

Appendix E

Summary of Changes Reflected in These State Energy Data System Consumption Data

Revisions to consumption data contained in the State Energy Data System (SEDS) and incorporated in this release of State Energy Consumption data estimates for 2005 are summarized in this appendix. Although the portable document file (PDF) tables and HTML-formatted tables contain rounded data for the most recent year, the comma-separated-value (CSV) files provide the data for all years in the greatest precision contained in the SEDS database. The information in this appendix covers revisions to all data for all years from 1960 through 2004. When revisions to physical unit data are reflected proportionally in the values after being converted to British thermal units (Btu), the Btu revisions are not mentioned separately.

Coal

Industrial Sector, 2004. Although estimates of coal consumed by coke plants in short tons are not revised in the SEDS data source, the EIA *Annual Coal Report*, the incorporation of greater precision in the heat content factors used for 2004 to convert quantities of coking coal from short tons to the equivalent British thermal units (Btu) cause revisions in Btu consumption in the 10 States where coal is consumed by coke plants (Alabama, Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Virginia and Washington). All of the revisions to industrial coal consumption are by 0.01 percent or less and only the revisions for Indiana and the U.S. total are large enough to be seen in the PDF and HTML tables.

Electricity Retail Sales

Residential, Commercial, Industrial, and Transportation Sectors, 2001 through 2004. Sales of electricity in the residential, commercial, industrial, and transportation sectors of California in 2001 through 2004 are revised in the data source, the EIA Form EIA-861 "Annual Electric Power Industry Report" database. California electricity consumption is revised by as much as 24 percent in the industrial sector in 2001, 21 percent in the transportation sector in 2004, 3 percent in the residential sector in 2003; and 1 percent in the commercial sector in 2003 and 2004. Incorporating electricity sales data for all other States causes small revisions due to a different level of rounding in the new data. This causes very small changes to electricity consumption estimates for the residential, commercial, and industrial sectors in most States for 2001 through 2004 and in the transportation sector for 2003 and 2004. These revisions cause U.S. total electricity consumption estimates for the residential, commercial, industrial, and transportation sectors to be revised very slightly, with the exception of the larger 1-percent increase in the industrial sector in 2001 and the 2-percent increase in the transportation sector in 2004. All these revisions are proportionally reflected in the data when converted into equivalent Btu values.

Natural Gas

Residential and Commercial Sectors, 2004. Natural gas consumption in 2004 is revised by the data source, the EIA Natural Gas Navigator, for the

residential sector of 16 States and the commercial sector of 20 States. Most of the revisions are too small to be seen in the rounded data of the PDF and HTML tables, the largest percentage revision being a 6-percent decrease in the commercial use of natural gas in Arizona. The net results of the State-level revisions are small decreases in U.S. total residential and commercial sector natural gas use in 2004.

Industrial Sector, 2001 Through 2004. Estimates of consumption of natural gas as lease fuel are revised for three States (Alabama, Louisiana, and Texas) for 2001 through 2004 due to changes in the U.S. Department of the Interior, Minerals Management Service, production data. Offshore lease fuel consumption of natural gas is published combined for those three States in the EIA Natural Gas Navigator. The Minerals Management Service State-level production data are used to allocate the combined consumption to each of the States. The U.S. total natural gas lease fuel consumption remains unchanged for 2001 through 2003 as the States' proportions are adjusted. In 2004, in addition to the three State's proportional changes, Louisiana's onshore lease fuel consumption is slightly increased in the EIA data and the U.S. total reflects that increase. These revisions are too small to be seen in the SEDS PDF and HTML tables for industrial natural gas consumption and can only be seen in the greater-precision CSV files.

In addition, deliveries of natural gas to industrial consumers, another component of industrial sector consumption in SEDS, are revised in 2004 for 19 States in the data source, the EIA Natural Gas Navigator. Industrial use increases in 12 States and decreases in 7. The largest revisions are the decreases in Alabama and Arkansas of 6 billion cubic feet and 5 billion cubic feet, respectively. These decreases more than offset the increases, the largest of which are by 1 billion cubic feet in both Georgia and Ohio, causing an overall decrease in U.S. industrial natural gas consumption of 8 billion cubic feet.

Transportation Sector, 2003 Through 2004. Data for natural gas consumed as pipeline fuel (one component of transportation use of natural gas) are revised in the SEDS source data, EIA's Natural Gas Navigator, for 2003 and 2004. Natural gas consumption in the transportation sector is revised for 9 States in 2003 and 19 States in 2004. Most of the revisions are too small to be seen in the PDF and HTML tables but are noticeable in the greater-precision CSV files. The largest changes, all decreases, occur in New York, Texas and New Mexico, in 2003. The net impact of the

State-level revisions are decreases in U.S. total transportation use of natural gas by 11 percent in 2003 and 1 percent in 2004.

Electric Power Sector, 2001 and 2004. Data for natural gas consumed by the electric power sector in 2004 are revised in the source, the EIA *Electric Power Annual*, for nine States. All of the revisions are too small to be seen in the SEDS PDF and HTML data tables, except for the increases in Texas and the U.S. total that round up to 1 billion cubic feet. The only decrease occurred for Massachusetts and all of the revisions can be seen in SEDS greater-precision CSV data files.

In addition, the factors used to convert natural gas consumed by the electric power sector from physical units to British thermal units (Btu) are revised for 2001 and 2004 in the source, the EIA power plant database (from Forms EIA-906 and EIA-920). Factors for 33 States are revised in 2001 and 17 States in 2004 causing corresponding changes in electric power sector natural gas consumption expressed in Btu. Revisions for most States are large enough to be seen in the PDF and HTML tables of electric power sector consumption. In 2001, all but one revision (Pennsylvania) are increases. Some revisions in the Btu values are relatively large including the 50-percent increase in North Dakota, the 17-percent increase in Kansas, the 16-percent increase in Utah, and the 10-percent increase in Nebraska. In 2004, most of the factor revisions for natural gas consumed for electric power are decreases and the largest revision is the 6-percent decrease in Michigan.

Residential, Commercial, Industrial, and Transportation Sectors' Thermal Conversion Factors, 2001, 2003, and 2004. The factor used to convert natural gas consumed by all sectors other than the electric power sector from physical units to British thermal units (NGTXK) is calculated for each State by dividing Btu consumption of all sectors minus the electric power sector by the physical unit consumption of all sectors minus the electric power sector. Any revisions to the data in the numerator or the denominator change NGTXK. Therefore, even when there is no revision to the natural gas consumption in billion cubic feet for a particular sector in a State, the equivalent Btu data can be revised due to a revision in NGTXK for the State. This phenomenon is most noticeable data for 2001 and 2003 when there are more instances of data expressed in Btu being revised while their equivalent values in cubic feet are not.

Petroleum

Asphalt and Road Oil

Industrial Sector, 2001. Data from the source publication, the Asphalt Institute, *Asphalt Usage Survey for the United States and Canada*, on asphalt sold as paving products, as roofing products, and for all other uses have been revised for 2001. Since all asphalt and road oil use is assigned to the industrial sector in SEDS, these revisions cause asphalt and road oil consumption estimates in both the industrial sector and the State total for Alaska to decrease by 357 thousand barrels while estimates for Arkansas increase by 352 thousand barrels and increase for Arizona by 4 thousand barrels. The revisions cause virtually no change in the U.S. industrial sector and overall total consumption of asphalt and road oil in 2001.

Aviation Gasoline

Transportation Sector, 2004. Aviation gasoline consumption by State has been revised by the data source, the Federal Highway Administration, for six States and the U.S. total for 2004. U.S. total consumption of aviation gasoline, which is a data series developed by the EIA, remains unchanged. Since the revised Federal Highway Administration data are used to allocate the unchanged U.S. total to the States, the SEDS calculations cause aviation gasoline consumption in the transportation sector for all States to be adjusted to compensate. The revisions are as large as the 11-percent increase in California, while most States' use of aviation gasoline are revised by 1 percent.

Distillate Fuel

All Sectors, 2004. Distillate fuel consumed by the electric power sector has been revised in the data source, the EIA *Electric Power Annual*, for six States and the U.S. total for 2004. The U.S. total consumption of distillate fuel, which is from the EIA *Petroleum Supply Annual*, remains unchanged. SEDS calculations cause the estimates for distillate fuel consumption by all other sectors and for all States to be adjusted slightly to compensate for the revisions in the electric power sector data (see distillate fuel calculation documentation on page 32 of the Consumption Technical Notes, Section 4 Petroleum, at http://www.eia.doe.gov/emeu/states/seds_tech_notes.html.) Very few of the revisions can be seen in the SEDS PDF and

HTML tables. The revisions by more than 1 thousand barrels are in the Arizona and Minnesota electric power sector and in the U.S. totals for the electric power sector and transportation sector. Other smaller revisions to consumption in other sectors and in other States can be seen in the greater-precision CSV data files.

Liquefied Petroleum Gases

Residential, Commercial, and Industrial Sectors, 2004. A change in the methodology for allocating total consumption of liquefied petroleum gases (LPG) in Hawaii to the residential, commercial, and industrial sectors within the State causes all three sectors' consumption estimates to be revised in 2004. Previously all LPG consumption in Hawaii was allocated to the industrial sector. In this edition, residential consumption is revised from zero to 336 thousand barrels, commercial consumption is revised from zero to 59 thousand barrels, and industrial sector consumption is reduced from 462 thousand barrels to 67 thousand barrels so that the State total consumption remains the same. This shift in quantities between sectors is also reflected in the U.S. sector totals of LPG consumption while the U.S. grand total of LPG consumption remains unchanged in 2004.

Motor Gasoline

Commercial, Industrial, and Transportation Sectors, 2004. Data from the Federal Highway Administration on motor gasoline sold for commercial and industrial use, marine use, and miscellaneous and unclassified uses have been revised for some States in 2004. The U.S. total motor gasoline consumption estimate for 2004 developed by EIA remains unchanged. Since the revised Federal Highway Administration data are used in SEDS to allocate the unchanged total motor gasoline consumption to the commercial, industrial, and transportation sectors of all States, all SEDS motor gasoline estimates in 2004 are revised to compensate for the source data revisions. Most of these revisions can be seen in the SEDS tables, as well as the data files, and the largest revisions occur in the commercial sector of 10 States and the U.S. commercial sector total.

Other Petroleum Products

Petroleum Coke

Industrial Sector, 2004. Petroleum coke consumed by combined heat and power producers in the industrial sector has been revised in the data source, the EIA *Electric Power Annual*, to reflect a higher level of decimal precision for Texas for 2004. The U.S. total consumption of petroleum coke, which is from the EIA *Petroleum Supply Annual*, remains unchanged. SEDS calculations cause the estimates for petroleum coke consumption for "other" industrial and total industrial consumption for 14 States to be

adjusted slightly to compensate for the revisions in the combined heat and power data (see petroleum coke calculation documentation on page 57 of the Consumption Technical Notes, Section 4 Petroleum, at http://www.eia.doe.gov/emeu/states/seds_tech_notes.html.) The revisions can be seen in the SEDS CSV data files.