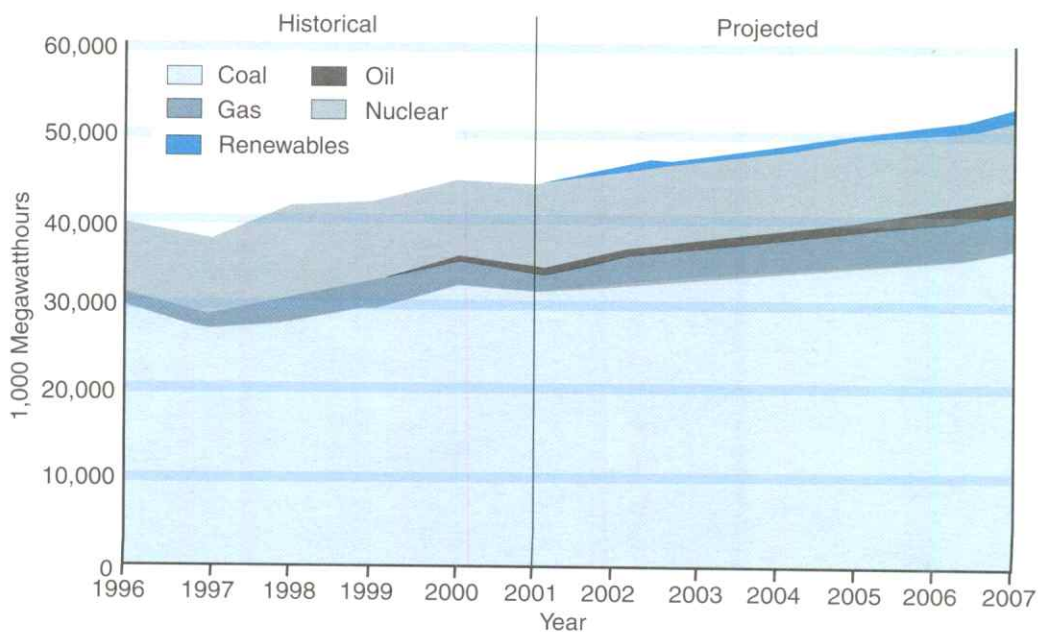
**Figure 30—Conversion Efficiency of Kansas Electricity, 1960–1999.** Conversion efficiency is the ratio of electricity produced to primary energy used. Note: In this figure, the years fall between the hatch marks. Source: U.S. Department of Energy, Energy Information Agency (EIA), *State Energy Data Report* (various years), DOE/EIA-0214 (EIA, 1995b, 1996, 1997c, 2000d, 2001c, 2003c).

**Table 29—Production of Electricity by Kansas Utilities from Various Sources, 1976–2007** (million kilowatthours). Dash (—) = no data. Sources: Hydroelectric data through 2002 (David Readio, Bowersock Mills & Power Co., March 2003, personal communication); all other data through 2001 (U.S. Department of Energy, Energy Information Administration (EIA), *Electric Power Annual 1999* and previous issues, *Electric Power Monthly*, March 2002 and other issues); production data for 2002–2007, based on forecasts produced by Larry Holloway, Kansas Corporation Commission, for *Kansas Energy Plan 2003* (SERCC, 2003).

| Year | Coal   | Petroleum | Natural Gas | Nuclear | Hydro-electric | Biomass | Other | Total  |
|------|--------|-----------|-------------|---------|----------------|---------|-------|--------|
| 1976 | 6,228  | 2,199     | 9,476       | 0       | 4.7            | —       | —     | 17,908 |
| 1977 | 7,693  | 2,018     | 9,946       | 0       | 3.1            | —       | —     | 19,661 |
| 1978 | 12,418 | 2,140     | 8,712       | 0       | 4.7            | —       | —     | 23,274 |
| 1979 | 12,566 | 1,104     | 8,625       | 0       | 3.7            | —       | —     | 22,299 |
| 1980 | 16,211 | 314       | 7,546       | 0       | 8.3            | —       | —     | 24,079 |
| 1981 | 17,597 | 261       | 5,829       | 0       | 7.6            | —       | —     | 23,695 |
| 1982 | 17,778 | 285       | 5,150       | 0       | 6.7            | —       | —     | 23,220 |
| 1983 | 19,592 | 263       | 3,913       | 0       | 5.5            | —       | —     | 23,774 |
| 1984 | 23,339 | 119       | 2,710       | 0       | 7.4            | —       | 0.14  | 26,175 |
| 1985 | 21,917 | 101       | 1,629       | 3,856   | 9.5            | —       | 0.04  | 27,512 |
| 1986 | 21,362 | 84        | 1,117       | 6,959   | 8.3            | —       | 0.08  | 29,531 |
| 1987 | 23,075 | 73        | 1,194       | 6,471   | 8.7            | —       | 0.04  | 30,822 |
| 1988 | 23,089 | 147       | 1,489       | 6,650   | 11.1           | —       | 0.09  | 31,387 |
| 1989 | 22,907 | 109       | 1,498       | 9,709   | 9.5            | —       | 0.13  | 34,233 |
| 1990 | 23,720 | 66        | 2,196       | 7,874   | 11.4           | —       | 0.05  | 33,868 |
| 1991 | 23,435 | 53        | 2,959       | 5,859   | 9.4            | —       | 0.04  | 32,315 |
| 1992 | 22,153 | 44        | 1,076       | 8,491   | 9.3            | —       | 0.11  | 31,764 |
| 1993 | 26,800 | 77        | 1,657       | 7,900   | 4.6            | —       | 0.06  | 36,434 |
| 1994 | 26,489 | 83        | 2,184       | 8,529   | 8.9            | —       | 0.06  | 37,285 |
| 1995 | 25,897 | 74        | 2,197       | 10,062  | 10.4           | —       | 0.03  | 38,230 |
| 1996 | 29,743 | 158       | 1,768       | 8,205   | 10.2           | —       | —     | 39,874 |
| 1997 | 27,236 | 110       | 2,068       | 8,430   | 12.9           | —       | —     | 37,844 |
| 1998 | 28,024 | 122       | 2,924       | 10,411  | 10.7           | —       | —     | 41,492 |
| 1999 | 29,649 | 314       | 2,938       | 9,157   | 11.7           | —       | —     | 42,070 |
| 2000 | 32,509 | 423       | 2,829       | 9,061   | 14.5           | —       | 1.4   | 44,835 |
| 2001 | 31,699 | 628       | 2,033       | 10,350  | 12.4           | —       | 29    | 44,751 |
| 2002 | 32,530 | 635       | 3,404       | 9,382   | 12.7           | —       | 385   | 46,349 |
| 2003 | 33,307 | 734       | 3,833       | 9,382   | 12             | —       | 385   | 47,654 |
| 2004 | 34,085 | 833       | 3,911       | 9,382   | 12             | —       | 736   | 48,959 |
| 2005 | 34,863 | 932       | 4,339       | 9,382   | 12             | —       | 736   | 50,264 |
| 2006 | 35,640 | 1,031     | 4,417       | 9,382   | 12             | —       | 1,086 | 51,569 |
| 2007 | 36,418 | 1,130     | 4,846       | 9,382   | 12             | —       | 1,086 | 52,874 |

**Table 30—Kansas Electric Power Industry Generation of Electricity by Energy Source, 1990, 1994, and 1999** (megawatthours). Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Electricity Profiles, Kansas 2001* (EIA, 2001b).

| Fuel             | 1990       | 1994       | 1999       | Annual Growth Rate 1990–1999 (%) | Percentage Share 1990 | Percentage Share 1994 | Percentage Share 1999 |
|------------------|------------|------------|------------|----------------------------------|-----------------------|-----------------------|-----------------------|
| Total Utility    | 33,868,644 | 37,283,871 | 42,002,924 | 2.4                              | 99.1                  | 99.1                  | 99.8                  |
| Coal             | 23,720,258 | 26,488,755 | 29,649,100 | 2.5                              | 69.4                  | 70.4                  | 70.5                  |
| Petroleum        | 65,744     | 82,809     | 311,010    | 18.8                             | 0.2                   | 0.2                   | 0.7                   |
| Gas              | 2,196,341  | 2,183,250  | 2,886,195  | 3.1                              | 6.4                   | 5.8                   | 6.9                   |
| Nuclear          | 7,874,487  | 8,529,002  | 9,156,619  | 1.7                              | 23                    | 22.7                  | 21.8                  |
| Hydroelectric    | 11,769     | 0          | 0          | -100                             | 0                     | 0                     | 0                     |
| Other            | 45         | 55         | 0          | -100                             | 0                     | 0                     | 0                     |
| Total Nonutility | 324,518    | 335,997    | 67,373     | -16                              | 0.9                   | 0.9                   | 0.2                   |
| Petroleum        | W          | W          | 2,728      | W                                | W                     | W                     | 0                     |
| Gas              | 306,467    | 320,355    | 52,279     | -17.8                            | 0.9                   | 0.9                   | 0.1                   |
| Hydroelectric    | W          | W          | 12,367     | W                                | W                     | W                     | 0                     |
| Total Industry   | 34,193,162 | 37,619,868 | 42,070,297 | 2.3                              | 100                   | 100                   | 100                   |
| Coal             | 23,720,258 | 26,488,755 | 29,649,100 | 2.5                              | 69.4                  | 70.4                  | 70.5                  |
| Petroleum        | W          | W          | 313,738    | W                                | W                     | W                     | 0.7                   |
| Gas              | 2,502,808  | 2,503,605  | 2,938,474  | 1.8                              | 7.3                   | 6.7                   | 7                     |
| Nuclear          | 7,874,487  | 8,529,002  | 9,156,619  | 1.7                              | 23                    | 22.7                  | 21.8                  |
| Hydroelectric    | W          | W          | 12,367     | W                                | W                     | W                     | 0                     |
| Other            | 45         | 55         | 0          | -100                             | 0                     | 0                     | 0                     |



**Figure 31—Kansas Electricity Production, 1996–2007.** Source: Based on historical production data and projections in Table 28.

**Table 31—Existing Generating Units at Kansas Electric Utilities by Company and Plant, 2000.** Note: 0.0 capacity means no capacity during 2000; plants sold or transferred to nonutilities are not included in these data. Source: U.S. Department of Energy, Energy Information Administration (EIA), *Inventory of Electric Utility Power Plants in the United States 2000* ([http://www.eia.doe.gov/cneaf/electricity/ipp/ipp\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/ipp/ipp_sum.html)).

Unit Type Abbreviations: CA = Combined Cycle Steam Part; CC = Combined Cycle Total Unit (use only for plants/generators that are in planning stage, for which specific generator details cannot be provided); CE = Compressed Air Energy Storage; CS = Combined Cycle Single Shaft (combustion turbine and steam turbine share a single generator); CT = Combined Cycle Combustion Turbine Part (type of coal must be reported as energy source for integrated coal); FC = Fuel Cell; GT = Combustion (Gas) Turbine (includes jet engine design); HY = Hydraulic Turbine (includes turbines associated with delivery of water by pipeline); IC = Internal Combustion (diesel, piston) Engine; NA = Unknown at this time (use only for plants/generators that are in planning stage, for which specific generator details cannot be provided); OT = Other; PS = Hydraulic Turbine - Reversible (pumped storage); PV = Photovoltaic; ST = Steam Turbine, including nuclear, geothermal and solar steam (does not include combined cycle); WT = Wind Turbine. Energy Source Abbreviations: AB = Agriculture Crop Byproducts/Straw/Energy Crops; BFG = Blast-Furnace Gas; BIT = (Anthracite Coal, Bituminous Coal); BLQ = Black Liquor; DFO = Distillate Fuel Oil (includes all Diesel and No. 1, No. 2, and No. 4 Fuel Oils); GEO = Geothermal; JF = Jet Fuel; KER = Kerosene; LFG = Landfill Gas; LIG = Lignite Coal; MSW = Municipal Solid Waste; NA = Not Available; NG = Natural Gas; NUC = Nuclear (Uranium, Plutonium, Thorium); OBG = Other Biomass Gases (Digester Gas, Methane, and other biomass gases); OBL = Other Biomass Liquids (Ethanol, Fish Oil, Liquid Acetonitrile Waste, Medical Waste, Tall Oil, Waste Alcohol, and other biomass liquids not specified); OBS = Other Biomass Solids (Animal Manure and Waste, Solid Byproducts, and other solid biomass not specified); OG = Other Gas (Butane, Coal Processes, Coke-Oven, Refinery, and other processes); OTH = Other (Batteries, Chemicals, Coke Breeze, Hydrogen, Pitch, Sulfur, Tar Coal, and miscellaneous technologies); PC = Petroleum Coke; PG = Propane; PUR = Purchased Steam; RFO = Residual Fuel Oil (includes No. 5 and No. 6 Fuel Oils and Bunker C Fuel Oil); SC = Coal-based Synfuel and include briquettes, pellets, or extrusions, which are formed by binding materials and processes that recycle material; SLW = Sludge Waste; SUB = Subbituminous Coal; SUN = Solar (Photovoltaic, Thermal); TDF = Tires; WAT = Water (Conventional, Pumped Storage); WC = Waste/Other Coal (Anthracite Culm, Bituminous Gob, Fine Coal, Lignite Waste, Waste Coal); WDL = Wood Waste Liquids (Red Liquor, Sludge Wood, Spent Sulfite Liquor, and other wood related liquids not specified); WDS = Wood/Wood Waste Solids (Paper Pellets, Railroad Ties, Utility Poles, Wood Chips, and other wood solids); WH = Waste Heat (Reject Heat); WND = Wind; WO = Oil-Other and Waste Oil [Butane (Liquid), Crude Oil, Liquid Byproducts, Oil Waste, Propane (Liquid), Re-Refined Motor Oil, Sludge Oil, Tar Oil].

| Company<br>Plant<br>(County)            | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|-----------------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Anthony, City of<br>Anthony (Harper)    |            | <b>11.1</b>                                       | <b>11.1</b>                              | <b>11.1</b>                              |              |                   |           |                                    |                |
|                                         | IC1        | 4.1                                               | 4.1                                      | 4.1                                      | IC           | NG                | DFO       | 1972                               | OP             |
|                                         | IC2        | 3.0                                               | 3.0                                      | 3.0                                      | IC           | NG                | DFO       | 1976                               | OP             |
|                                         | IC3        | 4.0                                               | 4.0                                      | 4.0                                      | IC           | NG                | DFO       | 1981                               | OP             |
| Ashland, City of<br>Ashland (Clark)     |            | <b>5.0</b>                                        | <b>4.3</b>                               | <b>4.4</b>                               |              |                   |           |                                    |                |
|                                         | 1          | 0.7                                               | 0.7                                      | 0.7                                      | IC           | NG                | DFO       | 1953                               | OP             |
|                                         | 2          | 0.9                                               | 0.8                                      | 0.8                                      | IC           | NG                | DFO       | 1974                               | OP             |
|                                         | 3          | 1.3                                               | 1.1                                      | 1.1                                      | IC           | DFO               | —         | 1963                               | OP             |
|                                         | 4          | 1.3                                               | 1.1                                      | 1.1                                      | IC           | DFO               | —         | 1958                               | OP             |
|                                         | 5          | 0.9                                               | 0.7                                      | 0.7                                      | IC           | DFO               | —         | 1971                               | OP             |
| Attica, City of<br>Attica (Harper)      |            | <b>3.2</b>                                        | <b>2.7</b>                               | <b>3.0</b>                               |              |                   |           |                                    |                |
|                                         | 1          | 0.5                                               | 0.5                                      | 0.5                                      | IC           | DFO               | NG        | 1954                               | OP             |
|                                         | 2          | 0.9                                               | 0.8                                      | 0.8                                      | IC           | DFO               | NG        | 1970                               | OP             |
|                                         | 4          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | NG        | 1961                               | OP             |
|                                         | 5          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | NG        | 1961                               | OP             |
|                                         | IC3        | 1.1                                               | 1.0                                      | 1.1                                      | IC           | DFO               | NG        | 1984                               | OP             |
| Augusta, City of<br>Plant No 1 (Butler) |            | <b>23.7</b>                                       | <b>23.7</b>                              | <b>23.7</b>                              |              |                   |           |                                    |                |
|                                         | 1          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | NG                | DFO       | 1954                               | OP             |
|                                         | 2          | 0.4                                               | 0.4                                      | 0.4                                      | IC           | DFO               | —         | 1929                               | OP             |
|                                         | 3          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1949                               | OP             |
|                                         | 4          | 0.7                                               | 0.7                                      | 0.7                                      | IC           | DFO               | —         | 1939                               | OP             |
|                                         | 5          | 2.3                                               | 2.3                                      | 2.3                                      | IC           | NG                | DFO       | 1956                               | OP             |
|                                         | 6          | 2.3                                               | 2.3                                      | 2.3                                      | IC           | NG                | DFO       | 1956                               | OP             |
|                                         | 7          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | NG                | DFO       | 1964                               | OP             |
|                                         | 1          | 4.0                                               | 4.0                                      | 4.0                                      | IC           | NG                | DFO       | 1968                               | OP             |
|                                         | 2          | 4.0                                               | 4.0                                      | 4.0                                      | IC           | NG                | DFO       | 1968                               | OP             |
|                                         | 3          | 6.0                                               | 6.0                                      | 6.0                                      | IC           | NG                | DFO       | 1981                               | OP             |
|                                         |            |                                                   |                                          |                                          |              |                   |           |                                    |                |
|                                         |            |                                                   |                                          |                                          |              |                   |           |                                    |                |
| Plant No 2 (Butler)                     |            |                                                   |                                          |                                          |              |                   |           |                                    |                |
|                                         |            |                                                   |                                          |                                          |              |                   |           |                                    |                |
|                                         |            |                                                   |                                          |                                          |              |                   |           |                                    |                |

Table 31, continued.

| Company<br>Plant<br>(County)                     | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|--------------------------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Baldwin City, City of<br>Baldwin (Douglas)       | 3          | 5.5                                               | 4.5                                      | 4.8                                      |              |                   |           |                                    |                |
|                                                  | 4          | 1.1                                               | 0.9                                      | 1.0                                      | IC           | DFO               | NG        | 1956                               | OP             |
|                                                  | 5          | 2.1                                               | 1.8                                      | 1.8                                      | IC           | DFO               | NG        | 1970                               | OP             |
|                                                  | 6          | 1.1                                               | 0.9                                      | 1.0                                      | IC           | DFO               | NG        | 1964                               | OP             |
|                                                  | 7          | 1.1                                               | 0.9                                      | 1.0                                      | IC           | DFO               | NG        | 1964                               | OP             |
| Belleville, City of<br>Belleville (Republic)     | 1          | 13.1                                              | 13.1                                     | 13.1                                     |              |                   |           |                                    |                |
|                                                  | 2          | 0.6                                               | 0.6                                      | 0.6                                      | IC           | DFO               | NG        | 1946                               | OP             |
|                                                  | 3          | 0.6                                               | 0.6                                      | 0.6                                      | IC           | DFO               | NG        | 1946                               | OP             |
|                                                  | 4          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | NG        | 1946                               | OP             |
|                                                  | 5          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1955                               | OP             |
|                                                  | 6          | 1.8                                               | 1.8                                      | 1.8                                      | IC           | DFO               | NG        | 1961                               | OP             |
|                                                  | 7          | 3.8                                               | 3.8                                      | 3.8                                      | IC           | DFO               | NG        | 1966                               | OP             |
|                                                  | 8          | 5.1                                               | 5.1                                      | 5.1                                      | IC           | DFO               | NG        | 1971                               | OP             |
| Beloit, City of<br>Beloit (Mitchell)             | 1          | 19.4                                              | 17.8                                     | 17.8                                     |              |                   |           |                                    |                |
|                                                  | 2          | 1.5                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1951                               | OP             |
|                                                  | 3          | 1.5                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1951                               | OP             |
|                                                  | 4          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | DFO               | NG        | 1961                               | OP             |
|                                                  | 5          | 3.5                                               | 3.3                                      | 3.3                                      | IC           | DFO               | NG        | 1964                               | OP             |
|                                                  | 6          | 0.8                                               | 0.7                                      | 0.7                                      | IC           | DFO               | NG        | 1950                               | OP             |
|                                                  | 7          | 4.1                                               | 3.8                                      | 3.8                                      | IC           | DFO               | NG        | 1971                               | OP             |
|                                                  | 8          | 6.0                                               | 6.0                                      | 6.0                                      | IC           | DFO               | NG        | 1980                               | OP             |
| Burlingame, City of<br>Burlingame (Osage)        | 1          | 4.6                                               | 4.1                                      | 4.4                                      |              |                   |           |                                    |                |
|                                                  | 2          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | DFO               | NG        | 1973                               | OP             |
|                                                  | 3          | 0.6                                               | 0.4                                      | 0.5                                      | IC           | DFO               | NG        | 1951                               | OP             |
|                                                  | 4          | 0.9                                               | 0.8                                      | 0.9                                      | IC           | DFO               | NG        | 1963                               | OP             |
|                                                  | 5          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | DFO               | NG        | 1969                               | OP             |
|                                                  | 6          | 0.9                                               | 0.8                                      | 0.9                                      | IC           | DFO               | NG        | 1980                               | OP             |
| Burlington, City of<br>Burlington (Coffey)       | 1          | 8.5                                               | 8.4                                      | 8.4                                      |              |                   |           |                                    |                |
|                                                  | 2          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | —         | 1935                               | OP             |
|                                                  | 3          | 1.3                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1962                               | OP             |
|                                                  | 4          | 0.8                                               | 0.8                                      | 0.8                                      | IC           | NG                | DFO       | 1954                               | OP             |
|                                                  | 5          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | —         | 1946                               | OP             |
|                                                  | 6          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1955                               | OP             |
|                                                  | 7          | 4.8                                               | 4.8                                      | 4.8                                      | IC           | NG                | DFO       | 1983                               | OP             |
| Chanute, City of<br>Chanute 1 (Neosho)           | 4          | 52.6                                              | 51.5                                     | 52.1                                     |              |                   |           |                                    |                |
|                                                  | 5          | 4.0                                               | 4.0                                      | 4.2                                      | ST           | NG                | —         | 1949                               | SB             |
|                                                  | 6          | 1.7                                               | 1.5                                      | 1.7                                      | IC           | NG                | DFO       | 1955                               | OP             |
| Chanute 2 (Neosho)                               | 7          | 10.0                                              | 9.8                                      | 10.0                                     | ST           | NG                | —         | 1957                               | SB             |
|                                                  | 8          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | NG                | DFO       | 1965                               | OP             |
| Chanute 3 (Neosho)                               | 9          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | NG                | DFO       | 1965                               | OP             |
|                                                  | 10         | 7.0                                               | 6.9                                      | 6.9                                      | IC           | DFO               | NG        | 1986                               | OP             |
|                                                  | 11         | 7.0                                               | 6.9                                      | 6.9                                      | IC           | DFO               | NG        | 1986                               | OP             |
|                                                  | 12         | 6.0                                               | 5.5                                      | 5.5                                      | IC           | DFO               | —         | 1991                               | OP             |
|                                                  | 13         | 6.0                                               | 6.0                                      | 6.0                                      | IC           | DFO               | —         | 1991                               | OP             |
|                                                  | 14         | 7.0                                               | 6.9                                      | 6.9                                      | IC           | DFO               | NG        | 1985                               | OP             |
| Clay Center, City of<br>Clay Center (Clay)       | 4          | 24.6                                              | 24.5                                     | 24.5                                     |              |                   |           |                                    |                |
|                                                  | 5          | 1.5                                               | 1.5                                      | 1.5                                      | ST           | NG                | RFO       | 1942                               | OP             |
|                                                  | 6          | 3.0                                               | 3.0                                      | 3.0                                      | ST           | NG                | RFO       | 1948                               | OP             |
|                                                  | 7          | 5.0                                               | 5.0                                      | 5.0                                      | ST           | NG                | RFO       | 1961                               | OP             |
|                                                  | 8          | 0.9                                               | 0.9                                      | 0.9                                      | IC           | NG                | DFO       | 1958                               | OP             |
|                                                  | 9          | 2.1                                               | 2.1                                      | 2.1                                      | IC           | NG                | DFO       | 1966                               | OP             |
|                                                  | 10         | 5.1                                               | 5.0                                      | 5.0                                      | IC           | NG                | DFO       | 1972                               | OP             |
|                                                  | 11         | 3.5                                               | 3.5                                      | 3.5                                      | IC           | NG                | DFO       | 1996                               | OP             |
|                                                  | 12         | 3.5                                               | 3.5                                      | 3.5                                      | IC           | NG                | DFO       | 1996                               | OP             |
| Coffeyville, City of<br>Coffeyville (Montgomery) | 6          | 58.8                                              | 53.0                                     | 56.7                                     |              |                   |           |                                    |                |
|                                                  | 7          | 18.8                                              | 16.0                                     | 18.5                                     | ST           | NG                | —         | 1956                               | OP             |
|                                                  | 8          | 40.0                                              | 37.0                                     | 38.2                                     | ST           | NG                | —         | 1973                               | OP             |
| Colby, City of<br>Colby (Thomas)                 | 3          | 17.4                                              | 13.6                                     | 13.6                                     |              |                   |           |                                    |                |
|                                                  | 4          | 2.5                                               | 1.8                                      | 1.8                                      | IC           | DFO               | NG        | 1963                               | OP             |
|                                                  | 5          | 1.8                                               | 1.3                                      | 1.3                                      | IC           | DFO               | NG        | 1958                               | OP             |
|                                                  | 6          | 1.4                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1958                               | OP             |
|                                                  | 7          | 4.5                                               | 3.5                                      | 3.5                                      | IC           | DFO               | NG        | 1971                               | OP             |
|                                                  | 8          | 4.5                                               | 3.5                                      | 3.5                                      | IC           | DFO               | NG        | 1971                               | OP             |
|                                                  | 9          | 2.8                                               | 2.5                                      | 2.5                                      | IC           | DFO               | NG        | 1971                               | OP             |

Table 31, continued.

| Company Plant<br>(County)                          | Unit ID | Generator Nameplate Capacity<br>(megawatts) | Net Summer Capacity<br>(megawatts) | Net Winter Capacity<br>(megawatts) | Unit Type | Energy Primary | Alternate | Year of Commercial Operation | Unit Status |
|----------------------------------------------------|---------|---------------------------------------------|------------------------------------|------------------------------------|-----------|----------------|-----------|------------------------------|-------------|
| Ellinwood, City of<br>Ellinwood (Barton)           |         | <b>8.5</b>                                  | <b>7.7</b>                         | <b>7.7</b>                         |           |                |           |                              |             |
|                                                    | 1       | 2.1                                         | 1.9                                | 1.9                                | IC        | DFO            | NG        | 1965                         | OP          |
|                                                    | 2       | 1.4                                         | 1.3                                | 1.3                                | IC        | DFO            | NG        | 1957                         | OP          |
|                                                    | 3       | 0.6                                         | 0.5                                | 0.5                                | IC        | DFO            | NG        | 1948                         | OP          |
|                                                    | 4       | 1.1                                         | 1.0                                | 1.0                                | IC        | DFO            | NG        | 1953                         | OP          |
|                                                    | 5       | 3.3                                         | 3.0                                | 3.0                                | IC        | DFO            | NG        | 1971                         | OP          |
| Empire District Electric Co<br>Riverton (Cherokee) |         | <b>132.6</b>                                | <b>136.0</b>                       | <b>136.0</b>                       |           |                |           |                              |             |
|                                                    | 10      | 16.3                                        | 16.0                               | 16.0                               | GT        | NG             | DFO       | 1988                         | OP          |
|                                                    | 11      | 16.3                                        | 16.0                               | 16.0                               | GT        | NG             | DFO       | 1988                         | OP          |
|                                                    | 7       | 37.5                                        | 38.0                               | 38.0                               | ST        | SUB            | BIT       | 1950                         | OP          |
|                                                    | 8       | 50.0                                        | 54.0                               | 54.0                               | ST        | SUB            | BIT       | 1954                         | OP          |
|                                                    | 9       | 12.5                                        | 12.0                               | 12.0                               | GT        | NG             | DFO       | 1964                         | OP          |
| Erie, City of<br>Erie Energy Center (Neosho)       |         | <b>26.5</b>                                 | <b>26.1</b>                        | <b>26.1</b>                        |           |                |           |                              |             |
|                                                    | 1       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 2       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 3       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 4       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 5       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 6       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 7       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
| Erie (Neosho)                                      | 8       | 2.8                                         | 2.8                                | 2.8                                | IC        | DFO            | —         | 1999                         | OP          |
|                                                    | 1       | 0.7                                         | 0.6                                | 0.6                                | IC        | DFO            | —         | 1953                         | OP          |
|                                                    | 3       | 1.3                                         | 1.0                                | 1.0                                | IC        | DFO            | —         | 1958                         | OP          |
|                                                    | 4       | 1.5                                         | 1.5                                | 1.5                                | IC        | DFO            | —         | 1964                         | OP          |
| Fredonia, City of<br>Fredonia (Wilson)             | 5       | 1.0                                         | 1.0                                | 1.0                                | IC        | DFO            | —         | 1992                         | OP          |
|                                                    |         | <b>7.4</b>                                  | <b>7.0</b>                         | <b>7.0</b>                         |           |                |           |                              |             |
|                                                    | 1       | 0.9                                         | 0.8                                | 0.8                                | IC        | DFO            | NG        | 1948                         | OP          |
|                                                    | 2       | 1.3                                         | 1.3                                | 1.3                                | IC        | DFO            | NG        | 1953                         | OP          |
|                                                    | 3       | 0.4                                         | 0.3                                | 0.3                                | IC        | DFO            | NG        | 1927                         | OP          |
| Gardner, City of<br>Gardner (Johnson)              | 4       | 0.6                                         | 0.5                                | 0.5                                | IC        | DFO            | NG        | 1931                         | OP          |
|                                                    | IC5     | 0.9                                         | 0.9                                | 0.9                                | IC        | DFO            | NG        | 1978                         | OP          |
|                                                    | IC6     | 0.9                                         | 0.9                                | 0.9                                | IC        | DFO            | NG        | 1978                         | OP          |
|                                                    | IC7     | 0.7                                         | 0.7                                | 0.7                                | IC        | DFO            | NG        | 1978                         | OP          |
|                                                    | IC8     | 0.9                                         | 0.9                                | 0.9                                | IC        | DFO            | NG        | 1980                         | OP          |
|                                                    | IC9     | 0.9                                         | 0.8                                | 0.8                                | IC        | DFO            | NG        | 1980                         | OP          |
|                                                    |         | <b>39.2</b>                                 | <b>31.0</b>                        | <b>31.0</b>                        |           |                |           |                              |             |
| Garnett, City of<br>Garnett (Johnson)              | CT1     | 19.6                                        | 15.0                               | 15.0                               | GT        | DFO            | NG        | 1990                         | OP          |
|                                                    | CT2     | 19.6                                        | 16.0                               | 16.0                               | GT        | DFO            | NG        | 1990                         | OP          |
| Garnett, City of<br>Garnett Municipal (Anderson)   |         | <b>11.8</b>                                 | <b>10.6</b>                        | <b>10.6</b>                        |           |                |           |                              |             |
|                                                    | 1       | 1.5                                         | 1.4                                | 1.4                                | IC        | NG             | DFO       | 1961                         | OP          |
|                                                    | 2       | 0.4                                         | 0.4                                | 0.4                                | IC        | DFO            | —         | 1930                         | OP          |
|                                                    | 3       | 1.5                                         | 1.4                                | 1.4                                | IC        | NG             | DFO       | 1955                         | OP          |
|                                                    | 4       | 1.0                                         | 0.9                                | 0.9                                | IC        | NG             | DFO       | 1948                         | OP          |
|                                                    | 7       | 2.5                                         | 2.3                                | 2.3                                | IC        | DFO            | —         | 2000                         | OP          |
|                                                    | IC5     | 2.4                                         | 2.2                                | 2.2                                | IC        | NG             | DFO       | 1981                         | OP          |
| Girard, City of<br>Girard (Crawford)               | IC6     | 2.5                                         | 2.3                                | 2.3                                | IC        | DFO            | —         | 1978                         | OP          |
|                                                    |         | <b>10.9</b>                                 | <b>9.4</b>                         | <b>9.8</b>                         |           |                |           |                              |             |
|                                                    | 1       | 1.4                                         | 1.1                                | 1.3                                | IC        | NG             | DFO       | 1955                         | OP          |
|                                                    | 4       | 2.3                                         | 1.8                                | 2.0                                | IC        | NG             | DFO       | 1962                         | OP          |
|                                                    | 6       | 3.5                                         | 3.0                                | 3.0                                | IC        | NG             | DFO       | 1997                         | OP          |
| Goodland, City of<br>Goodland (Sherman)            | 7       | 3.8                                         | 3.5                                | 3.5                                | IC        | NG             | DFO       | 1997                         | OP          |
|                                                    |         | <b>19.1</b>                                 | <b>16.2</b>                        | <b>17.7</b>                        |           |                |           |                              |             |
|                                                    | 10      | 2.1                                         | 1.8                                | 2.1                                | IC        | NG             | DFO       | 1971                         | OP          |
|                                                    | 11      | 4.3                                         | 3.5                                | 3.8                                | IC        | NG             | DFO       | 1978                         | OP          |
|                                                    | 12      | 1.0                                         | 0.9                                | 1.0                                | IC        | NG             | DFO       | 1995                         | OP          |
| Greensburg, City of<br>Greensburg (Kiowa)          | 13      | 1.4                                         | 1.2                                | 1.3                                | IC        | NG             | DFO       | 1999                         | OP          |
|                                                    | 3       | 0.8                                         | 0.8                                | 0.8                                | IC        | DFO            | —         | 1939                         | OP          |
|                                                    | 6       | 2.3                                         | 1.9                                | 2.1                                | IC        | NG             | DFO       | 1962                         | OP          |
|                                                    | 7       | 2.3                                         | 1.9                                | 2.1                                | IC        | NG             | DFO       | 1966                         | OP          |
|                                                    | 8       | 5.0                                         | 4.4                                | 4.6                                | IC        | NG             | DFO       | 1975                         | OP          |
|                                                    |         | <b>7.8</b>                                  | <b>7.4</b>                         | <b>7.4</b>                         |           |                |           |                              |             |
|                                                    | 1       | 2.1                                         | 2.0                                | 2.0                                | IC        | NG             | DFO       | 1966                         | OP          |
| Greensburg, City of<br>Greensburg (Kiowa)          | 3       | 1.1                                         | 1.1                                | 1.1                                | IC        | NG             | DFO       | 1963                         | OP          |
|                                                    | 4       | 1.1                                         | 1.1                                | 1.1                                | IC        | NG             | DFO       | 1956                         | OP          |
|                                                    | 5       | 2.1                                         | 1.9                                | 1.9                                | IC        | NG             | DFO       | 1972                         | OP          |
|                                                    | 6       | 1.4                                         | 1.3                                | 1.3                                | IC        | NG             | DFO       | 1983                         | OP          |

Table 31, continued.

| Company<br>Plant<br>(County)                   | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|------------------------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Herington, City of<br>Herington (Dickinson)    | 1          | 9.7                                               | 7.0                                      | 7.7                                      |              |                   |           |                                    |                |
|                                                | 2          | 2.1                                               | 1.6                                      | 1.8                                      | IC           | NG                | DFO       | 1968                               | OP             |
|                                                | 3          | 1.4                                               | 1.0                                      | 1.1                                      | IC           | NG                | DFO       | 1962                               | OP             |
|                                                | 4          | 4.3                                               | 3.1                                      | 3.5                                      | IC           | NG                | DFO       | 1973                               | OP             |
|                                                | 5          | 0.8                                               | 0.3                                      | 0.3                                      | IC           | DFO               | —         | 1947                               | OP             |
|                                                | 5          | 1.1                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1951                               | OP             |
| Herndon, City of<br>City Light Plant (Rawlins) | 1          | 0.3                                               | 0.3                                      | 0.3                                      | IC           | DFO               | —         | 1950                               | OP             |
| Hill City, City of<br>Hill City (Graham)       | 1          | 7.3                                               | 6.4                                      | 6.5                                      |              |                   |           |                                    |                |
|                                                | 2          | 1.4                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1962                               | OP             |
|                                                | 3          | 1.4                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1962                               | OP             |
|                                                | 4          | 0.7                                               | 0.6                                      | 0.6                                      | IC           | NG                | DFO       | 1952                               | OP             |
|                                                | 5          | 1.1                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1967                               | OP             |
|                                                | 6          | 1.4                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1974                               | OP             |
|                                                | 6          | 1.4                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1974                               | OP             |
| Hoisington, City of<br>Hoisington (Barton)     | 1          | 14.2                                              | 14.4                                     | 14.4                                     |              |                   |           |                                    |                |
|                                                | 2A         | 0.2                                               | 0.2                                      | 0.2                                      | IC           | DFO               | —         | 1940                               | OP             |
|                                                | 6          | 1.0                                               | 1.2                                      | 1.2                                      | IC           | DFO               | —         | 1996                               | OP             |
|                                                | 7          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | NG                | DFO       | 1961                               | OP             |
|                                                | 8          | 4.0                                               | 4.0                                      | 4.0                                      | IC           | NG                | DFO       | 1966                               | OP             |
|                                                | 8          | 7.0                                               | 7.0                                      | 7.0                                      | IC           | NG                | DFO       | 1981                               | OP             |
| Holton, City of<br>Holton (Jackson)            | 10         | 15.4                                              | 13.5                                     | 14.8                                     |              |                   |           |                                    |                |
|                                                | 11         | 2.0                                               | 1.8                                      | 2.0                                      | IC           | DFO               | NG        | 1978                               | OP             |
|                                                | 6          | 2.5                                               | 2.3                                      | 2.4                                      | IC           | DFO               | NG        | 1994                               | OP             |
|                                                | 7          | 1.8                                               | 1.4                                      | 1.8                                      | IC           | DFO               | NG        | 1958                               | OP             |
|                                                | 8          | 2.8                                               | 2.4                                      | 2.7                                      | IC           | DFO               | NG        | 1963                               | OP             |
|                                                | 9          | 4.3                                               | 3.9                                      | 4.0                                      | IC           | DFO               | NG        | 1969                               | OP             |
|                                                | 9          | 2.0                                               | 1.8                                      | 2.0                                      | IC           | DFO               | NG        | 1978                               | OP             |
| Hugoton, City of<br>Hugoton 1 (Stevens)        | 1          | 21.5                                              | 19.2                                     | 19.2                                     |              |                   |           |                                    |                |
|                                                | 6          | 0.8                                               | 0.6                                      | 0.6                                      | IC           | DFO               | NG        | 1949                               | OP             |
|                                                | 6          | 1.4                                               | 1.2                                      | 1.2                                      | IC           | DFO               | NG        | 1959                               | OP             |
| Hugoton 2 (Stevens)                            | 10         | 4.3                                               | 4.0                                      | 4.0                                      | IC           | DFO               | NG        | 1983                               | OP             |
|                                                | 11         | 2.5                                               | 2.2                                      | 2.2                                      | IC           | DFO               | NG        | 1997                               | OP             |
|                                                | 12         | 3.0                                               | 2.8                                      | 2.8                                      | IC           | DFO               | NG        | 1997                               | OP             |
|                                                | 13         | 0.8                                               | 0.5                                      | 0.5                                      | IC           | NG                | —         | 1998                               | OP             |
|                                                | 7          | 2.3                                               | 2.1                                      | 2.1                                      | IC           | DFO               | NG        | 1964                               | OP             |
|                                                | 8          | 2.1                                               | 1.8                                      | 1.8                                      | IC           | DFO               | NG        | 1971                               | OP             |
|                                                | 9A         | 4.3                                               | 4.0                                      | 4.0                                      | IC           | DFO               | NG        | 1994                               | OP             |
| Iola, City of<br>Iola (Allen)                  | 1          | 38.5                                              | 40.8                                     | 40.8                                     |              |                   |           |                                    |                |
|                                                | 10         | 5.0                                               | 5.1                                      | 5.1                                      | IC           | NG                | —         | 1998                               | OP             |
|                                                | 11         | 2.8                                               | 2.9                                      | 2.9                                      | IC           | DFO               | —         | 1981                               | OP             |
|                                                | 12         | 2.1                                               | 2.2                                      | 2.2                                      | IC           | DFO               | —         | 1988                               | OP             |
|                                                | 13         | 2.1                                               | 2.0                                      | 2.0                                      | IC           | DFO               | —         | 1988                               | OP             |
|                                                | 2          | 2.1                                               | 2.1                                      | 2.1                                      | IC           | DFO               | —         | 1988                               | OP             |
|                                                | 4          | 5.0                                               | 5.1                                      | 5.1                                      | IC           | NG                | —         | 2000                               | OP             |
|                                                | 5          | 3.5                                               | 4.4                                      | 4.4                                      | ST           | NG                | RFO       | 1949                               | OP             |
|                                                | 6          | 5.0                                               | 5.4                                      | 5.4                                      | ST           | NG                | RFO       | 1957                               | OP             |
|                                                | 7          | 2.8                                               | 3.0                                      | 3.0                                      | IC           | DFO               | —         | 1969                               | OP             |
|                                                | 8          | 2.7                                               | 2.9                                      | 2.9                                      | IC           | DFO               | —         | 1971                               | OP             |
|                                                | 8          | 2.8                                               | 3.0                                      | 3.0                                      | IC           | DFO               | —         | 1976                               | OP             |
|                                                | 9          | 2.8                                               | 3.0                                      | 3.0                                      | IC           | DFO               | —         | 1977                               | OP             |
| Jetmore, City of<br>Jetmore (Hodgeman)         | 1          | 6.0                                               | 6.0                                      | 6.0                                      |              |                   |           |                                    |                |
|                                                | 2          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1960                               | OP             |
|                                                | 3          | 0.4                                               | 0.4                                      | 0.4                                      | IC           | DFO               | NG        | 1951                               | OP             |
|                                                | 4          | 0.2                                               | 0.2                                      | 0.2                                      | IC           | DFO               | NG        | 1946                               | OP             |
|                                                | 5          | 0.8                                               | 0.8                                      | 0.8                                      | IC           | DFO               | NG        | 1964                               | OP             |
|                                                | 6          | 1.5                                               | 1.5                                      | 1.5                                      | IC           | DFO               | NG        | 1966                               | OP             |
|                                                | 7          | 1.2                                               | 1.2                                      | 1.2                                      | IC           | DFO               | —         | 1966                               | OP             |
|                                                | 7          | 0.9                                               | 0.9                                      | 0.9                                      | IC           | DFO               | —         | 1966                               | OP             |
| Johnson, City of<br>Johnson (Stanton)          | 1          | 6.8                                               | 5.5                                      | 5.5                                      |              |                   |           |                                    |                |
|                                                | 2          | 0.6                                               | 0.6                                      | 0.6                                      | IC           | DFO               | NG        | 1959                               | OP             |
|                                                | 4          | 1.0                                               | 0.8                                      | 0.8                                      | IC           | DFO               | NG        | 1963                               | OP             |
|                                                | 5          | 0.5                                               | 0.2                                      | 0.2                                      | IC           | DFO               | NG        | 1954                               | OP             |
|                                                | 7          | 0.4                                               | 0.3                                      | 0.3                                      | IC           | DFO               | NG        | 1950                               | OP             |
|                                                | 8          | 1.5                                               | 1.3                                      | 1.3                                      | IC           | DFO               | NG        | 1983                               | OP             |
|                                                | IC6        | 1.3                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1993                               | OP             |
|                                                | IC6        | 1.5                                               | 1.3                                      | 1.3                                      | IC           | DFO               | NG        | 1986                               | OP             |

Table 31, continued.

| Company Plant (County)       | Unit ID | Generator Nameplate Capacity (megawatts) | Net Summer Capacity (megawatts) | Net Winter Capacity (megawatts) | Unit Type | Energy Primary | Alternate | Year of Commercial Operation | Unit Status |
|------------------------------|---------|------------------------------------------|---------------------------------|---------------------------------|-----------|----------------|-----------|------------------------------|-------------|
| Kansas City, City of         |         | <b>775.0</b>                             | <b>680.0</b>                    | <b>680.0</b>                    |           |                |           |                              |             |
| Kaw (Wyandotte)              | 1       | 37.0                                     | 37.0                            | 37.0                            | ST        | NG             | NG        | 1955                         | OP          |
|                              | 2       | 37.0                                     | 37.0                            | 37.0                            | ST        | NG             | NG        | 1957                         | SB          |
|                              | 3       | 55.0                                     | 55.0                            | 55.0                            | ST        | NG             | NG        | 1962                         | OP          |
| Nearman Creek (Wyandotte)    | 1       | 261.0                                    | 235.0                           | 235.0                           | ST        | SUB            | —         | 1981                         | OP          |
| Quindaro (Wyandotte)         | GT1     | 16.5                                     | 14.0                            | 14.0                            | GT        | NG             | DFO       | 1969                         | OP          |
|                              | GT2     | 64.7                                     | 47.0                            | 47.0                            | GT        | DFO            | —         | 1974                         | OP          |
|                              | GT3     | 64.7                                     | 47.0                            | 47.0                            | GT        | DFO            | —         | 1977                         | OP          |
|                              | ST1     | 81.6                                     | 73.0                            | 73.0                            | ST        | BIT            | NG        | 1965                         | OP          |
|                              | ST2     | 157.5                                    | 135.0                           | 135.0                           | ST        | BIT            | NG        | 1971                         | OP          |
| Kansas City Power & Light Co |         | <b>1,578.0</b>                           | <b>1,362.0</b>                  | <b>1,362.0</b>                  |           |                |           |                              |             |
| Lacygne (Linn)               | **1     | 893.0                                    | 688.0                           | 688.0                           | ST        | SUB            | —         | 1973                         | OP          |
|                              | **2     | 685.0                                    | 674.0                           | 674.0                           | ST        | SUB            | —         | 1977                         | OP          |
| Kansas Gas & Electric Co     |         | <b>1,089.0</b>                           | <b>1,063.1</b>                  | <b>1,082.1</b>                  |           |                |           |                              |             |
| Gordon Evans EC (Sedgwick)   | 1       | 136.0                                    | 151.0                           | 151.0                           | ST        | NG             | RFO       | 1961                         | OP          |
|                              | 2       | 389.0                                    | 383.0                           | 383.0                           | ST        | NG             | RFO       | 1967                         | OP          |
|                              | **GT1   | 73.0                                     | 62.0 <sup>E</sup>               | 71.5 <sup>E</sup>               | GT        | NG             | DFO       | 2000                         | OP          |
|                              | GT2     | 73.0                                     | 62.0 <sup>E</sup>               | 71.5 <sup>E</sup>               | GT        | NG             | DFO       | 2000                         | OP          |
| Murray Gill EC (Sedgwick)    | 1       | 46.0                                     | 43.0                            | 43.0                            | ST        | NG             | RFO       | 1952                         | OP          |
|                              | 2       | 75.0                                     | 74.0                            | 74.0                            | ST        | NG             | RFO       | 1954                         | OP          |
|                              | 3       | 113.0                                    | 112.0                           | 112.0                           | ST        | NG             | RFO       | 1956                         | OP          |
|                              | 4       | 113.0                                    | 106.0                           | 106.0                           | ST        | NG             | RFO       | 1959                         | OP          |
| Neosho (Labette)             | 3       | 69.0                                     | 67.0                            | 67.0                            | ST        | NG             | RFO       | 1954                         | SB          |
| Wichita Diesel (Sedgwick)    | 5       | 2.0                                      | 3.0                             | 3.0                             | IC        | DFO            | —         | 1969                         | OP          |
| Kingman, City of             |         | <b>21.6</b>                              | <b>20.0</b>                     | <b>20.3</b>                     |           |                |           |                              |             |
| Kingman (Kingman)            | 1       | 1.4                                      | 1.2                             | 1.2                             | IC        | NG             | DFO       | 1955                         | OP          |
|                              | 2       | 2.3                                      | 1.9                             | 2.0                             | IC        | NG             | DFO       | 1962                         | OP          |
|                              | 4       | 2.2                                      | 1.9                             | 2.0                             | IC        | NG             | DFO       | 1977                         | OP          |
|                              | 5       | 1.0                                      | 0.8                             | 0.9                             | IC        | NG             | DFO       | 1953                         | OP          |
|                              | 6       | 3.5                                      | 3.4                             | 3.4                             | IC        | NG             | DFO       | 1969                         | OP          |
|                              | 7       | 2.4                                      | 2.1                             | 2.1                             | IC        | NG             | DFO       | 1979                         | OP          |
|                              | 8       | 2.5                                      | 2.4                             | 2.4                             | IC        | NG             | DFO       | 1984                         | OP          |
|                              | 9       | 6.3                                      | 6.3                             | 6.3                             | IC        | NG             | DFO       | 1993                         | OP          |
| La Crosse, City of           |         | <b>6.3</b>                               | <b>5.2</b>                      | <b>5.2</b>                      |           |                |           |                              |             |
| La Crosse (Rush)             | 1       | 1.1                                      | 0.7                             | 0.7                             | IC        | DFO            | NG        | 1962                         | OP          |
|                              | 2       | 1.1                                      | 0.9                             | 0.9                             | IC        | DFO            | NG        | 1964                         | OP          |
|                              | 3       | 0.7                                      | 0.6                             | 0.6                             | IC        | DFO            | NG        | 1950                         | SB          |
|                              | 5       | 1.5                                      | 1.5                             | 1.5                             | IC        | DFO            | NG        | 1969                         | OP          |
|                              | 6       | 1.8                                      | 1.5                             | 1.5                             | IC        | DFO            | NG        | 1975                         | OP          |
| Lakin, City of               |         | <b>4.4</b>                               | <b>4.1</b>                      | <b>4.1</b>                      |           |                |           |                              |             |
| Lakin Municipal (Kearny)     | LK1     | 4.4                                      | 4.1                             | 4.1                             | IC        | NG             | DFO       | 1990                         | OP          |
| Larned, City of              |         | <b>20.6</b>                              | <b>20.5</b>                     | <b>20.5</b>                     |           |                |           |                              |             |
| Gas Turbine (Pawnee)         | GT1     | 1.3                                      | 1.0                             | 1.0                             | GT        | NG             | —         | 1955                         | OS          |
| Larned (Pawnee)              | 1       | 1.5                                      | 1.5                             | 1.5                             | ST        | NG             | RFO       | 1939                         | OS          |
|                              | 2       | 3.0                                      | 3.0                             | 3.0                             | ST        | NG             | RFO       | 1948                         | OS          |
|                              | 3       | 8.3                                      | 9.0                             | 9.0                             | ST        | NG             | RFO       | 1966                         | OP          |
|                              | IC5     | 6.5                                      | 6.0                             | 6.0                             | IC        | DFO            | NG        | 1976                         | OP          |
| Lincoln Center, City of      |         | <b>10.7</b>                              | <b>9.1</b>                      | <b>9.1</b>                      |           |                |           |                              |             |
| Lincoln (Lincoln)            | 1       | 1.3                                      | 1.1                             | 1.1                             | IC        | NG             | DFO       | 1964                         | OP          |
|                              | 2       | 1.3                                      | 1.1                             | 1.1                             | IC        | NG             | DFO       | 1964                         | OP          |
|                              | 4       | 0.8                                      | 0.6                             | 0.6                             | IC        | NG             | DFO       | 1958                         | OP          |
|                              | 5       | 1.3                                      | 1.1                             | 1.1                             | IC        | NG             | DFO       | 1960                         | OP          |
|                              | 6       | 2.5                                      | 2.2                             | 2.2                             | IC        | NG             | DFO       | 1979                         | OP          |
|                              | 7       | 3.5                                      | 3.0                             | 3.0                             | IC        | NG             | DFO       | 1974                         | OP          |
| McPherson, City of           |         | <b>312.6</b>                             | <b>263.0</b>                    | <b>306.5</b>                    |           |                |           |                              |             |
| McPherson 2 (McPherson)      | 1       | 26.6                                     | 26.6                            | 26.6                            | ST        | NG             | RFO       | 1963                         | OP          |
|                              | GT1     | 56.4                                     | 52.9                            | 60.0                            | GT        | NG             | DFO       | 1973                         | OP          |
|                              | GT2     | 56.4                                     | 50.9                            | 60.0                            | GT        | DFO            | —         | 1976                         | OP          |
|                              | GT3     | 57.6                                     | 52.0                            | 60.0                            | GT        | NG             | DFO       | 1979                         | OP          |
| McPherson 3 (McPherson)      | NA1     | 115.6                                    | 80.6                            | 99.9                            | GT        | NG             | DFO       | 1998                         | OP          |
| Meade, City of               |         | <b>8.2</b>                               | <b>7.7</b>                      | <b>8.2</b>                      |           |                |           |                              |             |
| Meade (Meade)                | 2       | 0.9                                      | 0.8                             | 0.9                             | IC        | DFO            | NG        | 1951                         | OP          |
|                              | 3       | 1.1                                      | 1.1                             | 1.1                             | IC        | DFO            | NG        | 1957                         | OP          |
|                              | 4       | 1.4                                      | 1.3                             | 1.4                             | IC        | DFO            | NG        | 1961                         | OP          |
|                              | 5       | 2.1                                      | 2.0                             | 2.2                             | IC        | DFO            | NG        | 1965                         | OP          |
|                              | 6       | 2.7                                      | 2.5                             | 2.7                             | IC        | DFO            | NG        | 1972                         | OP          |

Table 31, continued.

| Company<br>Plant<br>(County)                 | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|----------------------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Midwest Energy Inc                           |            | <b>35.7</b>                                       | <b>32.0</b>                              | <b>32.0</b>                              |              |                   |           |                                    |                |
| Bird City (Cheyenne)                         | 1          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | DFO               | —         | 1965                               | OP             |
|                                              | 2          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | DFO               | —         | 1966                               | OP             |
| Colby (Thomas)                               | GT1        | 16.0                                              | 13.0                                     | 13.0                                     | GT           | NG                | DFO       | 1970                               | OP             |
| Ellis (Ellis)                                | 1          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1960                               | OP             |
|                                              | 2          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | NG                | DFO       | 1965                               | SB             |
|                                              | 3          | 0.6                                               | 0.5                                      | 0.5                                      | IC           | NG                | DFO       | 1947                               | SB             |
|                                              | 4          | 0.6                                               | 0.5                                      | 0.5                                      | IC           | NG                | DFO       | 1954                               | SB             |
|                                              | 5          | 1.6                                               | 1.0                                      | 1.0                                      | IC           | NG                | —         | 1973                               | SB             |
| Great Bend (Barton)                          | 1          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1947                               | OP             |
|                                              | 2          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1947                               | OP             |
|                                              | 3          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1949                               | OP             |
|                                              | 4          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | NG                | DFO       | 1949                               | OP             |
|                                              | 5          | 3.0                                               | 3.0                                      | 3.0                                      | IC           | NG                | DFO       | 1954                               | OP             |
|                                              | 6          | 3.0                                               | 3.0                                      | 3.0                                      | IC           | NG                | DFO       | 1954                               | OP             |
| Minneapolis, City of<br>Minneapolis (Ottawa) |            | <b>10.2</b>                                       | <b>9.0</b>                               | <b>9.0</b>                               |              |                   |           |                                    |                |
|                                              | 1          | 0.4                                               | 0.4                                      | 0.4                                      | IC           | DFO               | —         | 1936                               | OP             |
|                                              | 2          | 0.7                                               | 0.5                                      | 0.5                                      | IC           | NG                | DFO       | 1947                               | OP             |
|                                              | 3          | 1.3                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1961                               | OP             |
|                                              | 4          | 0.7                                               | 0.6                                      | 0.6                                      | IC           | NG                | DFO       | 1955                               | OP             |
|                                              | 5          | 2.1                                               | 1.8                                      | 1.8                                      | IC           | NG                | DFO       | 1966                               | OP             |
|                                              | 6          | 3.0                                               | 2.8                                      | 2.8                                      | IC           | NG                | DFO       | 1972                               | OP             |
|                                              | 7          | 2.0                                               | 1.8                                      | 1.8                                      | IC           | DFO               | —         | 1989                               | OP             |
| Mulvane, City of<br>Mulvane (Sedgwick)       |            | <b>6.3</b>                                        | <b>5.9</b>                               | <b>6.0</b>                               |              |                   |           |                                    |                |
|                                              | 1          | 0.4                                               | 0.2                                      | 0.3                                      | IC           | DFO               | —         | 1949                               | OP             |
|                                              | 2          | 0.3                                               | 0.2                                      | 0.2                                      | IC           | DFO               | —         | 1945                               | OP             |
|                                              | 3          | 1.4                                               | 1.4                                      | 1.4                                      | IC           | NG                | DFO       | 1963                               | OP             |
|                                              | 4          | 1.4                                               | 1.4                                      | 1.4                                      | IC           | DFO               | NG        | 1958                               | OP             |
|                                              | 5          | 0.8                                               | 0.7                                      | 0.7                                      | IC           | DFO               | NG        | 1967                               | OP             |
|                                              | 6          | 2.1                                               | 2.0                                      | 2.0                                      | IC           | DFO               | NG        | 1967                               | OP             |
| Neodesha, City of<br>Neodesha (Wilson)       |            | <b>8.2</b>                                        | <b>7.8</b>                               | <b>7.8</b>                               |              |                   |           |                                    |                |
|                                              | 5          | 1.3                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1952                               | OP             |
|                                              | 6          | 2.3                                               | 2.2                                      | 2.2                                      | IC           | DFO               | NG        | 1956                               | OP             |
|                                              | 7          | 2.0                                               | 2.0                                      | 2.0                                      | IC           | DFO               | NG        | 1962                               | OP             |
|                                              | 8          | 2.7                                               | 2.6                                      | 2.6                                      | IC           | DFO               | NG        | 1968                               | OP             |
| Norton, City of<br>Norton (Norton)           |            | <b>11.3</b>                                       | <b>10.1</b>                              | <b>10.1</b>                              |              |                   |           |                                    |                |
|                                              | 1          | 1.0                                               | 0.9                                      | 0.9                                      | IC           | NG                | DFO       | 1955                               | OP             |
|                                              | 2          | 1.5                                               | 1.4                                      | 1.4                                      | IC           | NG                | DFO       | 1960                               | OP             |
|                                              | 3          | 2.8                                               | 2.5                                      | 2.5                                      | IC           | NG                | DFO       | 1963                               | OP             |
|                                              | 4          | 3.5                                               | 3.2                                      | 3.2                                      | IC           | NG                | DFO       | 1968                               | OP             |
|                                              | 5          | 2.5                                               | 2.3                                      | 2.3                                      | IC           | DFO               | —         | 1977                               | OP             |
| Oakley, City of<br>Oakley (Logan)            |            | <b>8.2</b>                                        | <b>7.5</b>                               | <b>7.8</b>                               |              |                   |           |                                    |                |
|                                              | 1          | 1.4                                               | 1.3                                      | 1.3                                      | IC           | DFO               | NG        | 1961                               | OP             |
|                                              | 2          | 0.4                                               | 0.3                                      | 0.4                                      | IC           | DFO               | —         | 1948                               | OP             |
|                                              | 3          | 0.6                                               | 0.5                                      | 0.5                                      | IC           | DFO               | NG        | 1951                               | OP             |
|                                              | 4          | 0.9                                               | 0.9                                      | 0.9                                      | IC           | DFO               | NG        | 1956                               | OP             |
|                                              | 5          | 1.5                                               | 1.4                                      | 1.5                                      | IC           | DFO               | NG        | 1965                               | OP             |
|                                              | 6          | 3.4                                               | 3.2                                      | 3.3                                      | IC           | DFO               | NG        | 1973                               | OP             |
| Oberlin, City of<br>Oberlin (Decatur)        |            | <b>7.0</b>                                        | <b>5.6</b>                               | <b>5.6</b>                               |              |                   |           |                                    |                |
|                                              | 1          | 1.1                                               | 0.9                                      | 0.9                                      | IC           | NG                | DFO       | 1956                               | OP             |
|                                              | 2          | 0.8                                               | 0.6                                      | 0.6                                      | IC           | NG                | DFO       | 1954                               | OP             |
|                                              | 4          | 1.5                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1967                               | OP             |
|                                              | 5          | 2.0                                               | 1.6                                      | 1.6                                      | IC           | NG                | DFO       | 1973                               | OP             |
|                                              | 6          | 1.5                                               | 1.2                                      | 1.2                                      | IC           | NG                | DFO       | 1963                               | OP             |
| Osage City, City of<br>Osage City (Osage)    |            | <b>9.5</b>                                        | <b>8.2</b>                               | <b>8.2</b>                               |              |                   |           |                                    |                |
|                                              | 1          | 1.1                                               | 0.9                                      | 0.9                                      | IC           | DFO               | NG        | 1955                               | OP             |
|                                              | 2          | 1.3                                               | 1.1                                      | 1.1                                      | IC           | DFO               | NG        | 1960                               | OP             |
|                                              | 4          | 2.1                                               | 1.9                                      | 1.9                                      | IC           | DFO               | NG        | 1967                               | OP             |
|                                              | 5          | 2.1                                               | 1.9                                      | 1.9                                      | IC           | DFO               | NG        | 1970                               | OP             |
|                                              | 7          | 1.8                                               | 1.5                                      | 1.5                                      | IC           | DFO               | NG        | 1984                               | OP             |
|                                              | IC6        | 1.1                                               | 0.9                                      | 0.9                                      | IC           | DFO               | NG        | 1983                               | OP             |
| Osawatomie, City of<br>Osawatomie (Miami)    |            | <b>7.0</b>                                        | <b>5.9</b>                               | <b>6.0</b>                               |              |                   |           |                                    |                |
|                                              | 2          | 2.3                                               | 1.8                                      | 1.9                                      | IC           | DFO               | NG        | 1957                               | OP             |
|                                              | 3          | 0.4                                               | 0.3                                      | 0.3                                      | IC           | DFO               | —         | 1934                               | OS             |
|                                              | 4          | 1.2                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1950                               | OP             |
|                                              | 5          | 3.1                                               | 2.8                                      | 2.8                                      | IC           | DFO               | NG        | 1966                               | OP             |

Table 31, continued.

| Company Plant (County)                          | Unit ID | Generator Nameplate Capacity (megawatts) | Net Summer Capacity (megawatts) | Net Winter Capacity (megawatts) | Unit Type | Energy Primary | Alternate | Year of Commercial Operation | Unit Status |
|-------------------------------------------------|---------|------------------------------------------|---------------------------------|---------------------------------|-----------|----------------|-----------|------------------------------|-------------|
| Osborne, City of Osborne (Osborne)              |         | <b>7.2</b>                               | <b>6.1</b>                      | <b>6.7</b>                      |           |                |           |                              |             |
|                                                 | 1       | 2.3                                      | 1.8                             | 2.0                             | IC        | DFO            | NG        | 1967                         | OP          |
|                                                 | 2       | 2.0                                      | 1.8                             | 2.0                             | IC        | DFO            | NG        | 1963                         | OP          |
|                                                 | 3       | 1.1                                      | 0.7                             | 0.9                             | IC        | DFO            | NG        | 1957                         | OP          |
|                                                 | 6       | 0.5                                      | 0.5                             | 0.5                             | IC        | NG             | —         | 1992                         | OP          |
|                                                 | 7       | 0.5                                      | 0.5                             | 0.5                             | IC        | NG             | —         | 1992                         | OP          |
|                                                 | 8       | 0.8                                      | 0.8                             | 0.8                             | IC        | NG             | —         | 1994                         | OP          |
| Ottawa, City of Ottawa (Franklin)               |         | <b>30.8</b>                              | <b>27.9</b>                     | <b>29.6</b>                     |           |                |           |                              |             |
|                                                 | GT1     | 11.5                                     | 9.0                             | 10.5                            | GT        | NG             | —         | 1967                         | OP          |
|                                                 | IC3     | 3.8                                      | 3.7                             | 3.7                             | IC        | NG             | DFO       | 1962                         | OP          |
|                                                 | IC4     | 3.5                                      | 3.4                             | 3.5                             | IC        | NG             | DFO       | 1958                         | OP          |
|                                                 | IC6     | 6.0                                      | 5.9                             | 6.0                             | IC        | NG             | DFO       | 1981                         | OP          |
|                                                 | IC7     | 6.0                                      | 5.9                             | 6.0                             | IC        | NG             | DFO       | 1981                         | OP          |
| Oxford, City of City of Oxford (Sumner)         |         | <b>6.8</b>                               | <b>5.0</b>                      | <b>5.0</b>                      |           |                |           |                              |             |
|                                                 | 1       | 1.1                                      | 0.6                             | 0.6                             | IC        | DFO            | —         | 1986                         | OP          |
|                                                 | 2       | 1.1                                      | 0.6                             | 0.6                             | IC        | DFO            | —         | 1986                         | OP          |
|                                                 | 3       | 1.1                                      | 0.6                             | 0.6                             | IC        | DFO            | —         | 1986                         | OP          |
|                                                 | 6       | 1.8                                      | 1.6                             | 1.6                             | IC        | DFO            | —         | 1999                         | OP          |
|                                                 | 7       | 1.8                                      | 1.6                             | 1.6                             | IC        | DFO            | —         | 1999                         | OP          |
| Pratt, City of Pratt 2 (Pratt) Pratt (Pratt)    |         | <b>31.5</b>                              | <b>31.3</b>                     | <b>32.4</b>                     |           |                |           |                              |             |
|                                                 | IC2     | 8.0                                      | 8.0                             | 8.0                             | IC        | NG             | DFO       | 1994                         | OP          |
|                                                 | 1       | 3.0                                      | 3.0 <sup>E</sup>                | 3.1 <sup>E</sup>                | ST        | DFO            | NG        | 1938                         | OP          |
|                                                 | 3       | 5.0                                      | 5.8                             | 5.8                             | ST        | DFO            | NG        | 1953                         | OP          |
|                                                 | 5       | 14.0                                     | 13.0                            | 14.0                            | ST        | DFO            | NG        | 1965                         | OP          |
|                                                 | IC1     | 1.5                                      | 1.5                             | 1.5                             | IC        | DFO            | —         | 1958                         | OP          |
| Russell, City of Russell (Russell)              |         | <b>15.7</b>                              | <b>14.4</b>                     | <b>14.4</b>                     |           |                |           |                              |             |
|                                                 | 11      | 3.6                                      | 3.2                             | 3.2                             | IC        | NG             | DFO       | 1994                         | OP          |
|                                                 | 12      | 3.6                                      | 3.2                             | 3.2                             | IC        | NG             | DFO       | 1994                         | OP          |
|                                                 | 7       | 3.5                                      | 3.0                             | 3.0                             | IC        | NG             | DFO       | 1971                         | OP          |
|                                                 | 8       | 2.5                                      | 2.5                             | 2.5                             | IC        | DFO            | —         | 1978                         | OP          |
|                                                 | 9       | 2.5                                      | 2.5                             | 2.5                             | IC        | DFO            | —         | 1981                         | OP          |
| Sabetha, City of Sabetha (Nemaha)               |         | <b>17.4</b>                              | <b>14.8</b>                     | <b>14.8</b>                     |           |                |           |                              |             |
|                                                 | 11      | 3.0                                      | 2.7                             | 2.7                             | IC        | DFO            | NG        | 1992                         | OP          |
|                                                 | 2       | 1.5                                      | 1.3                             | 1.3                             | IC        | DFO            | NG        | 1957                         | OP          |
|                                                 | 3       | 0.8                                      | 0.6                             | 0.6                             | IC        | DFO            | NG        | 1947                         | OP          |
|                                                 | 4       | 1.0                                      | 0.8                             | 0.8                             | IC        | DFO            | NG        | 1950                         | OP          |
|                                                 | 5       | 1.4                                      | 1.3                             | 1.3                             | IC        | DFO            | NG        | 1961                         | OP          |
|                                                 | 6       | 1.4                                      | 1.3                             | 1.3                             | IC        | DFO            | NG        | 1967                         | OP          |
|                                                 | 7       | 2.2                                      | 1.8                             | 1.8                             | IC        | DFO            | NG        | 1970                         | OP          |
|                                                 | 8       | 2.5                                      | 2.1                             | 2.1                             | IC        | DFO            | NG        | 1978                         | OP          |
|                                                 | IC10    | 2.5                                      | 2.1                             | 2.1                             | IC        | DFO            | NG        | 1990                         | OP          |
|                                                 | IC9     | 1.1                                      | 1.0                             | 1.0                             | IC        | DFO            | NG        | 1985                         | OP          |
| Sharon Springs, City of Sharon Spring (Wallace) |         | <b>3.1</b>                               | <b>2.9</b>                      | <b>3.0</b>                      |           |                |           |                              |             |
|                                                 | 1       | 1.0                                      | 0.9                             | 1.0                             | IC        | NG             | DFO       | 1970                         | OP          |
|                                                 | 2       | 1.0                                      | 1.0                             | 1.0                             | IC        | NG             | DFO       | 1964                         | OP          |
|                                                 | 3       | 0.4                                      | 0.4                             | 0.4                             | IC        | NG             | DFO       | 1958                         | OP          |
|                                                 | 4       | 0.7                                      | 0.6                             | 0.6                             | IC        | NG             | DFO       | 1951                         | OP          |
| St Francis, City of St Francis (Cheyenne)       |         | <b>5.9</b>                               | <b>5.9</b>                      | <b>5.9</b>                      |           |                |           |                              |             |
|                                                 | 2       | 1.5                                      | 1.5                             | 1.5                             | IC        | NG             | —         | 1964                         | OP          |
|                                                 | 3       | 0.8                                      | 0.8                             | 0.8                             | IC        | NG             | —         | 1960                         | OP          |
|                                                 | 4       | 2.7                                      | 2.7                             | 2.7                             | IC        | NG             | —         | 1972                         | OP          |
|                                                 | 5       | 0.9                                      | 0.9                             | 0.9                             | IC        | NG             | —         | 1953                         | OP          |
| St John, City of St John (Stafford)             |         | <b>4.6</b>                               | <b>4.6</b>                      | <b>4.8</b>                      |           |                |           |                              |             |
|                                                 | 3       | 0.9                                      | 0.9                             | 0.9                             | IC        | DFO            | NG        | 1952                         | OP          |
|                                                 | 4       | 1.7                                      | 1.7                             | 1.7                             | IC        | DFO            | NG        | 1965                         | OP          |
|                                                 | 5       | 2.0                                      | 2.0                             | 2.2                             | IC        | DFO            | NG        | 1982                         | OP          |
| Stafford, City of Stafford (Stafford)           |         | <b>5.1</b>                               | <b>5.1</b>                      | <b>5.1</b>                      |           |                |           |                              |             |
|                                                 | 1       | 0.9                                      | 0.9                             | 0.9                             | IC        | DFO            | NG        | 1960                         | OP          |
|                                                 | 2       | 0.9                                      | 0.9                             | 0.9                             | IC        | DFO            | NG        | 1953                         | OP          |
|                                                 | 3       | 0.8                                      | 0.8                             | 0.8                             | IC        | DFO            | NG        | 1958                         | OP          |
|                                                 | 4       | 1.4                                      | 1.4                             | 1.4                             | IC        | DFO            | NG        | 1973                         | OP          |
|                                                 | 5       | 1.1                                      | 1.1                             | 1.1                             | IC        | DFO            | NG        | 1983                         | OP          |

Table 31, continued.

| Company<br>Plant<br>(County)                          | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|-------------------------------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Sterling, City of<br>Sterling (Rice)                  | 1          | 6.2                                               | 4.8                                      | 4.8                                      |              |                   |           |                                    |                |
|                                                       | 2          | 1.5                                               | 1.4                                      | 1.4                                      | IC           | DFO               | NG        | 1962                               | OP             |
|                                                       | 3          | 0.6                                               | 0.5                                      | 0.5                                      | IC           | DFO               | NG        | 1950                               | OP             |
|                                                       | 4          | 3.0                                               | 2.2                                      | 2.2                                      | IC           | DFO               | NG        | 1972                               | OP             |
| Stockton, City of<br>Stockton (Rooks)                 | 1          | 1.1                                               | 0.8                                      | 0.8                                      | IC           | DFO               | NG        | 1955                               | OP             |
|                                                       | 2          | 6.3                                               | 5.8                                      | 5.9                                      |              |                   |           |                                    |                |
|                                                       | 3          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | NG                | DFO       | 1967                               | OP             |
|                                                       | 4          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | NG                | DFO       | 1962                               | OP             |
| Sunflower Electric Power Corp<br>Garden City (Finney) | 3          | 2.1                                               | 1.9                                      | 2.0                                      | IC           | NG                | DFO       | 1971                               | OP             |
|                                                       | 4          | 0.6                                               | 0.5                                      | 0.5                                      | IC           | NG                | DFO       | 1951                               | OP             |
|                                                       | 5          | 1.4                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1955                               | OP             |
|                                                       | S2         | 632.0                                             | 528.0                                    | 551.0                                    |              |                   |           |                                    |                |
| Holcomb (Finney)                                      | S3         | 98.0                                              | 85.0                                     | 88.0                                     | ST           | NG                | —         | 1973                               | SB             |
|                                                       | S4         | 16.0                                              | 12.0                                     | 13.0                                     | GT           | NG                | —         | 1968                               | OP             |
|                                                       | S5         | 65.0                                              | 50.0                                     | 55.0                                     | GT           | NG                | —         | 1976                               | OP             |
|                                                       | S5         | 65.0                                              | 50.0                                     | 55.0                                     | GT           | NG                | —         | 1979                               | OP             |
| UtiliCorp United                                      | 1          | 388.0                                             | 331.0                                    | 340.0                                    | ST           | SUB               | NG        | 1983                               | OP             |
| Arthur Mullergren (Barton)                            | 3          | 383.4                                             | 374.5                                    | 374.5                                    |              |                   |           |                                    |                |
| Cimarron River (Seward)                               | 1          | 81.6                                              | 92.0                                     | 92.0                                     | ST           | NG                | RFO       | 1963                               | OP             |
| Clifton (Washington)                                  | 1          | 50.0                                              | 58.0                                     | 58.0                                     | ST           | NG                | —         | 1963                               | OP             |
|                                                       | 2          | 15.0                                              | 14.0                                     | 14.0                                     | GT           | NG                | —         | 1967                               | OP             |
|                                                       | 1          | 85.0                                              | 71.0                                     | 71.0                                     | GT           | NG                | DFO       | 1974                               | OP             |
| Judson Large (Ford)                                   | 2          | 3.0                                               | 2.5                                      | 2.5                                      | IC           | DFO               | —         | 1974                               | OP             |
| Wamego, City of                                       | 4          | 148.8                                             | 137.0                                    | 137.0                                    | ST           | NG                | RFO       | 1969                               | OP             |
| Wamego (Pottawatomie)                                 | 1          | 12.2                                              | 11.8                                     | 12.2                                     |              |                   |           |                                    |                |
| Washington, City of<br>Washington (Washington)        | 3          | 1.3                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1963                               | OP             |
|                                                       | 4          | 1.3                                               | 1.3                                      | 1.3                                      | IC           | NG                | DFO       | 1972                               | OP             |
|                                                       | 5          | 1.1                                               | 1.1                                      | 1.1                                      | IC           | NG                | DFO       | 1956                               | OP             |
|                                                       | 6          | 2.0                                               | 1.8                                      | 2.0                                      | IC           | NG                | DFO       | 1967                               | OP             |
|                                                       | 7          | 2.4                                               | 2.2                                      | 2.4                                      | IC           | NG                | DFO       | 1979                               | OP             |
|                                                       | 8          | 1.4                                               | 1.4                                      | 1.4                                      | IC           | NG                | DFO       | 1996                               | OP             |
|                                                       | 9          | 1.4                                               | 1.4                                      | 1.4                                      | IC           | NG                | DFO       | 1996                               | OP             |
|                                                       | IC4        | 9.1                                               | 7.4                                      | 7.9                                      |              |                   |           |                                    |                |
|                                                       | 1          | 1.3                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1963                               | OP             |
| Wellington, City of<br>Wellington City (Sumner)       | 2          | 1.0                                               | 0.8                                      | 0.8                                      | IC           | DFO               | NG        | 1958                               | OP             |
|                                                       | 3          | 0.9                                               | 0.7                                      | 0.8                                      | IC           | DFO               | NG        | 1978                               | OP             |
|                                                       | 5          | 0.7                                               | 0.4                                      | 0.5                                      | IC           | DFO               | NG        | 1953                               | OP             |
|                                                       | 6          | 1.5                                               | 1.3                                      | 1.4                                      | IC           | DFO               | NG        | 1967                               | OP             |
|                                                       | 7          | 1.1                                               | 0.9                                      | 1.0                                      | IC           | DFO               | —         | 1976                               | OP             |
|                                                       | IC4        | 2.6                                               | 2.3                                      | 2.4                                      | IC           | DFO               | NG        | 1986                               | OP             |
|                                                       | 6          | 41.0                                              | 41.5                                     | 41.5                                     |              |                   |           |                                    |                |
| Wellington Municipal (Sumner)                         | 4          | 20.0                                              | 21.0                                     | 21.0                                     | GT           | NG                | DFO       | 1989                               | OP             |
| Western Resources Inc                                 | 5          | 20.0                                              | 19.5                                     | 19.5                                     | ST           | NG                | DFO       | 1972                               | OP             |
|                                                       | 5          | 1.0                                               | 1.0                                      | 1.0                                      | IC           | DFO               | NG        | 1956                               | OP             |
| Abilene CT (Dickinson)                                | 3,682.0    | 3,664.0                                           | 3,664.0                                  |                                          |              |                   |           |                                    |                |
| Hutchinson EC (Reno)                                  | GT1        | 77.0                                              | 66.0                                     | 66.0                                     | GT           | NG                | DFO       | 1973                               | OP             |
| Jeffrey EC (Pottawatomie)                             | GT1        | 71.0                                              | 52.0                                     | 52.0                                     | GT           | NG                | DFO       | 1974                               | OP             |
|                                                       | GT2        | 71.0                                              | 50.0                                     | 50.0                                     | GT           | NG                | DFO       | 1974                               | OP             |
|                                                       | GT3        | 71.0                                              | 52.0                                     | 52.0                                     | GT           | NG                | DFO       | 1974                               | OP             |
|                                                       | GT4        | 86.0                                              | 78.0                                     | 78.0                                     | GT           | NG                | DFO       | 1975                               | OP             |
|                                                       | ST1        | 23.0                                              | 18.0                                     | 18.0                                     | ST           | NG                | RFO       | 1950                               | OP             |
|                                                       | ST2        | 23.0                                              | 18.0                                     | 18.0                                     | ST           | NG                | RFO       | 1950                               | OP             |
|                                                       | ST3        | 35.0                                              | 31.0                                     | 31.0                                     | ST           | NG                | RFO       | 1950                               | OP             |
|                                                       | ST4        | 172.0                                             | 191.0                                    | 191.0                                    | ST           | NG                | RFO       | 1951                               | OP             |
| Lawrence EC (Douglas)                                 | **1        | 720.0                                             | 744.0                                    | 744.0                                    | ST           | SUB               | —         | 1978                               | OP             |
|                                                       | **2        | 720.0                                             | 741.0                                    | 741.0                                    | ST           | SUB               | —         | 1980                               | OP             |
|                                                       | **3        | 720.0                                             | 741.0                                    | 741.0                                    | ST           | SUB               | —         | 1983                               | OP             |
| Tecumseh EC (Shawnee)                                 | 2          | 37.0                                              | 26.0                                     | 26.0                                     | ST           | BIT               | NG        | 1952                               | OP             |
|                                                       | 3          | 49.0                                              | 59.0                                     | 59.0                                     | ST           | BIT               | NG        | 1955                               | OP             |
|                                                       | 4          | 114.0                                             | 119.0                                    | 119.0                                    | ST           | BIT               | NG        | 1960                               | OP             |
|                                                       | 5          | 403.0                                             | 394.0                                    | 394.0                                    | ST           | BIT               | NG        | 1971                               | OP             |
|                                                       | 1          | 29.0                                              | 20.0                                     | 20.0                                     | GT           | NG                | DFO       | 1972                               | OP             |
| Lawrence EC (Douglas)                                 | 2          | 29.0                                              | 21.0                                     | 21.0                                     | GT           | NG                | DFO       | 1972                               | OP             |
|                                                       | 7          | 82.0                                              | 85.0                                     | 85.0                                     | ST           | BIT               | NG        | 1957                               | OP             |
|                                                       | 8          | 150.0                                             | 158.0                                    | 158.0                                    | ST           | BIT               | NG        | 1962                               | OP             |

Table 31, continued.

| Company<br>Plant<br>(County) | Unit<br>ID | Generator<br>Nameplate<br>Capacity<br>(megawatts) | Net<br>Summer<br>Capacity<br>(megawatts) | Net<br>Winter<br>Capacity<br>(megawatts) | Unit<br>Type | Energy<br>Primary | Alternate | Year of<br>Commercial<br>Operation | Unit<br>Status |
|------------------------------|------------|---------------------------------------------------|------------------------------------------|------------------------------------------|--------------|-------------------|-----------|------------------------------------|----------------|
| Winfield, City of            |            | 37.5                                              | 37.1                                     | 40.1                                     |              |                   |           |                                    |                |
| East 12th Street (Cowley)    | 4          | 26.5                                              | 25.9                                     | 28.7                                     | ST           | NG                | DFO       | 1970                               | OP             |
| West 14th Street (Cowley)    | GT1        | 11.0                                              | 11.2                                     | 11.4                                     | GT           | NG                | —         | 1962                               | OP             |
| Wolf Creek Nuclear Oper Corp |            | 1,235.8                                           | 1,170.0                                  | 1,194.0                                  |              |                   |           |                                    |                |
| Wolf Creek (Coffey)          | **1        | 1,235.8                                           | 1,170.0                                  | 1,194.0                                  | ST           | NUC               | —         | 1985                               | OP             |
| <b>Kansas Total</b>          |            | <b>10,733.7</b>                                   | <b>10,085.9</b>                          | <b>10,213.8</b>                          |              |                   |           |                                    |                |

<sup>1</sup> Individual net summer and winter capabilities for these generators are not available. Within plant, reported value is the aggregated capacity of all these generators.

<sup>2</sup> A reciprocating engine (with spark plugs) that uses landfill gas to generate electricity.

<sup>3</sup> An expander turbine unit using hot nitrogen.

<sup>E</sup> Estimated.

\*\* A jointly owned unit. See below for the list of owners.

\* Less than 0.5 megawatts.

#### Jointly Owned Electric Generating Units by State, Company, and Plant, 2000.

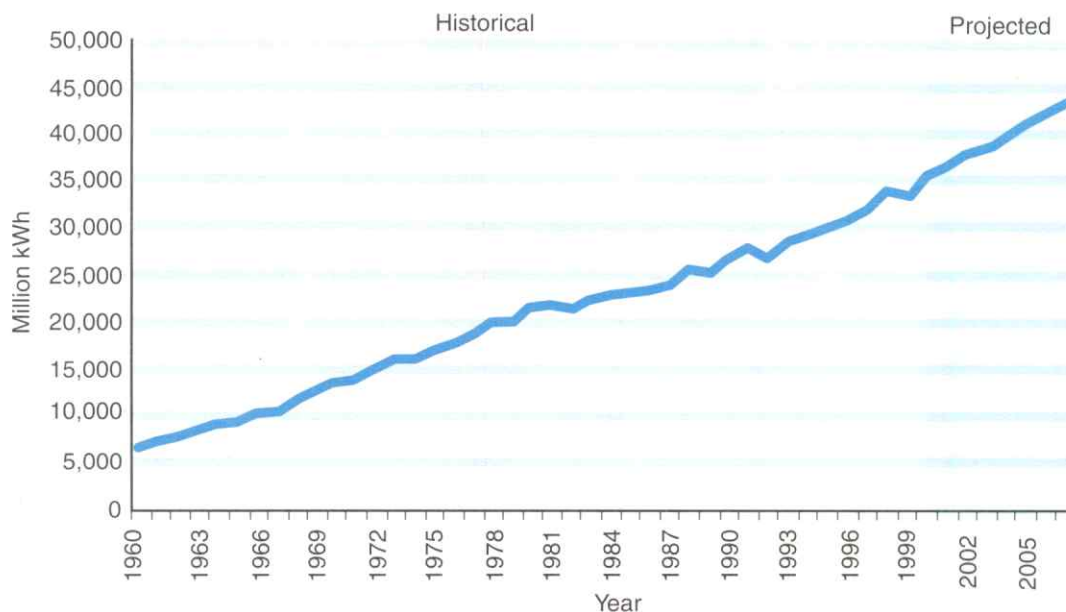
| State Company<br>Plant (Company) | Unit ID | Date | Owner<br>Companies <sup>1</sup> | Percent<br>Owned |
|----------------------------------|---------|------|---------------------------------|------------------|
| Kansas City Power<br>& Light Co  |         |      |                                 |                  |
| Lacygne                          | 1       | 1973 |                                 |                  |
|                                  | 2       | 1977 |                                 |                  |
|                                  |         |      | Kansas City Power & Light Co    | 50.00            |
|                                  |         |      | Kansas Gas & Electric Co        | 50.00            |
| Kansas Gas &<br>Electric Co      | GT1     | 2000 |                                 |                  |
| Gordon Evans EC                  |         |      | KPL                             | 100.00           |
|                                  |         |      | Western Resources Co            |                  |
| Western Resources Inc            |         |      |                                 |                  |
| Jeffrey EC                       | 1       | 1978 |                                 |                  |
|                                  | 2       | 1980 |                                 |                  |
|                                  | 3       | 1983 |                                 |                  |
|                                  |         |      | Centel Corp                     | 8.00             |
|                                  |         |      | Kansas Gas & Electric Co        | 20.00            |
|                                  |         |      | KPL Western Resources Co        | 64.00            |
|                                  |         |      | UtiliCorp                       | 8.00             |
|                                  |         |      | United Inc                      |                  |
| Wolf Creek Nuclear<br>Oper Corp  | 1       | 1985 |                                 |                  |
| Wolf Creek                       |         |      | Kansas City Power & Light Co    | 47.00            |
|                                  |         |      | Kansas Gas & Electric Co        | 47.00            |
|                                  |         |      | Several Municipals and Coops    | 6.00             |

<sup>1</sup> Includes owners that have 100 percent ownership but are not the operators of the unit.

Source: Energy Information Administration, Form EIA-860A, "Annual Electric Generator Report - Utility."

**Table 32—Existing Capacity and Planned Capacity Additions at Kansas Electric Utilities by Energy Source, as of 2000.** Planned additions scheduled for initial commercial operation within five years of the reporting period of the source publication. Source: U.S. Department of Energy, Energy Information Administration (EIA), *Inventory of Electric Utility Power Plants in the United States 2000* ([http://www.eia.doe.gov/cneaf/electricity/ipp/ipp\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/ipp/ipp_sum.html)).

| Source                             | Existing        |                                          |                                 |                                 | Planned Additions |                                          |                                 |                                 |
|------------------------------------|-----------------|------------------------------------------|---------------------------------|---------------------------------|-------------------|------------------------------------------|---------------------------------|---------------------------------|
|                                    | Number of Units | Generator Nameplate Capacity (megawatts) | Net Summer Capacity (megawatts) | Net Winter Capacity (megawatts) | Number of Units   | Generator Nameplate Capacity (megawatts) | Net Summer Capacity (megawatts) | Net Winter Capacity (megawatts) |
| Coal                               | 17              | 5,549                                    | 5,295                           | 5,304                           | —                 | —                                        | —                               | —                               |
| Petroleum                          | 207             | 601                                      | 522                             | 537                             | —                 | —                                        | —                               | —                               |
| Gas                                | 194             | 3,348                                    | 3,099                           | 3,179                           | —                 | —                                        | —                               | —                               |
| Water (Pumped Storage Hydro.)      | —               | —                                        | —                               | —                               | —                 | —                                        | —                               | —                               |
| Water (Conventional Hydroelectric) | —               | —                                        | —                               | —                               | —                 | —                                        | —                               | —                               |
| Nuclear                            | 1               | 1,236                                    | 1,170                           | 1,194                           | —                 | —                                        | —                               | —                               |
| Waste Heat                         | —               | —                                        | —                               | —                               | —                 | —                                        | —                               | —                               |
| Multi-Fuel                         | —               | —                                        | —                               | —                               | —                 | —                                        | —                               | —                               |
| Other Renewable                    | —               | —                                        | —                               | —                               | —                 | —                                        | —                               | —                               |
| <b>Total</b>                       | <b>419</b>      | <b>10,734</b>                            | <b>10,086</b>                   | <b>10,214</b>                   | <b>24</b>         | <b>1,243</b>                             | <b>1,058</b>                    | <b>1,213</b>                    |



**Figure 32—Kansas Electricity Consumption, 1996–2007.** Note: In this figure, the years fall between the hatch marks. Sources: Historical production data: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report* (various years). Projected consumption: forecasts produced by Soojong Kwak, Kansas Corporation Commission, and Michael Volker, Midwest Energy, Inc., for *Kansas Energy Plan 2003* (SERCC, 2003).

**Table 33—Kansas Utility Class of Ownership, Number of Bundled Ultimate Consumers, Revenue, Sales, and Average Revenue per Kilowatthour for All Sectors, 2000.** The average revenue per kilowatthour of electricity sold is calculated by dividing revenue by sales. All sectors include residential, commercial, industrial, and other customers. Electric utilities serving consumers in more than one state are listed under each state served. Bundled consumers are those provided electric service by a single utility, who did not select an alternate competitive energy supplier in state “retail wheeling” programs. Asterisk (\*) = reserves less than \$100,000 or insufficient data. Source: U.S. Department of Energy, Energy Information Administration (EIA), *Electric Sales and Revenue 2000* ([http://www.eia.doe.gov/cneaf/electricity/esr/esr\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/esr/esr_sum.html), table 17).

| Utility                        | Class of Ownership | Number of Consumers | Revenue (thousand dollars) | Sales (thousand kilowatthours) | Average Revenue per Kilowatthour (cents) |
|--------------------------------|--------------------|---------------------|----------------------------|--------------------------------|------------------------------------------|
| Alfalfa Electric Coop Inc.     | Cooperative        | 820                 | \$742                      | 9,370                          | 7.92¢                                    |
| Alma, City of                  | Publicly Owned     | 486                 | 680                        | 7,467                          | 9.11                                     |
| Altamont, City of              | Publicly Owned     | 517                 | 638                        | 8,300                          | 7.69                                     |
| Anthony, City of               | Publicly Owned     | 1,989               | 2,065                      | 26,891                         | 7.68                                     |
| Arcadia, City of               | Publicly Owned     | 193                 | 191                        | 1,746                          | 10.94                                    |
| Ark Valley Elec Coop Assn Inc. | Cooperative        | 4,801               | 8,073                      | 77,948                         | 10.36                                    |
| Arma, City of                  | Publicly Owned     | 785                 | 972                        | 9,555                          | 10.17                                    |
| Ashland, City of               | Publicly Owned     | 691                 | 777                        | 9,342                          | 8.32                                     |
| Attica, City of                | Publicly Owned     | 462                 | 490                        | 5,959                          | 8.22                                     |
| Augusta, City of               | Publicly Owned     | 4,396               | 4,295                      | 65,554                         | 6.55                                     |
| Axtell, City of                | Publicly Owned     | 232                 | 175                        | 2,370                          | 7.38                                     |
| Baldwin City, City of          | Publicly Owned     | 1,404               | 2,053                      | 24,711                         | 8.31                                     |
| Belleville, City of            | Publicly Owned     | 1,484               | 2,154                      | 21,492                         | 10.02                                    |
| Beloit, City of                | Publicly Owned     | 2,251               | 2,929                      | 43,293                         | 6.77                                     |
| Blue Mound, City of            | Publicly Owned     | 164                 | 116                        | 2,010                          | 5.77                                     |
| Bluestem Electric Coop Inc.    | Cooperative        | 6,271               | 8,101                      | 79,391                         | 10.20                                    |
| Bronson, City of               | Publicly Owned     | 178                 | 189                        | 2,178                          | 8.68                                     |
| Brown-Atchison E C A Inc.      | Cooperative        | 2,969               | 4,213                      | 44,651                         | 9.44                                     |
| Burlingame, City of            | Publicly Owned     | 628                 | 744                        | 8,189                          | 9.09                                     |
| Burlington, City of            | Publicly Owned     | 1,590               | 2,224                      | 31,237                         | 7.12                                     |
| Butler Rural El Coop Assn Inc. | Cooperative        | 6,292               | 9,707                      | 100,187                        | 9.69                                     |
| Caney Valley El Coop Assn Inc. | Cooperative        | 5,137               | 5,460                      | 48,110                         | 11.35                                    |
| Cawker City, City of           | Publicly Owned     | 446                 | 417                        | 4,748                          | 8.78                                     |
| Centralia, City of             | Publicly Owned     | 306                 | 343                        | 3,666                          | 9.36                                     |
| Chanute, City of               | Publicly Owned     | 5,700               | 9,215                      | 180,288                        | 5.11                                     |
| Chapman, City of               | Publicly Owned     | 638                 | 706                        | 5,869                          | 12.03                                    |
| Chetopa, City of               | Publicly Owned     | 811                 | 663                        | 10,034                         | 6.61                                     |
| Cimarron, City of              | Publicly Owned     | 997                 | 1,451                      | 15,517                         | 9.35                                     |
| Clay Center, City of           | Publicly Owned     | 2,761               | 3,706                      | 48,330                         | 7.67                                     |
| Coffeyville, City of           | Publicly Owned     | 7,942               | 22,172                     | 455,798                        | 4.86                                     |
| Colby, City of                 | Publicly Owned     | 2,886               | 3,149                      | 56,784                         | 5.55                                     |
| CMS Electric Coop Inc.         | Cooperative        | 5,160               | 7,154                      | 70,287                         | 10.18                                    |
| D S & O Rural E C A Inc.       | Cooperative        | 7,015               | 8,815                      | 98,007                         | 8.99                                     |
| Dighton, City of               | Publicly Owned     | 806                 | 984                        | 9,620                          | 10.23                                    |
| Doniphan Elec Coop Assn Inc.   | Cooperative        | 1,613               | 1,364                      | 17,220                         | 7.92                                     |
| Ellinwood, City of             | Publicly Owned     | 1,353               | 1,401                      | 13,942                         | 10.05                                    |
| Elsmore, City of               | Publicly Owned     | 59                  | 38                         | 413                            | *                                        |
| Elwood, City of                | Publicly Owned     | 521                 | 536                        | 5,321                          | 10.07                                    |
| Empire District Electric Co.   | Investor-Owned     | 10,282              | 13,373                     | 238,593                        | 5.60                                     |
| Enterprise, City of            | Publicly Owned     | 365                 | 371                        | 4,462                          | 8.31                                     |
| Erie, City of                  | Publicly Owned     | 709                 | 853                        | 10,326                         | 8.26                                     |
| Eudora, City of                | Publicly Owned     | 1,829               | 2,182                      | 30,960                         | 7.05                                     |
| Flint Hills Rural E C A Inc.   | Cooperative        | 4,812               | 6,833                      | 66,170                         | 10.33                                    |
| Fredonia, City of              | Publicly Owned     | 1,726               | 2,463                      | 25,757                         | 9.56                                     |

Table 33, continued.

| Utility                        | Class of Ownership | Number of Consumer | Revenue (thousand dollars) | Sales (thousand kilowatthours) | Average Revenue per Kilowatthour (cents) |
|--------------------------------|--------------------|--------------------|----------------------------|--------------------------------|------------------------------------------|
| Galva, City of                 | Publicly Owned     | 368                | \$374                      | 4,529                          | 8.26¢                                    |
| Garden City, City of           | Publicly Owned     | 11,077             | 16,042                     | 198,541                        | 8.08                                     |
| Gardner, City of               | Publicly Owned     | 3,861              | 5,598                      | 66,116                         | 8.47                                     |
| Garnett, City of               | Publicly Owned     | 1,852              | 2,287                      | 25,920                         | 8.82                                     |
| Girard, City of                | Publicly Owned     | 1,770              | 2,784                      | 32,676                         | 8.52                                     |
| Glascow, City of               | Publicly Owned     | 389                | 323                        | 3,631                          | 8.90                                     |
| Glen Elder, City of            | Publicly Owned     | 418                | 323                        | 3,932                          | 8.21                                     |
| Goodland, City of              | Publicly Owned     | 2,816              | 3,898                      | 49,922                         | 7.81                                     |
| Greensburg, City of            | Publicly Owned     | 1,137              | 1,238                      | 13,379                         | 9.25                                     |
| Haven, City of                 | Publicly Owned     | 550                | 812                        | 9,961                          | 8.15                                     |
| Heartland Rural Elec Coop Inc. | Cooperative        | 10,235             | 11,614                     | 113,806                        | 10.21                                    |
| Herington, City of             | Publicly Owned     | 1,534              | 1,826                      | 19,592                         | 9.32                                     |
| Herndon, City of               | Publicly Owned     | 170                | 113                        | 1,178                          | 9.59                                     |
| Hill City, City of             | Publicly Owned     | 1,095              | 1,158                      | 12,901                         | 8.98                                     |
| Hillsboro, City of             | Publicly Owned     | 1,436              | 1,795                      | 20,249                         | 8.86                                     |
| Hoisington, City of            | Publicly Owned     | 1,795              | 1,622                      | 21,192                         | 7.65                                     |
| Holton, City of                | Publicly Owned     | 2,403              | 3,676                      | 40,856                         | 9.00                                     |
| Holyrood, City of              | Publicly Owned     | 318                | 271                        | 3,276                          | 8.27                                     |
| Horton, City of                | Publicly Owned     | 1,063              | 1,054                      | 12,843                         | 8.21                                     |
| Hugoton, City of               | Publicly Owned     | 1,999              | 2,819                      | 28,138                         | 10.02                                    |
| Iola, City of                  | Publicly Owned     | 4,035              | 5,886                      | 123,726                        | 4.76                                     |
| Isabel, City of                | Publicly Owned     | 73                 | 67                         | 617                            | *                                        |
| Iuka, City of                  | Publicly Owned     | 127                | 118                        | 1,702                          | 6.93                                     |
| Jetmore, City of               | Publicly Owned     | 611                | 565                        | 7,935                          | 7.12                                     |
| Jewell-Mitchell Coop Elec Inc. | Cooperative        | 4,651              | 4,326                      | 45,126                         | 9.59                                     |
| Johnson, City of               | Publicly Owned     | 808                | 1,172                      | 13,397                         | 8.75                                     |
| Kansas City, City of           | Publicly Owned     | 65,216             | 114,129                    | 2,234,895                      | 5.11                                     |
| Kansas City Power & Light Co.  | Investor-Owned     | 204,483            | 359,871                    | 5,397,872                      | 6.67                                     |
| Kansas Gas & Electric Co.      | Investor-Owned     | 290,616            | 589,518                    | 9,100,130                      | 6.48                                     |
| Kaw Valley Electric Coop Inc.  | Cooperative        | 7,774              | 9,648                      | 121,016                        | 7.97                                     |
| Kingman, City of               | Publicly Owned     | 1,973              | 3,629                      | 48,277                         | 7.52                                     |
| Kiowa, City of                 | Publicly Owned     | 795                | 837                        | 10,228                         | 8.18                                     |
| La Crosse, City of             | Publicly Owned     | 827                | 1,004                      | 10,583                         | 9.49                                     |
| La Harpe, City of              | Publicly Owned     | 338                | 286                        | 3,080                          | 9.29                                     |
| Lakin, City of                 | Publicly Owned     | 1,048              | 1,804                      | 13,419                         | 13.44                                    |
| Lane-Scott Electric Coop Inc.  | Cooperative        | 2,578              | 4,655                      | 52,820                         | 8.81                                     |
| Larned, City of                | Publicly Owned     | 2,431              | 3,233                      | 37,349                         | 8.66                                     |
| Leavenworth-Jefferson E C Inc. | Cooperative        | 7,097              | 8,784                      | 95,468                         | 9.20                                     |
| Lincoln Center, City of        | Publicly Owned     | 908                | 985                        | 13,836                         | 7.12                                     |
| Lindsborg, City of             | Publicly Owned     | 1,589              | 2,056                      | 25,131                         | 8.18                                     |
| Lucas, City of                 | Publicly Owned     | 338                | 313                        | 3,668                          | 8.53                                     |
| Luray, City of                 | Publicly Owned     | 162                | 122                        | 1,453                          | 8.40                                     |
| Lyon-Coffey Electric Coop Inc. | Cooperative        | 8,684              | 8,316                      | 83,785                         | 9.93                                     |
| Mankato, City of               | Publicly Owned     | 647                | 608                        | 8,261                          | 7.36                                     |
| Marion, City of                | Publicly Owned     | 1,166              | 1,452                      | 16,703                         | 8.69                                     |
| McPherson, City of             | Publicly Owned     | 8,029              | 22,377                     | 640,410                        | 3.49                                     |
| Meade, City of                 | Publicly Owned     | 960                | 1,306                      | 13,798                         | 9.47                                     |
| Midwest Energy Inc.            | Cooperative        | 35,180             | 57,556                     | 826,501                        | 6.96                                     |
| Minneapolis, City of           | Publicly Owned     | 1,047              | 1,104                      | 16,265                         | 6.79                                     |
| Montezuma, City of             | Publicly Owned     | 506                | 797                        | 8,683                          | 9.18                                     |
| Moran, City of                 | Publicly Owned     | 311                | 346                        | 4,891                          | 7.07                                     |
| Morrill, City of               | Publicly Owned     | 161                | 101                        | 1,276                          | 7.92                                     |
| Moundridge, City of            | Publicly Owned     | 826                | 1,382                      | 23,868                         | 5.79                                     |
| Mount Hope, City of            | Publicly Owned     | 394                | 479                        | 5,423                          | 8.83                                     |
| Mulberry, City of              | Publicly Owned     | 295                | 268                        | 2,591                          | 10.34                                    |
| Mulvane, City of               | Publicly Owned     | 2,257              | 2,634                      | 36,054                         | 7.31                                     |
| Muscotah, City of              | Publicly Owned     | 110                | 76                         | 850                            | *                                        |

Table 33, continued.

| Utility                         | Class of Ownership | Number of Consumer | Revenue (thousand dollars) | Sales (thousand kilowatthours) | Average Revenue per Kilowatthour (cents) |
|---------------------------------|--------------------|--------------------|----------------------------|--------------------------------|------------------------------------------|
| N C K Electric Coop Inc.        | Cooperative        | 2,982              | \$3,571                    | 32,494                         | 10.99¢                                   |
| Nemaha-Marshall E C A Inc.      | Cooperative        | 3,288              | 3,237                      | 43,578                         | 7.43                                     |
| Neodesha, City of               | Publicly Owned     | 3,415              | 3,086                      | 38,600                         | 7.99                                     |
| Ninnescah Rural E C A Inc.      | Cooperative        | 3,336              | 5,039                      | 58,684                         | 8.59                                     |
| Norton, City of                 | Publicly Owned     | 1,809              | 2,109                      | 25,532                         | 8.26                                     |
| Oakley, City of                 | Publicly Owned     | 1,308              | 1,342                      | 18,356                         | 7.31                                     |
| Oberlin, City of                | Publicly Owned     | 1,296              | 1,381                      | 14,490                         | 9.53                                     |
| Osage City, City of             | Publicly Owned     | 1,567              | 1,560                      | 22,941                         | 6.80                                     |
| Osawatomie, City of             | Publicly Owned     | 2,096              | 2,681                      | 27,557                         | 9.73                                     |
| Osborne, City of                | Publicly Owned     | 1,019              | 1,135                      | 15,092                         | 7.52                                     |
| Ottawa, City of                 | Publicly Owned     | 5,805              | 8,805                      | 111,808                        | 7.88                                     |
| Oxford, City of                 | Publicly Owned     | 592                | 723                        | 8,827                          | 8.19                                     |
| Pioneer Electric Coop Inc.      | Cooperative        | 13,969             | 35,097                     | 614,483                        | 5.71                                     |
| Pomona, City of                 | Publicly Owned     | 539                | 455                        | 6,822                          | 6.67                                     |
| Prairie Land Electric Coop Inc. | Cooperative        | 8,228              | 10,190                     | 106,055                        | 9.61                                     |
| Pratt, City of                  | Publicly Owned     | 3,760              | 6,189                      | 65,684                         | 9.42                                     |
| Prescott, City of               | Publicly Owned     | 146                | 139                        | 1,183                          | 11.75                                    |
| Radiant Electric Coop Inc.      | Cooperative        | 3,613              | 4,117                      | 41,467                         | 9.93                                     |
| Radium, City of                 | Publicly Owned     | 22                 | 15                         | 164                            | *                                        |
| Robinson, City of               | Publicly Owned     | 162                | 103                        | 1,301                          | 7.92                                     |
| Russell, City of                | Publicly Owned     | 3,370              | 5,198                      | 76,854                         | 6.76                                     |
| Sabetha, City of                | Publicly Owned     | 1,700              | 4,410                      | 39,744                         | 11.10                                    |
| Savonburg, City of              | Publicly Owned     | 62                 | 45                         | 419                            | *                                        |
| Scranton, City of               | Publicly Owned     | 350                | 307                        | 4,354                          | 7.05                                     |
| Sedgwick Cnty El Coop Assn Inc. | Cooperative        | 4,774              | 7,118                      | 84,999                         | 8.37                                     |
| Seneca, City of                 | Publicly Owned     | 1,184              | 1,494                      | 21,616                         | 6.91                                     |
| Seward, City of                 | Publicly Owned     | 40                 | 47                         | 585                            | *                                        |
| Sharon Springs, City of         | Publicly Owned     | 568                | 810                        | 6,999                          | 11.57                                    |
| Smoky Hill Elec Coop Assn Inc.  | Cooperative        | 2,874              | 3,795                      | 36,713                         | 10.34                                    |
| Southwestern Public Service Co. | Investor-Owned     | 1,501              | 1,594                      | 22,823                         | 6.98                                     |
| St Francis, City of             | Publicly Owned     | 1,113              | 1,096                      | 9,703                          | 11.30                                    |
| St John, City of                | Publicly Owned     | 839                | 921                        | 9,779                          | 9.42                                     |
| St Marys, City of               | Publicly Owned     | 985                | 1,343                      | 16,150                         | 8.32                                     |
| Stafford, City of               | Publicly Owned     | 770                | 925                        | 8,842                          | 10.46                                    |
| Sterling, City of               | Publicly Owned     | 1,227              | 1,570                      | 17,554                         | 8.94                                     |
| Stockton, City of               | Publicly Owned     | 1,009              | 1,122                      | 13,638                         | 8.23                                     |
| Summerfield, Town of            | Publicly Owned     | 155                | 98                         | 1,455                          | *                                        |
| Sumner-Cowley Elec Coop Inc.    | Cooperative        | 4,172              | 7,036                      | 61,967                         | 11.35                                    |
| Toronto, City of                | Publicly Owned     | 200                | 170                        | 1,965                          | 8.65                                     |
| Tri-County Electric Coop Inc.   | Cooperative        | 14                 | 11                         | 123                            | *                                        |
| Troy, City of                   | Publicly Owned     | 589                | 551                        | 6,639                          | 8.30                                     |
| Twin Valley Electric Coop Inc.  | Cooperative        | 2,325              | 2,996                      | 26,379                         | 11.36                                    |
| Udall, City of                  | Publicly Owned     | 378                | 440                        | 5,455                          | 8.07                                     |
| UtiliCorp United Inc.           | Investor-Owned     | 68,969             | 125,437                    | 1,759,898                      | 7.13                                     |
| Vermillion, City of             | Publicly Owned     | 99                 | 59                         | 636                            | *                                        |
| Victory Electric Coop Assn Inc. | Cooperative        | 4,186              | 8,752                      | 122,324                        | 7.15                                     |
| Wamego, City of                 | Publicly Owned     | 2,000              | 2,666                      | 37,888                         | 7.04                                     |
| Washington, City of             | Publicly Owned     | 796                | 947                        | 11,027                         | 8.59                                     |
| Waterville, City of             | Publicly Owned     | 456                | 389                        | 4,679                          | 8.31                                     |
| Wathena, City of                | Publicly Owned     | 646                | 684                        | 7,844                          | 8.72                                     |
| Wellington, City of             | Publicly Owned     | 4,541              | 8,353                      | 115,258                        | 7.25                                     |
| Western Coop Electric Assn Inc. | Cooperative        | 4,444              | 9,401                      | 106,969                        | 8.79                                     |
| Western Resources Inc.          | Investor-Owned     | 345,017            | 492,826                    | 9,534,654                      | 5.17                                     |
| Wheatland Electric Coop Inc.    | Cooperative        | 16,846             | 38,685                     | 500,134                        | 7.73                                     |
| Winfield, City of               | Publicly Owned     | 7,851              | 14,841                     | 254,489                        | 5.83                                     |
| <b>State Total</b>              |                    | <b>1,352,816</b>   | <b>\$2,253,725</b>         | <b>35,921,461</b>              | <b>6.27¢</b>                             |

**Table 34—Average Delivered Cost of Fossil Fuel Receipts at Kansas Electric Utilities, 1990–2000** (dollars per unit). Source: U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Cost and Quality of Fuels for Electric Utility Plants*, various years, DOE/EIA-0191 (EIA, 1990–1995, 2000c).

| Year | Coal      |             |                           | Natural Gas |             |                     | Petroleum |             |                        |
|------|-----------|-------------|---------------------------|-------------|-------------|---------------------|-----------|-------------|------------------------|
|      | Short Ton | Million Btu | Million Btu per Short Ton | Mcf         | Million Btu | Million Btu per MCF | Barrel    | Million Btu | Million Btu per Barrel |
| 1990 | 22.23     | 1.242       |                           | 1.74        | 1.76        |                     | 31.36     | 5.404       |                        |
| 1991 | 22.06     | 1.226       |                           | 1.65        | 1.71        |                     | 25.08     | 4.316       |                        |
| 1992 | 20.99     | 1.179       |                           | 1.94        | 2.00        |                     | 25.58     | 4.378       |                        |
| 1993 | 17.69     | 1.022       |                           | 2.26        | 2.32        |                     | 23.43     | 4.02        |                        |
| 1994 | 17.85     | 1.025       | 17.416                    | 1.89        | 1.92        | 0.983               | 23.15     | 3.97        | 5.83                   |
| 1995 | 17.83     | 1.021       | 17.460                    | 1.58        | 1.61        | 0.980               | 21.56     | 3.69        | 5.84                   |
| 1996 | 17.51     | 0.992       | 17.654                    | 2.25        | 2.32        | 0.973               | 24.57     | 4.12        | 5.96                   |
| 1997 | 17.91     | 1.021       | 17.532                    | 2.53        | 2.58        | 0.978               | 18.26     | 2.82        | 6.47                   |
| 1998 | 17.06     | 0.981       | 17.392                    | 2.14        | 2.14        | 1.001               | 16.14     | 2.66        | 6.08                   |
| 1999 | 16.47     | 0.954       | 17.256                    | 2.36        | 2.34        | 1.010               | 19.77     | 3.19        | 6.20                   |
| 2000 | 17.08     | 0.985       | 17.344                    | 4.18        | 4.14        | 1.010               | 26.02     | 4.00        | 6.50                   |

## Section 6—Renewable Resources

Renewable energy sources in Kansas are playing an increasingly important role in Kansas. Recent studies ranked Kansas as having one of the best wind energy resources in the nation. The first utility-sized wind farm was constructed near Montezuma, in Gray County, in 2001, and other wind farms are proposed throughout the state. Other renewable energy sources are being developed in Kansas, but, as the following section shows, the data are limited at this time.

**Table 35—Renewable Electric Power Industry Gross Generation in Kansas, 1990–2000—(thousand kilowatthours).**—Other Waste = agricultural waste, straw, ties, fish oils, paperpellets, tall oil, sludge waste, digester gas, methane, and waste alcohol; MSW = municipal solid waste. Sources: Hydroelectric data from David Readio, Bowersock Mills and Power Co. (personal communication, March 2003); all other data from U.S. Department of Energy, Energy Information Administration (EIA), *Renewable Energy Annual*, DOE/EIA-0603(99) (EIA, 2000h).

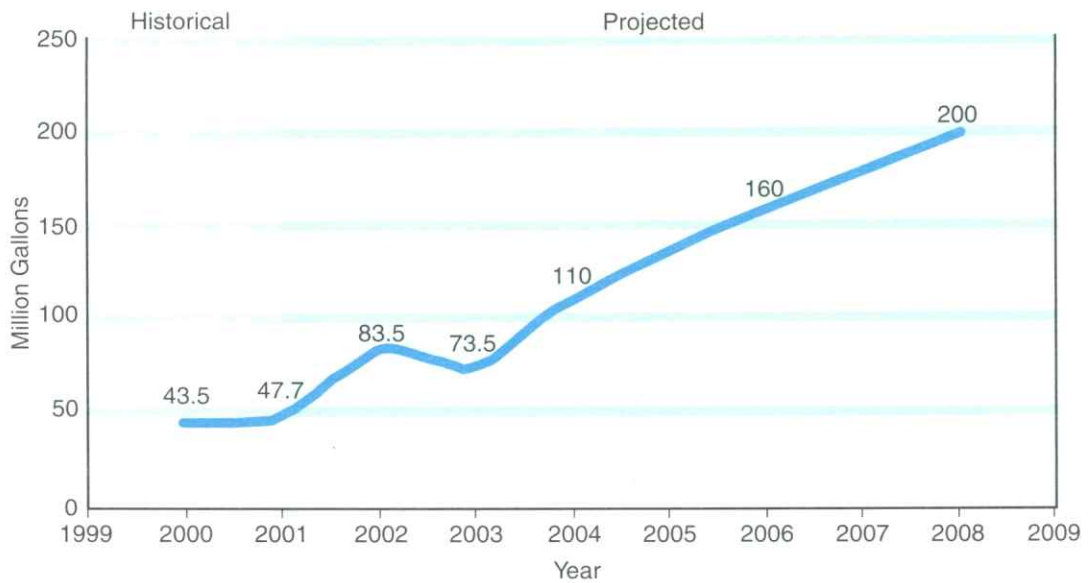
| Year | Hydroelectric | Geothermal | Solar/PV | Wind | MSW/Landfill Gas | Wood/Wood Waste | Other Waste | Total  |
|------|---------------|------------|----------|------|------------------|-----------------|-------------|--------|
| 1990 | 11,351        |            |          | 45   |                  |                 |             | 11,396 |
| 1991 | 9,434         |            |          | 42   |                  |                 |             | 9,476  |
| 1992 | 9,336         |            |          | 113  |                  |                 |             | 9,449  |
| 1993 | 4,622         |            |          | 58   |                  |                 |             | 4,680  |
| 1994 | 8,928         |            |          | 55   |                  |                 |             | 8,983  |
| 1995 | 10,351        |            |          | 26   |                  |                 |             | 10,377 |
| 1996 | 10,181        |            |          | 0    |                  |                 |             | 10,181 |
| 1997 | 12,989        |            |          | 0    |                  |                 |             | 12,989 |
| 1998 | 10,697        |            |          |      |                  |                 |             | 10,697 |
| 1999 | 11,690        |            |          |      |                  |                 |             | 11,690 |
| 2000 | 14,544        |            |          |      |                  |                 |             | 14,544 |

**Table 36—Electricity Generated from Gray County Wind Farm, 2002.** Sources: Jan.–Nov. 2002 (Channele Carner, Energy Information Administration, personal communication, March 2003); Oct.–Dec. data also available in *Electric Power Monthly*, DOE/EIA-0226(2003/01) and online at [www.eia.doe.gov/cneaf/electricity/epm/epm\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/epm/epm_sum.html), table 75.

| Month (2002) | MWh          |
|--------------|--------------|
| January      | Not reported |
| February     | Not reported |
| March        | 39,832       |
| April        | 40,175       |
| May          | 39,609       |
| June         | 40,029       |
| July         | 26,155       |
| August       | 30,884       |
| September    | 30,178       |
| October      | 25,779       |
| November     | 27,744       |
| December     | 25,883       |

**Table 37—Hydroelectric Power Production in Kansas, 1960–2007** (megawatthours). Note: The Bowersock dam in Lawrence, Kansas, is the only hydroelectric generating unit in the state. Source: David Readio, Bowersock Mills and Power Co. (personal communication, March 2003).

| Year | Hydroelectric Power<br>(Megawatthours) |
|------|----------------------------------------|
| 1960 | 12,429                                 |
| 1961 | 11,130                                 |
| 1962 | 12,093                                 |
| 1963 | 13,919                                 |
| 1964 | 11,150                                 |
| 1965 | 11,449                                 |
| 1966 | 12,389                                 |
| 1967 | 7,707                                  |
| 1968 | 10,159                                 |
| 1969 | 6,372                                  |
| 1970 | 7,035                                  |
| 1971 | 6,516                                  |
| 1972 | 4,629                                  |
| 1973 | 3,069                                  |
| 1974 | 6,627                                  |
| 1975 | 4,540                                  |
| 1976 | 4,693                                  |
| 1977 | 3,136                                  |
| 1978 | 4,762                                  |
| 1979 | 3,655                                  |
| 1980 | 8,314                                  |
| 1981 | 7,614                                  |
| 1982 | 6,365                                  |
| 1983 | 5,455                                  |
| 1984 | 7,440                                  |
| 1985 | 9,545                                  |
| 1986 | 8,297                                  |
| 1987 | 8,462                                  |
| 1988 | 11,114                                 |
| 1989 | 9,540                                  |
| 1990 | 11,351                                 |
| 1991 | 9,434                                  |
| 1992 | 9,336                                  |
| 1993 | 4,622                                  |
| 1994 | 8,928                                  |
| 1995 | 10,351                                 |
| 1996 | 10,181                                 |
| 1997 | 12,989                                 |
| 1998 | 10,697                                 |
| 1999 | 11,690                                 |
| 2000 | 14,544                                 |
| 2001 | 12,398                                 |
| 2002 | 12,746                                 |



**Figure 33—Kansas Ethanol Production, 2000–2008** (million gallons per year). Sources: Renewable Fuels Association web site (<http://www.ethanolrfa.org>) and Kansas Corn Growers Association, Jill Zimmerman (personal communication, 2002).

**Table 38—Kansas Ethanol Production for 2000–2001 and Estimated Kansas Ethanol Production for 2003–2004, and 2006** (million gallons per year). Assumed energy value of ethanol: 76,000 Btu/gallon. Estimates based on ethanol plants operating at full capacity. Sources: Renewable Fuels Association web site (<http://www.ethanolrfa.org>) and Kansas Corn Growers Association, Jill Zimmerman (personal communication, 2002).

| Year | ESE Alcohol, Inc. (Leoti) | High Plains Corp. (Colwich) | Midwest Grain (Atchison) | Reeve Agri-Energy (Garden City) | U.S. Energy Partners (Russell) | Total | LLV Energy Value (trillion Btu) |
|------|---------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------|-------|---------------------------------|
| 2000 | 1.5                       | 20                          | 10                       | 12                              | 0                              | 43.5  | 3.3                             |
| 2001 | 1.5                       | 20                          | 10                       | 12                              | 4                              | 47.7  | 3.6                             |
| 2002 | 1.5                       | 20                          | 10                       | 12                              | 40                             | 83.5  | 6.3                             |
| 2003 | 1.5                       | 20                          | 0                        | 12                              | 40                             | 73.5  | 5.6                             |
| 2004 |                           |                             |                          |                                 |                                | 110   | 8.4                             |
| 2006 |                           |                             |                          |                                 |                                | 160   | 12.2                            |
| 2008 |                           |                             |                          |                                 |                                | 200   | 15.2                            |

## Section 7—U.S. Overview by State

The tables and figure in the following section place Kansas energy statistics within a national context, allowing comparisons of the state's production, consumption, and prices with other U.S. states.

**Table 39—Production of Crude Oil by State, 2001.** <sup>a</sup> Includes the following offshore production (thousand barrels): Alaska, 79,547; California, 16,972; Louisiana, 12,740; Texas, 875; U.S. Total, including Federal offshore, 701,722. (s) = Less than 500 barrels or less than 500 barrels per day. Note: A final revision to the state data for 2001 will appear in the 2002 *Petroleum Supply Annual*. Totals may not equal sum of components due to independent rounding. Source: U.S. Department of Energy, Energy Information Administration (EIA), *Petroleum Supply Annual 2001*, DOE/EIA-0340(01)/1, table 14 (EIA, 2001g).

| Rank     | State                         | Total              | Daily Average |
|----------|-------------------------------|--------------------|---------------|
|          |                               | (thousand barrels) |               |
| 1        | Texas <sup>a</sup>            | 424,295            | 1,162         |
| 2        | Alaska <sup>a</sup>           | 351,412            | 963           |
| 3        | California <sup>a</sup>       | 260,665            | 714           |
| 4        | Louisiana <sup>a</sup>        | 104,608            | 287           |
| 5        | Oklahoma                      | 68,531             | 188           |
| 6        | New Mexico                    | 68,001             | 186           |
| 7        | Wyoming                       | 57,432             | 157           |
| <b>8</b> | <b>Kansas</b>                 | <b>33,942</b>      | <b>93</b>     |
| 9        | North Dakota                  | 31,691             | 87            |
| 10       | Mississippi                   | 19,530             | 54            |
| 11       | Colorado                      | 16,518             | 45            |
| 12       | Montana                       | 15,919             | 44            |
| 13       | Utah                          | 15,251             | 42            |
| 14       | Illinois                      | 10,092             | 28            |
| 15       | Alabama                       | 9,333              | 26            |
| 16       | Arkansas                      | 7,591              | 21            |
| 17       | Michigan                      | 7,374              | 20            |
| 18       | Ohio                          | 6,050              | 17            |
| 19       | Florida                       | 4,426              | 12            |
| 20       | Kentucky                      | 2,970              | 8             |
| 21       | Nebraska                      | 2,922              | 8             |
| 22       | Indiana                       | 2,022              | 6             |
| 23       | Pennsylvania                  | 1,620              | 4             |
| 24       | South Dakota                  | 1,255              | 3             |
| 25       | West Virginia                 | 1,225              | 3             |
| 26       | Nevada                        | 571                | 2             |
| 27       | Tennessee                     | 349                | 1             |
| 28       | New York                      | 166                | (s)           |
| 28       | Missouri                      | 90                 | (s)           |
| 30       | Arizona                       | 60                 | (s)           |
| 31       | Virginia                      | 12                 | (s)           |
|          | <b>U.S. Total<sup>a</sup></b> | <b>2,117,511</b>   | <b>5,801</b>  |

**Table 40—Marketed Production of Natural Gas by State, 2001.** Note: totals may not equal sum of components because of independent rounding. Sources: U.S. Department of Energy, Energy Information Administration (EIA), *Natural Gas Annual 2001*, table 2 (EIA, 2003b).

| Rank         | State         | Marketed Production<br>(million cubic feet) |
|--------------|---------------|---------------------------------------------|
| 1            | Texas         | 6,519,904                                   |
| 2            | Louisiana     | 5,249,383                                   |
| 3            | New Mexico    | 1,689,125                                   |
| 4            | Oklahoma      | 1,615,384                                   |
| 5            | Wyoming       | 1,363,879                                   |
| 6            | Colorado      | 696,237                                     |
| 7            | Alabama       | 521,799                                     |
| <b>8</b>     | <b>Kansas</b> | <b>480,145</b>                              |
| 9            | Alaska        | 471,440                                     |
| 10           | California    | 377,824                                     |
| 11           | Utah          | 283,913                                     |
| 12           | Michigan      | 275,036                                     |
| 13           | West Virginia | 250,932                                     |
| 14           | Arkansas      | 166,804                                     |
| 15           | Pennsylvania  | 157,000                                     |
| 16           | Mississippi   | 107,541                                     |
| 17           | Ohio          | 100,107                                     |
| 18           | Montana       | 81,397                                      |
| 19           | Kentucky      | 81,723                                      |
| 20           | Virginia      | 71,543                                      |
| 21           | North Dakota  | 54,732                                      |
| 22           | New York      | 27,787                                      |
| 23           | Florida       | 5,710                                       |
| 24           | Tennessee     | 2,000                                       |
| 25           | Nebraska      | 1,208                                       |
| 26           | Oregon        | 1,110                                       |
| 27           | South Dakota  | 1,100                                       |
| 28           | Indiana       | 1,064                                       |
| 29           | Arizona       | 307                                         |
| 30           | Illinois      | 185                                         |
| 31           | Maryland      | 32                                          |
| 32           | Nevada        | 7                                           |
| <b>Total</b> |               | <b>20,656,358</b>                           |

**Table 41—Net Generation of Electricity by Census Division and State, 2000 and 1999** (million kilowatthours). Source: U.S. Department of Energy, Energy Information Administration (EIA), *Electric Power Annual 2000*, DOE/EIA-0348(2000)/1, August 2001 (EIA, 2000d).

| 2000 Rank | State                | 1999          | 2000          |
|-----------|----------------------|---------------|---------------|
| 1         | Texas                | 359,448       | 379,756       |
| 2         | California           | 191,584       | 207,047       |
| 3         | Pennsylvania         | 195,645       | 205,502       |
| 4         | Florida              | 186,928       | 190,936       |
| 5         | Illinois             | 163,601       | 177,404       |
| 6         | Ohio                 | 142,401       | 148,438       |
| 7         | New York             | 144,643       | 138,039       |
| 8         | Indiana              | 121,594       | 127,970       |
| 9         | Alabama              | 120,865       | 124,554       |
| 10        | Georgia              | 117,681       | 123,067       |
| 11        | North Carolina       | 117,588       | 122,114       |
| 12        | Washington           | 117,135       | 108,811       |
| 13        | Michigan             | 103,350       | 104,222       |
| 14        | Tennessee            | 93,419        | 95,918        |
| 15        | West Virginia        | 94,781        | 92,783        |
| 16        | Kentucky             | 93,108        | 92,630        |
| 17        | South Carolina       | 90,330        | 92,614        |
| 18        | Louisiana            | 90,096        | 89,938        |
| 19        | Arizona              | 84,012        | 89,101        |
| 20        | Virginia             | 74,165        | 77,013        |
| 21        | Missouri             | 73,827        | 76,626        |
| 22        | Wisconsin            | 58,500        | 59,230        |
| 23        | New Jersey           | 56,995        | 58,204        |
| 24        | Oklahoma             | 55,016        | 55,441        |
| 25        | Minnesota            | 48,607        | 51,429        |
| 26        | Oregon               | 56,708        | 51,415        |
| 27        | Maryland             | 51,733        | 50,204        |
| 28        | Wyoming              | 43,632        | 45,257        |
| <b>29</b> | <b>Kansas</b>        | <b>42,070</b> | <b>44,834</b> |
| 30        | Arkansas             | 46,622        | 43,975        |
| 31        | Colorado             | 39,530        | 43,661        |
| 32        | Iowa                 | 38,842        | 41,519        |
| 33        | Massachusetts        | 41,519        | 39,148        |
| 34        | Mississippi          | 34,915        | 37,516        |
| 35        | Utah                 | 36,812        | 36,590        |
| 36        | Nevada               | 32,800        | 35,639        |
| 37        | New Mexico           | 32,581        | 33,994        |
| 38        | Connecticut          | 28,830        | 33,478        |
| 39        | North Dakota         | 31,421        | 31,284        |
| 40        | Nebraska             | 30,057        | 29,122        |
| 41        | Montana              | 31,483        | 28,803        |
| 42        | New Hampshire        | 16,206        | 14,944        |
| 43        | Maine                | 12,958        | 13,050        |
| 44        | Idaho                | 14,404        | 11,967        |
| 45        | Hawaii               | 10,503        | 10,652        |
| 46        | South Dakota         | 10,557        | 9,697         |
| 47        | Vermont              | 5,709         | 6,282         |
| 48        | Alaska               | 5,812         | 6,140         |
| 49        | Rhode Island         | 6,411         | 5,926         |
| 50        | Delaware             | 6,877         | 5,912         |
| 51        | District of Columbia | 230           | 142           |

**Table 42—Total Energy Consumption and Total Consumption per Capita, Ranked by State, 1999.** Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data Report 1999: Consumption Estimates* (EIA, 2001c). Table provided by the KU Policy Research Institute.

| Total Consumption |                      |                 | Total Consumption Per Capita |                      |              |
|-------------------|----------------------|-----------------|------------------------------|----------------------|--------------|
| Rank              | State                | Trillion Btu    | Rank                         | State                | Million Btu  |
| 1                 | Texas                | 11,501.0        | 1                            | Alaska               | 1,121.5      |
| 2                 | California           | 8,375.4         | 2                            | Wyoming              | 879.4        |
| 3                 | Ohio                 | 4,323.4         | 3                            | Louisiana            | 826.9        |
| 4                 | New York             | 4,283.0         | 4                            | North Dakota         | 577.1        |
| 5                 | Illinois             | 3,882.6         | 5                            | Texas                | 573.8        |
| 6                 | Florida              | 3,852.9         | 6                            | Arkansas             | 471.8        |
| 7                 | Pennsylvania         | 3,715.5         | 7                            | Montana              | 467.1        |
| 8                 | Louisiana            | 3,615.4         | 8                            | Kentucky             | 462.1        |
| 9                 | Michigan             | 3,239.6         | 9                            | Indiana              | 460.3        |
| 10                | Georgia              | 2,798.1         | 10                           | Alabama              | 458.8        |
| 11                | Indiana              | 2,735.8         | 11                           | Mississippi          | 436.5        |
| 12                | New Jersey           | 2,588.7         | 12                           | Maine                | 421.9        |
| 13                | North Carolina       | 2,446.9         | 13                           | Idaho                | 414.1        |
| 14                | Washington           | 2,240.8         | 14                           | Oklahoma             | 410.2        |
| 15                | Virginia             | 2,227.3         | 15                           | West Virginia        | 407.0        |
| 16                | Tennessee            | 2,070.5         | <b>16</b>                    | <b>Kansas</b>        | <b>395.6</b> |
| 17                | Alabama              | 2,004.8         | 17                           | Iowa                 | 390.9        |
| 18                | Kentucky             | 1,830.2         | 18                           | Washington           | 389.3        |
| 19                | Wisconsin            | 1,810.5         | 19                           | South Carolina       | 384.2        |
| 20                | Missouri             | 1,768.0         | 20                           | Ohio                 | 384.1        |
| 21                | Minnesota            | 1,675.3         | 21                           | Tennessee            | 377.6        |
| 22                | Massachusetts        | 1,569.1         | 22                           | Delaware             | 370.0        |
| 23                | South Carolina       | 1,493.0         | 23                           | New Mexico           | 365.0        |
| 24                | Maryland             | 1,378.2         | 24                           | Nebraska             | 361.3        |
| 25                | Oklahoma             | 1,377.5         | 25                           | Georgia              | 359.3        |
| 26                | Arizona              | 1,219.8         | 26                           | Minnesota            | 350.8        |
| 27                | Mississippi          | 1,208.5         | 27                           | Wisconsin            | 344.8        |
| 28                | Arkansas             | 1,203.7         | 28                           | Nevada               | 340.1        |
| 29                | Colorado             | 1,155.5         | 29                           | Oregon               | 334.5        |
| 30                | Iowa                 | 1,121.7         | 30                           | Michigan             | 328.4        |
| 31                | Oregon               | 1,109.2         | 31                           | Dist. of Col.        | 327.1        |
| <b>32</b>         | <b>Kansas</b>        | <b>1,050.0</b>  | 32                           | South Dakota         | 326.0        |
| 33                | Connecticut          | 839.3           | 33                           | Utah                 | 325.8        |
| 34                | West Virginia        | 735.4           | 34                           | Virginia             | 324.1        |
| 35                | Alaska               | 694.7           | 35                           | Missouri             | 323.3        |
| 36                | Utah                 | 693.9           | 36                           | Illinois             | 320.1        |
| 37                | New Mexico           | 635.0           | 37                           | North Carolina       | 319.8        |
| 38                | Nevada               | 615.3           | 38                           | New Jersey           | 317.9        |
| 39                | Nebraska             | 602.0           | 39                           | Pennsylvania         | 309.8        |
| 40                | Maine                | 528.6           | 40                           | Colorado             | 284.9        |
| 41                | Idaho                | 518.3           | 41                           | New Hampshire        | 279.2        |
| 42                | Wyoming              | 421.8           | 42                           | Vermont              | 277.9        |
| 43                | Montana              | 412.4           | 43                           | Maryland             | 266.5        |
| 44                | North Dakota         | 365.7           | 44                           | Rhode Island         | 263.5        |
| 45                | New Hampshire        | 335.4           | 45                           | Connecticut          | 255.7        |
| 46                | Delaware             | 278.8           | 46                           | Arizona              | 255.3        |
| 47                | Rhode Island         | 261.1           | 47                           | Florida              | 255.0        |
| 48                | Hawaii               | 241.4           | 48                           | Massachusetts        | 254.1        |
| 49                | South Dakota         | 239.0           | 49                           | California           | 252.7        |
| 50                | Dist. of Col.        | 169.8           | 50                           | New York             | 235.4        |
| 51                | Vermont              | 165.0           | 51                           | Hawaii               | 203.7        |
|                   | <b>United States</b> | <b>95,682.4</b> |                              | <b>United States</b> | <b>350.9</b> |

**Table 43—Average Price of Natural Gas Delivered to Residential Consumers by State, 2000.** Source: U.S. Department of Energy, Energy Information Administration (EIA), *Natural Gas Annual 2000*, table 24 (EIA, 2000f).

| Rank      | State          | Average Price<br>Dollars per Thousand Cubic Feet |
|-----------|----------------|--------------------------------------------------|
| 1         | Hawaii         | \$ 21.87                                         |
| 2         | Florida        | 12.93                                            |
| 3         | Connecticut    | 11.43                                            |
| 4         | D.C.           | 10.81                                            |
| 5         | New Hampshire  | 10.07                                            |
| 6         | Virginia       | 9.98                                             |
| 7         | Massachusetts  | 9.91                                             |
| 8         | New York       | 9.86                                             |
| 9         | Rhode Island   | 9.83                                             |
| 10        | Maryland       | 9.78                                             |
| 11        | Maine          | 9.71                                             |
| 12        | North Carolina | 9.53                                             |
| 13        | Arizona        | 9.43                                             |
| 14        | Alabama        | 9.22                                             |
| 15        | South Carolina | 9.15                                             |
| 16        | Pennsylvania   | 8.49                                             |
| 17        | Georgia        | 8.38                                             |
| 18        | Louisiana      | 8.34                                             |
| 19        | Delaware       | 8.33                                             |
| 20        | California     | 8.21                                             |
| 21        | Vermont        | 8.13                                             |
| 22        | Oregon         | 8.12                                             |
| 23        | Missouri       | 7.85                                             |
| 24        | Iowa           | 7.81                                             |
| 25        | Ohio           | 7.70                                             |
| <b>26</b> | <b>Kansas</b>  | <b>7.64</b>                                      |
| 27        | Wisconsin      | 7.55                                             |
| 28        | Mississippi    | 7.48                                             |
| 29        | Tennessee      | 7.48                                             |
| 30        | West Virginia  | 7.46                                             |
| 31        | Arkansas       | 7.43                                             |
| 32        | Kentucky       | 7.41                                             |
| 33        | Texas          | 7.41                                             |
| 34        | Oklahoma       | 7.36                                             |
| 35        | South Dakota   | 7.34                                             |
| 36        | Illinois       | 7.33                                             |
| 37        | New Jersey     | 7.28                                             |
| 38        | Washington     | 7.16                                             |
| 39        | Minnesota      | 7.13                                             |
| 40        | Nevada         | 6.63                                             |
| 41        | Nebraska       | 6.45                                             |
| 42        | Indiana        | 6.42                                             |
| 43        | North Dakota   | 6.37                                             |
| 44        | Idaho          | 6.28                                             |
| 45        | Utah           | 6.20                                             |
| 46        | Colorado       | 6.14                                             |
| 47        | Wyoming        | 6.11                                             |
| 48        | New Mexico     | 6.10                                             |
| 49        | Montana        | 6.04                                             |
| 50        | Michigan       | 5.11                                             |
| 51        | Alaska         | 3.57                                             |

**Table 44—Coal and Coal Coke Consumption Estimates by Sector, 2000.** (s) = Physical unit value less than 0.5 or Btu value less than 0.05; dash (—) = not applicable. Note: Totals may not equal sum of components due to independent rounding. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

| State                | Coal                |                 |                 |                     |                  |                  |                 |                 |                     |                 | Coal Coke      |              |              |             |
|----------------------|---------------------|-----------------|-----------------|---------------------|------------------|------------------|-----------------|-----------------|---------------------|-----------------|----------------|--------------|--------------|-------------|
|                      | Residen-<br>tial    | Com-<br>mercial | Indus-<br>trial | Electric<br>Utility | Total            | Residen-<br>tial | Com-<br>mercial | Indus-<br>trial | Electric<br>Utility | Total           | Imports        | Exports      | Imports      | Exports     |
|                      | Thousand Short Tons |                 |                 |                     |                  | Trillion Btu     |                 |                 |                     |                 | Thous. Sh Tons |              | Trillion Btu |             |
| Alabama              | 6                   | 47              | 4,418           | 35,482              | 39,953           | 0.2              | 1.2             | 117.3           | 777.1               | 895.8           | —              | —            | —            | —           |
| Alaska               | 57                  | 465             | 331             | 170                 | 1,023            | 0.9              | 7.3             | 4.7             | 0.0                 | 12.9            | —              | —            | —            | —           |
| Arizona              | (s)                 | (s)             | 720             | 20,409              | 21,129           | 0.0              | 0.0             | 15.8            | 417.5               | 433.3           | —              | —            | —            | —           |
| Arkansas             | 0                   | 0               | 382             | 14,868              | 15,250           | 0.0              | 0.0             | 9.7             | 258.1               | 267.9           | —              | —            | —            | —           |
| California           | 3                   | 21              | 2,930           | 0                   | 2,954            | 0.1              | 0.5             | 69.3            | 0.0                 | 69.9            | —              | —            | —            | —           |
| Colorado             | 9                   | 71              | 766             | 18,807              | 19,653           | 0.2              | 1.6             | 17.9            | 368.5               | 388.2           | —              | —            | —            | —           |
| Connecticut          | (s)                 | 3               | 1,473           | 0                   | 1,477            | (s)              | 0.1             | 36.1            | 0.0                 | 36.3            | —              | —            | —            | —           |
| Delaware             | (s)                 | 1               | 469             | 1,464               | 1,934            | (s)              | (s)             | 11.9            | 38.1                | 50.0            | —              | —            | —            | —           |
| Dist. of Col.        | 1                   | 6               | 0               | 0                   | 7                | (s)              | 0.1             | 0.0             | 0.0                 | 0.2             | —              | —            | —            | —           |
| Florida              | 1                   | 8               | 3,558           | 27,534              | 31,101           | (s)              | 0.2             | 89.1            | 679.0               | 768.4           | —              | —            | —            | —           |
| Georgia              | 1                   | 8               | 1,990           | 33,151              | 35,150           | (s)              | 0.2             | 51.4            | 766.4               | 818.1           | —              | —            | —            | —           |
| Hawaii               | 0                   | 0               | 816             | 0                   | 816              | 0.0              | 0.0             | 17.3            | 0.0                 | 17.3            | —              | —            | —            | —           |
| Idaho                | 2                   | 17              | 603             | 0                   | 623              | (s)              | 0.4             | 12.7            | 0.0                 | 13.1            | —              | —            | —            | —           |
| Illinois             | 25                  | 205             | 35,216          | 16,807              | 52,253           | 0.6              | 4.5             | 695.9           | 325.7               | 1,026.7         | —              | —            | —            | —           |
| Indiana              | 30                  | 245             | 14,258          | 57,741              | 72,274           | 0.8              | 6.1             | 362.8           | 1,224.6             | 1,594.3         | —              | —            | —            | —           |
| Iowa                 | 29                  | 232             | 3,041           | 21,178              | 24,480           | 0.7              | 6.0             | 62.2            | 365.4               | 434.3           | —              | —            | —            | —           |
| <b>Kansas</b>        | <b>1</b>            | <b>10</b>       | <b>134</b>      | <b>20,700</b>       | <b>20,845</b>    | (s)              | <b>0.3</b>      | <b>3.3</b>      | <b>359.0</b>        | <b>362.6</b>    | —              | —            | —            | —           |
| Kentucky             | 21                  | 169             | 7,515           | 35,031              | 42,736           | 0.5              | 4.4             | 184.4           | 813.0               | 1,002.4         | —              | —            | —            | —           |
| Louisiana            | (s)                 | (s)             | 5,774           | 9,959               | 15,734           | 0.0              | 0.0             | 94.7            | 158.0               | 252.7           | —              | —            | —            | —           |
| Maine                | (s)                 | 3               | 385             | 0                   | 388              | (s)              | 0.1             | 9.9             | 0.0                 | 10.0            | —              | —            | —            | —           |
| Maryland             | 9                   | 74              | 4,394           | 7,741               | 12,218           | 0.2              | 1.9             | 109.5           | 200.4               | 312.0           | —              | —            | —            | —           |
| Massachusetts        | 2                   | 15              | 4,097           | 442                 | 4,556            | (s)              | 0.4             | 102.6           | 11.6                | 114.7           | —              | —            | —            | —           |
| Michigan             | 2                   | 12              | 3,474           | 33,044              | 36,532           | (s)              | 0.3             | 90.3            | 689.0               | 779.6           | —              | —            | —            | —           |
| Minnesota            | 1                   | 5               | 2,091           | 18,639              | 20,736           | (s)              | 0.1             | 40.4            | 332.9               | 373.3           | —              | —            | —            | —           |
| Mississippi          | 0                   | 0               | 156             | 6,232               | 6,388            | 0.0              | 0.0             | 3.7             | 144.0               | 147.7           | —              | —            | —            | —           |
| Missouri             | 19                  | 157             | 941             | 37,184              | 38,301           | 0.4              | 3.5             | 21.4            | 662.8               | 688.2           | —              | —            | —            | —           |
| Montana              | (s)                 | 3               | 10,234          | 317                 | 10,554           | (s)              | (s)             | 172.7           | 4.2                 | 177.0           | —              | —            | —            | —           |
| Nebraska             | 0                   | 0               | 407             | 11,503              | 11,910           | 0.0              | 0.0             | 8.1             | 198.6               | 206.7           | —              | —            | —            | —           |
| Nevada               | (s)                 | (s)             | 231             | 8,634               | 8,865            | 0.0              | 0.0             | 5.3             | 193.6               | 198.9           | —              | —            | —            | —           |
| New Hampshire(s)     | 4                   | 0               | 1,673           | 1,677               | 1,677            | (s)              | 0.1             | 0.0             | 43.9                | 44.0            | —              | —            | —            | —           |
| New Jersey           | 1                   | 4               | 2,122           | 2,267               | 4,394            | (s)              | 0.1             | 55.1            | 59.6                | 114.9           | —              | —            | —            | —           |
| New Mexico           | 1                   | 5               | 76              | 16,504              | 16,585           | (s)              | 0.1             | 1.9             | 303.9               | 305.9           | —              | —            | —            | —           |
| New York             | 11                  | 90              | 10,925          | 1,608               | 12,634           | 0.3              | 2.3             | 284.0           | 42.2                | 328.7           | —              | —            | —            | —           |
| North Carolina       | 12                  | 101             | 3,334           | 27,925              | 31,372           | 0.3              | 2.7             | 87.2            | 695.2               | 785.5           | —              | —            | —            | —           |
| North Dakota         | 15                  | 119             | 6,719           | 25,048              | 31,902           | 0.2              | 1.7             | 95.8            | 327.0               | 424.8           | —              | —            | —            | —           |
| Ohio                 | 24                  | 192             | 5,938           | 54,464              | 60,618           | 0.6              | 4.6             | 152.5           | 1,287.9             | 1,445.6         | —              | —            | —            | —           |
| Oklahoma             | 0                   | 0               | 1,743           | 19,679              | 21,423           | 0.0              | 0.0             | 37.9            | 343.5               | 381.4           | —              | —            | —            | —           |
| Oregon               | (s)                 | (s)             | 0               | 2,240               | 2,241            | 0.0              | 0.0             | 0.0             | 38.7                | 38.7            | —              | —            | —            | —           |
| Pennsylvania         | 80                  | 648             | 48,083          | 14,663              | 63,474           | 2.0              | 16.5            | 1,124.6         | 371.6               | 1,514.7         | —              | —            | —            | —           |
| Rhode Island         | (s)                 | 2               | 0               | 0                   | 2                | (s)              | (s)             | 0.0             | 0.0                 | 0.1             | —              | —            | —            | —           |
| South Carolina       | 0                   | 0               | 1,912           | 15,034              | 16,947           | 0.0              | 0.0             | 50.4            | 382.7               | 433.1           | —              | —            | —            | —           |
| South Dakota         | (s)                 | 1               | 602             | 2,211               | 2,815            | (s)              | (s)             | 12.3            | 37.4                | 49.7            | —              | —            | —            | —           |
| Tennessee            | 12                  | 100             | 3,349           | 25,401              | 28,862           | 0.3              | 2.6             | 87.4            | 590.8               | 681.1           | —              | —            | —            | —           |
| Texas                | 1                   | 11              | 4,490           | 97,077              | 101,579          | (s)              | 0.2             | 73.0            | 1,465.5             | 1,538.6         | —              | —            | —            | —           |
| Utah                 | 6                   | 53              | 2,627           | 14,688              | 17,373           | 0.2              | 1.2             | 59.5            | 343.0               | 403.9           | —              | —            | —            | —           |
| Vermont              | (s)                 | 1               | 0               | 0                   | 1                | (s)              | (s)             | 0.0             | 0.0                 | (s)             | —              | —            | —            | —           |
| Virginia             | 9                   | 74              | 5,919           | 13,524              | 19,526           | 0.2              | 2.0             | 154.9           | 346.6               | 503.7           | —              | —            | —            | —           |
| Washington           | 2                   | 18              | 4,255           | 2,223               | 6,498            | 0.1              | 0.5             | 68.7            | 36.9                | 106.2           | —              | —            | —            | —           |
| West Virginia        | 24                  | 193             | 4,106           | 35,651              | 39,974           | 0.6              | 5.0             | 97.9            | 875.7               | 979.1           | —              | —            | —            | —           |
| Wisconsin            | 18                  | 144             | 1,715           | 24,051              | 25,929           | 0.5              | 3.9             | 40.6            | 440.9               | 485.8           | —              | —            | —            | —           |
| Wyoming              | 15                  | 122             | 1,913           | 26,366              | 28,416           | 0.3              | 2.5             | 38.6            | 464.2               | 505.6           | —              | —            | —            | —           |
| <b>United States</b> | <b>452</b>          | <b>3,659</b>    | <b>220,633</b>  | <b>859,335</b>      | <b>1,084,080</b> | <b>10.5</b>      | <b>85.3</b>     | <b>4,943.1</b>  | <b>17,484.5</b>     | <b>22,523.5</b> | <b>3,781</b>   | <b>1,146</b> | <b>93.8</b>  | <b>28.4</b> |

**Table 45—Total Petroleum Consumption Estimates by Sector, 2000.** Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes. (s) = Btu value less than 0.05. Note: Totals may not equal sum of components due to independent rounding. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

| State                | Consumption      |                 |                  |                     |                       |                  |                  |                 |                 |                     |                       |                 |
|----------------------|------------------|-----------------|------------------|---------------------|-----------------------|------------------|------------------|-----------------|-----------------|---------------------|-----------------------|-----------------|
|                      | Residen-<br>tial | Com-<br>mercial | Indus-<br>trial  | Transpor-<br>tation | Electric<br>Utilities | Total            | Residen-<br>tial | Com-<br>mercial | Indus-<br>trial | Transpor-<br>tation | Electric<br>Utilities | Total           |
|                      | Thousand Barrels |                 |                  |                     |                       |                  | Trillion Btu     |                 |                 |                     |                       |                 |
| Alabama              | 4,985            | 1,780           | 15,395           | 84,035              | 468                   | 106,664          | 18.1             | 8.4             | 90.7            | 456.2               | 2.7                   | 576.1           |
| Alaska               | 1,349            | 807             | 6,081            | 37,396              | 1,080                 | 46,713           | 7.4              | 4.6             | 36.3            | 209.5               | 6.6                   | 264.5           |
| Arizona              | 1,254            | 835             | 8,823            | 82,134              | 402                   | 93,448           | 4.5              | 4.3             | 52.8            | 442.2               | 2.4                   | 506.3           |
| Arkansas             | 2,712            | 912             | 16,840           | 53,233              | 360                   | 74,057           | 9.8              | 4.2             | 88.6            | 289.0               | 2.2                   | 393.9           |
| California           | 5,775            | 3,288           | 80,080           | 558,011             | 330                   | 647,484          | 21.8             | 16.9            | 473.9           | 3,043.2             | 1.9                   | 3,557.7         |
| Colorado             | 2,929            | 1,393           | 13,593           | 67,102              | 197                   | 85,215           | 10.8             | 6.9             | 75.3            | 360.8               | 1.2                   | 455.0           |
| Connecticut          | 14,996           | 4,289           | 7,515            | 42,498              | 21                    | 69,318           | 84.4             | 24.1            | 41.2            | 226.3               | 0.1                   | 376.0           |
| Delaware             | 1,953            | 816             | 7,979            | 13,279              | 729                   | 24,757           | 9.7              | 4.6             | 47.1            | 72.8                | 4.5                   | 138.7           |
| Dist. of Col.        | 212              | 839             | 97               | 4,793               | 272                   | 6,213            | 1.2              | 4.8             | 0.6             | 25.5                | 1.7                   | 33.8            |
| Florida              | 4,602            | 3,641           | 29,012           | 261,872             | 56,728                | 355,856          | 17.1             | 19.3            | 163.9           | 1,416.2             | 354.2                 | 1,970.7         |
| Georgia              | 4,942            | 2,274           | 24,987           | 159,903             | 1,397                 | 193,503          | 18.4             | 11.3            | 139.6           | 862.1               | 8.4                   | 1,039.8         |
| Hawaii               | 437              | 243             | 3,629            | 22,753              | 11,439                | 38,501           | 1.6              | 1.2             | 22.1            | 126.7               | 70.7                  | 222.3           |
| Idaho                | 1,967            | 834             | 6,794            | 22,367              | 5                     | 31,967           | 8.2              | 4.3             | 41.2            | 120.9               | (s)                   | 174.6           |
| Illinois             | 5,964            | 2,847           | 61,159           | 177,483             | 276                   | 247,728          | 22.7             | 14.3            | 331.3           | 957.1               | 1.7                   | 1,327.1         |
| Indiana              | 6,374            | 2,352           | 34,947           | 121,499             | 1,704                 | 166,875          | 25.9             | 11.7            | 201.6           | 660.7               | 10.2                  | 910.0           |
| Iowa                 | 5,809            | 1,953           | 25,405           | 49,373              | 219                   | 82,759           | 22.1             | 9.0             | 118.8           | 265.7               | 1.3                   | 416.8           |
| <b>Kansas</b>        | <b>2,635</b>     | <b>1,115</b>    | <b>30,004</b>    | <b>45,055</b>       | <b>803</b>            | <b>79,612</b>    | <b>9.6</b>       | <b>5.4</b>      | <b>144.6</b>    | <b>242.7</b>        | <b>4.9</b>            | <b>407.3</b>    |
| Kentucky             | 3,617            | 1,676           | 47,550           | 79,372              | 261                   | 132,476          | 14.9             | 8.6             | 256.4           | 431.7               | 1.5                   | 713.2           |
| Louisiana            | 2,274            | 2,933           | 178,028          | 149,178             | 1,021                 | 333,434          | 8.3              | 14.9            | 804.3           | 847.0               | 6.3                   | 1,680.8         |
| Maine                | 9,395            | 3,715           | 9,210            | 22,421              | 0                     | 44,740           | 52.1             | 21.3            | 56.1            | 120.9               | 0.0                   | 250.5           |
| Maryland             | 6,499            | 3,290           | 13,796           | 75,000              | 2,688                 | 101,273          | 34.8             | 18.6            | 81.8            | 401.6               | 16.7                  | 553.4           |
| Massachusetts        | 21,559           | 7,368           | 10,703           | 84,360              | 244                   | 124,235          | 121.4            | 42.8            | 60.4            | 450.7               | 1.5                   | 676.7           |
| Michigan             | 14,303           | 3,707           | 32,114           | 149,034             | 2,057                 | 201,214          | 58.7             | 17.2            | 178.6           | 794.7               | 12.8                  | 1,062.0         |
| Minnesota            | 7,730            | 2,106           | 23,062           | 91,809              | 1,298                 | 126,005          | 33.0             | 10.2            | 133.4           | 496.0               | 7.8                   | 680.3           |
| Mississippi          | 4,036            | 1,039           | 15,377           | 61,133              | 4,585                 | 86,170           | 14.6             | 4.5             | 88.0            | 332.8               | 28.8                  | 468.7           |
| Missouri             | 6,360            | 2,481           | 18,163           | 102,778             | 592                   | 130,373          | 23.8             | 12.0            | 100.1           | 553.2               | 3.4                   | 692.5           |
| Montana              | 1,136            | 357             | 10,050           | 18,619              | 1                     | 30,163           | 4.6              | 1.7             | 60.6            | 101.4               | (s)                   | 168.3           |
| Nebraska             | 1,861            | 793             | 8,004            | 31,546              | 119                   | 42,323           | 7.0              | 3.8             | 43.2            | 171.5               | 0.7                   | 226.1           |
| Nevada               | 693              | 387             | 3,554            | 37,706              | 119                   | 42,459           | 2.8              | 2.0             | 19.8            | 204.7               | 0.7                   | 230.1           |
| New Hampshire        | 6,562            | 2,345           | 5,009            | 19,250              | 783                   | 33,948           | 34.2             | 13.0            | 27.0            | 102.3               | 4.9                   | 181.3           |
| New Jersey           | 12,025           | 5,403           | 42,000           | 168,091             | 715                   | 228,233          | 65.6             | 30.7            | 238.7           | 922.3               | 4.4                   | 1,261.7         |
| New Mexico           | 2,053            | 673             | 9,612            | 33,956              | 60                    | 46,353           | 7.4              | 3.1             | 55.4            | 184.4               | 0.3                   | 250.7           |
| New York             | 42,179           | 28,146          | 41,019           | 176,432             | 19,306                | 307,081          | 231.5            | 166.5           | 230.5           | 949.5               | 120.7                 | 1,698.8         |
| North Carolina       | 12,065           | 4,486           | 34,663           | 130,883             | 1,005                 | 183,102          | 54.5             | 23.2            | 190.3           | 701.7               | 5.9                   | 975.7           |
| North Dakota         | 2,314            | 565             | 6,675            | 12,956              | 95                    | 22,605           | 9.6              | 2.6             | 36.9            | 70.4                | 0.6                   | 120.1           |
| Ohio                 | 9,851            | 3,515           | 50,187           | 180,441             | 778                   | 244,772          | 43.0             | 17.6            | 291.6           | 974.2               | 4.5                   | 1,330.9         |
| Oklahoma             | 2,669            | 770             | 17,809           | 74,586              | 77                    | 95,912           | 9.8              | 3.4             | 100.0           | 407.8               | 0.5                   | 521.5           |
| Oregon               | 1,465            | 901             | 9,834            | 56,355              | 105                   | 68,660           | 7.1              | 5.0             | 59.1            | 306.0               | 0.6                   | 377.9           |
| Pennsylvania         | 27,268           | 7,362           | 39,755           | 178,678             | 3,691                 | 256,755          | 148.4            | 41.3            | 235.0           | 968.5               | 23.0                  | 1,416.2         |
| Rhode Island         | 3,452            | 1,186           | 929              | 12,214              | 18                    | 17,800           | 19.5             | 7.0             | 5.4             | 65.2                | 0.1                   | 97.2            |
| South Carolina       | 3,262            | 1,277           | 13,451           | 70,763              | 716                   | 89,469           | 13.9             | 6.5             | 76.8            | 379.6               | 4.2                   | 481.1           |
| South Dakota         | 2,013            | 582             | 4,766            | 14,695              | 136                   | 22,193           | 8.0              | 2.8             | 27.6            | 79.3                | 0.8                   | 118.5           |
| Tennessee            | 4,005            | 1,827           | 19,464           | 106,148             | 1,059                 | 132,503          | 15.6             | 9.2             | 114.9           | 574.3               | 6.2                   | 720.1           |
| Texas                | 10,789           | 8,204           | 647,303          | 464,991             | 2,294                 | 1,133,581        | 39.0             | 43.5            | 2,853.4         | 2,551.9             | 13.5                  | 5,501.3         |
| Utah                 | 693              | 610             | 8,338            | 40,527              | 99                    | 50,266           | 2.7              | 3.3             | 48.5            | 220.2               | 0.6                   | 275.3           |
| Vermont              | 3,983            | 1,377           | 1,186            | 9,844               | 159                   | 16,549           | 20.2             | 7.6             | 6.6             | 52.2                | 0.9                   | 87.5            |
| Virginia             | 10,590           | 4,711           | 20,165           | 126,427             | 3,848                 | 165,741          | 53.7             | 26.2            | 114.9           | 685.0               | 24.0                  | 903.7           |
| Washington           | 3,287            | 1,282           | 38,238           | 113,212             | 453                   | 156,472          | 14.5             | 6.5             | 222.9           | 620.9               | 2.6                   | 867.5           |
| West Virginia        | 1,599            | 569             | 9,236            | 28,156              | 448                   | 40,009           | 7.6              | 3.0             | 52.8            | 152.2               | 2.6                   | 218.2           |
| Wisconsin            | 9,616            | 2,794           | 33,983           | 78,095              | 462                   | 124,951          | 41.4             | 13.7            | 189.1           | 419.1               | 2.7                   | 666.0           |
| Wyoming              | 541              | 600             | 8,954            | 17,946              | 66                    | 28,107           | 2.0              | 3.3             | 52.3            | 99.6                | 0.4                   | 157.7           |
| <b>United States</b> | <b>320,636</b>   | <b>139,253</b>  | <b>1,804,529</b> | <b>4,820,389</b>    | <b>125,788</b>        | <b>7,210,595</b> | <b>1,518.4</b>   | <b>752.1</b>    | <b>9,181.8</b>  | <b>26,170.7</b>     | <b>778.8</b>          | <b>38,401.9</b> |

**Table 46—Natural Gas Consumption Estimates by Sector, 2000.** Note: Totals may not equal sum of components due to independent rounding. (s) = Btu value less than 0.05 or physical unit value less than 0.5 Consumption includes supplemental gaseous fuels; transportation use of natural gas is gas consumed in the operation of pipelines, primarily in compressors, and, since 1990, as vehicle fuel. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

| State                | Consumption        |                 |                 |                     |                       |               |                  |                 |                 |                     |                       |                 |
|----------------------|--------------------|-----------------|-----------------|---------------------|-----------------------|---------------|------------------|-----------------|-----------------|---------------------|-----------------------|-----------------|
|                      | Residen-<br>tial   | Com-<br>mercial | Indus-<br>trial | Transpor-<br>tation | Electric<br>Utilities | Total         | Residen-<br>tial | Com-<br>mercial | Indus-<br>trial | Transpor-<br>tation | Electric<br>Utilities | Total           |
|                      | Billion Cubic Feet |                 |                 |                     |                       |               | Trillion Btu     |                 |                 |                     |                       |                 |
| Alabama              | 46                 | 25              | 207             | 23                  | 36                    | 337           | 47.8             | 26.4            | 215.7           | 23.6                | 37.6                  | 351.1           |
| Alaska               | 16                 | 26              | 342             | 7                   | 36                    | 427           | 12.2             | 20.1            | 260.2           | 5.6                 | 35.6                  | 333.6           |
| Arizona              | 35                 | 32              | 25              | 21                  | 92                    | 205           | 35.1             | 32.5            | 25.4            | 20.9                | 93.5                  | 207.4           |
| Arkansas             | 42                 | 33              | 135             | 9                   | 35                    | 254           | 43.2             | 33.8            | 137.3           | 8.9                 | 35.3                  | 258.5           |
| California           | 517                | 246             | 1,415           | 14                  | 129                   | 2,322         | 505.2            | 240.9           | 1,383.5         | 13.9                | 129.7                 | 2,273.2         |
| Colorado             | 116                | 61              | 127             | 9                   | 32                    | 346           | 117.1            | 61.3            | 127.9           | 9.4                 | 32.8                  | 348.6           |
| Connecticut          | 42                 | 48              | 34              | 3                   | 0                     | 127           | 42.6             | 49.7            | 34.4            | 3.2                 | 0.0                   | 129.9           |
| Delaware             | 9                  | 5               | 33              | (s)                 | 4                     | 52            | 9.8              | 5.3             | 34.4            | 0.1                 | 4.4                   | 54.0            |
| Dist. of Col.        | 15                 | 18              | 0               | (s)                 | 0                     | 33            | 15.9             | 18.2            | 0.0             | 0.3                 | 0.0                   | 34.3            |
| Florida              | 15                 | 48              | 142             | 7                   | 316                   | 529           | 16.5             | 52.3            | 155.2           | 7.8                 | 328.5                 | 560.5           |
| Georgia              | 141                | 59              | 173             | 6                   | 21                    | 401           | 143.3            | 59.8            | 176.3           | 6.3                 | 22.1                  | 407.7           |
| Hawaii               | 1                  | 2               | 1               | 0                   | 0                     | 3             | 0.6              | 1.9             | 0.6             | 0.0                 | 0.0                   | 3.0             |
| Idaho                | 19                 | 13              | 32              | 6                   | 0                     | 71            | 19.6             | 13.7            | 33.3            | 6.1                 | 0.0                   | 72.8            |
| Illinois             | 467                | 202             | 335             | 13                  | 3                     | 1,020         | 477.3            | 206.2           | 342.6           | 13.6                | 2.8                   | 1,042.6         |
| Indiana              | 160                | 90              | 312             | 6                   | 8                     | 576           | 164.0            | 92.6            | 320.1           | 5.8                 | 7.9                   | 590.5           |
| Iowa                 | 74                 | 46              | 100             | 8                   | 5                     | 233           | 74.2             | 45.8            | 100.9           | 8.3                 | 4.7                   | 234.0           |
| <b>Kansas</b>        | <b>71</b>          | <b>40</b>       | <b>139</b>      | <b>39</b>           | <b>34</b>             | <b>321</b>    | <b>71.1</b>      | <b>40.0</b>     | <b>140.0</b>    | <b>38.8</b>         | <b>33.8</b>           | <b>323.7</b>    |
| Kentucky             | 65                 | 39              | 103             | 14                  | 4                     | 225           | 67.3             | 40.2            | 107.5           | 14.4                | 4.2                   | 233.5           |
| Louisiana            | 50                 | 26              | 1,099           | 50                  | 292                   | 1,517         | 52.9             | 27.3            | 1,169.2         | 53.3                | 301.9                 | 1,604.7         |
| Maine                | 1                  | 3               | 4               | 1                   | 0                     | 9             | 1.1              | 3.0             | 4.2             | 0.9                 | 0.0                   | 9.2             |
| Maryland             | 84                 | 56              | 46              | 3                   | 21                    | 210           | 86.8             | 57.5            | 47.7            | 3.4                 | 21.6                  | 217.1           |
| Massachusetts        | 114                | 64              | 152             | 2                   | 3                     | 335           | 118.9            | 66.5            | 158.2           | 2.5                 | 3.3                   | 349.4           |
| Michigan             | 366                | 186             | 308             | 26                  | 44                    | 930           | 379.3            | 193.0           | 319.6           | 27.4                | 30.9                  | 950.2           |
| Minnesota            | 129                | 95              | 104             | 21                  | 5                     | 354           | 131.4            | 96.0            | 105.5           | 21.4                | 5.5                   | 359.7           |
| Mississippi          | 27                 | 21              | 116             | 31                  | 89                    | 284           | 27.8             | 22.3            | 120.4           | 32.2                | 91.6                  | 294.3           |
| Missouri             | 115                | 63              | 69              | 8                   | 30                    | 285           | 117.2            | 63.9            | 70.3            | 7.7                 | 30.7                  | 289.7           |
| Montana              | 20                 | 14              | 26              | 6                   | (s)                   | 67            | 20.5             | 13.9            | 27.0            | 6.5                 | 0.2                   | 68.1            |
| Nebraska             | 42                 | 28              | 46              | 3                   | 6                     | 125           | 41.9             | 28.6            | 46.2            | 3.2                 | 5.5                   | 125.4           |
| Nevada               | 30                 | 26              | 47              | 1                   | 80                    | 183           | 30.8             | 26.3            | 47.9            | 1.0                 | 81.9                  | 187.8           |
| New Hampshire        | 7                  | 8               | 4               | (s)                 | 1                     | 21            | 7.7              | 8.8             | 4.7             | (s)                 | 0.8                   | 22.1            |
| New Jersey           | 220                | 159             | 195             | 3                   | 17                    | 594           | 227.6            | 164.1           | 202.2           | 3.0                 | 17.4                  | 614.3           |
| New Mexico           | 36                 | 27              | 86              | 46                  | 38                    | 234           | 34.6             | 26.3            | 83.0            | 44.4                | 38.7                  | 227.1           |
| New York             | 404                | 410             | 339             | 8                   | 96                    | 1,257         | 415.8            | 421.3           | 348.5           | 8.6                 | 97.6                  | 1,291.9         |
| North Carolina       | 64                 | 43              | 105             | 7                   | 10                    | 229           | 65.8             | 44.4            | 108.6           | 7.4                 | 9.8                   | 236.0           |
| North Dakota         | 11                 | 11              | 24              | 11                  | 0                     | 57            | 11.3             | 11.2            | 25.1            | 10.9                | 0.0                   | 58.6            |
| Ohio                 | 343                | 178             | 333             | 19                  | 7                     | 880           | 357.8            | 185.1           | 347.2           | 19.7                | 7.0                   | 916.7           |
| Oklahoma             | 67                 | 43              | 231             | 21                  | 169                   | 531           | 67.1             | 43.3            | 232.8           | 21.6                | 173.9                 | 538.8           |
| Oregon               | 39                 | 29              | 104             | 12                  | 42                    | 225           | 39.8             | 29.4            | 107.2           | 12.2                | 42.2                  | 230.8           |
| Pennsylvania         | 263                | 145             | 254             | 38                  | 3                     | 703           | 272.0            | 150.4           | 262.9           | 39.5                | 3.1                   | 727.7           |
| Rhode Island         | 19                 | 13              | 46              | (s)                 | 0                     | 78            | 19.4             | 13.5            | 48.2            | 0.3                 | 0.0                   | 81.3            |
| South Carolina       | 29                 | 22              | 98              | 3                   | 3                     | 155           | 29.9             | 22.7            | 100.5           | 3.6                 | 2.9                   | 159.6           |
| South Dakota         | 13                 | 10              | 7               | 6                   | 4                     | 40            | 12.7             | 10.2            | 7.4             | 6.3                 | 3.6                   | 40.2            |
| Tennessee            | 68                 | 53              | 130             | 14                  | 2                     | 266           | 70.5             | 55.2            | 134.4           | 14.3                | 1.9                   | 276.2           |
| Texas                | 193                | 186             | 2,452           | 57                  | 1,245                 | 4,134         | 199.5            | 191.9           | 2,532.8         | 59.2                | 1,269.9               | 4,253.4         |
| Utah                 | 56                 | 31              | 64              | 3                   | 11                    | 164           | 58.5             | 32.9            | 67.3            | 3.0                 | 11.1                  | 172.7           |
| Vermont              | 3                  | 3               | 4               | (s)                 | 1                     | 10            | 2.9              | 2.6             | 4.0             | (s)                 | 1.0                   | 10.6            |
| Virginia             | 80                 | 66              | 102             | 8                   | 16                    | 272           | 82.5             | 68.4            | 105.9           | 8.3                 | 16.4                  | 281.6           |
| Washington           | 72                 | 50              | 116             | 6                   | 41                    | 286           | 74.3             | 52.2            | 120.3           | 6.4                 | 43.4                  | 296.7           |
| West Virginia        | 32                 | 26              | 54              | 33                  | (s)                   | 144           | 33.8             | 28.0            | 57.3            | 34.8                | 0.4                   | 154.2           |
| Wisconsin            | 135                | 81              | 160             | 4                   | 12                    | 392           | 136.4            | 81.9            | 161.4           | 4.1                 | 12.1                  | 396.0           |
| Wyoming              | 12                 | 10              | 59              | 14                  | 2                     | 97            | 12.7             | 10.2            | 62.0            | 14.8                | 1.9                   | 101.6           |
| <b>United States</b> | <b>4,992</b>       | <b>3,218</b>    | <b>10,642</b>   | <b>653</b>          | <b>3,043</b>          | <b>22,547</b> | <b>5,104.0</b>   | <b>3,293.0</b>  | <b>10,835.0</b> | <b>669.0</b>        | <b>3,101.0</b>        | <b>23,003.0</b> |

**Table 47—Electricity Consumption, Price, and Expenditure Estimates by Sector, 2000.** (s) = Physical unit value less than 0.5 or Btu value less than 0.05 or expenditure value less than 0.05. Note: Totals may not equal sum of components due to independent rounding. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

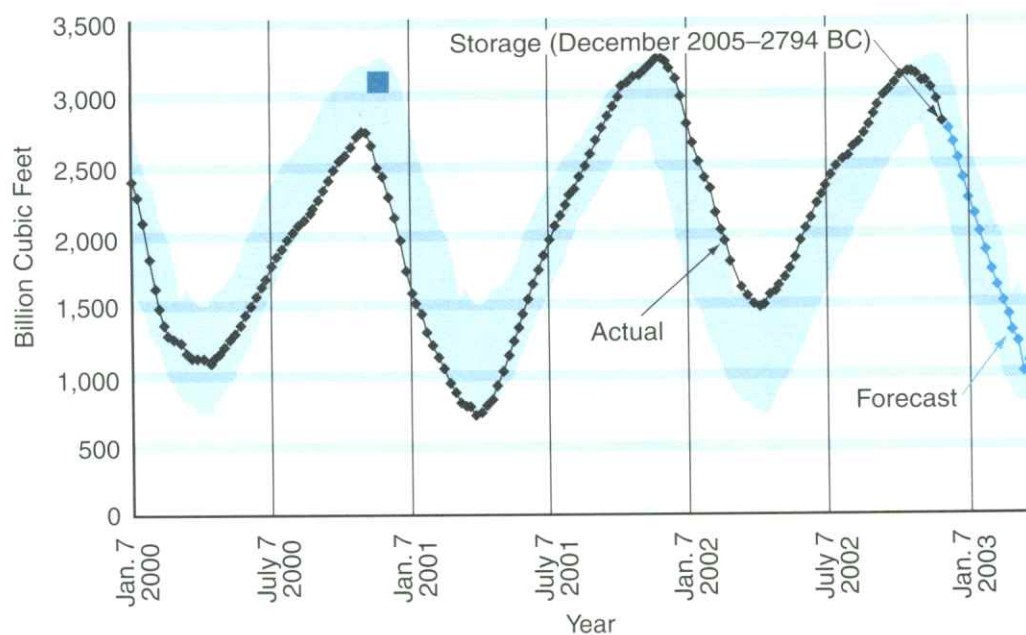
| State     | Consumption           |            |            |                |         |              |            |            |                | Prices  |                                 |            |            |                | Expenditures |                         |            |            |                |       |
|-----------|-----------------------|------------|------------|----------------|---------|--------------|------------|------------|----------------|---------|---------------------------------|------------|------------|----------------|--------------|-------------------------|------------|------------|----------------|-------|
|           | Residential           | Commercial | Industrial | Transportation | Total   | Residential  | Commercial | Industrial | Transportation | Total   | Residential                     | Commercial | Industrial | Transportation | Total        | Residential             | Commercial | Industrial | Transportation | Total |
|           | Million Kilowatthours |            |            |                |         | Trillion Btu |            |            |                |         | Nominal Dollars per Million Btu |            |            |                |              | Million Nominal Dollars |            |            |                |       |
| 28,756    | 19,734                | 35,034     | 0          | 83,524         | 98.1    | 67.3         | 119.5      | 0.0        | 285.0          | \$20.67 | \$19.34                         | \$11.35    | \$0.00     | \$16.60        | \$2,027.8    | \$1,302.2               | \$1,262.3  | \$0.0      | \$4,592.3      |       |
| 1,855     | 2,418                 | 1,037      | 0          | 5,310          | 6.3     | 8.3          | 3.5        | 0.0        | 18.1           | 33.57   | 29.61                           | 22.17      | 0.00       | 29.60          | 212.5        | 244.4                   | 75.2       | 0.0        | 532.0          |       |
| 24,844    | 24,311                | 11,975     | 0          | 61,130         | 84.8    | 82.9         | 40.9       | 0.0        | 208.6          | 24.73   | 20.54                           | 15.45      | 0.00       | 21.25          | 2,096.1      | 1,703.7                 | 631.5      | 0.0        | 4,431.2        |       |
| 14,871    | 9,472                 | 17,268     | 0          | 41,611         | 50.7    | 32.3         | 58.9       | 0.0        | 142.0          | 21.85   | 17.49                           | 12.32      | 0.00       | 17.04          | 1,108.5      | 565.1                   | 674.9      | 0.0        | 2,348.6        |       |
| 79,241    | 99,900                | 64,311     | 606        | 244,057        | 270.4   | 340.9        | 219.4      | 2.1        | 832.7          | 31.92   | 28.91                           | 20.94      | 14.33      | 27.82          | 8,629.0      | 9,852.7                 | 4,403.2    | 29.6       | 22,914.6       |       |
| 14,029    | 19,028                | 9,955      | 9          | 43,020         | 47.9    | 64.9         | 34.0       | (s)        | 146.8          | 21.41   | 16.62                           | 12.47      | 22.77      | 17.27          | 1,024.8      | 1,078.8                 | 403.6      | 0.7        | 2,508.0        |       |
| 11,645    | 12,496                | 5,811      | 0          | 29,952         | 39.7    | 42.6         | 19.8       | 0.0        | 102.2          | 31.82   | 27.27                           | 21.44      | 0.00       | 27.91          | 1,264.5      | 1,162.8                 | 425.1      | 0.0        | 2,852.3        |       |
| 3,575     | 4,099                 | 3,601      | 0          | 11,274         | 12.2    | 14.0         | 12.3       | 0.0        | 38.5           | 25.03   | 17.55                           | 10.93      | 0.00       | 17.86          | 305.3        | 245.5                   | 131.0      | 0.0        | 681.8          |       |
| 1,624     | 8,540                 | 273        | 179        | 10,616         | 5.5     | 29.1         | 0.9        | 0.6        | 36.2           | 23.53   | 22.07                           | 13.89      | 19.54      | 22.04          | 130.4        | 643.1                   | 12.9       | 11.9       | 798.3          |       |
| 99,006    | 77,900                | 18,884     | 54         | 195,843        | 337.8   | 265.8        | 64.4       | 0.2        | 668.2          | 22.78   | 18.48                           | 14.18      | 20.40      | 20.24          | 7,696.3      | 4,912.4                 | 913.5      | 3.7        | 13,525.9       |       |
| 44,560    | 38,443                | 36,085     | 96         | 119,185        | 152.0   | 131.2        | 123.1      | 0.3        | 406.7          | 22.27   | 19.28                           | 12.03      | 24.95      | 18.25          | 3,386.3      | 2,528.4                 | 1,445.5    | 8.2        | 7,368.4        |       |
| 2,765     | 3,092                 | 3,834      | 0          | 9,691          | 9.4     | 10.6         | 13.1       | 0.0        | 33.1           | 48.09   | 43.41                           | 34.25      | 0.00       | 41.24          | 453.6        | 458.0                   | 429.5      | 0.0        | 1,341.2        |       |
| 7,006     | 7,420                 | 8,408      | 0          | 22,834         | 23.9    | 25.3         | 28.7       | 0.0        | 77.9           | 15.79   | 12.40                           | 9.12       | 0.00       | 12.23          | 377.5        | 314.0                   | 261.7      | 0.0        | 953.2          |       |
| 40,146    | 53,152                | 40,939     | 459        | 134,697        | 137.0   | 181.4        | 139.7      | 1.6        | 459.6          | 25.89   | 20.57                           | 14.62      | 16.50      | 20.38          | 3,546.3      | 3,730.1                 | 1,990.9    | 25.9       | 9,293.1        |       |
| 28,649    | 21,070                | 48,040     | 16         | 97,775         | 97.7    | 71.9         | 163.9      | 0.1        | 333.6          | 20.12   | 17.67                           | 11.16      | 27.45      | 15.24          | 1,966.8      | 1,270.6                 | 1,782.7    | 1.5        | 5,021.6        |       |
| 12,029    | 9,932                 | 17,127     | (s)        | 39,088         | 41.0    | 33.9         | 58.4       | (s)        | 133.4          | 24.54   | 19.07                           | 11.39      | 17.97      | 17.39          | 1,007.3      | 646.1                   | 665.4      | (s)        | 2,318.8        |       |
| 12,528    | 13,171                | 10,222     | 0          | 35,921         | 42.7    | 44.9         | 34.9       | 0.0        | 122.6          | 22.43   | 18.47                           | 13.33      | 0.0        | 18.42          | 958.8        | 830.0                   | 453.2      | 0.0        | 2,241.9        |       |
| 23,374    | 17,252                | 37,689     | 0          | 78,316         | 79.8    | 58.9         | 128.6      | 0.0        | 267.2          | 16.03   | 14.65                           | 8.83       | 0.00       | 12.31          | 1,278.7      | 862.5                   | 1,107.0    | 0.0        | 3,248.1        |       |
| 27,719    | 21,018                | 31,950     | 3          | 80,690         | 94.6    | 71.7         | 109.0      | (s)        | 275.3          | 22.49   | 20.96                           | 14.67      | 20.46      | 19.12          | 2,127.1      | 1,502.8                 | 1,487.2    | (s)        | 5,117.3        |       |
| 3,737     | 3,876                 | 4,551      | (s)        | 12,163         | 12.7    | 13.2         | 15.5       | (s)        | 41.5           | 36.59   | 30.12                           | 20.19      | 33.56      | 28.40          | 466.6        | 398.3                   | 313.6      | (s)        | 1,178.5        |       |
| 23,949    | 26,506                | 10,066     | 156        | 60,678         | 81.7    | 90.4         | 34.3       | 0.5        | 207.0          | 23.31   | 19.38                           | 12.13      | 26.06      | 19.75          | 1,905.0      | 1,753.1                 | 416.7      | 13.9       | 4,088.6        |       |
| 17,562    | 23,439                | 10,533     | 239        | 51,773         | 59.9    | 80.0         | 35.9       | 0.8        | 176.6          | 30.87   | 27.06                           | 24.03      | 44.90      | 27.82          | 1,850.0      | 2,164.0                 | 863.5      | 36.6       | 4,914.0        |       |
| 30,707    | 36,793                | 37,268     | 4          | 104,772        | 104.8   | 125.5        | 127.2      | (s)        | 357.5          | 24.98   | 23.36                           | 14.93      | 31.57      | 20.89          | 2,617.7      | 2,932.2                 | 1,850.1    | (s)        | 7,400.4        |       |
| 18,629    | 12,311                | 28,842     | 0          | 59,782         | 63.6    | 42.0         | 98.4       | 0.0        | 204.0          | 22.03   | 18.84                           | 13.40      | 0.00       | 17.26          | 1,400.1      | 791.5                   | 1,285.6    | 0.0        | 3,477.2        |       |
| 17,193    | 12,287                | 15,856     | 0          | 45,336         | 58.7    | 41.9         | 54.1       | 0.0        | 154.7          | 20.31   | 19.16                           | 12.14      | 0.00       | 17.27          | 1,191.5      | 803.4                   | 610.8      | 0.0        | 2,605.6        |       |
| 29,581    | 26,962                | 16,080     | 19         | 72,643         | 100.9   | 92.0         | 54.9       | 0.1        | 247.9          | 20.65   | 17.10                           | 12.98      | 17.66      | 17.63          | 2,083.9      | 1,573.2                 | 712.0      | 1.2        | 4,370.2        |       |
| 3,908     | 4,104                 | 6,568      | 0          | 14,580         | 13.3    | 14.0         | 22.4       | 0.0        | 49.7           | 19.02   | 15.33                           | 11.63      | 0.00       | 14.72          | 253.6        | 214.6                   | 248.4      | 0.0        | 716.6          |       |
| 8,346     | 8,727                 | 7,276      | 0          | 24,349         | 28.5    | 29.8         | 24.8       | 0.0        | 83.1           | 19.13   | 16.27                           | 10.59      | 0.00       | 15.55          | 544.6        | 484.3                   | 262.8      | 0.0        | 1,291.8        |       |
| 9,406     | 7,147                 | 11,239     | 0          | 27,792         | 32.1    | 24.4         | 38.3       | 0.0        | 94.8           | 21.34   | 19.27                           | 14.60      | 0.00       | 18.14          | 684.9        | 469.9                   | 536.7      | 0.0        | 1,691.5        |       |
| 3,656     | 3,905                 | 2,597      | 0          | 10,159         | 12.5    | 13.3         | 8.9        | 0.0        | 34.7           | 38.54   | 31.83                           | 26.87      | 0.00       | 32.98          | 480.8        | 424.1                   | 238.1      | 0.0        | 1,143.1        |       |
| 24,547    | 33,474                | 11,812     | 144        | 69,977         | 83.8    | 114.2        | 40.3       | 0.5        | 238.8          | 30.11   | 26.89                           | 25.14      | 35.50      | 27.75          | 2,521.9      | 3,071.1                 | 988.8      | 17.5       | 6,599.3        |       |
| 4,937     | 8,371                 | 5,492      | 0          | 18,801         | 16.8    | 28.6         | 18.7       | 0.0        | 64.1           | 24.50   | 19.84                           | 13.73      | 0.00       | 19.40          | 412.7        | 566.6                   | 239.4      | 0.0        | 1,218.7        |       |
| 43,018    | 70,417                | 25,838     | 2,753      | 142,027        | 146.8   | 240.3        | 88.2       | 9.4        | 484.6          | 40.95   | 35.50                           | 15.75      | 25.39      | 33.36          | 6,009.8      | 8,529.7                 | 1,388.6    | 238.5      | 16,166.6       |       |
| 46,537    | 39,067                | 34,252     | 0          | 119,855        | 158.8   | 133.3        | 116.9      | 0.0        | 408.9          | 23.36   | 18.67                           | 13.43      | 0.00       | 18.99          | 3,709.1      | 2,488.7                 | 1,569.3    | 0.0        | 7,767.1        |       |
| 3,390     | 2,992                 | 3,031      | 0          | 9,413          | 11.6    | 10.2         | 10.3       | 0.0        | 32.1           | 18.86   | 17.01                           | 11.65      | 0.00       | 15.99          | 218.2        | 173.6                   | 117.5      | 0.0        | 509.2          |       |
| 46,488    | 44,635                | 74,019     | 53         | 165,195        | 158.6   | 152.3        | 252.6      | 0.2        | 563.6          | 25.23   | 21.93                           | 12.82      | 17.89      | 18.84          | 4,002.2      | 3,339.1                 | 3,154.7    | 3.2        | 10,499.2       |       |
| 19,640    | 15,989                | 13,935     | 0          | 49,564         | 67.0    | 54.6         | 47.5       | 0.0        | 169.1          | 20.59   | 17.64                           | 11.98      | 0.00       | 17.26          | 1,379.8      | 962.3                   | 555.4      | 0.0        | 2,897.4        |       |
| 18,212    | 15,730                | 16,353     | 35         | 50,330         | 62.1    | 53.7         | 55.8       | 0.1        | 171.7          | 17.23   | 15.00                           | 10.43      | 20.80      | 14.33          | 1,070.9      | 805.0                   | 581.9      | 2.5        | 2,460.2        |       |
| 45,008    | 42,988                | 45,449     | 401        | 133,845        | 153.6   | 146.7        | 155.1      | 1.4        | 456.7          | 27.94   | 22.80                           | 16.50      | 31.39      | 22.46          | 4,290.9      | 3,343.7                 | 2,497.7    | 42.9       | 10,175.2       |       |
| 2,664     | 3,243                 | 1,394      | 0          | 7,301          | 9.1     | 11.1         | 4.8        | 0.0        | 24.9           | 33.06   | 28.95                           | 25.69      | 0.00       | 29.82          | 300.5        | 320.3                   | 122.1      | 0.0        | 743.0          |       |
| 25,270    | 18,434                | 33,308     | 0          | 77,012         | 86.2    | 62.9         | 113.6      | 0.0        | 262.8          | 22.22   | 18.59                           | 10.96      | 0.00       | 16.49          | 1,916.2      | 1,169.5                 | 1,246.1    | 0.0        | 4,331.8        |       |
| 3,423     | 2,857                 | 2,003      | 0          | 8,283          | 11.7    | 9.7          | 6.8        | 0.0        | 28.3           | 21.74   | 18.42                           | 13.17      | 0.00       | 18.52          | 253.9        | 179.6                   | 90.0       | 0.0        | 523.5          |       |
| 36,622    | 26,814                | 32,289     | 2          | 95,728         | 125.0   | 91.5         | 110.2      | (s)        | 326.6          | 18.54   | 18.69                           | 11.98      | 25.76      | 16.41          | 2,316.4      | 1,710.1                 | 1,286.1    | (s)        | 5,312.8        |       |
| 116,895   | 99,748                | 101,588    | 30         | 318,263        | 398.8   | 340.3        | 346.6      | 0.1        | 1,085.9        | 23.33   | 20.11                           | 12.96      | 19.84      | 19.15          | 9,304.8      | 6,844.4                 | 4,176.7    | 2.1        | 20,327.9       |       |
| 6,514     | 8,746                 | 7,917      | 8          | 23,185         | 22.2    | 29.8         | 27.0       | (s)        | 79.1           | 18.43   | 15.01                           | 9.82       | 12.13      | 14.27          | 409.6        | 447.8                   | 252.8      | (s)        | 1,110.6        |       |
| 2,037     | 1,956                 | 1,646      | 0          | 5,639          | 7.0     | 6.7          | 5.6        | 0.0        | 19.2           | 36.04   | 31.20                           | 21.44      | 0.00       | 30.10          | 250.5        | 208.2                   | 120.4      | 0.0        | 579.1          |       |
| 37,541    | 38,459                | 20,619     | 96         | 96,715         | 128.1   | 131.2        | 70.4       | 0.3        | 330.0          | 22.04   | 16.08                           | 11.42      | 14.79      | 17.43          | 2,822.6      | 2,110.6                 | 784.3      | 4.8        | 5,722.4        |       |
| 33,036    | 28,047                | 35,410     | 18         | 96,511         | 112.7   | 95.7         | 120.8      | 0.1        | 329.3          | 15.04   | 13.74                           | 9.68       | 10.70      | 12.74          | 1,695.1      | 1,314.4                 | 1,121.0    | 0.7        | 4,131.2        |       |
| 9,738     | 6,872                 | 11,083     | 0          | 27,693         | 33.2    | 23.4         | 37.8       | 0.0        | 94.5           | 18.36   | 16.13                           | 11.03      | 0.00       | 14.91          | 610.1        | 378.3                   | 406.9      | 0.0        | 1,395.3        |       |
| 19,929    | 19,055                | 26,162     | (s)        | 65,146         | 68.0    | 65.0         | 89.3       | (s)        | 222.3          | 22.08   | 17.82                           | 11.85      | 21.70      | 16.77          | 1,501.6      | 1,158.4                 | 1,030.6    | (s)        | 3,690.6        |       |
| 2,103     | 2,945                 | 7,321      | 0          | 12,368         | 7.2     | 10.0         | 25.0       | 0.0        | 42.2           | 19.04   | 15.41                           | 9.83       | 0.00       | 12.81          | 136.6        | 154.8                   | 234.2      | 0.0        | 525.6          |       |
| 1,192,446 | 1,159,347             | 1,064,239  | 5,382      | 3,421,414      | 4,068.6 | 3,955.7      | 3,631.2    | 18.4       | \$11,673.9     | \$24.14 | \$21.52                         | \$13.60    | \$24.32    | \$20.04        | \$98,209.4   | \$85,138.0              | \$47,858.8 | \$446.6    | \$231,652.7    |       |

**Table 48—Nuclear Consumption, Price, and Expenditure Estimates by Sector, 2000.** Note: Totals may not equal sum of components due to independent rounding. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

| State                | Consumption   |                |                |              |                |                | Prices          |               |               | Expenditures   |                  |                  |
|----------------------|---------------|----------------|----------------|--------------|----------------|----------------|-----------------|---------------|---------------|----------------|------------------|------------------|
|                      | Industrial    | Electric       | Total          | Industrial   | Electric       | Total          | Industrial      | Electric      | Total         | Industrial     | Electric         | Total            |
|                      | Million       | Kilowatthours  |                | Trillion     | Btu            |                | Nominal Dollars |               |               | Million        | Nominal Dollars  |                  |
|                      |               |                |                |              |                |                | per Million Btu |               |               |                |                  |                  |
| Alabama              | 0             | 31,369         | 31,369         | 0.0          | 327.1          | 327.1          | \$0.00          | \$0.49        | \$0.49        | \$0.0          | \$160.7          | \$160.7          |
| Alaska               | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Arizona              | 0             | 30,381         | 30,381         | 0.0          | 316.8          | 316.8          | 0.00            | 0.43          | 0.43          | 0.0            | 137.2            | 137.2            |
| Arkansas             | 0             | 11,652         | 11,652         | 0.0          | 121.5          | 121.5          | 0.00            | 0.51          | 0.51          | 0.0            | 61.6             | 61.6             |
| California           | 0             | 35,176         | 35,176         | 0.0          | 366.8          | 366.8          | 0.00            | 0.44          | 0.44          | 0.0            | 161.9            | 161.9            |
| Colorado             | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Connecticut          | 0             | 16,365         | 16,365         | 0.0          | 170.7          | 170.7          | 0.00            | 0.46          | 0.46          | 0.0            | 79.0             | 79.0             |
| Delaware             | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Dist. of Col.        | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Florida              | 0             | 32,291         | 32,291         | 0.0          | 336.8          | 336.8          | 0.00            | 0.43          | 0.43          | 0.0            | 145.0            | 145.0            |
| Georgia              | 0             | 32,473         | 32,473         | 0.0          | 338.7          | 338.7          | 0.00            | 0.45          | 0.45          | 0.0            | 150.9            | 150.9            |
| Hawaii               | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Idaho                | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Illinois             | 6,914         | 82,524         | 89,438         | 72.1         | 860.6          | 932.7          | 0.50            | 0.45          | 0.45          | 35.9           | 385.4            | 421.3            |
| Indiana              | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Iowa                 | 0             | 4,453          | 4,453          | 0.0          | 46.4           | 46.4           | 0.00            | 0.60          | 0.60          | 0.0            | 27.9             | 27.9             |
| <b>Kansas</b>        | <b>0</b>      | <b>9,061</b>   | <b>9,061</b>   | <b>0.0</b>   | <b>94.5</b>    | <b>94.5</b>    | <b>0.00</b>     | <b>0.44</b>   | <b>0.44</b>   | <b>0.0</b>     | <b>41.1</b>      | <b>41.1</b>      |
| Kentucky             | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Louisiana            | 0             | 15,796         | 15,796         | 0.0          | 164.7          | 164.7          | 0.00            | 0.61          | 0.61          | 0.0            | 100.1            | 100.1            |
| Maine                | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Maryland             | 7,503         | 6,324          | 13,827         | 78.3         | 66.0           | 144.2          | 0.43            | 0.43          | 0.43          | 33.4           | 28.1             | 61.5             |
| Massachusetts        | 5,512         | 0              | 5,512          | 57.5         | 0.0            | 57.5           | 0.44            | 0.00          | 0.44          | 25.5           | 0.0              | 25.5             |
| Michigan             | 0             | 18,882         | 18,882         | 0.0          | 196.9          | 196.9          | 0.00            | 0.57          | 0.57          | 0.0            | 111.3            | 111.3            |
| Minnesota            | 0             | 12,960         | 12,960         | 0.0          | 135.2          | 135.2          | 0.00            | 0.44          | 0.44          | 0.0            | 60.1             | 60.1             |
| Mississippi          | 0             | 10,695         | 10,695         | 0.0          | 111.5          | 111.5          | 0.00            | 0.41          | 0.41          | 0.0            | 46.2             | 46.2             |
| Missouri             | 0             | 9,992          | 9,992          | 0.0          | 104.2          | 104.2          | 0.00            | 0.40          | 0.40          | 0.0            | 41.9             | 41.9             |
| Montana              | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Nebraska             | 0             | 8,629          | 8,629          | 0.0          | 90.0           | 90.0           | 0.00            | 0.60          | 0.60          | 0.0            | 54.1             | 54.1             |
| Nevada               | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| New Hampshire        | 0             | 7,922          | 7,922          | 0.0          | 82.6           | 82.6           | 0.00            | 0.41          | 0.41          | 0.0            | 33.7             | 33.7             |
| New Jersey           | 10,407        | 18,171         | 28,578         | 108.5        | 189.5          | 298.0          | 0.56            | 0.56          | 0.56          | 61.0           | 106.5            | 167.5            |
| New Mexico           | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| New York             | 1,620         | 29,888         | 31,508         | 16.9         | 311.7          | 328.6          | 0.53            | 0.44          | 0.44          | 8.9            | 135.6            | 144.6            |
| North Carolina       | 0             | 39,127         | 39,127         | 0.0          | 408.1          | 408.1          | 0.00            | 0.30          | 0.30          | 0.0            | 121.6            | 121.6            |
| North Dakota         | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Ohio                 | 0             | 16,781         | 16,781         | 0.0          | 175.0          | 175.0          | 0.00            | 0.45          | 0.45          | 0.0            | 79.6             | 79.6             |
| Oklahoma             | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Oregon               | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Pennsylvania         | 16,504        | 57,268         | 73,771         | 172.1        | 597.2          | 769.4          | 0.55            | 0.44          | 0.46          | 95.4           | 260.5            | 355.9            |
| Rhode Island         | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| South Carolina       | 0             | 50,888         | 50,888         | 0.0          | 530.7          | 530.7          | 0.00            | 0.41          | 0.41          | 0.0            | 218.7            | 218.7            |
| South Dakota         | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Tennessee            | 0             | 25,825         | 25,825         | 0.0          | 269.3          | 269.3          | 0.00            | 0.43          | 0.43          | 0.0            | 114.6            | 114.6            |
| Texas                | 0             | 37,556         | 37,556         | 0.0          | 391.7          | 391.7          | 0.00            | 0.44          | 0.44          | 0.0            | 172.2            | 172.2            |
| Utah                 | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Vermont              | 0             | 4,548          | 4,548          | 0.0          | 47.4           | 47.4           | 0.00            | 0.43          | 0.43          | 0.0            | 20.5             | 20.5             |
| Virginia             | 0             | 28,321         | 28,321         | 0.0          | 295.4          | 295.4          | 0.00            | 0.42          | 0.42          | 0.0            | 124.9            | 124.9            |
| Washington           | 0             | 8,605          | 8,605          | 0.0          | 89.7           | 89.7           | 0.00            | 0.46          | 0.46          | 0.0            | 41.2             | 41.2             |
| West Virginia        | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| Wisconsin            | 0             | 11,512         | 11,512         | 0.0          | 120.1          | 120.1          | 0.00            | 0.50          | 0.50          | 0.0            | 59.4             | 59.4             |
| Wyoming              | 0             | 0              | 0              | 0.0          | 0.0            | 0.0            | 0.00            | 0.00          | 0.00          | 0.0            | 0.0              | 0.0              |
| <b>United States</b> | <b>48,460</b> | <b>705,433</b> | <b>753,893</b> | <b>505.4</b> | <b>7,357.0</b> | <b>7,862.3</b> | <b>\$0.51</b>   | <b>\$0.45</b> | <b>\$0.45</b> | <b>\$260.1</b> | <b>\$3,281.4</b> | <b>\$3,541.6</b> |

**Table 49—Solar and Wind Consumption Estimates by Sector, 2000.** Note: Residential solar consumption includes small amounts of solar thermal and photovoltaic energy consumed by the commercial sector that cannot be separately identified. Totals may not equal sum of components due to independent rounding. (s) = Physical unit value less than 0.5 or Btu value less than 0.05. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Data 2000*, draft report (EIA, 2003c).

| State                | Consumption           |                       |                  |                 |                       |             |                       |                       |              |                 |                       |             |
|----------------------|-----------------------|-----------------------|------------------|-----------------|-----------------------|-------------|-----------------------|-----------------------|--------------|-----------------|-----------------------|-------------|
|                      | Solar                 |                       |                  |                 |                       |             | Wind                  |                       |              |                 |                       |             |
|                      | Indus-<br>trial       | Electric<br>Utilities | Residen-<br>tial | Indus-<br>trial | Electric<br>Utilities | Total       | Indus-<br>trial       | Electric<br>Utilities | Total        | Indus-<br>trial | Electric<br>Utilities | Total       |
|                      | Million Kilowatthours |                       | Trillion Btu     |                 |                       |             | Million Kilowatthours |                       |              | Trillion Btu    |                       |             |
| Alabama              | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Alaska               | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Arizona              | 0                     | 0                     | 3.6              | 0.0             | 0.0                   | 3.6         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Arkansas             | 0                     | 0                     | 0.9              | 0.0             | 0.0                   | 0.9         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| California           | 491                   | 3                     | 18.3             | 5.0             | (s)                   | 23.3        | 3,511                 | 7                     | 3,518        | 35.8            | 0.1                   | 35.9        |
| Colorado             | 0                     | 0                     | 0.2              | 0.0             | 0.0                   | 0.2         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Connecticut          | 0                     | 0                     | 0.3              | 0.0             | 0.0                   | 0.3         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Delaware             | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Dist. of Col.        | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Florida              | 0                     | 0                     | 29.8             | 0.0             | 0.0                   | 29.8        | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Georgia              | 0                     | 0                     | 0.2              | 0.0             | 0.0                   | 0.2         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Hawaii               | 0                     | 0                     | 1.4              | 0.0             | 0.0                   | 1.4         | 14                    | 3                     | 17           | 0.1             | (s)                   | 0.2         |
| Idaho                | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Illinois             | 0                     | 0                     | 0.2              | 0.0             | 0.0                   | 0.2         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Indiana              | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Iowa                 | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 490                   | 4                     | 494          | 5.0             | (s)                   | 5.0         |
| <b>Kansas</b>        | <b>0</b>              | <b>0</b>              | <b>(s)</b>       | <b>0.0</b>      | <b>0.0</b>            | <b>(s)</b>  | <b>0</b>              | <b>0</b>              | <b>0</b>     | <b>0.0</b>      | <b>0.0</b>            | <b>0.0</b>  |
| Kentucky             | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Louisiana            | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Maine                | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Maryland             | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Massachusetts        | 0                     | 0                     | 0.2              | 0.0             | 0.0                   | 0.2         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Michigan             | 0                     | 0                     | 0.3              | 0.0             | 0.0                   | 0.3         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Minnesota            | 0                     | 0                     | 0.3              | 0.0             | 0.0                   | 0.3         | 725                   | 0                     | 725          | 7.4             | 0.0                   | 7.4         |
| Mississippi          | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Missouri             | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Montana              | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Nebraska             | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Nevada               | 0                     | 0                     | 0.5              | 0.0             | 0.0                   | 0.5         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| New Hampshire        | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| New Jersey           | 0                     | 0                     | 0.6              | 0.0             | 0.0                   | 0.6         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| New Mexico           | 0                     | 0                     | 0.5              | 0.0             | 0.0                   | 0.5         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| New York             | 0                     | 0                     | 0.6              | 0.0             | 0.0                   | 0.6         | 10                    | 0                     | 10           | 0.1             | 0.0                   | 0.1         |
| North Carolina       | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| North Dakota         | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Ohio                 | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Oklahoma             | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Oregon               | 0                     | 0                     | 0.7              | 0.0             | 0.0                   | 0.7         | 67                    | 0                     | 67           | 0.7             | 0.0                   | 0.7         |
| Pennsylvania         | 0                     | 0                     | 0.5              | 0.0             | 0.0                   | 0.5         | 10                    | 0                     | 10           | 0.1             | 0.0                   | 0.1         |
| Rhode Island         | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| South Carolina       | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| South Dakota         | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Tennessee            | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Texas                | 0                     | (s)                   | 0.6              | 0.0             | (s)                   | 0.6         | 492                   | 0                     | 492          | 5.0             | 0.0                   | 5.0         |
| Utah                 | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Vermont              | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 12                    | 12           | 0.0             | 0.1                   | 0.1         |
| Virginia             | 0                     | 0                     | 0.1              | 0.0             | 0.0                   | 0.1         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Washington           | 0                     | 0                     | 0.3              | 0.0             | 0.0                   | 0.3         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| West Virginia        | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 0                     | 0                     | 0            | 0.0             | 0.0                   | 0.0         |
| Wisconsin            | 0                     | 0                     | 0.2              | 0.0             | 0.0                   | 0.2         | 0                     | 3                     | 3            | 0.0             | (s)                   | (s)         |
| Wyoming              | 0                     | 0                     | (s)              | 0.0             | 0.0                   | (s)         | 246                   | 0                     | 246          | 2.5             | 0.0                   | 2.5         |
| <b>United States</b> | <b>491</b>            | <b>3</b>              | <b>61.4</b>      | <b>5.0</b>      | <b>(s)</b>            | <b>66.4</b> | <b>5,565</b>          | <b>29</b>             | <b>5,593</b> | <b>56.8</b>     | <b>0.3</b>            | <b>57.1</b> |



**Figure 34—Monthly U.S. Natural Gas Storage, January 2000–January 2003.** Note: Colored band is normal stock range from previous four years. Forecasted projections follow average monthly storage changes for previous year. Source: Kansas Geological Survey, Open-file Report 2000-69 (Carr and White, 2000) and Tim Carr, Kansas Geological Survey (personal communication, February 2003).

**Table 50—Energy Prices and Expenditures Ranked by State, 1999.** Includes \$140 million for coal coke net imports, which are not allocated to the states. States include the District of Columbia. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Price and Expenditure Report 1999* (<http://eia.doe.gov/pub/state.prices/pdf/rank.pdf>). Table provided by the KU Policy Research Institute.

| Prices               |                |                 | Expenditures         |                |                         | Expenditures Per Person |                |                |
|----------------------|----------------|-----------------|----------------------|----------------|-------------------------|-------------------------|----------------|----------------|
| Rank                 | State          | Million Dollars | Rank                 | State          | Dollars Per Million Btu | Rank                    | State          | Dollars        |
| 1                    | Dist. of Col.  | \$13.23         | 1                    | California     | \$56,007                | 1                       | Wyoming        | \$3,861        |
| 2                    | Hawaii         | 12.34           | 2                    | Texas          | 54,085                  | 2                       | Alaska         | 3,294          |
| 3                    | Connecticut    | 11.62           | 3                    | New York       | 31,999                  | 3                       | Louisiana      | 3,073          |
| 4                    | Vermont        | 11.56           | 4                    | Ohio           | 25,330                  | 4                       | North Dakota   | 2,703          |
| 5                    | Arizona        | 11.23           | 5                    | Florida        | 25,295                  | 5                       | Texas          | 2,698          |
| 6                    | New Hampshire  | 11.05           | 6                    | Illinois       | 23,932                  | 6                       | Dist. of Col.  | 2,526          |
| 7                    | Maryland       | 10.35           | 7                    | Pennsylvania   | 23,152                  | 7                       | Indiana        | 2,385          |
| 8                    | Florida        | 10.27           | 8                    | Michigan       | 19,786                  | 8                       | Maine          | 2,384          |
| 9                    | Massachusetts  | 10.05           | 9                    | New Jersey     | 17,716                  | 9                       | Arkansas       | 2,348          |
| 10                   | New York       | 10.00           | 10                   | North Carolina | 15,678                  | 10                      | Montana        | 2,327          |
| 11                   | Nevada         | 9.89            | 11                   | Georgia        | 15,524                  | 11                      | Iowa           | 2,311          |
| 12                   | North Carolina | 9.76            | 12                   | Indiana        | 14,174                  | 12                      | Alabama        | 2,306          |
| 13                   | Delaware       | 9.54            | 13                   | Louisiana      | 13,436                  | 13                      | Kentucky       | 2,300          |
| 14                   | California     | 9.37            | 14                   | Virginia       | 13,248                  | 14                      | Delaware       | 2,292          |
| 15                   | New Mexico     | 8.99            | 15                   | Massachusetts  | 12,022                  | 15                      | <b>Kansas</b>  | <b>2,273</b>   |
| 16                   | South Carolina | 8.96            | 16                   | Tennessee      | 11,724                  | 16                      | Vermont        | 2,263          |
| 17                   | New Jersey     | 8.92            | 17                   | Missouri       | 11,344                  | 17                      | Ohio           | 2,250          |
| 18                   | Missouri       | 8.79            | 18                   | Washington     | 10,702                  | 18                      | Mississippi    | 2,200          |
| 19                   | Virginia       | 8.78            | 19                   | Wisconsin      | 10,551                  | 19                      | New Hampshire  | 2,190          |
| 20                   | Pennsylvania   | 8.76            | 20                   | Alabama        | 10,076                  | 20                      | Nevada         | 2,187          |
| 21                   | Oregon         | 8.65            | 21                   | Maryland       | 9,885                   | 21                      | New Jersey     | 2,175          |
| 22                   | Tennessee      | 8.64            | 22                   | Minnesota      | 9,674                   | 22                      | Connecticut    | 2,167          |
| 23                   | Colorado       | 8.63            | 23                   | Kentucky       | 9,110                   | 23                      | Nebraska       | 2,144          |
| 24                   | Illinois       | 8.61            | 24                   | Arizona        | 9,012                   | 24                      | South Carolina | 2,139          |
| 25                   | South Dakota   | 8.57            | 25                   | South Carolina | 8,313                   | 25                      | Tennessee      | 2,138          |
| 26                   | Maine          | 8.56            | 26                   | Oklahoma       | 7,160                   | 26                      | Oklahoma       | 2,132          |
| 27                   | Ohio           | 8.54            | 27                   | Connecticut    | 7,111                   | 27                      | West Virginia  | 2,078          |
| 28                   | <b>Kansas</b>  | <b>8.43</b>     | 28                   | Colorado       | 7,002                   | 28                      | Missouri       | 2,074          |
| 29                   | Rhode Island   | 8.37            | 29                   | Iowa           | 6,631                   | 29                      | South Dakota   | 2,074          |
| 30                   | Georgia        | 8.20            | 30                   | Oregon         | 6,530                   | 30                      | Idaho          | 2,055          |
| 31                   | Michigan       | 8.19            | 31                   | Mississippi    | 6,091                   | 31                      | North Carolina | 2,049          |
| 32                   | Minnesota      | 8.18            | 32                   | <b>Kansas</b>  | <b>6,033</b>            | 32                      | Minnesota      | 2,026          |
| 33                   | Wisconsin      | 8.17            | 33                   | Arkansas       | 5,990                   | 33                      | Wisconsin      | 2,009          |
| 34                   | Nebraska       | 8.05            | 34                   | Nevada         | 3,956                   | 34                      | Michigan       | 2,006          |
| 35                   | Mississippi    | 8.00            | 35                   | West Virginia  | 3,754                   | 35                      | Rhode Island   | 1,999          |
| 36                   | Iowa           | 7.88            | 36                   | Utah           | 3,669                   | 36                      | Georgia        | 1,993          |
| 37                   | Oklahoma       | 7.84            | 37                   | Nebraska       | 3,571                   | 37                      | New Mexico     | 1,983          |
| 38                   | Alabama        | 7.83            | 38                   | New Mexico     | 3,450                   | 38                      | Illinois       | 1,973          |
| 39                   | Montana        | 7.75            | 39                   | Maine          | 2,987                   | 39                      | Oregon         | 1,969          |
| 40                   | Idaho          | 7.64            | 40                   | New Hampshire  | 2,631                   | 40                      | Massachusetts  | 1,947          |
| 41                   | West Virginia  | 7.52            | 41                   | Idaho          | 2,572                   | 41                      | Pennsylvania   | 1,930          |
| 42                   | Kentucky       | 7.48            | 42                   | Hawaii         | 2,144                   | 42                      | Virginia       | 1,928          |
| 43                   | Utah           | 7.44            | 43                   | Montana        | 2,055                   | 43                      | Maryland       | 1,911          |
| 44                   | Arkansas       | 7.42            | 44                   | Alaska         | 2,040                   | 44                      | Arizona        | 1,886          |
| 45                   | Washington     | 7.40            | 45                   | Rhode Island   | 1,981                   | 45                      | Washington     | 1,859          |
| 46                   | Indiana        | 7.14            | 46                   | Wyoming        | 1,852                   | 46                      | Hawaii         | 1,809          |
| 47                   | Texas          | 6.65            | 47                   | Delaware       | 1,727                   | 47                      | New York       | 1,758          |
| 48                   | Wyoming        | 6.54            | 48                   | North Dakota   | 1,713                   | 48                      | Colorado       | 1,726          |
| 49                   | North Dakota   | 6.21            | 49                   | South Dakota   | 1,521                   | 49                      | Utah           | 1,723          |
| 50                   | Alaska         | 5.99            | 50                   | Vermont        | 1,344                   | 50                      | California     | 1,690          |
| 51                   | Louisiana      | 5.77            | 51                   | Dist. of Col.  | 1,311                   | 51                      | Florida        | 1,674          |
| <b>United States</b> |                | <b>\$8.41</b>   | <b>United States</b> |                | <b>\$558,742</b>        | <b>United States</b>    |                | <b>\$2,049</b> |

**Table 51—Coal and Electricity Prices and Expenditures Ranked by State, 1999.** (s) = Value less than 0.5 million dollars. States include the District of Columbia. Note: Rankings are based on unrounded data. Source: Combined State Energy Data System 1999. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Price and Expenditure Report 1999* (<http://www.eia.doe.gov/emeu/sep/rank/table4.htm>).

| Rank                 | Coal           |                         |                      |                 | Electricity          |                         |                      |                  |
|----------------------|----------------|-------------------------|----------------------|-----------------|----------------------|-------------------------|----------------------|------------------|
|                      | Prices         |                         | Expenditures         |                 | Prices               |                         | Expenditures         |                  |
|                      | State          | Dollars per Million BTU | State                | Million Dollars | State                | Dollars per Million BTU | State                | Million Dollars  |
| 1                    | Rhode Island   | \$3.35                  | Ohio                 | \$1,905         | Hawaii               | \$35.21                 | California           | \$20,360         |
| 2                    | Connecticut    | 3.33                    | Texas                | 1,860           | New Hampshire        | 34.00                   | Texas                | 17,976           |
| 3                    | Vermont        | 2.34                    | Indiana              | 1,752           | Vermont              | 30.13                   | New York             | 13,868           |
| 4                    | Maine          | 2.32                    | Pennsylvania         | 1,562           | New Jersey           | 29.29                   | Florida              | 12,819           |
| 5                    | Alaska         | 2.13                    | Alabama              | 1,284           | Connecticut          | 29.19                   | Ohio                 | 10,435           |
| 6                    | Massachusetts  | 1.86                    | Georgia              | 1,231           | New York             | 29.16                   | Illinois             | 9,182            |
| 7                    | Dist. of Col.  | 1.84                    | Illinois             | 1,212           | Alaska               | 28.71                   | Pennsylvania         | 8,590            |
| 8                    | California     | 1.74                    | West Virginia        | 1,194           | Maine                | 28.64                   | North Carolina       | 7,412            |
| 9                    | Hawaii         | 1.73                    | Michigan             | 1,126           | Massachusetts        | 26.33                   | Michigan             | 7,354            |
| 10                   | Florida        | 1.59                    | Florida              | 1,071           | California           | 25.73                   | New Jersey           | 7,034            |
| 11                   | Washington     | 1.58                    | North Carolina       | 1,029           | Rhode Island         | 25.28                   | Georgia              | 6,989            |
| 12                   | Georgia        | 1.56                    | Kentucky             | 991             | Dist. of Col.        | 21.85                   | Virginia             | 5,435            |
| 13                   | Delaware       | 1.56                    | Tennessee            | 732             | Arizona              | 21.20                   | Tennessee            | 5,208            |
| 14                   | Mississippi    | 1.55                    | Missouri             | 647             | Michigan             | 20.92                   | Indiana              | 5,070            |
| 15                   | New Hampshire  | 1.52                    | South Carolina       | 591             | Delaware             | 20.86                   | Louisiana            | 4,460            |
| 16                   | Alabama        | 1.50                    | Virginia             | 575             | Maryland             | 20.62                   | Massachusetts        | 4,439            |
| 17                   | New York       | 1.50                    | Arizona              | 545             | Illinois             | 20.45                   | Alabama              | 4,367            |
| 18                   | South Carolina | 1.47                    | Wisconsin            | 510             | Florida              | 20.06                   | Missouri             | 4,186            |
| 19                   | Arkansas       | 1.46                    | North Dakota         | 426             | Pennsylvania         | 19.71                   | Arizona              | 4,170            |
| 20                   | New Jersey     | 1.46                    | Maryland             | 417             | New Mexico           | 19.42                   | Maryland             | 4,158            |
| 21                   | North Carolina | 1.45                    | Utah                 | 409             | North Carolina       | 18.89                   | South Carolina       | 4,085            |
| 22                   | Illinois       | 1.45                    | New Mexico           | 396             | Ohio                 | 18.83                   | Washington           | 3,925            |
| 23                   | Virginia       | 1.43                    | Wyoming              | 392             | South Dakota         | 18.61                   | Wisconsin            | 3,489            |
| 24                   | Louisiana      | 1.40                    | Arkansas             | 391             | Georgia              | 18.32                   | Minnesota            | 3,312            |
| 25                   | Ohio           | 1.38                    | Minnesota            | 387             | <b>Kansas</b>        | <b>18.26</b>            | Kentucky             | 3,268            |
| 26                   | Maryland       | 1.37                    | Iowa                 | 381             | Texas                | 17.85                   | Connecticut          | 2,968            |
| 27                   | Michigan       | 1.37                    | Colorado             | 352             | Missouri             | 17.77                   | Oklahoma             | 2,499            |
| 28                   | Pennsylvania   | 1.37                    | Louisiana            | 318             | Colorado             | 17.49                   | Mississippi          | 2,443            |
| 29                   | Arizona        | 1.35                    | <b>Kansas</b>        | <b>315</b>      | Nevada               | 17.43                   | Colorado             | 2,395            |
| 30                   | New Mexico     | 1.33                    | Oklahoma             | 311             | Iowa                 | 17.38                   | Oregon               | 2,297            |
| 31                   | Nevada         | 1.30                    | New York             | 282             | Virginia             | 17.22                   | Iowa                 | 2,255            |
| 32                   | Idaho          | 1.28                    | Nevada               | 233             | Louisiana            | 17.17                   | Arkansas             | 2,215            |
| 33                   | West Virginia  | 1.22                    | Mississippi          | 214             | Minnesota            | 17.12                   | <b>Kansas</b>        | <b>2,091</b>     |
| 34                   | Texas          | 1.21                    | Washington           | 153             | Arkansas             | 16.79                   | Nevada               | 1,532            |
| 35                   | Indiana        | 1.21                    | Montana              | 128             | Mississippi          | 16.68                   | West Virginia        | 1,373            |
| 36                   | Tennessee      | 1.17                    | Nebraska             | 113             | Tennessee            | 16.52                   | Nebraska             | 1,212            |
| 37                   | Minnesota      | 1.15                    | California           | 111             | Alabama              | 16.39                   | New Mexico           | 1,169            |
| 38                   | Kentucky       | 1.12                    | New Jersey           | 99              | South Carolina       | 16.33                   | Maine                | 1,167            |
| 39                   | Wisconsin      | 1.08                    | Delaware             | 56              | Wisconsin            | 16.26                   | New Hampshire        | 1,147            |
| 40                   | Oregon         | 1.08                    | New Hampshire        | 54              | North Dakota         | 16.13                   | Hawaii               | 1,107            |
| 41                   | Utah           | 1.07                    | South Dakota         | 48              | Oklahoma             | 15.78                   | Utah                 | 1,052            |
| 42                   | South Dakota   | 1.04                    | Oregon               | 42              | Nebraska             | 15.57                   | Idaho                | 884              |
| 43                   | North Dakota   | 1.03                    | Massachusetts        | 24              | Indiana              | 15.55                   | Dist. of Col.        | 777              |
| 44                   | Colorado       | 0.99                    | Alaska               | 23              | West Virginia        | 14.97                   | Delaware             | 745              |
| 45                   | <b>Kansas</b>  | <b>0.96</b>             | Idaho                | 10              | Utah                 | 14.32                   | Montana              | 625              |
| 46                   | Missouri       | 0.94                    | Maine                | 7               | Oregon               | 14.16                   | Rhode Island         | 617              |
| 47                   | Oklahoma       | 0.93                    | Hawaii               | 5               | Montana              | 14.11                   | Vermont              | 568              |
| 48                   | Iowa           | 0.92                    | Vermont              | 5               | Wyoming              | 12.67                   | Alaska               | 515              |
| 49                   | Wyoming        | 0.79                    | Connecticut          | (s)             | Kentucky             | 12.27                   | South Dakota         | 503              |
| 50                   | Montana        | 0.73                    | Dist. of Col.a       | (s)             | Washington           | 11.83                   | North Dakota         | 497              |
| 51                   | Nebraska       | 0.58                    | Rhode Island         | (s)             | Idaho                | 11.40                   | Wyoming              | 495              |
| <b>United States</b> |                | <b>\$1.26</b>           | <b>United States</b> | <b>\$25,920</b> | <b>United States</b> | <b>\$19.37</b>          | <b>United States</b> | <b>\$216,737</b> |

**Table 52—Petroleum and Natural Gas Prices and Expenditures Ranked by State, 1999.** Note: Hawaii's natural gas prices are based on small quantities of liquefied natural gas. Rankings are based on unrounded data. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Price and Expenditure Report 1999* (<http://www.eia.doe.gov/emeu/sep/rank/table3.htm>).

| Rank                 | Petroleum      |                         |                      |                  | Natural Gas          |                         |                      |                 |
|----------------------|----------------|-------------------------|----------------------|------------------|----------------------|-------------------------|----------------------|-----------------|
|                      | Prices         |                         | Expenditures         |                  | Prices               |                         | Expenditures         |                 |
|                      | State          | Dollars per Million Btu | State                | Million Dollars  | State                | Dollars per Million Btu | State                | Million Dollars |
| 1                    | Nevada         | \$8.72                  | Texas                | \$29,927         | Hawaii               | \$13.51                 | California           | \$9,102         |
| 2                    | Vermont        | 8.59                    | California           | 26,691           | Dist. of Col.        | 7.80                    | Texas                | 9,070           |
| 3                    | Dist. of Col.  | 8.54                    | Florida              | 12,275           | Maryland             | 6.69                    | New York             | 6,910           |
| 4                    | Arizona        | 8.51                    | New York             | 11,766           | Connecticut          | 6.59                    | Illinois             | 4,716           |
| 5                    | Oregon         | 8.50                    | Ohio                 | 10,279           | Massachusetts        | 6.58                    | Ohio                 | 4,206           |
| 6                    | Colorado       | 8.42                    | Pennsylvania         | 10,203           | New Hampshire        | 6.29                    | Pennsylvania         | 3,990           |
| 7                    | California     | 8.41                    | Illinois             | 9,899            | Pennsylvania         | 6.18                    | Michigan             | 3,814           |
| 8                    | Rhode Island   | 8.38                    | Michigan             | 8,483            | Maine                | 5.95                    | Louisiana            | 3,140           |
| 9                    | Massachusetts  | 8.27                    | New Jersey           | 7,852            | Rhode Island         | 5.79                    | New Jersey           | 2,932           |
| 10                   | Utah           | 8.22                    | Georgia              | 7,162            | New York             | 5.56                    | Indiana              | 2,591           |
| 11                   | Idaho          | 8.16                    | North Carolina       | 7,050            | Virginia             | 5.46                    | Massachusetts        | 2,321           |
| 12                   | Illinois       | 8.09                    | Louisiana            | 6,569            | Missouri             | 5.31                    | Florida              | 1,954           |
| 13                   | Ohio           | 8.09                    | Virginia             | 6,308            | North Carolina       | 5.14                    | Wisconsin            | 1,792           |
| 14                   | Wisconsin      | 8.03                    | Indiana              | 6,090            | Vermont              | 5.08                    | Oklahoma             | 1,635           |
| 15                   | New Mexico     | 7.99                    | Missouri             | 5,778            | Arizona              | 5.01                    | Virginia             | 1,418           |
| 16                   | Pennsylvania   | 7.92                    | Washington           | 5,701            | Ohio                 | 4.98                    | Missouri             | 1,396           |
| 17                   | West Virginia  | 7.92                    | Massachusetts        | 5,241            | West Virginia        | 4.98                    | Minnesota            | 1,367           |
| 18                   | Michigan       | 7.90                    | Tennessee            | 5,207            | Wisconsin            | 4.87                    | Maryland             | 1,326           |
| 19                   | Minnesota      | 7.87                    | Wisconsin            | 5,189            | Illinois             | 4.77                    | Alabama              | 1,200           |
| 20                   | Connecticut    | 7.84                    | Minnesota            | 4,927            | Indiana              | 4.72                    | Tennessee            | 1,186           |
| 21                   | Alabama        | 7.82                    | Kentucky             | 4,877            | Iowa                 | 4.71                    | Georgia              | 1,170           |
| 22                   | Maryland       | 7.77                    | Maryland             | 4,521            | New Jersey           | 4.69                    | Colorado             | 1,123           |
| 23                   | Iowa           | 7.73                    | Alabama              | 4,221            | Tennessee            | 4.67                    | North Carolina       | 1,119           |
| 24                   | Wyoming        | 7.71                    | Arizona              | 4,212            | South Dakota         | 4.67                    | Iowa                 | 1,073           |
| 25                   | <b>Kansas</b>  | <b>7.64</b>             | Colorado             | 3,510            | Delaware             | 4.57                    | Washington           | 1,015           |
| 26                   | Oklahoma       | 7.63                    | Oklahoma             | 3,464            | South Carolina       | 4.52                    | <b>Kansas</b>        | <b>959</b>      |
| 27                   | Nebraska       | 7.63                    | South Carolina       | 3,429            | California           | 4.51                    | Arkansas             | 948             |
| 28                   | South Dakota   | 7.62                    | Connecticut          | 3,414            | Oregon               | 4.39                    | Oregon               | 915             |
| 29                   | North Carolina | 7.61                    | Oregon               | 3,331            | Alabama              | 4.36                    | Connecticut          | 885             |
| 30                   | North Dakota   | 7.59                    | Iowa                 | 3,220            | Montana              | 4.35                    | Kentucky             | 840             |
| 31                   | Tennessee      | 7.52                    | <b>Kansas</b>        | <b>3,071</b>     | Michigan             | 4.32                    | Mississippi          | 834             |
| 32                   | Montana        | 7.51                    | Mississippi          | 3,056            | Minnesota            | 4.28                    | Arizona              | 723             |
| 33                   | Arkansas       | 7.46                    | Arkansas             | 2,774            | Nevada               | 4.28                    | South Carolina       | 718             |
| 34                   | Virginia       | 7.44                    | Utah                 | 2,024            | Kentucky             | 4.28                    | Nevada               | 656             |
| 35                   | Missouri       | 7.42                    | New Mexico           | 1,951            | Colorado             | 4.26                    | Utah                 | 545             |
| 36                   | New Hampshire  | 7.38                    | Nevada               | 1,920            | Nebraska             | 4.11                    | West Virginia        | 533             |
| 37                   | South Carolina | 7.35                    | Nebraska             | 1,876            | <b>Kansas</b>        | <b>4.09</b>             | Rhode Island         | 497             |
| 38                   | Indiana        | 7.22                    | West Virginia        | 1,714            | Arkansas             | 4.05                    | Nebraska             | 487             |
| 39                   | New York       | 7.21                    | Maine                | 1,706            | Utah                 | 4.04                    | New Mexico           | 406             |
| 40                   | Kentucky       | 7.20                    | Idaho                | 1,386            | Idaho                | 4.02                    | Idaho                | 269             |
| 41                   | Washington     | 6.95                    | New Hampshire        | 1,369            | Washington           | 3.91                    | Delaware             | 260             |
| 42                   | Delaware       | 6.93                    | Alaska               | 1,357            | North Dakota         | 3.81                    | Dist. of Col.        | 255             |
| 43                   | Georgia        | 6.92                    | Hawaii               | 1,242            | Wyoming              | 3.70                    | Montana              | 237             |
| 44                   | New Jersey     | 6.85                    | Montana              | 1,178            | Florida              | 3.67                    | Alaska               | 235             |
| 45                   | Maine          | 6.85                    | Wyoming              | 1,093            | Oklahoma             | 3.64                    | Wyoming              | 216             |
| 46                   | Mississippi    | 6.76                    | North Dakota         | 877              | New Mexico           | 3.62                    | North Dakota         | 147             |
| 47                   | Florida        | 6.46                    | South Dakota         | 876              | Georgia              | 3.62                    | South Dakota         | 136             |
| 48                   | Hawaii         | 6.21                    | Rhode Island         | 827              | Mississippi          | 3.23                    | New Hampshire        | 129             |
| 49                   | Texas          | 6.03                    | Delaware             | 808              | Texas                | 2.74                    | Vermont              | 41              |
| 50                   | Alaska         | 5.96                    | Vermont              | 726              | Louisiana            | 2.68                    | Hawaii               | 39              |
| 51                   | Louisiana      | 5.66                    | Dist. of Col.        | 287              | Alaska               | 1.88                    | Maine                | 37              |
| <b>United States</b> |                | <b>\$7.33</b>           | <b>United States</b> | <b>\$262,912</b> | <b>United States</b> | <b>\$4.26</b>           | <b>United States</b> | <b>\$83,512</b> |

**Table 53—Motor Gasoline Prices and Expenditures Ranked by State, 1999.** Note: Rankings are based on unrounded data. Source: U.S. Department of Energy, Energy Information Administration (EIA), *State Energy Price and Expenditure Report 1999* (<http://www.eia.doe.gov/emeu/sep/rank/table2.htm>).

| Rank          | Prices         |                         | Expenditures   |                 | Expenditures per Person |            |
|---------------|----------------|-------------------------|----------------|-----------------|-------------------------|------------|
|               | State          | Dollars per Million Btu | State          | Million Dollars | State                   | Dollars    |
| 1             | Hawaii         | \$11.32                 | California     | \$18,486        | Wyoming                 | \$797      |
| 2             | Oregon         | 11.08                   | Texas          | 11,247          | Montana                 | 706        |
| 3             | Connecticut    | 10.87                   | Florida        | 7,690           | South Dakota            | 676        |
| 4             | Nevada         | 10.67                   | New York       | 6,666           | Vermont                 | 669        |
| 5             | Washington     | 10.50                   | Ohio           | 6,038           | Nevada                  | 663        |
| 6             | California     | 10.50                   | Pennsylvania   | 5,809           | North Dakota            | 661        |
| 7             | Dist. of Col.  | 10.35                   | Illinois       | 5,773           | Maine                   | 660        |
| 8             | Montana        | 10.16                   | Michigan       | 5,464           | New Hampshire           | 659        |
| 9             | Utah           | 10.13                   | Georgia        | 4,464           | Idaho                   | 647        |
| 10            | Rhode Island   | 10.10                   | North Carolina | 4,452           | Oregon                  | 636        |
| 11            | Alaska         | 10.06                   | New Jersey     | 4,271           | Minnesota               | 634        |
| 12            | Massachusetts  | 10.04                   | Virginia       | 3,940           | New Mexico              | 634        |
| 13            | Maryland       | 9.91                    | Washington     | 3,461           | Delaware                | 628        |
| 14            | Vermont        | 9.91                    | Massachusetts  | 3,320           | Connecticut             | 626        |
| 15            | Maine          | 9.82                    | Indiana        | 3,309           | Kentucky                | 625        |
| 16            | Delaware       | 9.81                    | Tennessee      | 3,229           | Mississippi             | 622        |
| 17            | Idaho          | 9.78                    | Missouri       | 3,202           | Alabama                 | 602        |
| 18            | Colorado       | 9.72                    | Minnesota      | 3,029           | Washington              | 601        |
| 19            | Minnesota      | 9.70                    | Maryland       | 2,938           | Tennessee               | 589        |
| 20            | New Hampshire  | 9.70                    | Wisconsin      | 2,938           | Colorado                | 588        |
| 21            | Arizona        | 9.66                    | Arizona        | 2,762           | Missouri                | 586        |
| 22            | Ohio           | 9.58                    | Alabama        | 2,630           | Arkansas                | 586        |
| 23            | New York       | 9.57                    | Kentucky       | 2,474           | South Carolina          | 584        |
| 24            | Wisconsin      | 9.56                    | Colorado       | 2,384           | Iowa                    | 583        |
| 25            | New Mexico     | 9.53                    | Louisiana      | 2,326           | North Carolina          | 582        |
| 26            | Pennsylvania   | 9.49                    | South Carolina | 2,267           | Arizona                 | 578        |
| 27            | West Virginia  | 9.37                    | Oregon         | 2,109           | Utah                    | 574        |
| 28            | Illinois       | 9.33                    | Connecticut    | 2,056           | Virginia                | 573        |
| 29            | Kentucky       | 9.32                    | Oklahoma       | 1,916           | Georgia                 | 573        |
| 30            | Wyoming        | 9.31                    | Mississippi    | 1,722           | Oklahoma                | 571        |
| 31            | North Dakota   | 9.22                    | Iowa           | 1,672           | <b>Kansas</b>           | <b>570</b> |
| 32            | South Dakota   | 9.20                    | <b>Kansas</b>  | <b>1,513</b>    | Maryland                | 568        |
| 33            | Louisiana      | 8.98                    | Arkansas       | 1,494           | Texas                   | 561        |
| 34            | New Jersey     | 8.93                    | Utah           | 1,222           | Wisconsin               | 560        |
| 35            | Virginia       | 8.91                    | Nevada         | 1,200           | Nebraska                | 559        |
| 36            | Tennessee      | 8.88                    | New Mexico     | 1,102           | California              | 558        |
| 37            | Texas          | 8.88                    | West Virginia  | 952             | Indiana                 | 557        |
| 38            | North Carolina | 8.77                    | Nebraska       | 931             | Michigan                | 554        |
| 39            | Indiana        | 8.75                    | Maine          | 827             | Alaska                  | 544        |
| 40            | Alabama        | 8.75                    | Idaho          | 809             | Massachusetts           | 38         |
| 41            | Nebraska       | 8.72                    | New Hampshire  | 792             | Ohio                    | 536        |
| 42            | Iowa           | 8.67                    | Montana        | 623             | Louisiana               | 532        |
| 43            | Michigan       | 8.66                    | Hawaii         | 528             | West Virginia           | 527        |
| <b>44</b>     | <b>Kansas</b>  | <b>8.66</b>             | Rhode Island   | 505             | New Jersey              | 525        |
| 45            | Missouri       | 8.63                    | South Dakota   | 495             | Rhode Island            | 510        |
| 46            | Mississippi    | 8.60                    | Delaware       | 473             | Florida                 | 509        |
| 47            | Arkansas       | 8.51                    | North Dakota   | 419             | Pennsylvania            | 484        |
| 48            | Florida        | 8.50                    | Vermont        | 397             | Illinois                | 476        |
| 49            | Oklahoma       | 8.44                    | Wyoming        | 382             | Hawaii                  | 445        |
| 50            | South Carolina | 8.25                    | Alaska         | 337             | Dist. of Col.           | 414        |
| 51            | Georgia        | 7.79                    | Dist. of Col.  | 215             | New York                | 366        |
| United States |                | \$9.31                  | United States  | \$149,260       | United States           | \$547      |

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