State Energy Data System CSV File Documentation

Price and Expenditure Estimates

The State Energy Data System (SEDS) comma-separated value (CSV) files contain the price and expenditure estimates shown in the tables located on the SEDS website.

There are three files that contain estimates for all states and years in cross-tabulation format. Prices contains the price estimates for all states and Expenditures contains the expenditure estimates for all states. The third file, Adjusted Consumption for Expenditure Calculations contains adjusted consumption estimates used in calculating expenditures (see Appendix E below). Zip files are also available for the large data files. In addition, there is a CSV file for each state, named with the two-letter U.S. Postal Code listed in Appendix A, as well as a file for the United States.

The first record in each file serves as a column heading and contains information about data in each of the following records. Each data file record that follows begins with the data_status (5 characters, identifying the year of the data cycle plus an "F" that denotes "final"), followed by the state code (2 characters), the data identifier (5 character mnemonic code, or MSN), and the 47 values for the years 1970 through 2016, with all items separated by commas. All items are enclosed in quotes, which means some systems will read numeric values as alphanumeric unless they are converted. Each file contains SEDS prices in dollars per million British thermal units (Btu) and expenditures in million dollars.

Price estimates contained in these CSV files are rounded to two decimal places, and expenditure estimates are rounded to one decimal place. Adjusted consumption estimates are rounded to whole numbers in billion Btu, and conversion factors, percentages, and ratios are rounded to three decimal places. The precision does not necessarily reflect the statistical accuracy of the numbers. Users should see the sources cited in the SEDS Price and Expenditure Technical Notes for a discussion of statistical considerations concerning specific data series. Electric power sector fuel expenditures, shown as negative numbers in tables on expenditures by source, are stored as positive numbers in the data files.

The data files contain additional data series not shown in the report tables that have frequently been requested by customers. For example, in addition to reporting prices and expenditures for "Other Petroleum," data prices for the components, as shown in Appendix D of this document, are also available.

Expenditure estimates are calculated as the product of the price and consumption estimates. The consumption estimates are also from SEDS and cover 1960 through 2016. A discussion of the consumption estimation methodologies is contained in the SEDS Consumption Technical Notes. Consumption estimates used in the price and expenditure tables are not always identical to those contained in the consumption data tables. Section 7: Consumption Adjustments for Calculating Expenditures in the Price and Expenditure Technical Notes explains the adjustments.

In addition to the cross-tabulation CSV files, there is a consolidated data file containing approximately 1.7 million records of the complete set of SEDS production, consumption, price, and expenditure estimates. Users can download the zip file or the CSV file for further processing.

The following appendices explain the data identification codes used in the files. Appendix A lists the state codes. Appendix B is a list of the components of the key variables and definitions of the various characters. A copy of the column headings used in the SEDS price and expenditure tables is contained in Appendix C with the associated names of the key variables. Appendix D shows individual petroleum products covered under "Other Petroleum" in the price and expenditure tables. Appendix E identifies the process fuel and intermediate product consumption variables and the adjusted consumption variables used in expenditure calculations.

List of Appendices	
A	State Codes
B	Data Identification Codes (MSN)
C	Table column headings and variable names
D	Other Petroleum
E	Consumption Adjustments for Calculating Expenditures

The price and expenditure estimates contained in SEDS and the methodologies used to derive them are described in the SEDS Price and Expenditure Technical Notes.

Contacts:

The State Energy Data System tables were prepared by the Integrated Energy Statistics Team of the Office of Survey Development & Statistical Integration, U.S. Energy Information Administration. Questions concerning the contents of the State Energy Data System or these files may be referred to Yvonne Taylor, 202-586-1455, or yvonne.taylor@eia.gov.

Appendix A

U.S. Postal State Codes							
Code	**Name**	**Code**	**Name**	**Code**	**Name**	**Code**	**Name**
AK	Alaska	ID	Idaho	MT	Montana	RI	Rhode Island
AL	Alabama	IL	Illinois	NC	North Carolina	SC	South Carolina
AR	Arkansas	IN	Indiana	ND	North Dakota	SD	South Dakota
AZ	Arizona	KS	Kansas	NE	Nebraska	TN	Tennessee
CA	California	KY	Kentucky	NH	New Hampshire	TX	Texas
CO	Colorado	LA	Louisiana	NJ	New Jersey	UT	Utah
CT	Connecticut	MA	Massachusetts	NM	New Mexico	VA	Virginia
DC	District of Columbia	MD	Maryland	NV	Nevada	VT	Vermont
DE	Delaware	ME	Maine	NY	New York	WA	Washington
FL	Florida	MI	Michigan	OH	Ohio	WI	Wisconsin
GA	Georgia	MN	Minnesota	OK	Oklahoma	WV	West Virginia
HI	Hawaii	MO	Missouri	OR	Oregon	WY	Wyoming
IA	Iowa	MS	Mississippi	PA	Pennsylvania	US	United States

Appendix B

The 5-letter data identifier (MSN) is a SEDS variable name defined as follows:

Data Identification Codes (MSN)	
Characters	**Identity**
1 and 2	represent an energy source
3 and 4	represent an energy consumption sector or an energy activity
5	represents a type of data

Energy Source (Characters 1 and 2)	
Code	**Name**
AR	asphalt and road oil
AV	aviation gasoline
CC	coal coke
CL	coal
DF	distillate fuel oil
DK	distillate fuel oil, including kerosene-type jet fuel
ES	electricity sales
EL	electricity (imports/exports)
FN	petrochemical feedstocks naphtha less than 401 degrees F.
FO	petrochemical feedstocks other oils equal to or greater than 401 degrees F.
FS	feedstocks still gas
HL	hydrocarbon gas liquids
JF	jet fuel
KS	kerosene
LU	lubricants
MG	motor gasoline
MS	miscellaneous petroleum products
NG	natural gas (including supplemental gaseous fuels)
NU	nuclear electric power
OH	other hydrocarbon gas liquids (other than propane)

OP	other petroleum products
P1	asphalt and road oil, aviation gasoline, kerosene, lubricants, petroleum coke and "other petroleum products"
PA	all petroleum products
PC	petroleum coke
PE	primary energy
PQ	propane
RF	residual fuel oil
SN	special naphtha
TE	total energy
WD	wood
WS	biomass waste
WW	wood and biomass waste
WX	waxes

The following codes represent the four end-use consuming sectors, electric utilities, and total energy price and expenditures:

Energy Consumption Sectors (Characters 3 and 4)	
Code	**Name**
AC	transportation sector estimates
CC	commercial sector estimates
EI	electric power sector estimates
IC	industrial sector estimates
RC	residential sector estimates
TC	total energy sector estimates
TX	total end-use estimates

The following codes represent energy activities, other energy-consuming sectors, and derived concepts:

Energy Activities (Characters 3 and 4)	
Code	**Name**
CS	commercial consumption, costed
EG	electricity net generation, electric power sector
ET	electricity net generation, total

EX	exports
IM	imports
IS	industrial consumption, costed
KC	coke plant consumption
NI	net imports
OC	industrial consumption, excluding coke plants
OS	industrial consumption, excluding coke plants and process fuel
PF	process fuel consumption
PZ	natural gas for pipeline fuel and distribution use
RF	refinery fuel consumption
RS	refinery fuel consumption, costed
TP	energy expenditures per capita
XC	total consumption, excluding coke plants and process fuel

Types (Character 5)	
Code	**Name**
B	data in billion British thermal units (Btu)
D	price in dollars per million Btu
V	expenditures in million dollars
S	percentage

Other SEDS variables that do not follow this convention include:

Code	**Name**
TPOPP	resident population
GDPRV	current-dollar gross domestic product
TEGDS	energy expenditures as percent of current-dollar gross domestic product

Appendix C

The following section lists the SEDS variables in the order they appear in the price and expenditure tables. Each table column contains one variable.

Summary Tables:

Table E1 Primary Energy, Electricity, and Total Energy Price Estimates							
CLTCD	NGTCD	DFTCD	HLTCD	JFTCD	MGTCD	RFTCD	P1TCD
PATCD	NUETD	WWTCD	PETCD	PEEID	ESTCD	TETCD	

Table E2 Total End-Use Energy Price Estimates						
CLTXD	NGTXD	DFTXD	HLTXD	JFTXD	MGTXD	RFTXD
P1TXD	PATXD	WWTXD	PETXD	ESTXD	TETXD	

Table E3 Residential Sector Energy Price Estimates				
CLRCD	NGRCD	DFRCD	HLRCD	KSRCD
PARCD	WDRCD	PERCD	ESRCD	TERCD

Table E4 Commercial Sector Energy Price Estimates					
CLCCD	NGCCD	DFCCD	HLCCD	KSCCD	MGCCD
RFCCD	PACCD	WWCCD	PECCD	ESCCD	TECCD

Table E5 Industrial Sector Energy Price Estimates						
CLKCD	CLOCD	CLICD	NGICD	DFICD	HLICD	MGICD
RFICD	P1ICD	PAICD	WWICD	PEICD	ESICD	TEICD

Table E6 Transportation Sector Energy Price Estimates						
CLACD	NGACD	AVACD	DFACD	HLACD	JFACD	LUACD
MGACD	RFACD	PAACD	PEACD	ESACD	TEACD	

Table E7 Electric Power Sector Energy Price Estimates				
CLEID	NGEID	DKEID	PCEID	RFEID
PAEID	NUEGD	WWEID	ELIMD	PEEID

Table E8 Primary Energy, Electricity, and Total Energy Expenditure Estimates							
CLTCV	NGTCV	DFTCV	HLTCV	JFTCV	MGTCV	RFTCV	P1TCV
PATCV	NUETV	WWTCV	PETCV	PEEIV	ESTCV	TETCV	

Table E9 Total End-Use Energy Expenditure Estimates						
CLTXV	NGTXV	DFTXV	HLTXV	JFTXV	MGTXV	RFTXV
P1TXV	PATXV	WWTXV	PETXV	ESTXV	TETXV	

Table E10 Residential Sector Energy Expenditure Estimates				
CLRCV	NGRCV	DFRCV	HLRCV	KSRCV
PARCV	WDRCV	PERCV	ESRCV	TERCV

Table E11 Commercial Sector Energy Expenditure Estimates					
CLCCV	NGCCV	DFCCV	HLCCV	KSCCV	MGCCV
RFCCV	PACCV	WWCCV	PECCV	ESCCV	TECCV

Table E12 Industrial Sector Energy Expenditure Estimates						
CLKCV	CLOCV	CLICV	NGICV	DFICV	HLICV	MGICV
RFICV	P1ICV	PAICV	WWICV	PEICV	ESICV	TEICV

Table E13 Transportation Sector Energy Expenditure Estimates						
CLACV	NGACV	AVACV	DFACV	HLACV	JFACV	LUACV
MGACV	RFACV	PAACV	PEACV	ESACV	TEACV	

Table E14 Electric Power Sector Energy Expenditure Estimates				
CLEIV	NGEIV	DKEIV	PCEIV	RFEIV
PAEIV	NUEGV	WWEIV	ELIMV	PEEIV

Ranking Tables:

Table E15 Energy Price and Expenditure Estimates			
TETCD	TETCV	TETPV	TEGDS

Table E16 Motor Gasoline Price and Expenditure Estimates		
MGTCD	MGTCV	MGTPV

Table E17 Petroleum and Natural Gas Price and Expenditure Estimates			
PATCD	PATCV	NGTCD	NGTCV

Table E18 Coal and Retail Electricity Price and Expenditure Estimates			
CLTCD	CLTCV	ESTCD	ESTCV

Time Series Tables:

Table ET1 Primary Energy, Electricity, and Total Energy Price and Expenditure Estimates						
CLKCD/V	CLXCD/V	CLTCD/V	CCEXD/V*	CCIMD/V*	NGTCD/V	DFTCD/V
HLTCD/V	JFTCD/V	MGTCD/V	RFTCD/V	P1TCD/V	PATCD/V	NUETD/V
WWTCD/V	PETCD/V	PEEID/V	ESTCD/V	TETCD/V		

Table ET2 Total End-Use Energy Price and Expenditure Estimates							
CLTXD/V	CCEXD/V*	CCIMD/V*	NGTXD/V	DFTXD/V	HLTXD/V	JFTXD/V	MGTXD/V
RFTXD/V	P1TXD/V	PATXD/V	WWTXD/V	PETXD/V	ESTXD/V	TETXD/V	

Table ET3 Residential Sector Energy Price and Expenditure Estimates				
CLRCD/V	NGRCD/V	DFRCD/V	HLRCD/V	KSRCD/V
PARCD/V	WDRCD/V	PERCD/V	ESRCD/V	TERCD/V

Table ET4 Commercial Sector Energy Price and Expenditure Estimates					
CLCCD/V	NGCCD/V	DFCCD/V	HLCCD/V	KSCCD/V	MGCCD/V
RFCCD/V	PACCD/V	WWCCD/V	PECCD/V	ESCCD/V	TECCD/V

Table ET5 Industrial Sector Energy Price and Expenditure Estimates							
CLKCD/V	CLOCD/V	CLICD/V	CCEXD/V*	CCIMD/V*	NGICD/V	DFICD/V	HLICD/V
MGICD/V	RFICD/V	P1ICD/V	PAICD/V	WWICD/V	PEICD/V	ESICD/V	TEICD/V

Table ET6 Transportation Sector Energy Price and Expenditure Estimates						
CLACD/V	NGACD/V	AVACD/V	DFACD/V	HLACD/V	JFACD/V	LUACD/V
MGACD/V	RFACD/V	PAACD/V	PEACD/V	ESACD/V	TEACD/V	

Table ET7 Electric Power Sector Price and Expenditure Estimates				
CLEID/V	NGEID/V	DKEID/V	PCEID/V	RFEID/V
PAEID/V	NUEGD/V	WWEID/V	ELIMD/V	PEEID/V

* Appear only on U.S. tables.

Price and Expenditure Technical Notes Appendix Tables:

Tables B1, B2:	GDPRV

Appendix D

Other Petroleum

In the Total Energy, Total End-use, and Industrial Sector tables, “Other Petroleum” includes asphalt and road oil, aviation gasoline, kerosene, lubricants, petroleum coke, and “other petroleum products” as described in Section 4 of the Price and Expenditure Technical Notes. Data for the detailed products are available in the CSV file.

Components of P1TCD/V
ARTCD/V
AVTCD/V
KSTCD/V
LUTCD/V
PCTCD/V
OPTCD/C, which includes:
FNTCD/V

FOTCD/V
FSTCD/V
SNTCD/V
WXTCD/V
MSTCD/V

Components of P1TXD/V
ARTXD/V
AVTXD/V
KSTXD/V
LUTXD/V
PCTXD/V
OPTXD/C, which includes:
FNTXD/V
FOTXD/V
FSTXD/V
SNTXD/V
WXTXD/V
MSTXD/V

Components of P1ICD/V
ARICD/V
KSICD/V
LUICD/V
PCICD/V
OPICD/V, which includes:
FNICD/V
FOICD/V
FSICD/V
SNICD/V

WXICD/V
MSICD/V

Appendix E

Consumption Adjustments for Calculating Expenditures

To calculate energy expenditures, SEDS consumption is adjusted to remove quantities of process fuel, intermediate products, renewable energy consumption that has no direct fuel cost, and other adjustments. All such series are included in these files are in a CSV file named Adjusted Consumption for Expenditure Calculations. Not all associated SEDS consumption variables are displayed here, but they are available on the SEDS files. The most recent year's estimates by state are shown in Table TN7.1 and the U.S. estimates for all years are shown in Table TN7.2 in Section 7 of the SEDS Price and Expenditure Technical Notes.

Consumption Variables	
Code	**Description**
CLOSB	Industrial coal consumption, excluding coke plants and processing fuel
CLRFB	Coal used at refineries
COICB	Industrial crude oil consumption in petroleum industry operations
DFISB	Industrial distillate fuel oil consumption, costed
DFRFB	Distillate fuel oil used at refineries
EMLCB	Energy losses and co-products from the production of fuel ethanol
ESISB	Industrial electricity consumption, costed
ESRFB	Electricity used at refineries
GECCB	Commercial geothermal energy consumption
GEICB	Industrial geothermal energy consumption
GERCB	Residential geothermal energy consumption
HLISB	Industrial hydrocarbon gas liquids consumption, costed
HLRFB	Hydrocarbon gas liquids used at refineries
HYCCB	Commercial hydropower consumption
HYICB	Industrial hydropower consumption
LOTCB	Electrical system energy losses
NGISB	Industrial natural gas consumption, costed

NGLPB	Natural gas lease and plant fuel consumption
NGPZB	Natural gas for pipeline and distribution use
NGRFB	Natural gas used at refineries
OPISB	Other petroleum products consumed by the industrial sector excluding refinery fuel and intermediate products
OPSCB	Other petroleum products total adjusted consumption for refinery fuel and intermediate products
P5RFB	Other petroleum used at refineries
PCISB	Industrial petroleum coke consumption, costed
PCRFB	Petroleum coke used at refineries
PQISB	Propane consumed by the industrial sector excluding refinery fuel
PQRFB	Propane used at refineries
RFISB	Industrial residual fuel oil consumption, costed
RFRFB	Residual fuel oil used at refineries
SFCCB	Commercial supplemental gaseous fuel consumption
SFINB	Industrial supplemental gaseous fuel consumption
SFRCB	Residential supplemental gaseous fuel consumption
SOCCB	Solar energy consumed for electricity generation by the commercial sector
SOICB	Solar energy consumed for electricity generation by the industrial sector
SORCB	Solar energy consumed by the residential sector (including small amount of solar thermal energy consumed as heat by the commercial and industrial sectors)
TEPFB	Total energy used as process fuel
TERFB	Total energy used at refineries
TETCB	Total energy consumption
TNSCB	Total adjusted consumption
WDRSB	Residential wood consumption, costed
WDRXB	Residential wood at no cost
WWCSB	Commercial wood and biomass waste consumption, costed
WWCXB	Commercial wood and biomass waste consumption at no cost
WWISB	Industrial wood and biomass waste consumption, costed
WWIXB	Industrial wood and biomass waste at no cost
WYCCB	Commercial wind energy consumption
WYICB	Industrial wind energy consumption