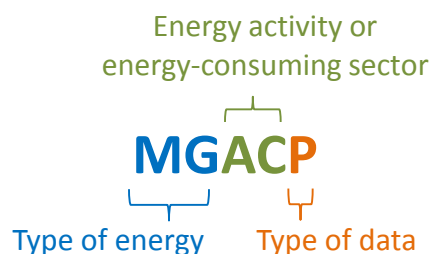


## Appendix A. Mnemonic Series Names (MSN)

This appendix contains an alphabetical listing of the variable used in the consumption module of the State Energy Data System (SEDS). Provided for each variable are: a brief description; unit of measure; and the formulas used to create the variable. If a variable is not one calculated in SEDS but is entered into the system, it is described as an independent variable. Formulas for the state calculations have “ZZ” following the variable name, where “ZZ” represent the two-letter code of a state, and formulas for the United States have “US” following the variable name.

Variables in SEDS have five-letter names that consist of the following components:



Characters 1 through 4 are explained in the description of each variable.

Character 5 is one of the following:

B	=	Data in British thermal units (Btu)
K	=	Factor for converting data from physical units to Btu
M	=	Data in alternative physical units
P	=	Data in standardized physical units
S	=	Share or ratio expressed as a fraction
V	=	Value, such as value of shipments

Associated with or attached to the variable names are two-letter U.S. Postal Service codes for the 50 states and the District of Columbia (represented by “ZZ” following the variable names) and the United States (“US”). In this system, the United States means the 50 states and the District of Columbia.

**Table A1. Consumption Variables**

MSN	Description	Unit	Formula
ABICB	Aviation gasoline blending components total consumed by the industrial sector.	Billion Btu	ABICBZZ = ABTCBZZ ABICBUS = ABTCBUS
ABICP	Aviation gasoline blending components total consumed by the industrial sector.	Thousand barrels	ABICPZZ = ABTCPZZ ABICPUS = ABTCPUS
ABTCB	Aviation gasoline blending components total consumed.	Billion Btu	ABTCBZZ = ABTCPZZ * 5.048 ABTCBUS = ΣABTCBZZ
ABTCP	Aviation gasoline blending components total consumed.	Thousand barrels	ABTCPZZ = (COCAPZZ / COCAPUS) * ABTCPUS ABTCPUS is independent.
AICAP	Aluminum ingot production capacity.	Short tons	AICAPZZ is independent. AICAPUS = ΣAICAPZZ
ARICB	Asphalt and road oil consumed by the industrial sector.	Billion Btu	ARICBZZ = ARICPZZ * 6.636 ARICBUS = ΣARICBZZ
ARICP	Asphalt and road oil consumed by the industrial sector.	Thousand barrels	ARICPZZ = ASICPZZ + RDICPZZ ARICPUS = ΣARICPZZ
ARTCB	Asphalt and road oil total consumed.	Billion Btu	ARTCBZZ = ARICBZZ ARTCBUS = ARICBUS
ARTCP	Asphalt and road oil total consumed.	Thousand barrels	ARTCPZZ = ASTCPZZ + RDTCPZZ ARTCPUS = ΣARTCPZZ
ARTXB	Asphalt and road oil total end-use consumption.	Billion Btu	ARTXBZZ = ARICBZZ ARTXBUS = ARICBUS
ARTXP	Asphalt and road oil total end-use consumption. sectors.	Thousand barrels	ARTXPZZ = ARICPZZ ARTXPUS = ARICPUS
ASICP	Asphalt consumed by the industrial sector.	Thousand barrels	Before 2009: ASICPZZ = (ASINPZZ / ASINPUS) * ASTCPUS ASICPUS = ΣASICPZZ From 2009 forward: ASICPZZ = (ASPRPZZ / ASPRPUS) * ASTCPUS ASICPUS = ΣASICPZZ
ASINP	Asphalt sold to the industrial sector.	Short tons	ASINPZZ is independent. ASINPUS = ΣASINPZZ
ASPRP	Asphalt (hot-mix and warm-mix) production excluding reclaimed asphalt pavement.	Short tons	ASPRPZZ is independent. ASPRPUS = ΣASPRPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
ASTCP	Asphalt total consumed.	Thousand barrels	ASTCPZZ = ASICPZZ ASTCPUS is independent.
AVACB	Aviation gasoline consumed by the transportation sector.	Billion Btu	AVACBZZ = AVACPZZ * 5.048 AVACBUS = ΣAVACBZZ
AVACP	Aviation gasoline consumed by the transportation sector.	Thousand barrels	AVACPZZ = (AVTTPZZ / AVTTPUS) * AVTCPUS AVACPUS = ΣAVACPZZ
AVMIP	Aviation gasoline issued to the military.	Thousand barrels	AVMIPZZ is independent. AVMIPUS = ΣAVMIPZZ
AVNMM	Aviation gasoline sold to nonmilitary users.	Thousand gallons	AVNMMZZ is independent. AVNMMUS = ΣAVNMMZZ
AVNMP	Aviation gasoline sold to nonmilitary users.	Thousand barrels	AVNMPZZ = AVNMMZZ / 42 AVNMPUS = ΣAVNMPZZ
AVTCB	Aviation gasoline total consumed.	Billion Btu	AVTCBZZ = AVACBZZ AVTCBUS = ΣAVTCBZZ
AVTCP	Aviation gasoline total consumed.	Thousand barrels	AVTCPZZ = AVACPZZ AVTCPUS is independent.
AVTTP	Aviation gasoline total sales to the transportation sector.	Thousand barrels	AVTTPZZ = AVNMPZZ + AVMIPZZ AVTTPUS = ΣAVTTPZZ
AVTXB	Aviation gasoline total end-use consumption.	Billion Btu	AVTXBZZ = AVACBZZ AVTXBUS = ΣAVTXBZZ
AVTXP	Aviation gasoline total end-use consumption.	Thousand barrels	AVTXPZZ = AVACPZZ AVTXPUS = ΣAVTXPZZ
BMTCB	Biomass total consumed.	Billion Btu	BMTCB = WWTCB + EMTCB + EMLCB
CCEXBUS	Coal coke exported from the United States.	Billion Btu	CCEXBUS = CCEXPUS * 24.80
CCEXPUS	Coal coke exported from the United States.	Thousand short tons	CCEXPUS is independent.
CCIMBUS	Coal coke imported into the United States.	Billion Btu	CCIMBUS = CCIMPUS * 24.80
CCIMPUS	Coal coke imported into the United States.	Thousand short tons	CCIMPUS is independent.
CCNIBUS	Coal coke net imports into the United States.	Billion Btu	CCNIBUS = CCIMBUS - CCEXBUS
CCNIPUS	Coal coke net imports into the United States.	Thousand short tons	CCNIPUS = CCIMPUS - CCEXPUS

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
CGVAV	Value of shipments (value added prior to 2001) for the corrugated and solid fiber box manufacturing industry.	Million dollars	CGVAVZZ is independent. CGVAVUS = $\Sigma$ CGVAVZZ
CLACB	Coal consumed by the transportation sector.	Billion Btu	CLACBZZ = CLACPZZ * CLACKZZ CLACBUS = $\Sigma$ CLACBZZ
CLACK	Factor for converting coal consumed by the transportation sector from physical units to Btu.	Million Btu per short ton	CLACKZZ is independent. CLACKUS = CLACBUS / CLACPUS
CLACP	Coal consumed by the transportation sector.	Thousand short tons	CLACPZZ = (CLICPZZ / CLICPUS) * CLACPUS CLACPUS is independent.
CLCCB	Coal consumed by the commercial sector.	Billion Btu	CLCCBZZ = CLCCPZZ * CLHCKZZ CLCCBUS = $\Sigma$ CLCCBZZ
CLCCP	Coal consumed by the commercial sector.	Thousand short tons	CLCCPZZ = CLHCPZZ - CLRCPZZ CLCCPUS = $\Sigma$ CLCCPZZ
CLEIB	Coal consumed by the electric power sector.	Billion Btu	CLEIBZZ = CLEIPZZ * CLEIKZZ CLEIBUS = $\Sigma$ CLEIBZZ
CLEIK	Factor for converting coal consumed by the electric power sector from physical units to Btu.	Million Btu per short ton	CLEIKZZ is independent. CLEIKUS = CLEIBUS / CLEIPUS
CLEIP	Coal consumed by the electric power sector.	Thousand short tons	CLEIPZZ is independent. CLEIPUS = $\Sigma$ CLEIPZZ
CLHCB	Coal consumed by the residential and commercial sectors.	Billion Btu	CLHCBZZ = CLCCBZZ + CLRCBZZ CLHCBUS = $\Sigma$ CLHCBZZ
CLHCK	The factor for converting coal consumed by the residential and commercial sectors from physical units to Btu.	Million Btu per short ton	CLHCKZZ is independent. CLHCKUS = CLHCBUS / CLHCPUS
CLHCP	Coal consumed by the residential and commercial sectors (commercial sector from 2008 forward).	Thousand short tons	CLHCPZZ = (CLHDPZZ / CLHDPUS) * CLHCPUS CLHCPUS is independent.
CLHDP	Coal distributed to the residential and commercial sectors (commercial sector from 2008 forward).	Thousand short tons	CLHDPZZ is independent. CLHDPUS = $\Sigma$ CLHDPZZ
CLICB	Coal consumed by the industrial sector.	Billion Btu	CLICBZZ = CLKCBZZ + CLOCBZZ CLICBUS = $\Sigma$ CLICBZZ
CLICP	Coal consumed by the industrial sector.	Thousand short tons	CLICPZZ = CLKCPZZ + CLOCPZZ CLICPUS = $\Sigma$ CLICPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
CLKCB	Coal consumed at coke plants (coking coal).	Billion Btu	$CLKCBZZ = CLKCPZZ * CLKCKZZ$ $CLKCBUS = \Sigma CLKCBZZ$
CLKCK	The factor for converting coal consumed at coke plants from physical units to Btu.	Million Btu per short ton	CLKCKZZ is independent. $CLKCKUS = CLKCBUS / CLKCPUS$
CLKCP	Coal consumed by coke plants (coking coal).	Thousand short tons	$CLKCPZZ = (CLKDPZZ / CLKDPUS) * CLKCPUS$ CLKCPUS is independent.
CLKDP	Coal distributed to coke plants (coking coal).	Thousand short tons	CLKDPZZ is independent. $CLKDPUS = \Sigma CLKDPZZ$
CLOCB	Coal consumed by other industrial users.	Billion Btu	$CLOCBZZ = CLOCPZZ * CLOCKZZ$ $CLOCBUS = \Sigma CLOCBZZ$
CLOCK	The factor for converting coal consumed by other industrial users from physical units to Btu.	Million Btu per short ton	CLOCKZZ is independent. $CLOCKUS = CLOCBUS / CLOCPUS$
CLOCP	Coal consumed by other industrial users.	Thousand short tons	$CLOCPZZ = (CLODPZZ / CLODPUS) * CLOCPUS$ CLOCPUS is independent.
CLODP	Coal distributed to other industrial users.	Thousand short tons	CLODPZZ is independent. $CLODPUS = \Sigma CLODPZZ$
CLRCB	Coal consumed by the residential sector.	Billion Btu	$CLRCBZZ = CLRCPZZ * CLHCKZZ$ $CLRCBUS = \Sigma CLRCBZZ$
CLRCP	Coal consumed by the residential sector.	Thousand short tons	$CLRCPZZ = CLHCPZZ * CLRCSUS$ $CLRCPUS = \Sigma CLRCPZZ$
CLRCSUS	The share of residential and commercial coal consumed by the residential sector.	Percent	CLRCSUS is independent.
CLTCB	Coal total consumed.	Billion Btu	$CLTCBZZ = CLRCBZZ + CLCCBZZ + CLICBZZ + CLACBZZ + CLEIBZZ$ $CLTCBUS = \Sigma CLTCBZZ$
CLTCP	Coal total consumed.	Thousand short tons	$CLTCPZZ = CLRCPZZ + CLCCPZZ + CLICPZZ + CLACPZZ + CLEIPZZ$ $CLTCPUS = \Sigma CLTCPZZ$
CLTXB	Coal total end-use consumption.	Billion Btu	$CLTXBZZ = CLACBZZ + CLCCBZZ + CLICBZZ + CLRCBZZ$ $CLTXBUS = \Sigma CLTXBZZ$
CLTXP	Coal total end-use consumption.	Thousand barrels	$CLTXPZZ = CLACPZZ + CLCCPZZ + CLICPZZ + CLRCPZZ$ $CLTXPUS = \Sigma CLTXPZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
COCAP	Atmospheric crude oil distillation operable capacity (operating capacity before 2013) at refineries.	Barrels per calendar day	COCAPZZ is independent. COCAPUS = $\Sigma$ COCAPZZ
COICB	Crude oil consumed by the industrial sector.	Billion Btu	COICBZZ = COTCBZZ COICBUS = COTCBUS
COICP	Crude oil consumed by the industrial sector.	Thousand barrels	COICPZZ = COTCPZZ COICPUS = COTCPUS
COTCB	Crude oil consumed in petroleum industry operations.	Billion Btu	COTCBZZ = COTCPZZ * 5.800 COTCBUS = $\Sigma$ COTCBZZ
COTCP	Crude oil consumed in petroleum industry operations.	Thousand barrels	COTCPZZ is independent. COTCPUS = $\Sigma$ COTCPZZ
CTCAP	Catalytic cracking charge capacity of petroleum refineries.	1960 through 1979: Barrels per calendar day; From 1980 forward: Barrels per stream day	CTCAPZZ is independent. CTCAPUS = $\Sigma$ CTCAPZZ
DFACB	Distillate fuel oil consumed by the transportation sector.	Billion Btu	DFACBZZ = DFACPZZ * DFTCKUS DFACBUS = $\Sigma$ DFACBZZ
DFACP	Distillate fuel oil consumed by the transportation sector.	Thousand barrels	DFACPZZ = (DFTRPZZ / DFNDPZZ) * DFNCPZZ DFACPUS = $\Sigma$ DFACPZZ
DFBKP	Distillate fuel oil sales for vessel bunkering use, excluding that sold to the military.	Thousand barrels	DFBKPZZ is independent. DFBKPUS = $\Sigma$ DFBKPZZ
DFCCB	Distillate fuel oil consumed by the commercial sector.	Billion Btu	DFCCBZZ = DFCCPZZ * DFTCKUS DFCCBUS = $\Sigma$ DFCCBZZ
DFCCP	Distillate fuel oil consumed by the commercial sector.	Thousand barrels	DFCCPZZ = (DFCMPZZ / DFNDPZZ) * DFNCPZZ DFCCPUS = $\Sigma$ DFCCPZZ
DFCMP	Distillate fuel oil sales to the commercial sector.	Thousand barrels	DFCMPZZ is independent.
DFEIB	Distillate fuel oil consumed by the electric power sector.	Billion Btu	DFEIBZZ = DFEIPZZ * DFTCKUS DFEIBUS = $\Sigma$ DFEIBZZ
DFEIP	Distillate fuel oil (excluding kerosene-type jet fuel) consumed by the electric power sector.	Thousand barrels	DFEIPZZ = DKEIPZZ - JKEUPZZ DFEIPUS = $\Sigma$ DFEIPZZ
DFIBP	Distillate fuel oil sales for industrial space heating and other industrial use, including farm use.	Thousand barrels	DFIBPZZ is independent. DFIBPUS = $\Sigma$ DFIBPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
DFICB	Distillate fuel oil consumed by the industrial sector.	Billion Btu	DFICBZZ = DFICPZZ * DFTCKUS DFICBUS = ΣDFICBZZ
DFICP	Distillate fuel oil consumed by the industrial sector.	Thousand barrels	DFICPZZ = (DFINPZZ / DFNDPZZ) * DFNCPZZ DFICPUS = ΣDFICPZZ
DFINP	Distillate fuel oil sales to the industrial sector.	Thousand barrels	DFINPZZ = DFIBPZZ + DFOCPZZ + DFOFPZZ + DFOTPZZ DFINPUS = ΣDFINPZZ
DFMIP	Distillate fuel oil sales to the military, regardless of use.	Thousand barrels	DFMIPZZ is independent. DFMIPUS = ΣDFMIPZZ
DFNCP	Distillate fuel oil consumption by all sectors other than the electric power sector.	Thousand barrels	DFNCPZZ = (DFNDPZZ / DFNDPUS) * DFNCPUS DFNCPUS = DFTCPUS - DFEIPUS
DFNDP	Distillate fuel oil sales to all sectors other than the electric power sector.	Thousand barrels	DFNDPZZ = DFRSPZZ + DFCMPZZ + DFINPZZ + DFTRPZZ DFNDPUS = ΣDFNDPZZ
DFOCP	Distillate fuel oil sales for use by oil companies.	Thousand barrels	DFOCPZZ is independent. DFOCPUS = ΣDFOCPZZ
DFOFP	Distillate fuel oil sales as diesel fuel for off-highway use.	Thousand barrels	DFOFPZZ is independent. DFOFPUS = ΣDFOFPZZ
DFONP	Distillate fuel oil sales as diesel fuel for on-highway use.	Thousand barrels	DFONPZZ is independent. DFONPUS = ΣDFONPZZ
DFOTP	Distillate fuel oil sales for all other uses not identified in other sales categories.	Thousand barrels	DFOTPZZ is independent. DFOTPUS = ΣDFOTPZZ
DFRCB	Distillate fuel oil consumed by the residential sector.	Billion Btu	DFRCBZZ = DFRCPZZ * DFTCKUS DFRCBUS = ΣDFRCBZZ
DFRCP	Distillate fuel oil consumed by the residential sector.	Thousand barrels	DFRCPZZ = (DFRSPZZ / DFNDPZZ) * DFNCPZZ DFRCPUS = ΣDFRCPZZ
DFRRP	Distillate fuel oil sales for use by railroads.	Thousand barrels	DFRRPZZ is independent. DFRRPUS = ΣDFRRPZZ
DFRSP	Distillate fuel oil sales to the residential sector.	Thousand barrels	DFRSPZZ is independent. DFRSPUS = ΣDFRSPZZ
DFTCB	Distillate fuel oil total consumed.	Billion Btu	DFTCBZZ = DFRCBZZ + DFCCBZZ + DFICBZZ + DFACBZZ + DFEIBZZ DFTCBUS = ΣDFTCBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
DFTCP	Distillate fuel oil total consumed.	Thousand barrels	DFTCPZZ = DFNCPZZ + DFEIPZZ DFTCPUS is independent.
DFTCKUS	Factor for converting distillate fuel from physical units to Btu.	Million Btu per barrel	DFTCKUS is independent.
DFTRP	Distillate fuel oil sales to the transportation sector.	Thousand barrels	DFTRPZZ = DFBKPZZ + DFMIPZZ + DFRRPZZ + DFONPZZ DFTRPUS = $\Sigma$ DFTRPZZ
DFTXB	Distillate fuel oil total end-use consumption.	Billion Btu	DFTXBZZ = DFACBZZ + DFCCBZZ + DFICBZZ + DFRCBZZ DFTXBUS = $\Sigma$ DFTXBZZ
DFTXP	Distillate fuel oil total end-use consumption.	Thousand barrels	DFTXPZZ = DFACPZZ + DFCCPZZ + DFICPZZ + DFRCPZZ DFTXPUS = $\Sigma$ DFTXPZZ
DKEIB	Distillate fuel oil and kerosene-type jet fuel consumed by the electric power sector.	Billion Btu	DKEIBZZ = DFEIBZZ + JKEUBZZ DKEIBUS = $\Sigma$ DKEIBZZ
DKEIP	Distillate fuel oil and kerosene-type jet fuel consumed by the electric power sector.	Thousand barrels	DKEIPZZ is independent. DKEIPUS = $\Sigma$ DKEIPZZ
ELEXB	Electricity exported from the United States.	Billion Btu	ELEXBZZ = ELEXPZZ * 3.412 ELEXBUS = $\Sigma$ ELEXBZZ
ELEXP	Electricity exported from the United States.	Million kilowatthours	ELEXPZZ is independent. ELEXPUS = $\Sigma$ ELEXPZZ
ELIMB	Electricity imported into the United States.	Billion Btu	ELIMBZZ = ELIMPZZ * 3.412 ELIMBUS = $\Sigma$ ELIMBZZ
ELIMP	Electricity imported into the United States.	Million kilowatthours	ELIMPZZ is independent. ELIMPUS = $\Sigma$ ELIMPZZ
ELISB	Net interstate flow of electricity. (Negative indicates flow out of state; positive indicates flow into state.)	Billion Btu	Before 1990: ELISBZZ = (ESTCBZZ + LOTCBZZ) - TEEIBZZ ELISBUS = 0 From 1990 forward: If ELISPZZ < 0, ELISBZZ = -(TEEIBZZ * (-ELISPZZ / (-ELISPZZ + ESTCPZZ))) If ELISPZZ >= 0, ELISBZZ = ELISPZZ * (average heat content of energy for all outflow electricity) ELISBUS = 0
ELISP	Net interstate flow of electricity. (Negative indicates flow out of state; positive indicates flow into state.)	Million kilowatthours	ELISPZZ is independent. ELISPUS = 0



Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
ELLSS48	The ratio of electrical system energy losses to electricity sold in the contiguous 48 states and the District of Columbia.	Fraction	$ELLSS48 = LOTCB48 / ESTCB48$
ELNIB	Net imports of electricity into the United States.	Billion Btu	$ELNIBZZ = ELIMBZZ - ELEXBZZ$ $ELNIBUS = \Sigma ELNIBZZ$
ELNIP	Net imports of electricity into the United States.	Million kilowatthours	$ELNIPZZ = ELIMPZZ - ELEXPZZ$ $ELNIPUS = \Sigma ELNIPZZ$
EMACB	Fuel ethanol excluding denaturant consumed by the transportation sector.	Billion Btu	$EMACBZZ = (MGACPZZ / MGTCPZZ) * EMTCBZZ$ $EMACBUS = \Sigma EMACBZZ$
EMCCB	Fuel ethanol excluding denaturant consumed by the commercial sector.	Billion Btu	$EMCCBZZ = (MGCCPZZ / MGTCPZZ) * EMTCBZZ$ $EMCCBUS = \Sigma EMCCBZZ$
EMICB	Fuel ethanol excluding denaturant consumed by the industrial sector.	Billion Btu	$EMICBZZ = (MGICPZZ / MGTCPZZ) * EMTCBZZ$ $EMICBUS = \Sigma EMICBZZ$
EMLCB	Energy losses and co-products from the production of fuel ethanol.	Billion Btu	$EMLCBZZ = (EMPRBZZ / EMPRBUS) * EMLCBUS$ EMLCBUS is independent.
EMPRB	Fuel ethanol production excluding denaturant.	Billion Btu	EMPRBZZ is independent. EMPRBUS is independent.
EMTCB	Fuel ethanol excluding denaturant total consumed.	Billion Btu	$EMTCBZZ = (EMTCBUS / ENTCBUS) * ENTCBZZ$ EMTCBUS is independent.
ENACB	Fuel ethanol including denaturant consumed by the transportation sector.	Billion Btu	$ENACBZZ = (MGACPZZ / MGTCPZZ) * ENTCBZZ$ $ENACBUS = \Sigma ENACBZZ$
ENACP	Fuel ethanol including denaturant consumed by the transportation sector.	Thousand barrels	$ENACPZZ = (MGACPZZ / MGTCPZZ) * ENTCPZZ$ $ENACPUS = \Sigma ENACPZZ$
ENCCB	Fuel ethanol including denaturant consumed by the commercial sector.	Billion Btu	$ENCCBZZ = (MGCCPZZ / MGTCPZZ) * ENTCBZZ$ $ENCCBUS = \Sigma ENCCBZZ$
ENCCP	Fuel ethanol including denaturant consumed by the commercial sector.	Thousand barrels	$ENCCPZZ = (MGCCPZZ / MGTCPZZ) * ENTCPZZ$ $ENCCPUS = \Sigma ENCCPZZ$
ENICB	Fuel ethanol including denaturant consumed by the industrial sector.	Billion Btu	$ENICBZZ = (MGICPZZ / MGTCPZZ) * ENTCBZZ$ $ENICBUS = \Sigma ENICBZZ$
ENICP	Fuel ethanol including denaturant consumed by the industrial sector.	Thousand barrels	$ENICPZZ = (MGICPZZ / MGTCPZZ) * ENTCPZZ$ $ENICPUS = \Sigma ENICPZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
ENTCB	Fuel ethanol including denaturant total consumed.	Billion Btu	ENTCBZZ = (ENTCPZZ / ENTCPUS) * ENTCBUS ENTCBUS is independent.
ENTCK	Fuel ethanol total consumed conversion factor.	Million Btu per barrel	ENTCKUS = ENTCBUS / ENTCPUS
ENTCP	Fuel ethanol total consumed.	Thousand gallons	ENTCPZZ = (ENTRPZZ / ENTRPUS) * ENTCPUS ENTCPUS is independent.
ENTRP	Fuel ethanol blended into motor gasoline.	Thousand gallons	ENTRPZZ is independent. ENTRPUS = $\Sigma$ ENTRPZZ
ESACB	Electricity consumed by (i.e., sold to) the transportation sector.	Billion Btu	ESACBZZ = ESACPZZ * 3.412 ESACBUS = $\Sigma$ ESACBZZ
ESACP	Electricity consumed by (i.e., sold to) the transportation sector.	Million kilowatthours	ESACPZZ is independent. ESACPUS = $\Sigma$ ESACPZZ
ESCCB	Electricity consumed by (i.e., sold to) the commercial sector.	Billion Btu	ESCCBZZ = ESCCPZZ * 3.412 ESCCBUS = $\Sigma$ ESCCBZZ
ESCCP	Electricity consumed by (i.e., sold to) the commercial sector.	Million kilowatthours	ESCCPZZ = ESCMPZZ + ESOTPZZ - ESTRPZZ ESCCPUS = $\Sigma$ ESCCPZZ
ESCMP	Electricity sold to a portion of the commercial sector.	Million kilowatthours	ESCMPZZ is independent. ESCMPUS = $\Sigma$ ESCMPZZ
ESICB	Electricity consumed by (i.e., sold to) the industrial sector.	Billion Btu	ESICBZZ = ESICPZZ * 3.412 ESICBUS = $\Sigma$ ESICBZZ
ESICP	Electricity consumed by (i.e., sold to) the industrial sector.	Million kilowatthours	ESICPZZ is independent. ESICPUS = $\Sigma$ ESICPZZ
ESOTP	Electricity sold to the "Other" sector (i.e., public street and highway lighting, sales to other public authorities, railroads and railways, and interdepartmental sales).	Million kilowatthours	ESOTPZZ is independent. ESOTPUS = $\Sigma$ ESOTPZZ
ESRCB	Electricity consumed by (i.e., sold to) the residential sector.	Billion Btu	ESRCBZZ = ESRCPZZ * 3.412 ESRCBUS = $\Sigma$ ESRCBZZ
ESRCP	Electricity consumed by (i.e., sold to) the residential sector.	Million kilowatthours	ESRCPZZ is independent. ESRCPUS = $\Sigma$ ESRCPZZ
ESTCB	Electricity total consumed (i.e., sold).	Billion Btu	ESTCBZZ = ESTCPZZ * 3.412 ESTCBUS = $\Sigma$ ESTCBZZ ESTCB48 = ESTCBUS - (ESTCBAK + ESTCBHI)

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
ESTCP	Electricity total consumed (i.e., sold).	Million kilowatthours	ESTCPZZ = ESRCPZZ + ESCCPZZ + ESICPZZ + ESACPZZ ESTCPUS = $\Sigma$ ESTCPZZ
ESTRP	Electricity consumed by transit systems.	Million kilowatthours	ESTRPZZ is independent. ESTRPUS = $\Sigma$ ESTRPZZ
ESTRSUS	The share of electricity sold to the “Other” sector (ESOTP) that is used for transportation.	Fraction	ESTRSUS = ESACPUS / ESOTPUS
ESTXB	Electricity total end-use consumption (i.e., sold).	Billion Btu	ESTXBZZ = ESACBZZ + ESCCBZZ + ESICBZZ + ESRCBZZ ESTXBUS = $\Sigma$ ESTXBZZ
ESTXP	Electricity total end-use consumption (i.e., sold).	Million kilowatthours	ESTXPZZ = ESACPZZ + ESCCPZZ + ESICPZZ + ESRCPZZ ESTXPUS = $\Sigma$ ESTXPZZ
FFETKUS	Fossil-fueled steam-electric power plant conversion factor.	Thousand Btu per kilowatthour	FFETKUS is independent.
FFTCB	Fossil fuels, total consumed.	Billion Btu	FFTCBZZ = CLTCBZZ + NNTCBZZ + PMTCBZZ FFTCBUS = CLTCBUS + CCNIBUS + NNTCBUS + PMTCBUS
FNCAS	State’s share of U.S. capacity of steam crackers using naphtha as feedstocks.	Percent share	FNCASZZ is independent.
FNICB	Petrochemical feedstocks, naphtha less than 401° F, consumed by the industrial sector.	Billion Btu	FNICBZZ = FNTCBZZ FNICBUS = FNTCBUS
FNICP	Petrochemical feedstocks, naphtha less than 401° F, consumed by the industrial sector.	Thousand barrels	FNICPZZ = FNTCPZZ FNICPUS = FNTCPUS
FNTCB	Petrochemical feedstocks, naphtha less than 401° F, total consumed.	Billion Btu	FNTCBZZ = FNTCPZZ * 5.248 FNTCBUS = $\Sigma$ FNTCBZZ
FNTCP	Petrochemical feedstocks, naphtha less than 401° F, total consumed.	Thousand barrels	FNTCPZZ = FNTCPUS * FNCASZZ FNTCPUS is independent.
FOCAS	State’s share of U.S. capacity of steam crackers using other oils as feedstocks.	Percent share	FOCASZZ is independent.
FOICB	Petrochemical feedstocks, other oils equal to or greater than 401° F, consumed by the industrial sector.	Billion Btu	FOICBZZ = FOTCBZZ FOICBUS = FOTCBUS
FOICP	Petrochemical feedstocks, other oils equal to or greater than 401° F, consumed by the industrial sector.	Thousand barrels	FOICPZZ = FOTCPZZ FOICPUS = FOTCPUS

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
FOTCB	Petrochemical feedstocks, other oils equal to or greater than 401° F, total consumed.	Billion Btu	FOTCBZZ = FOTCPZZ * 5.825 FOTCBUS = ΣFOTCBZZ
FOTCP	Petrochemical feedstocks, other oils equal to or greater than 401° F, total consumed.	Thousand barrels	FOTCPZZ = FOTCPUS * FOCASZZ FOTCPUS is independent.
FSICB	Petrochemical feedstocks, still gas, consumed by the industrial sector.	Billion Btu	FSICBZZ = FSTCBZZ FSICBUS = FSTCBUS
FSICP	Petrochemical feedstocks, still gas, consumed by the industrial sector.	Thousand barrels	FSICPZZ = FSTCPZZ FSICPUS = FSTCPUS
FSTCB	Petrochemical feedstocks, still gas, total consumed.	Billion Btu	FSTCBZZ = FSTCPZZ * 6.000 FSTCBUS = ΣFSTCBZZ
FSTCP	Petrochemical feedstocks, still gas, total consumed.	Thousand barrels	FSTCPZZ = (COCAPZZ / COCAPUS) * FSTCPUS FSTCPUS is independent.
GDPRX	Real gross domestic product.	Million chained (2009) dollars	GDPRXUS is independent. GDPRXZZ is independent.
GECCB	Geothermal energy consumed by the commercial sector.	Billion Btu	GECCBZZ is independent. GECCBUS = ΣGECCBZZ
GEEGB	Geothermal energy consumed for electricity generation by the electric power sector.	Billion Btu	GEEGBZZ = GEEGPZZ * FFETKUS GEEGBUS = ΣGEEGBZZ
GEEGP	Geothermal electricity net generation in the electric power sector.	Million kilowatthours	GEEGPZZ is independent. GEEGPUS = ΣGEEGPZZ
GEICB	Geothermal energy consumed by the industrial sector.	Billion Btu	GEICBZZ is independent. GEICBUS = ΣGEICBZZ
GERCB	Geothermal energy consumed by the residential sector.	Billion Btu	GERCBZZ is independent. GERCBUS = ΣGERCBZZ
GETCB	Geothermal energy, total consumed.	Billion Btu	GETCBZZ = GERCBZZ + GECCBZZ + GEICBZZ + GEEGBZZ GETCBUS = ΣGETCBZZ
GETXB	Geothermal energy, total end-use consumption.	Billion Btu	GETXBZZ = GECCBZZ + GEICBZZ + GERCBZZ GETXBUS = ΣGETXBZZ
HVC5P	Conventional hydroelectricity net generation at commercial CHP and electricity-only facilities.	Million kilowatthours	HVC5PZZ is independent. HVC5PUS = ΣHVC5PZZ
HVEGP	Conventional hydroelectricity net generation in the electric power sector.	Million kilowatthours	HVEGPZZ is independent. HVEGPUS = ΣHVEGPZZ

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
HVI5P	Conventional hydroelectricity net generation at industrial CHP and electricity-only facilities.	Million kilowatthours	HVI5PZZ is independent. HVI5PUS = $\Sigma$ HVI5PZZ
HYCCB	Hydropower consumed by the commercial sector.	Billion Btu	HYCCBZZ = HYCCPZZ * FFETKUS HYCCBUS = $\Sigma$ HYCCBZZ
HYCCP	Hydroelectricity net generation in the commercial sector.	Million kilowatthours	HYCCPZZ = HVC5PZZ HYCCPUS = $\Sigma$ HYCCPZZ
HYEGB	Hydropower consumed for electricity generation by the electric power sector.	Billion Btu	HYEGBZZ = HYEGPZZ * FFETKUS HYEGBUS = $\Sigma$ HYEGBZZ
HYEGP	Hydroelectricity net generation in the electric power sector.	Million kilowatthours	HYEGPZZ = HVEGPZZ HYEGPUS = $\Sigma$ HYEGPZZ
HYICB	Hydropower consumed by the industrial sector.	Billion Btu	HYICBZZ = HYICPZZ * FFETKUS HYICBUS = $\Sigma$ HYICBZZ
HYICP	Hydroelectricity net generation in the industrial sector.	Million kilowatthours	HYICPZZ = HVI5PZZ HYICPUS = $\Sigma$ HYICPZZ
HYTCB	Hydropower, total consumed.	Billion Btu	HYTCBZZ = HYCCBZZ + HYEGBZZ + HYICBZZ HYTCBUS = $\Sigma$ HYTCBZZ
HYTCP	Hydroelectricity, total net generation.	Million kilowatthours	HYTCPZZ = HYCCPZZ + HYEGPZZ + HYICPZZ HYTCPUS = $\Sigma$ HYTCPZZ
HYTXB	Hydropower energy, total end-use consumption.	Billion Btu	HYTXBZZ = HYCCBZZ + HYICBZZ HYTXBUS = $\Sigma$ HYTXBZZ
HYTXP	Hydroelectricity net generation, total end-use generation.	Million kilowatthours	HYTXPZZ = HYCCPZZ + HYICPZZ HYTXPUS = $\Sigma$ HYTXPZZ
JFACB	Jet fuel consumed by the transportation sector.	Billion Btu	JFACBZZ = JKACBZZ + JNACBZZ JFACBUS = $\Sigma$ JFACBZZ
JFACP	Jet fuel consumed by the transportation sector.	Thousand barrels	JFACPZZ = JKACPZZ + JNACPZZ JFACPUS = $\Sigma$ JFACPZZ
JFEUB	Jet fuel consumed by the electric power sector.	Billion Btu	JFEUBZZ = JKEUBZZ JFEUBUS = JKEUBUS
JFEUP	Jet fuel consumed by the electric power sector.	Thousand barrels	JFEUPZZ = JKEUPZZ JFEUPUS = JKEUPUS
JFTCB	Jet fuel total consumed.	Billion Btu	JFTCBZZ = JFACBZZ + JFEUBZZ JFTCBUS = $\Sigma$ JFTCBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
JFTCP	Jet fuel total consumed.	Thousand barrels	JFTCPZZ = JFACPZZ + JFEUPZZ JFTCPUS = ΣJFTCPZZ
JFTXB	Jet fuel total end-use consumption.	Billion Btu	JFTXBZZ = JFACBZZ JFTXBUS = ΣJFTXBZZ
JFTXP	Jet fuel total end-use consumption.	Thousand barrels	JFTXPZZ = JFACPZZ JFTXPUS = ΣJFTXPZZ
JKACB	Kerosene-type jet fuel consumed by the transportation sector.	Billion Btu	JKACBZZ = JKACPZZ * 5.670 JKACBUS = ΣJKACBZZ
JKACP	Kerosene-type jet fuel consumed by the transportation sector.	Thousand barrels	JKACPZZ = (JKTTPZZ / JKTTPUS) * JKACPUS JKACPUS = JKTCPUS - JKEUPUS
JKEUB	Kerosene-type jet fuel consumed by the electric power sector.	Billion Btu	JKEUBZZ = JKEUPZZ * 5.670 JKEUBUS = ΣJKEUBZZ
JKEUP	Kerosene-type jet fuel consumed by the electric power sector.	Thousand barrels	JKEUPZZ is independent. JKEUPUS = ΣJKEUPZZ
JKTCB	Kerosene-type jet fuel total consumed.	Billion Btu	JKTCBZZ = JKTCPZZ * 5.670 JKTCBUS = ΣJKTCBZZ
JKTCP	Kerosene-type jet fuel total consumed.	Thousand barrels	JKTCPZZ = JKACPZZ + JKEUPZZ JKTCPUS is independent.
JKTTP	Kerosene-type jet fuel total sold.	Thousand gallons	JKTTPZZ is independent. JKTTPUS = ΣJKTTPZZ
JNACB	Naphtha-type jet fuel consumed by the transportation sector.	Billion Btu	JNACBZZ = JNTCBZZ JNACBUS = JNTCBUS
JNACP	Naphtha-type jet fuel consumed by the transportation sector.	Thousand barrels	JNACPZZ = JNTCPZZ JNACPUS = JNTCPUS
JNMIP	Naphtha-type jet fuel issued to the military.	Thousand barrels	JNMIPZZ is independent. JNMIPUS = ΣJNMIPZZ
JNTCB	Naphtha-type jet fuel total consumed.	Billion Btu	JNTCBZZ = JNTCPZZ * 5.355 JNTCBUS = ΣJNTCBZZ
JNTCP	Naphtha-type jet fuel total consumed.	Thousand barrels	JNTCPZZ = (JNMIPZZ / JNMIPUS) * JNTCPUS JNTCPUS is independent.
KSCCB	Kerosene consumed by the commercial sector.	Billion Btu	KSCCBZZ = KSCCPZZ * 5.670 KSCCBUS = ΣKSCCBZZ

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
KSCCP	Kerosene consumed by the commercial sector.	Thousand barrels	$KSCCPZZ = (KSCMPZZ / KSTTPZZ) * KSTCPZZ$ $KSCCPUS = \Sigma KSCCPZZ$
KSCMP	Kerosene sold to the commercial sector.	Thousand barrels	KSCMPZZ is independent. $KSCMPUS = \Sigma KSCMPZZ$
KSICB	Kerosene consumed by the industrial sector.	Billion Btu	$KSICBZZ = KSICPZZ * 5.670$ $KSICBUS = \Sigma KSICBZZ$
KSICP	Kerosene consumed by the industrial sector.	Thousand barrels	$KSICPZZ = (KSINPZZ / KSTTPZZ) * KSTCPZZ$ $KSICPUS = \Sigma KSICPZZ$
KSIHP	Kerosene sold for industrial heating.	Thousand barrels	KSIHPZZ is independent. $KSIHPUS = \Sigma KSIHPZZ$
KSINP	Kerosene sold to the industrial sector.	Thousand barrels	$KSINPZZ = KSOTPZZ + KSIHPZZ$ $KSINPUS = \Sigma KSINPZZ$
KSOTP	Kerosene sold for all other uses, including farm use.	Thousand barrels	KSOTPZZ is independent. $KSOTPUS = \Sigma KSOTPZZ$
KSRCB	Kerosene consumed by the residential sector.	Billion Btu	$KSRCBZZ = KSRCPZZ * 5.670$ $KSRCBUS = \Sigma KSRCBZZ$
KSRCP	Kerosene consumed by the residential sector.	Thousand barrels	$KSRCPZZ = (KSRSPZZ / KSTTPZZ) * KSTCPZZ$ $KSRCPUS = \Sigma KSRCPZZ$
KSRSP	Kerosene sold to the residential sector.	Thousand barrels	KSRSPZZ is independent. $KSRSPUS = \Sigma KSRSPZZ$
KSTCB	Kerosene total consumed.	Billion Btu	$KSTCBZZ = KSRCBZZ + KSICBZZ + KSCCBZZ$ $KSTCBUS = \Sigma KSTCBZZ$
KSTCP	Kerosene total consumed.	Thousand barrels	$KSTCPZZ = (KSTTPZZ / KSTTPUS) * KSTCPUS$ KSTCPUS is independent.
KSTTP	Kerosene total sold.	Thousand barrels	$KSTTPZZ = KSRSPZZ + KSCMPZZ + KSINPZZ$ $KSTTPUS = \Sigma KSTTPZZ$
KSTXB	Kerosene total end-use consumption.	Billion Btu	$KSTXBZZ = KSCCBZZ + KSICBZZ + KSRCBZZ$ $KSTXBUS = \Sigma KSTXBZZ$
KSTXP	Kerosene total end-use consumption.	Thousand barrels	$KSTXPZZ = KSCCPZZ + KSICPZZ + KSRCPZZ$ $KSTXPUS = \Sigma KSTXPZZ$
LGACB	LPG consumed by the transportation sector.	Billion Btu	$LGACBZZ = LGACPZZ * 3.836$ $LGACBUS = \Sigma LGACBZZ$

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
LGACP	LPG consumed by the transportation sector.	Thousand barrels	$LGACPZZ = LGCBPZZ * LGTRSUS$ $LGACPUS = \Sigma LGACPZZ$
LGCBM	LPG sales for internal combustion engine use.	Thousand gallons	LGCBMZZ is independent. $LGCBMUS = \Sigma LGCBMZZ$
LGCBP	LPG consumed for internal combustion engine use.	Thousand barrels	$LGCBPZZ = LGCBMZZ / 42$ $LGCBPUS = \Sigma LGCBPZZ$
LGCCB	LPG consumed by the commercial sector.	Billion Btu	$LGCCBZZ = LGCCPZZ * 3.836$ $LGCCBUS = \Sigma LGCCBZZ$
LGCCP	LPG consumed by the commercial sector.	Thousand barrels	$LGCCPZZ = LGHCPZZ * LGCCSZZ$ $LGCCPUS = \Sigma LGCCPZZ$
LGCCS	The share of residential and commercial LPG consumed by the commercial sector.	Percent	LGCCSZZ is independent.
LGHCM	LPG sold for residential and commercial use.	Thousand gallons	LGHCMZZ is independent. $LGHCMUS = \Sigma LGHCMZZ$
LGHCP	LPG consumed by the residential and commercial sectors.	Thousand barrels	$LGHCPZZ = LGHCMZZ / 42$ $LGHCPUS = \Sigma LGHCPZZ$
LGICB	LPG consumed by the industrial sector.	Billion Btu	$LGICBZZ = (LGICPZZ / LGICPUS) * LGICBUS$ $LGICBUS = LGTCBUS - (LGRCBUS + LGCCBUS + LGACBUS)$
LGICK	Average conversion factor for industrial consumption of LPG.	Million Btu per barrel	$LGICKUS = LGICBUS / LGICPUS$
LGICP	LPG consumed by the industrial sector.	Thousand barrels	Before 2008: $LGICPZZ = LGTCPZZ - (LGRCPZZ + LGCCPZZ + LGACPZZ)$ $LGICPUS = \Sigma LGICPZZ$ From 2008 forward: LGICPZZ is Independent. $LGICPUS = \Sigma LGICPZZ$
LGRCB	LPG consumed by the residential sector.	Billion Btu	$LGRCBZZ = LGRCPZZ * 3.836$ $LGRCBUS = \Sigma LGRCBZZ$
LGRCP	LPG consumed by the residential sector.	Thousand barrels	$LGRCPZZ = LGHCPZZ * LGRCSZZ$ $LGRCPUS = \Sigma LGRCPZZ$
LGRCS	The share of residential and commercial LPG consumed by the residential sector.	Percent	LGRCSZZ is independent.



**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
LGTCB	LPG total consumed.	Billion Btu	LGTCBZZ = LGRCBZZ + LGCCBZZ + LGICBZZ + LGACBZZ LGTCBUS is independent.
LGTCBUS	Factor for converting LPG from physical units to Btu.	Million Btu per barrel	LGTCBUS is independent.
LGTCP	LPG total consumed.	Thousand barrels	Before 2008: LGTCPZZ = (LGTPPZZ / LGTPPUS) * LGTCPUS LGTCPUS is independent. From 2008 forward: LGTCPZZ = LGACPZZ + LGCCPZZ + LGICPZZ + LGRCPPZZ LGTCPUS is independent.
LGTRSUS	The transportation sector's share of LPG internal combustion engine sales.	Fraction	LGTRSUS is independent.
LGTPP	LPG total sold.	Thousand gallons	LGTPPZZ is independent. LGTPPUS = ΣLGTPPZZ
LGTXB	LPG total end-use consumption.	BillionBtu	LGTXBZZ = LGACBZZ + LGCCBZZ + LGICBZZ + LGRCBZZ LGTXBUS = ΣLGTXBZZ
LGTXP	LPG total end-use consumption.	Thousand barrels	LGTXPZZ = LGACPZZ + LGCCPZZ + LGICPZZ + LGRCPPZZ LGTXPUS = ΣLGTXPZZ
LOACB	The transportation sector's share of electrical system energy losses.	Billion Btu	LOACBZZ = (ESACBZZ / ESTCBZZ) * LOTCBZZ LOACBUS = ΣLOACBZZ
LOCCB	The commercial sector's share of electrical system energy losses.	Billion Btu	LOCCBZZ = (ESCCBZZ / ESTCBZZ) * LOTCBZZ LOCCBUS = ΣLOCCBZZ
LOICB	The industrial sector's share of electrical system energy losses.	Billion Btu	LOICBZZ = (ESICBZZ / ESTCBZZ) * LOTCBZZ LOICBUS = ΣLOICBZZ
LORCB	The residential sector's share of electrical system energy losses.	Billion Btu	LORCBZZ = (ESRCBZZ / ESTCBZZ) * LOTCBZZ LORCBUS = ΣLORCBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
LOTGB	Total electrical system energy losses.	Billion Btu	Before 1990: $LOTGBZZ = ESTGBZZ * ELLSS48$ Exceptions: $LOTGBAK = TEEIBAK - ESTGBAK$ $LOTGBHI = TEEIBHI - ESTGBHI$ $LOTGBUS = TEEIBUS - ESTGBUS$ $LOTGB48 = LOTGBUS - (LOTGBAK + LOTGBHI)$ From 1990 forward: $LOTGBZZ = TEESBZZ - ESTGBZZ$ $LOTGBUS = TEEIBUS - ESTGBUS$
LOTXB	Total electrical system energy losses allocated to the end-use sectors.	Billion Btu	$LOTXBZZ = LOACBZZ + LOCCBZZ + LOICBZZ + LORCBZZ$ $LOTXBUS = \Sigma LOTXBZZ$
LUACB	Lubricants consumed by the transportation sector.	Billion Btu	$LUACBZZ = LUACPZZ * 6.065$ $LUACBUS = \Sigma LUACBZZ$
LUACP	Lubricants consumed by the transportation sector.	Thousand barrels	$LUACPZZ = (LUTRPZZ / LUTTPZZ) * LUTCPZZ$ $LUACPUS = \Sigma LUACPZZ$
LUICB	Lubricants consumed by the industrial sector.	Billion Btu	$LUICBZZ = LUICPZZ * 6.065$ $LUICBUS = \Sigma LUICBZZ$
LUICP	Lubricants consumed by the industrial sector.	Thousand barrels	$LUICPZZ = (LUINPZZ / LUTTPZZ) * LUTCPZZ$ $LUICPUS = \Sigma LUICPZZ$
LUINP	Lubricants sold to the industrial sector.	Thousand barrels	$LUINPZZ$ is independent. $LUINPUS = \Sigma LUINPZZ$
LUTCB	Lubricants total consumed.	Billion Btu	$LUTCBZZ = LUICBZZ + LUACBZZ$ $LUTCBUS = \Sigma LUTCBZZ$
LUTCP	Lubricants total consumed.	Thousand barrels	$LUTCPZZ = (LUTTPZZ / LUTTPUS) * LUTCPUS$ $LUTCPUS$ is independent.
LUTRP	Lubricants sold to the transportation sector.	Thousand barrels	$LUTRPZZ$ is independent. $LUTRPUS = \Sigma LUTRPZZ$
LUTTP	Lubricants total sold.	Thousand barrels	$LUTTPZZ = LUINPZZ + LUTRPZZ$ $LUTTPUS = \Sigma LUTTPZZ$
LUTXB	Lubricants total end-use consumption.	Billion Btu	$LUTXBZZ = LUACBZZ + LUICBZZ$ $LUTXBUS = \Sigma LUTXBZZ$
LUTXP	Lubricants total end-use consumption.	Thousand barrels	$LUTXPZZ = LUACPZZ + LUICPZZ$ $LUTXPUS = \Sigma LUTXPZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
MBICB	Motor gasoline blending components consumed by the industrial sector.	Billion Btu	MBICBZZ = MBTCBZZ MBICBUS = MBTCBUS
MBICP	Motor gasoline blending components consumed by the industrial sector.	Thousand barrels	MBICPZZ = MBTCPZZ MBICPUS = MBTCPUS
MBTCB	Motor gasoline blending components total consumed.	Billion Btu	MBTCBZZ = MBTCPZZ * MBTCKUS MBTCBUS = ΣMBTCBZZ
MBTCP	Motor gasoline blending components total consumed.	Thousand barrels	MBTCPZZ = (COCAPZZ / COCAPUS) * MBTCPUS MBTCPUS is independent.
MBTCKUS	Factor for converting motor gasoline blending components from physical units to Btu.	Million Btu per barrel	MBTCKUS is independent.
MGACB	Motor gasoline consumed by the transportation sector.	Billion Btu	MGACBZZ = MGACPZZ * MGTCKUS MGACBUS = ΣMGACBZZ
MGACP	Motor gasoline consumed by the transportation sector.	Thousand barrels	MGACPZZ = (MGTRPZZ / MGTPPZZ) * MGTCPZZ MGACPUS = ΣMGACPZZ
MGAGP	Motor gasoline sold for agricultural use.	Thousand gallons	MGAGPZZ is independent. MGAGPUS = ΣMGAGPZZ
MGBTP	Motor gasoline sold for boating use.	Thousand gallons	MGBTPZZ is independent. MGBTPUS = ΣMGBTPZZ
MGCCB	Motor gasoline consumed by the commercial sector.	Billion Btu	MGCCBZZ = MGCCPZZ * MGTCKUS MGCCBUS = ΣMGCCBZZ
MGCCP	Motor gasoline consumed by the commercial sector.	Thousand barrels	MGCCPZZ = (MGCMPZZ / MGTPPZZ) * MGTCPZZ MGCCPUS = ΣMGCCPZZ
MGCMP	Motor gasoline sold to the commercial sector.	Thousand gallons	MGCMPZZ = MGMSPZZ + MGNPZZ + MGLGPZZ MGCMPUS = ΣMGCMPZZ
MGCUP	Motor gasoline sold for construction use.	Thousand gallons	MGCUPZZ is independent. MGCUPUS = ΣMGCUPZZ
MGICB	Motor gasoline consumed by the industrial sector.	Billion Btu	MGICBZZ = MGICPZZ * MGTCKUS MGICBUS = ΣMGICBZZ
MGICP	Motor gasoline consumed by the industrial sector.	Thousand barrels	MGICPZZ = (MGINPZZ / MGTPPZZ) * MGTCPZZ MGICPUS = ΣMGICPZZ
MGINP	Motor gasoline sold to the industrial sector.	Thousand gallons	MGINPZZ = MGAGPZZ + MGCUPZZ + MGIYPZZ MGINPUS = ΣMGINPZZ

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
MGIYP	Motor gasoline sold for industrial and commercial use (Federal Highway Administration terminology).	Thousand gallons	MGIYPZZ is independent. MGIYPUS = $\Sigma$ MGIYPZZ
MGLGP	Motor gasoline sold for lawn and garden use.	Thousand gallons	MGLGPZZ is independent. MGLGPUS = $\Sigma$ MGLGPZZ
MGMFP	Motor gasoline sold for highway use.	Thousand gallons	MGMFPZZ is independent. MGMFPUS = $\Sigma$ MGMFPZZ
MGMRP	Motor gasoline sold for marine use.	Thousand gallons	MGMRPZZ is independent. MGMRPUS = $\Sigma$ MGMRPZZ
MGMSP	Motor gasoline sold for miscellaneous and unclassified uses.	Thousand gallons	MGMSPZZ is independent. MGMSPUS = $\Sigma$ MGMSPZZ
MGPNP	Motor gasoline sold for public nonhighway use.	Thousand gallons	MGPNPZZ is independent. MGPNPUS = $\Sigma$ MGPNPZZ
MGRVP	Motor gasoline sold for recreational vehicle use.	Thousand gallons	MGRVPZZ is independent. MGRVPUS = $\Sigma$ MGRVPZZ
MGSFP	Special fuels sold (Federal Highway Administration terminology; primarily diesel fuel with small amounts of liquefied petroleum gases).	Thousand gallons	MGSFPZZ is independent. MGSFPUS = $\Sigma$ MGSFPZZ
MGTCB	Motor gasoline total consumed.	Billion Btu	MGTCBZZ = MGCCBZZ + MGICBZZ + MGACBZZ MGTCBUS = $\Sigma$ MGTCBZZ
MGTCP	Motor gasoline total consumed.	Thousand barrels	MGTCPZZ = (MGTPPZZ / MGTPPUS) * MGTCBUS MGTCPUS is independent.
MGTCBUS	Factor for converting motor gasoline from physical units to Btu.	Million Btu per barrel	MGTCBUS is independent.
MGTRP	Motor gasoline sold to the transportation sector.	Thousand gallons	MGTRPZZ = MGMFPZZ + MGBTPZZ + MGRVPZZ - MGSFPZZ MGTRPUS = $\Sigma$ MGTRPZZ
MGTPP	Motor gasoline total sold.	Thousand gallons	MGTPPZZ = MGCMPPZZ + MGINPZZ + MGTRPZZ MGTPPUS = $\Sigma$ MGTPPZZ
MGTXB	Motor gasoline total end-use consumption.	Billion Btu	MGTXBZZ = MGACBZZ + MGCCBZZ + MGICBZZ MGTXBUS = $\Sigma$ MGTXBZZ
MGTXP	Motor gasoline total end-use consumption.	Thousand barrels	MGTXPZZ = MGACPPZZ + MGCCPZZ + MGICPZZ MGTXPUS = $\Sigma$ MGTXPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
MMTCB	Motor gasoline total consumed, excluding fuel ethanol.	Billion Btu	MMTCBZZ = MGTCBZZ - EMTCBZZ MMTCBUS = MGTCBUS - EMTCBUS
MSICB	Miscellaneous petroleum products consumed by the industrial sector.	Billion Btu	MSICBZZ = MSTCBZZ MSICBUS = MSTCBUS
MSICP	Miscellaneous petroleum products consumed by the industrial sector.	Thousand barrels	MSICPZZ = MSTCPZZ MSICPUS = MSTCPUS
MSTCB	Miscellaneous petroleum products total consumed.	Billion Btu	MSTCBZZ = MSTCPZZ * 5.796 MSTCBUS = $\Sigma$ MSTCBZZ
MSTCP	Miscellaneous petroleum products total consumed.	Thousand barrels	MSTCPZZ = (OCVAVZZ / OCVAVUS) * MSTCPUS MSTCPUS is independent.
NAICB	Natural gasoline consumed by the industrial sector.	Billion Btu	NAICBZZ = NATCBZZ NAICBUS = NATCBUS
NAICP	Natural gasoline consumed by the industrial sector.	Thousand barrels	NAICPZZ = NATCPZZ NAICPUS = NATCPUS
NATCB	Natural gasoline total consumed.	Billion Btu	NATCBZZ = NATCPZZ * 4.620 NATCBUS = $\Sigma$ NATCBZZ
NATCP	Natural gasoline total consumed.	Thousand barrels	NATCPZZ = NATCPUS * FNCASZZ NATCPUS is independent.
NGACB	Natural gas consumed by the transportation sector.	Billion Btu	NGACBZZ = NGACPZZ * NGTXKZZ NGACBUS = $\Sigma$ NGACBZZ
NGACP	Natural gas consumed by the transportation sector.	Million cubic feet	NGACPZZ = NGPZPZZ + NGVHPZZ NGACPUS = $\Sigma$ NGACPZZ
NGCCB	Natural gas delivered to the commercial sector, used as consumption (including supplemental gaseous fuels).	Billion Btu	NGCCBZZ = NGCCPZZ * NGTXKZZ NGCCBUS = $\Sigma$ NGCCBZZ
NGCCP	Natural gas delivered to the commercial sector, used as consumption (including supplemental gaseous fuels).	Million cubic feet	NGCCPZZ is independent. NGCCPUS = $\Sigma$ NGCCPZZ
NGEIB	Natural gas consumed by the electric power sector (including supplemental gaseous fuels).	Billion Btu	Before 2010: NGEIBZZ = NGEIPZZ * NGEIKZZ 2010 forward: NGEIBZZ is independent. NGEIBUS = $\Sigma$ NGEIBZZ for all years.

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
NGEIK	Factor for converting natural gas consumed by the electric power sector from physical units to Btu.	Thousand Btu per cubic foot	NGEIKZZ is independent. NGEIKUS = NGEIBUS / NGEIPUS
NGEIP	Natural gas consumed by the electric power sector (including supplemental gaseous fuels).	Million cubic feet	NGEIPZZ is independent. NGEIPUS = $\Sigma$ NGEIPZZ
NGICB	Natural gas consumed by the industrial sector (including supplemental gaseous fuels).	Billion Btu	NGICBZZ = NGICPZZ * NGTXKZZ NGICBUS = $\Sigma$ NGICBZZ
NGICP	Natural gas consumed by the industrial sector (including supplemental gaseous fuels).	Million cubic feet	NGICPZZ = NGINPZZ + NGLEPZZ + NGPLPZZ NGICPUS = $\Sigma$ NGICPZZ
NGINP	A portion of the natural gas delivered to the industrial sector.	Million cubic feet	NGINPZZ is independent. NGINPUS = $\Sigma$ NGINPZZ
NGLEP	Natural gas consumed as lease fuel.	Million cubic feet	NGLEPZZ is independent. NGLEPUS = $\Sigma$ NGLEPZZ
NGLPB	Natural gas consumed as lease and plant fuel.	Billion Btu	NGLPBZZ = NGLPPZZ * NGTXKZZ NGLPBUS = $\Sigma$ NGLPBZZ
NGLPP	Natural gas consumed as lease and plant fuel.	Million cubic feet	NGLPPZZ = NGLEPZZ + NGPLPZZ NGLPPUS = $\Sigma$ NGLPPZZ
NGPLP	Natural gas consumed as plant fuel.	Million cubic feet	NGPLPZZ is independent. NGPLPUS = $\Sigma$ NGPLPZZ
NGPZB	Natural gas consumed as pipeline fuel.	Billion Btu	NGPZBZZ = NGPZPZZ * NGTXKZZ NGPZBUS = $\Sigma$ NGPZBZZ
NGPZP	Natural gas consumed as pipeline fuel.	Million cubic feet	NGPZPZZ is independent. NGPZPUS = $\Sigma$ NGPZPZZ
NGRCB	Natural gas delivered to the residential sector, used as consumption (including supplemental gaseous fuels).	Billion Btu	NGRCBZZ = NGRCPZZ * NGTXKZZ NGRCBUS = $\Sigma$ NGRCBZZ
NGRCP	Natural gas delivered to the residential sector, used as consumption (including supplemental gaseous fuels).	Million cubic feet	NGRCPZZ is independent. NGRCPUS = $\Sigma$ NGRCPZZ
NGSFP	Supplemental gaseous fuels supplies.	Million cubic feet	NGSFPZZ is independent. NGSFPUS = $\Sigma$ NGSFPZZ
NGTCB	Natural gas total consumed (including supplemental gaseous fuels).	Billion Btu	NGTCBZZ = NGTCPZZ * NGTCKZZ NGTCBUS = $\Sigma$ NGTCBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
NGTCK	Factor for converting natural gas total consumed from physical units to Btu.	Thousand Btu per cubic foot	NGTCKZZ is independent. NGTCKUS = NGTCBUS / NGTCPUS
NGTCP	Natural gas total consumed (including supplemental gaseous fuels).	Million cubic feet	NGTCPZZ = NGRCPZZ + NGCCPZZ + NGICPZZ + NGACPZZ + NGEIPZZ NGTCPUS = $\Sigma$ NGTCPZZ
NGTXB	Natural gas total end-use consumption (including supplemental gaseous fuels).	Billion Btu	NGTXBZZ = NGACBZZ + NGCCBZZ + NGICBZZ + NGRCBZZ NGTXBUS = $\Sigma$ NGTXBZZ
NGTXK	Factor for converting natural gas consumed by all sectors other than the electric utility sector from physical units to Btu.	Thousand Btu per cubic foot	NGTXKZZ = (NGTCBZZ - NGEIBZZ) / (NGTCPZZ - NGEIPZZ) NGTXKUS = (NGTCBUS - NGEIBUS) / (NGTCPUS - NGEIPUS)
NGTXP	Natural gas total end-use consumption (including supplemental gaseous fuels).	Million cubic feet	NGTXPZZ = NGACPZZ + NGCCPZZ + NGICPZZ + NGRCPZZ NGTXPUS = $\Sigma$ NGTXPZZ
NGTZP	Natural gas consumed in sectors that have supplemental gaseous fuels commingled with natural gas.	Million cubic feet	NGTZPZZ = NGCCPZZ + NGRCPZZ + NGINPZZ + NGEIPZZ NGTZPUS = $\Sigma$ NGTZPZZ
NGVHB	Natural gas consumed as vehicle fuel.	Billion Btu	NGVHBZZ = NGVHPZZ * NGTXKZZ NGVHBUS = $\Sigma$ NGVHBZZ
NGVHP	Natural gas consumed as vehicle fuel.	Million cubic feet	NGVHPZZ is independent. NGVHPUS = $\Sigma$ NGVHPZZ
NNACB	Natural gas consumed by the transportation sector.	Billion Btu	NNACBZZ = NGACBZZ NNACBUS = $\Sigma$ NNACBZZ
NNCCB	Natural gas consumed by the commercial sector (excluding supplemental gaseous fuels).	Billion Btu	NNCCBZZ = NGCCBZZ - SFCCBZZ NNCCBUS = $\Sigma$ NNCCBZZ
NNEIB	Natural gas consumed by the electric power sector (excluding supplemental gaseous fuels).	Billion Btu	NNEIBZZ = NGEIBZZ - SFEIBZZ NNEIBUS = $\Sigma$ NNEIBZZ
NNICB	Natural gas consumed by the industrial sector (excluding supplemental gaseous fuels).	Billion Btu	NNICBZZ = NGICBZZ - SFINBZZ NNICBUS = $\Sigma$ NNICBZZ
NNRCB	Natural gas consumed by the residential sector (excluding supplemental gaseous fuels).	Billion Btu	NNRCBZZ = NGRCBZZ - SFRCBZZ NNRCBUS = $\Sigma$ NNRCBZZ
NNTCB	Natural gas total consumed (excluding supplemental gaseous fuels).	Billion Btu	NNTCBZZ = NGTCBZZ - SFTCBZZ NNTCBUS = $\Sigma$ NNTCBZZ
NUEGB	Nuclear energy consumed for electricity generation by the electric power sector.	Billion Btu	NUEGBZZ = NUEGPZZ * NUETKUS NUEGBUS = $\Sigma$ NUEGBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
NUEGP	Nuclear electricity net generation in the electric power sector.	Million kilowatthours	NUEGPZZ is independent. NUEGPUS = $\Sigma$ NUEGPZZ
NUETB	Nuclear energy consumed for electricity generation, total.	Billion Btu	NUETBZZ = NUEGBZZ NUETBUS = NUEGBUS
NUETKUS	Factor for converting electricity generated from nuclear power from physical units to Btu.	Thousand Btu per kilowatthour	NUETKUS is independent.
NUETP	Nuclear electricity, total net generation.	Million kilowatthours	NUETPZZ = NUEGPZZ NUETPUS = $\Sigma$ NUETPZZ
OCVAV	Value of shipments (value added prior to 2001) for the industrial organic chemical manufacturing industry.	Million dollars	OCVAVZZ is independent. OCVAVUS = $\Sigma$ OCVAVZZ
P1ICB	Asphalt and road oil, kerosene, lubricants, and "other petroleum products" consumed by the industrial sector.	Billion Btu	P1ICBZZ = ARICBZZ + KSICBZZ + LUICBZZ + POICBZZ P1ICBUS = $\Sigma$ P1ICBZZ
P1ICP	Asphalt and road oil, kerosene, lubricants, and "other petroleum products" consumed by the industrial sector.	Thousand barrels	P1ICPZZ = ARICPZZ + KSICPZZ + LUICPZZ + POICPZZ P1ICPUS = $\Sigma$ P1ICPZZ
P1TCB	Asphalt and road oil, aviation gasoline, kerosene, lubricants, and "other petroleum products" total consumed.	Billion Btu	P1TCBZZ = ARTCBZZ + AVTCBZZ + KSTCBZZ + LUTCBZZ + POTCBZZ P1TCBUS = $\Sigma$ P1TCBZZ
P1TCP	Asphalt and road oil, aviation gasoline, kerosene, lubricants, and "other petroleum products" total consumed.	Thousand barrels	P1TCPZZ = ARTCPZZ + AVTCPZZ + KSTCPZZ + LUTCPZZ + POTCPZZ P1TCPUS = $\Sigma$ P1TCPZZ
P1TXB	Asphalt and road oil, aviation gasoline, kerosene, lubricants, and "other petroleum products" total end-use consumption.	Billion Btu	P1TXBZZ = ARTXBZZ + AVTXBZZ + KSTXBZZ + LUTXBZZ + POTXBZZ P1TXBUS = $\Sigma$ P1TXBZZ
P1TXP	Asphalt and road oil, aviation gasoline, kerosene, lubricants, and "other petroleum products" total end-use consumption.	Thousand barrels	P1TXPZZ = ARTXPZZ + AVTXPZZ + KSTXPZZ + LUTXPZZ + POTXPZZ P1TXPUS = $\Sigma$ P1TXPZZ
PAACB	All petroleum products consumed by the transportation sector.	Billion Btu	PAACBZZ = AVACBZZ + DFACBZZ + JKACBZZ + JNACBZZ + LGACBZZ + LUACBZZ + MGACBZZ + RFACBZZ PAACBUS = $\Sigma$ PAACBZZ



**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
PAACKUS	Factor for converting all petroleum products consumed by the transportation sector from physical units to Btu.	Million Btu per barrel	$PAACKUS = PAACBUS / PAACPUS$
PAACP	All petroleum products consumed by the transportation sector.	Thousand barrels	$PAACPZZ = AVACPZZ + DFACPZZ + JKACPZZ + JNACPZZ +$ $LGACPZZ + LUACPZZ + MGACPZZ + RFACPZZ$ $PAACPUS = \Sigma PAACPZZ$
PACCB	All petroleum products consumed by the commercial sector.	Billion Btu	$PACCBZZ = DFCCBZZ + KSCCBZZ + LGCCBZZ + MGCCBZZ +$ $PCCCBZZ + RFCCBZZ$ $PACCBUS = \Sigma PACCBZZ$
PACCKUS	Factor for converting all petroleum products consumed by the commercial sector from physical units to Btu.	Million Btu per barrel	$PACCKUS = PACCBUS / PACCPUS$
PACCP	All petroleum products consumed by the commercial sector.	Thousand barrels	$PACCPZZ = DFCCPZZ + KSCCPZZ + LGCCPZZ + MGCCPZZ +$ $PCCCPZZ + RFCCPZZ$ $PACCPUS = \Sigma PACCPZZ$
PAEIB	All petroleum products consumed by the electric power sector.	Billion Btu	$PAEIBZZ = DFEIBZZ + JKEUBZZ + PCEIBZZ + RFEIBZZ$ $PAEIBUS = \Sigma PAEIBZZ$
PAEIKUS	Factor for converting all petroleum products consumed by the electric power sector from physical units to Btu.	Million Btu per barrel	$PAEIKUS = PAEIBUS / PAEIPUS$
PAEIP	All petroleum products consumed by the electric power sector.	Thousand barrels	$PAEIPZZ = DFEIPZZ + JKEUPZZ + PCEIPZZ + RFEIPZZ$ $PAEIPUS = \Sigma PAEIPZZ$
PAHCBUS	All petroleum products consumed by the residential and commercial sectors combined.	Billion Btu	$PAHCBUS = PARCBUS + PACCBUS$
PAHCKUS	Factor for converting all petroleum products consumed by the residential and commercial sectors combined from physical units to Btu.	Million Btu per barrel	$PAHCKUS = PAHCBUS / PAHCPUS$
PAHCPUS	All petroleum products consumed by the residential and commercial sectors combined.	Thousand barrels	$PAHCPUS = PARCPUS + PACCPUS$
PAICB	All petroleum products consumed by the industrial sector.	Billion Btu	$PAICBZZ = ARICBZZ + DFICBZZ + KSICBZZ + LGICBZZ +$ $LUICBZZ + MGICBZZ + RFICBZZ + POICBZZ$ $PAICBUS = \Sigma PAICBZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
PAICKUS	Factor for converting all petroleum products consumed by the industrial sector from physical units to Btu.	Million Btu per barrel	$PAICKUS = PAICBUS / PAICPUS$
PAICP	All petroleum products consumed by the industrial sector.	Thousand barrels	$PAICPZZ = ARICPZZ + DFICPZZ + KSICPZZ + LGICPZZ +$ $LUICPZZ + MGICPZZ + RFICPZZ + POICPZZ$ $PAICPUS = \Sigma PAICPZZ$
PARCB	All petroleum products consumed by the residential sector.	Billion Btu	$PARCBZZ = DFRCBZZ + KSRCBZZ + LGRCBZZ$ $PARCBUS = \Sigma PARCBZZ$
PARCKUS	Factor for converting all petroleum products consumed by the residential sector from physical units to Btu.	Million Btu per barrel	$PARCKUS = PARCBUS / PARCPUS$
PARCP	All petroleum products consumed by the residential sector.	Thousand barrels	$PARCPZZ = DFRCPZZ + KSRCPZZ + LGRCPZZ$ $PARCPUS = \Sigma PARCPZZ$
PATCB	All petroleum products consumed by all setors.	Billion Btu	$PATCBZZ = ARTCBZZ + AVTCBZZ + DFTCBZZ + JKTCBZZ +$ $JNTCBZZ + KSTCBZZ + LGTCBZZ + LUTCBZZ + MGTCBZZ +$ $RFTCBZZ + POTCBZZ$ $PATCBUS = \Sigma PATCBZZ$
PATCKUS	Factor for converting all petroleum products consumed by all sectors from physical units to Btu.	Million Btu per barrel	$PATCKUS = PATCBUS / PATCPUS$
PATCP	All petroleum products consumed by all sectors.	Thousand barrels	$PATCPZZ = ARTCPZZ + AVTCPZZ + DFTCPZZ + JKTCPZZ +$ $JNTCPZZ + KSTCPZZ + LGTCPZZ + LUTCPZZ + MGTCPPZZ +$ $RFTCPZZ + POTCPZZ$ $PATCPUS = \Sigma PATCPZZ$
PATXB	All petroleum products total end-use consumption.	Billion Btu	$PATXBZZ = ARTXBZZ + AVTXBZZ + KSTXBZZ + LUTXBZZ +$ $POTXBZZ + DFTXBZZ + JFTXBZZ + LGTXBZZ + MGTXBZZ +$ $RFTXBZZ$ $PATXBUS = \Sigma PATXBZZ$
PATXP	All petroleum products total end-use consumption.	Thousand barrels	$PATXPZZ = ARTXPZZ + AVTXPZZ + KSTXPZZ + LUTXPZZ +$ $POTXPZZ + DFTXPZZ + JFTXPZZ + LGTXPZZ + MGTXPZZ +$ $RFTXPZZ$ $PATXPUS = \Sigma PATXPZZ$
PCC3M	Petroleum coke consumed for combined heat and power in the commercial sector.	Thousand tons	$PCC3MZZ$ is independent. $PCC3MUS = \Sigma PCC3MZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
PCCCB	Petroleum coke consumed for combined heat and power in the commercial sector.	Billion Btu	$PCCCBZZ = PCCCPZZ * PCMKKUS$ $PCCCBUS = \Sigma PCCCBZZ$
PCCCP	Petroleum coke consumed for combined heat and power in the commercial sector.	Thousand barrels	$PCCCPZZ = PCC3MZZ * 5$ $PCCCPUS = \Sigma PCCCPZZ$
PCCTKUS	Factor for converting petroleum coke, catalyst coke from physical units to Btu.	Million Btu per barrel	PCCTKUS is independent.
PCEIB	Petroleum coke consumed by the electric power sector.	Billion Btu	$PCEIBZZ = PCEIPZZ * PCMKKUS$ $PCEIBUS = \Sigma PCEIBZZ$
PCEIM	Petroleum coke consumed by the electric power sector.	Thousand tons	PCEIMZZ is independent. $PCEIMUS = \Sigma PCEIMZZ$
PCEIP	Petroleum coke consumed by the electric power sector.	Thousand barrels	$PCEIPZZ = PCEIMZZ * 5$ $PCEIPUS = \Sigma PCEIPZZ$
PCI3B	Petroleum coke consumed for combined heat and power in the industrial sector.	Billion Btu	$PCI3BZZ = PCI3PZZ * PCMKKUS$ $PCI3BUS = \Sigma PCI3BZZ$
PCI3M	Petroleum coke consumed for combined heat and power in the industrial sector.	Thousand tons	PCI3MZZ is independent. $PCI3MUS = \Sigma PCI3MZZ$
PCI3P	Petroleum coke consumed for combined heat and power in the industrial sector.	Thousand barrels	$PCI3PZZ = PCI3MZZ * 5$ $PCI3PUS = \Sigma PCI3PZZ$
PCICB	Petroleum coke consumed in the industrial sector.	Billion Btu	$PCICBZZ = PCI3BZZ + PCRFBZZ + PCOCBZZ$ $PCICBUS = \Sigma PCICBZZ$
PCICP	Petroleum coke consumed in the industrial sector.	Thousand barrels	$PCICPZZ = PCI3PZZ + PCRFPPZZ + PCOCPZZ$ $PCICPUS = PCTCPUS - PCEIPUS - PCCCPUS$
PCMKKUS	Factor for converting petroleum coke, marketable coke from physical units to Btu.	Million Btu per barrel	PCMKKUS is independent.
PCOCB	Petroleum coke consumed in the industrial sector other than for refinery use and combined heat and power.	Billion Btu	$PCOCBZZ = PCOCPZZ * PCMKKUS$ $PCOCBUS = \Sigma PCOCBZZ$
PCOCP	Petroleum coke consumed in the industrial sector other than for refinery use and combined heat and power.	Thousand barrels	$PCOCPZZ = (AICAPZZ / AICAPUS) * PCOCPUS$ $PCOCPUS = PCICPUS - PCI3PUS - PCRFPPUS$
PCRFB	Petroleum coke used at refineries.	Billion Btu	$PCRFBZZ = PCRFPPZZ * PCCTKUS$ $PCRFBUS = \Sigma PCRFBZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
PCRFP	Petroleum coke used at refineries.	Thousand barrels	Before 1981: PCRFPZZ = (CTCAPZZ / CTCAPGZ) * PCRFPZ 1981 through 2012: PCRFPZZ = (CTCAPZZ / CTCAPPZ) * PCRFPZ From 2013 forward: PCRFPZZ is independent. PCRFPUS = $\Sigma$ PCRFPZZ for all years.
PCTCB	Petroleum coke total consumed.	Billion Btu	PCTCBZZ = PCCCBZZ + PCICBZZ + PCEIBZZ PCTCBUS = $\Sigma$ PCTCBZZ
PCTCP	Petroleum coke total consumed.	Thousandbarrels	PCTCPZZ = PCCCPZZ + PCICPZZ + PCEIPZZ PCTCPUS is independent.
PIVAV	Value of shipments (value added prior to 2001) for the paint and coating manufacturing industry.	Million dollars	PIVAVZZ is independent. PIVAVUS = $\Sigma$ PIVAVZZ
PLICB	Plant condensate consumed by the industrial sector.	Billion Btu	PLICBZZ = PLTCBZZ PLICBUS = PLTCBUS
PLICP	Plant condensate consumed by the industrial sector.	Thousand barrels	PLICPZZ = PLTCPZZ PLICPUS = PLTCPUS
PLTCB	Plant condensate total consumed.	Billion Btu	PLTCBZZ = PLTCPZZ * 5.418 PLTCBUS = $\Sigma$ PLTCBZZ
PLTCP	Plant condensate total consumed.	Thousand barrels	PLTCPZZ = PLTCPUS * FNCASZZ PLTCPUS is independent.
PMTCB	All petroleum products consumed by all sectors, excluding fuel ethanol blended into motor gasoline.	Billion Btu	PMTCBZZ = PATCBZZ - EMTCBZZ PMTCBUS = PATCBUS - EMTCBUS
POICB	Other petroleum products consumed by the industrial sector.	Billion Btu	POICBZZ = ABICBZZ + COICBZZ + FNICBZZ + FOICBZZ + FSICBZZ + MBICBZZ + MSICBZZ + NAICBZZ + PCICBZZ + PLICBZZ + PPICBZZ + SGICBZZ + SNICBZZ + UOICBZZ + USICBZZ + WXICBZZ POICBUS = $\Sigma$ POICBZZ
POICP	Other petroleum products consumed by the industrial sector.	Thousand barrels	POICPZZ = ABICPZZ + COICPZZ + FNICPZZ + FOICPZZ + FSICPZZ + MBICPZZ + MSICPZZ + NAICPZZ + PCICPZZ + PLICPZZ + PPICPZZ + SGICPZZ + SNICPZZ + UOICPZZ + USICPZZ + WICPZZ POICPUS = $\Sigma$ POICPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
POTCB	Other petroleum products total consumed.	Billion Btu	$POTCBZZ = ABTCBZZ + COTCBZZ + FNTCBZZ + FOTCBZZ + FSTCBZZ + MBTCBZZ + MSTCBZZ + NATCBZZ + PCTCBZZ + PLTCBZZ + PPTCBZZ + SGTCBZZ + SNTCBZZ + UOTCBZZ + USTCBZZ + WXTCBZZ$ $POTCBUS = \Sigma POTCBZZ$
POTCP	Other petroleum products total consumed.	Thousand barrels	$POTCPZZ = ABTCPZZ + COTCPZZ + FNTCPZZ + FOTCPZZ + FSTCPZZ + MBTCPZZ + MSTCPZZ + NATCPZZ + PCTCPZZ + PLTCPZZ + PPTCPZZ + SGTCPZZ + SNTCPZZ + UOTCPZZ + USTCPZZ + WXTCPZZ$ $POTCPUS = \Sigma POTCPZZ$
POTXB	Other petroleum products total end-use consumption.	Billion Btu	$POTXBZZ = POICBZZ + PCCCBZZ$ $POTXBUS = \Sigma POTXBZZ$
POTXP	Other petroleum products total end-use consumption.	Thousand barrels	$POTXPZZ = POICPZZ + PCCCPZZ$ $POTXPUS = \Sigma POTXPZZ$
PPICB	Pentanes plus consumed by the industrial sector.	Billion Btu	$PPICBZZ = PPTCBZZ$ $PPICBUS = PPTCBUS$
PPICP	Pentanes plus consumed by the industrial sector.	Thousand barrels	$PPICPZZ = PPTCPZZ$ $PPICPUS = PPTCPUS$
PPTCB	Pentanes plus total consumed.	Billion Btu	$PPTCBZZ = PPTCPZZ * 4.620$ $PPTCBUS = \Sigma PPTCBZZ$
PPTCP	Pentanes plus total consumed.	Thousand barrels	$PPTCPZZ = PPTCPUS * FNCASZZ$ $PPTCPUS$ is independent.
PVCAP	Cumulative installed capacity of grid-connected photovoltaic module installations.	Direct current Megawatts	$PVCAPZZ$ is independent. $PVCAPUS = \Sigma PVCAPZZ$
PVHCB	Distributed photovoltaic energy consumed in the residential, commercial, and industrial sectors (excluding power generated at commercial and industrial facilities with capacity of 1 megawatt or greater).	Billion Btu	$PVHCBZZ = (PVCAPZZ / PVCAPUS) * PVHCBUS$ $PVHCBUS = SOHCBUS * PVHCSUS$
PVHCS	Photovoltaic energy share of distributed solar energy consumption for the United States.	Percent share	$PVHCSUS$ is independent.
RDICP	Road oil consumed by the industrial sector.	Thousand barrels	$RDICPZZ = (RDINPZZ / RDINPUS) * RDTCPUS$ $RDICPUS = \Sigma RDICPZZ$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
RDINP	Road oil sold to the industrial sector.	Short tons	RDINPZZ is independent. RDINPUS = $\Sigma$ RDINPZZ
RDTCP	Road oil total consumed.	Thousand barrels	RDTCPZZ = RDICPZZ RDTCPUS is independent.
REACB	Renewable energy sources consumed by the transportation sector.	Billion Btu	REACBZZ = EMACBZZ REACBUS = EMACBUS
RECCB	Renewable energy sources consumed by the commercial sector.	Billion Btu	RECCBZZ = EMCCBZZ + GECCBZZ + HYCCBZZ + SOCCBZZ + WWCCBZZ + WYCCBZZ RECCBUS = EMCCBUS + GECCBUS + HYCCBUS + SOCCBUS + WWCCBUS + WYCCBUS
REEIB	Renewable energy sources consumed by the electric power sector.	Billion Btu	REEIBZZ = HYEGBZZ + GEEGBZZ + SOEGBZZ + WWEIBZZ + WYEGBZZ REEIBUS = HYEGBUS + GEEGBUS + SOEGBUS + WWEIBUS + WYEGBUS
REICB	Renewable energy sources consumed by the industrial sector.	Billion Btu	REICBZZ = EMICBZZ + EMLCBZZ + GEICBZZ + HYICBZZ + SOICBZZ + WWICBZZ + WYICBZZ REICBUS = EMICBUS + EMLCBUS + GEICBUS + HYICBUS + SOICBUS + WWICBUS + WYICBUS
RERCB	Renewable energy sources consumed by the residential sector.	Billion Btu	RERCBZZ = WDRCBZZ + GERCBZZ + SOHCBZZ RERCBUS = WDRCBUS + GERCBUS + SOHCBUS
RETCB	Renewable energy sources total consumed.	Billion Btu	RETCBZZ = EMLCBZZ + EMTCBZZ + GETCBZZ + HYTCBZZ + SOTCBZZ + WWTCBZZ + WYTCBZZ RETCBUS = EMLCBUS + EMTCBUS + GETCBUS + HYTCBUS + SOTCBUS + WWTCBUS + WYTCBUS
RFACB	Residual fuel oil consumed by the transportation sector.	Billion Btu	RFACBZZ = RFACPZZ * 6.287 RFACBUS = $\Sigma$ RFACBZZ
RFACP	Residual fuel oil consumed by the transportation sector.	Thousand barrels	RFACPZZ = (RFTRPZZ / RFNDPZZ) * RFNCPZZ RFACPUS = $\Sigma$ RFACPZZ
RFBKP	Residual fuel oil sold for vessel bunkering use, excluding deliveries to the military.	Thousand barrels	RFBKPZZ is independent. RFBKPUS = $\Sigma$ RFBKPZZ
RFCCB	Residual fuel oil consumed by the commercial sector.	Billion Btu	RFCCBZZ = RFCCPZZ * 6.287 RFCCBUS = $\Sigma$ RFCCBZZ
RFCCP	Residual fuel oil consumed by the commercial sector.	Thousand barrels	RFCCPZZ = (RFCMPZZ / RFNDPZZ) * RFNCPZZ RFCCPUS = $\Sigma$ RFCCPZZ

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
RFCMP	Residual fuel oil sold to the commercial sector.	Thousand barrels	RFCMPZZ is independent. RFCMPUS = $\Sigma$ RFCMPZZ
RFEIB	Residual fuel oil consumed by the electric power sector.	Billion Btu	RFEIBZZ = RFEIPZZ * 6.287 RFEIBUS = $\Sigma$ RFEIBZZ
RFEIP	Residual fuel oil consumed by the electric power sector.	Thousand barrels	RFEIPZZ is independent. RFEIPUS = $\Sigma$ RFEIPZZ
RFIBP	A portion of residual fuel oil sold for industrial use, including industrial space heating.	Thousand barrels	RFIBPZZ is independent. RFIBPUS = $\Sigma$ RFIBPZZ
RFICB	Residual fuel oil consumed by the industrial sector.	Billion Btu	RFICBZZ = RFICPZZ * 6.287 RFICBUS = $\Sigma$ RFICBZZ
RFICP	Residual fuel oil consumed by the industrial sector.	Thousand barrels	RFICPZZ = (RFINPZZ / RFNDPZZ) * RFNCPZZ RFICPUS = $\Sigma$ RFICPZZ
RFINP	Residual fuel oil sold to the industrial sector.	Thousand barrels	RFINPZZ = RFIBPZZ + RFOCPZZ + RFMSPZZ RFINPUS = $\Sigma$ RFINPZZ
RFMIP	Residual fuel oil sold to the military, regardless of use.	Thousand barrels	RFMIPZZ is independent. RFMIPUS = $\Sigma$ RFMIPZZ
RFMSP	Residual fuel oil sold for miscellaneous uses.	Thousand barrels	RFMSPZZ is independent. RFMSPUS = $\Sigma$ RFMSPZZ
RFNCP	Residual fuel oil consumption by all sectors other than the electric power sector.	Thousand barrels	RFNCPZZ = (RFNDPZZ / RFNDPUS) * RFNCPUS RFNCPUS = RFTCPUS - RFEIPUS
RFNDP	Residual fuel oil sold to all sectors other than the electric power sector.	Thousand barrels	RFNDPZZ = RFCMPZZ + RFINPZZ + RFTRPZZ RFNDPUS = $\Sigma$ RFNDPZZ
RFOCP	Residual fuel oil sold for use by oil companies.	Thousand barrels	RFOCPZZ is independent. RFOCPUS = $\Sigma$ RFOCPZZ
RFRRP	Residual fuel oil sold for use by railroads.	Thousand barrels	RFRRPZZ is independent. RFRRPUS = $\Sigma$ RFRRPZZ
RFTCB	Residual fuel oil total consumed.	Billion Btu	RFTCBZZ = RFCCBZZ + RFICBZZ + RFACBZZ + RFEIBZZ RFTCBUS = $\Sigma$ RFTCBZZ
RFTCP	Residual fuel oil total consumed.	Thousand barrels	RFTCPZZ = RFNCPZZ + RFEIPZZ RFTCPUS is independent.
RFTRP	Residual fuel oil sold to the transportation sector.	Thousand barrels	RFTRPZZ = RFBKPZZ + RFMIPZZ + RFRRPZZ RFTRPUS = $\Sigma$ RFTRPZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
RFTXB	Residual fuel oil total end-use consumption.	Billion Btu	$RFTXBZZ = RFACBZZ + RFCCBZZ + RFICBZZ$ $RFTXBUS = \Sigma RFTXBZZ$
RFTXP	Residual fuel oil total end-use consumption.	Thousand barrels	$RFTXPZZ = RFACPZZ + RFCCPZZ + RFICPZZ$ $RFTXPUS = \Sigma RFTXPZZ$
SFCCB	Supplemental gaseous fuels consumed by the commercial sector.	Billion Btu	$SFCCBZZ = SFCCPZZ * NGTXKZZ$ $SFCCBUS = \Sigma SFCCBZZ$
SFCCP	Supplemental gaseous fuels consumed by the commercial sector.	Million cubic feet	$SFCCPZZ = NGSFPZZ * (NGCCPZZ / NGTZPZZ)$ $SFCCPUS = \Sigma SFCCPZZ$
SFEIB	Supplemental gaseous fuels consumed by the electric power sector.	Billion Btu	$SFEIBZZ = SFEIPZZ * NGEIKZZ$ $SFEIBUS = \Sigma SFEIBZZ$
SFEIP	Supplemental gaseous fuels consumed by the electric power sector.	Million cubic feet	$SFEIPZZ = NGSFPZZ * (NGEIPZZ / NGTZPZZ)$ $SFEIPUS = \Sigma SFEIPZZ$
SFINB	Supplemental gaseous fuels consumed by the industrial sector.	Billion Btu	$SFINBZZ = SFINPZZ * NGTXKZZ$ $SFINBUS = \Sigma SFINBZZ$
SFINP	Supplemental gaseous fuels consumed by the industrial sector.	Million cubic feet	$SFINPZZ = NGSFPZZ * (NGINPZZ / NGTZPZZ)$ $SFINPUS = \Sigma SFINPZZ$
SFRCB	Supplemental gaseous fuels consumed by the residential sector.	Billion Btu	$SFRCBZZ = SFRCPZZ * NGTXKZZ$ $SFRCBUS = \Sigma SFRCBZZ$
SFRCP	Supplemental gaseous fuels consumed by the residential sector.	Million cubic feet	$SFRCPZZ = NGSFPZZ * (NGRCPZZ / NGTZPZZ)$ $SFRCPUS = \Sigma SFRCPZZ$
SFTCB	Supplemental gaseous fuels total consumed.	Billion Btu	$SFTCBZZ = SFCCBZZ + SFINBZZ + SFRCBZZ + SFEIBZZ$ $SFTCBUS = \Sigma SFTCBZZ$
SFTCP	Supplemental gaseous fuels total consumed.	Million cubic feet	$SFTCPZZ = SFCCPZZ + SFINPZZ + SFRCPZZ + SFEIPZZ$ $SFTCPUS = \Sigma SFTCPZZ$
SGICB	Still gas consumed by the industrial sector.	Billion Btu	$SGICBZZ = SGTCBZZ$ $SGICBUS = SGTCBUS$
SGICP	Still gas consumed by the industrial sector.	Thousand barrels	$SGICPZZ = SGTCPZZ$ $SGICPUS = SGTCPUS$
SGTCB	Still gas total consumed.	Billion Btu	$SGTCBZZ = SGTCPZZ * 6.000$ $SGTCBUS = \Sigma SGTCBZZ$
SGTCP	Still gas total consumed.	Thousand barrels	$SGTCPZZ = (COCAPZZ / COCAPUS) * SGTCPUS$ SGTCPUS is independent.



Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
SNICB	Special naphthas consumed by the industrial sector.	Billion Btu	SNICBZZ = SNTCBZZ SNICBUS = SNTCBUS
SNICP	Special naphthas consumed by the industrial sector.	Thousand barrels	SNICPZZ = SNTCPZZ SNICPUS = SNTCPUS
SNTCB	Special naphthas total consumed.	Billion Btu	SNTCBZZ = SNTCPZZ * 5.248 SNTCBUS = $\Sigma$ SNTCBZZ
SNTCP	Special naphthas total consumed.	Thousand barrels	SNTCPZZ = (PIVAVZZ / PIVAVUS) * SNTCPUS SNTCPUS is independent.
SOC5B	Photovoltaic and solar thermal energy consumed at commercial CHP and electricity-only facilities.	Billion Btu	SOC5BZZ = SOC5PZZ * FFETKUS SOC5BUS = $\Sigma$ SOC5BZZ
SOC5P	Photovoltaic and solar thermal electricity net generation at utility scale commercial CHP and electricity-only facilities.	Million kilowatthours	SOC5PZZ is independent. SOC5PUS = $\Sigma$ SOC5PZZ
SOCCB	Photovoltaic and solar thermal energy consumed by the commercial sector (excluding portion included in SOHCB).	Billion Btu	SOCCBZZ = SOC5BZZ SOCCBUS = $\Sigma$ SOCCBZZ
SOEGB	Photovoltaic and solar thermal energy consumed for electricity generation by the electric power sector.	Billion Btu	SOEGBZZ = SOEGPZZ * FFETKUS SOEGBUS = $\Sigma$ SOEGBZZ
SOEGP	Photovoltaic and solar thermal electricity net generation in the electric power sector.	Million kilowatthours	SOEGPZZ is independent. SOEGPUS = $\Sigma$ SOEGPZZ
SOHCB	Photovoltaic and solar thermal energy consumed in the residential, commercial, and industrial sectors (excluding power generated at commercial and industrial facilities with capacity of 1 megawatt or greater).	Billion Btu	SOHCBZZ = (SOTTPZZ / SOTTPUS) * SOHCBUS SOHCBUS is independent.
SOI5B	Photovoltaic and solar thermal energy consumed at industrial CHP and electricity-only facilities.	Billion Btu	SOI5BZZ = SOI5PZZ * FFETKUS SOI5BUS = $\Sigma$ SOI5BZZ
SOI5P	Photovoltaic and solar thermal electricity net generation at utility scale industrial CHP and electricity-only facilities.	Million kilowatthours	SOI5PZZ is independent. SOI5PUS = $\Sigma$ SOI5PZZ
SOICB	Photovoltaic and solar thermal energy consumed by the industrial sector (excluding portion included in SOHCB).	Billion Btu	SOICBZZ = SOI5BZZ SOICBUS = $\Sigma$ SOICBZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
SOTCB	Photovoltaic and solar thermal energy, total consumed.	Billion Btu	$SOTCBZZ = SOCCBZZ + SOEGBZZ + SOHCBZZ + SOICBZZ$ $SOTCBUS = \Sigma SOTCBZZ$
SOTTP	Rolling 20-year accumulation of shipments of solar thermal energy collectors.	Square feet	SOTTPZZ is independent. $SOTTPUS = \Sigma SOTTPZZ$
SOTXB	Photovoltaic and solar thermal energy, total end-use consumption.	Billion Btu	$SOTXBZZ = SOHCBZZ + SOCCBZZ + SOICBZZ$ $SOTXBUS = \Sigma SOTXBZZ$
STHCB	Distributed solar thermal energy consumed in the residential, commercial, and industrial sectors (excluding power generated at commercial and industrial facilities with capacity of 1 megawatt or greater).	Billion Btu	$STHCBZZ = (SOTTPZZ / SOTTPUS) * STHCBUS$ $STHCBUS = SOHCBUS - PVHCBUS$
TEACB	Total energy consumed by the transportation sector.	Billion Btu	$TEACBZZ = CLACBZZ + NGACBZZ + PAACBZZ + ESACBZZ + LOACBZZ$ $TEACBUS = CLACBUS + NGACBUS + PAACBUS + ESACBUS + LOACBUS$
TEAPB	The transportation sector's energy consumption per capita.	Million Btu	$TEAPBZZ = TEACBZZ / TPOPPZZ$ $TEAPBUS = TEACBUS / TPOPPUS$
TECCB	Total energy consumed by the commercial sector.	Billion Btu	$TECCBZZ = CLCCBZZ + NGCCBZZ + PACCBZZ + GECCBZZ + HYCCBZZ + SOCCBZZ + WWCCBZZ + WYCCBZZ + ESCCBZZ + LOCCBZZ - SFCCBZZ$ $TECCBUS = CLCCBUS + NGCCBUS + PACCBUS + GECCBUS + HYCCBUS + SOCCBUS + WWCCBUS + WYCCBUS + ESCCBUS + LOCCBUS - SFCCBUS$
TECPB	The commercial sector's energy consumption per capita.	Million Btu	$TECPBZZ = TECCBZZ / TPOPPZZ$ $TECPBUS = TECCBUS / TPOPPUS$
TEEIB	Total energy consumed by the electric power sector plus net imports of electricity into the United States.	Billion Btu	$TEEIBZZ = CLEIBZZ + NGEIBZZ + PAEIBZZ + NUEGBZZ + GEEGBZZ + HYEGBZZ + SOEGBZZ + WWEIBZZ + WYEGBZZ + ELNIBZZ - SFEIBZZ$ $TEEIBUS = \Sigma TEEIBZZ$
TEESB	Total energy used to generate the electricity consumed in a state.	Billion Btu	$TEESBZZ = TEEIBZZ + ELISBZZ$ $TEESBUS = TEEIBUS$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
TEICB	Total energy consumed by the industrial sector.	Billion Btu	$TEICBZZ = CLICBZZ + NGICBZZ + PAICBZZ + GEICBZZ + HYICBZZ + SOICBZZ + WWICBZZ + WYICBZZ + ESICBZZ + LOICBZZ + EMLCBZZ - SFINBZZ$ $TEICBUS = CLICBUS + CCNIBUS + NGICBUS + PAICBUS + GEICBUS + HYICBUS + SOICBUS + WWICBUS + WYICBUS + ESICBUS + LOICBUS + EMLCBUS - SFINBUS$
TEIPB	The industrial sector's energy consumption per capita.	Million Btu	$TEIPBZZ = TEICBZZ / TPOPPZZ$ $TEIPBUS = TEICBUS / TPOPPUS$
TERCB	Total energy consumed by the residential sector.	Billion Btu	$TERCBZZ = CLRCBZZ + NGRCBZZ + PARCBZZ + WDRCBZZ + GERCBZZ + SOHCBZZ + ESRCBZZ + LORCBZZ - SFRCBZZ$ $TERCBUS = CLRCBUS + NGRCBUS + PARCBUS + WDRCBUS + GERCBUS + SOHCBUS + ESRCBUS + LORCBUS - SFRCBUS$
TERPB	The residential sector's energy consumption per capita.	Million Btu	$TERPBZZ = TERCBZZ / TPOPPZZ$ $TERPBUS = TERCBUS / TPOPPUS$
TETCB	Total energy consumed.	Billion Btu	$TETCBZZ = FFTCBZZ + NUETBZZ + RETCBZZ + ELNIBZZ + ELISBZZ$ $TETCBUS = FFTCBUS + NUETBUS + RETCBUS + ELNIBUS$
TETGR	Total energy consumed per dollar of real gross domestic product.	Thousand Btu per chained (2009) dollars.	$TETGRZZ = TETCBZZ / GDPRXZZ$ $TETGRUS = TETCBUS / GDPRXUS$
TETPB	Total energy consumption per capita.	Million Btu	$TETPBZZ = TETCBZZ / TPOPPZZ$ $TETPBUS = TETCBUS / TPOPPUS$
TETXB	Total end-use energy consumption.	Billion Btu	$TETXBZZ = TEACBZZ + TECCBZZ + TEICBZZ + TERCBZZ$ $TETXBUS = \Sigma TETXBZZ$
TNACB	Total net energy consumed by the transportation sector excluding the sector's share of electrical system energy losses.	Billion Btu	$TNACBZZ = TEACBZZ - LOACBZZ$ $TNACBUS = TEACBUS - LOACBUS$
TNCCB	Total net energy consumed by the commercial sector excluding the sector's share of electrical system energy losses.	Billion Btu	$TNCCBZZ = TECCBZZ - LOCCBZZ$ $TNCCBUS = TECCBUS - LOCCBUS$
TNICB	Total net energy consumed by the industrial sector excluding the sector's share of electrical system energy losses.	Billion Btu	$TNICBZZ = TEICBZZ - LOICBZZ$ $TNICBUS = TEICBUS - LOICBUS$

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
TNRCB	Total net energy consumed by the residential sector excluding the sector's share of electrical system energy losses.	Billion Btu	TNRCBZZ = TERCBZZ - LORCBZZ TNRCBUS = TERCBUS - LORCBUS
TNTXB	Total primary energy and electricity consumed by the end-use sectors.	Billion Btu	TNTXBZZ = TNACBZZ + TNCCBZZ + TNICBZZ + TNRCBZZ TNTXBUS = $\Sigma$ TNTXBZZ
TPOPP	The resident population including the Armed Forces residing in each state.	Thousand	TPOPPZZ is independent. TPOPPUS is independent.
UOICB	Unfinished oils consumed by the industrial sector.	Billion Btu	UOICBZZ = UOTCBZZ UOICBUS = UOTCBUS
UOICP	Unfinished oils consumed by the industrial sector.	Thousand barrels	UOICPZZ = UOTCPZZ UOICPUS = UOTCPUS
UOTCB	Unfinished oils total consumed.	Billion Btu	UOTCBZZ = UOTCPZZ * 5.825 UOTCBUS = $\Sigma$ UOTCBZZ
UOTCP	Unfinished oils total consumed.	Thousand barrels	UOTCPZZ = (COCAPZZ / COCAPUS) * UOTCPUS UOTCPUS is independent.
USICB	Unfractionated streams consumed by the industrial sector.	Billion Btu	USICBZZ = USTCBZZ USICBUS = USTCBUS
USICP	Unfractionated streams consumed by the industrial sector.	Thousand barrels	USICPZZ = USTCPZZ USICPUS = USTCPUS
USTCB	Unfractionated streams total consumed.	Billion Btu	USTCBZZ = USTCPZZ * 5.418 USTCBUS = $\Sigma$ USTCBZZ
USTCP	Unfractionated streams total consumed.	Thousand barrels	USTCPZZ = USTCPUS * FNCASZZ USTCPUS is independent.
WDC3B	Wood consumed by CHP and electricity-only facilities in the commercial sector.	Billion Btu	WDC3BZZ is independent. WDC3BUS = $\Sigma$ WDC3BZZ
WDC4B	Wood energy consumed for other uses in the commercial sector.	Billion Btu	WDC4BZZ = (WDRCPZZ / WDRCPUS) * WDC4BUS WDC4BUS = WDCCBUS - WDC3BUS
WDCCB	Wood energy consumed by the commercial sector, total.	Billion Btu	WDCCBZZ = WDC3BZZ + WDC4BZZ WDCCBUS is independent.
WDEIB	Wood consumed by the electric power sector.	Billion Btu	WDEIBZZ is independent. WDEIBUS = $\Sigma$ WDEIBZZ

Table A1. Consumption Variables (cont.)

MSN	Description	Unit	Formula
WDI3B	Wood consumed by CHP and electricity-only facilities in the industrial sector.	Billion Btu	WDI3BZZ is independent. WDI3BUS = $\Sigma$ WDI3BZZ
WDI4B	Wood energy consumed for other uses in the industrial sector.	Billion Btu	WDI4BZZ is independent. WDI4BUS = $\Sigma$ WDI4BZZ
WDICB	Wood energy consumed by the industrial sector, total.	Billion Btu	WDICBZZ = WDI3BZZ + WDI4BZZ WDICBUS = $\Sigma$ WDICBZZ
WDRCB	Wood energy consumed by the residential sector.	Billion Btu	WDRCBZZ = WDRCPZZ * 20 WDRCBUS = $\Sigma$ WDRCBZZ
WDRCP	Wood energy consumed by the residential sector.	Thousand cords	WDRCPZZ is independent. WDRCPUS = $\Sigma$ WDRCPZZ
WDTCB	Wood energy, total consumed.	Billion Btu	WDTCBZZ = WDRCBZZ + WDCCBZZ + WDICBZZ + WDEIBZZ WDTCBUS = $\Sigma$ WDTCBZZ
WSC3B	Waste consumed by CHP and electricity-only facilities in the commercial sector.	Billion Btu	WSC3BZZ is independent. WSC3BUS = $\Sigma$ WSC3BZZ
WSCCB	Waste consumed in the commercial sector, total.	Billion Btu	WSCCBZZ = WSC3BZZ WSCCBUS = $\Sigma$ WSCCBZZ
WSEIB	Waste consumed by the electric power sector.	Billion Btu	WSEIBZZ is independent. WSEIBUS = $\Sigma$ WSEIBZZ
WSI3B	Waste consumed by CHP and electricity-only facilities in the industrial sector.	Billion Btu	WSI3BZZ is independent. WSI3BUS = $\Sigma$ WSI3BZZ
WSI4B	Waste energy consumed for other uses in the industrial sector.	Billion Btu	WSI4BZZ is independent. WSI4BUS = $\Sigma$ WSI4BZZ
WSICB	Waste energy consumed by the industrial sector, total.	Billion Btu	WSICBZZ = WSI3BZZ + WSI4BZZ WSICBUS = $\Sigma$ WSICBZZ
WSTCB	Waste energy, total consumed.	Billion Btu	WSTCBZZ = WSCCBZZ + WSICBZZ + WSEIBZZ WSTCBUS = $\Sigma$ WSTCBZZ
WWCCB	Wood and waste consumed in the commercial sector.	Billion Btu	WWCCBZZ = WDCCBZZ + WSCCBZZ WWCCBUS = $\Sigma$ WWCCBZZ
WWEIB	Wood and waste consumed by the electric power sector.	Billion Btu	WWEIBZZ = WDEIBZZ + WSEIBZZ WWEIBUS = $\Sigma$ WWEIBZZ
WWI4B	Wood and waste consumed in manufacturing processes in the industrial sector.	Billion Btu	WWI4BZZ = WDI4BZZ + WSI4BZZ WWI4BUS = $\Sigma$ WWI4BZZ

**Table A1. Consumption Variables (cont.)**

MSN	Description	Unit	Formula
WWICB	Wood and waste consumed in the industrial sector, total.	Billion Btu	WWICBZZ = WDICBZZ + WSICBZZ WWICBUS = $\Sigma$ WWICBZZ
WWTCB	Wood and waste total consumed.	Billion Btu	WWTCBZZ = WDTCBZZ + WSTCBZZ WWTCBUS = $\Sigma$ WWTCBZZ
WWTXB	Wood and waste total end-use consumption.	Billion Btu	WWTXBZZ = WDRCBZZ + WDCCBZZ + WDICBZZ + WSCCBZZ + WSICBZZ WWTXBUS = $\Sigma$ WWTXBZZ
WXICB	Waxes consumed by the industrial sector.	Billion Btu	WXICBZZ = WXTCBZZ WXICBUS = WXTCBUS
WXICP	Waxes consumed by the industrial sector.	Thousand barrels	WXICPZZ = WXTCPZZ WXICPUS = WXTCPUS
WXTCB	Waxes total consumed.	Billion Btu	WXTCBZZ = WXTCPZZ * 5.537 WXTCBUS = $\Sigma$ WXTCBZZ
WXTCP	Waxes total consumed.	Thousand barrels	WXTCPZZ = (CGVAVZZ / CGVAVUS) * WXTCPUS WXTCPUS is independent.
WYC5B	Wind energy consumed at commercial CHP and electricity-only facilities.	Billion Btu	WYC5BZZ = WYC5PZZ * FFETKUS WYC5BUS = $\Sigma$ WYC5BZZ
WYC5P	Wind electricity net generation at utility scale commercial CHP and electricity-only facilities.	Million kilowatthours	WYC5PZZ is independent. WYC5PUS = $\Sigma$ WYC5PZZ
WYCCB	Wind energy consumed by the commercial sector.	Billion Btu	WYCCBZZ = WYC5BZZ WYCCBUS = $\Sigma$ WYCCBZZ
WYCCP	Wind electricity net generation in the commercial sector.	Million kilowatthours	WYCCPZZ = WYC5PZZ WYCCPUS = $\Sigma$ WYCCPZZ
WYEGB	Wind energy consumed for electricity generation by the electric power sector.	Billion Btu	WYEGBZZ = WYEGPZZ * FFETKUS WYEGBUS = $\Sigma$ WYEGBZZ
WYEGP	Wind electricity net generation in the electric power sector.	Million kilowatthours	WYEGPZZ is independent. WYEGPUS = $\Sigma$ WYEGPZZ
WYI5B	Wind energy consumed for electricity generation at industrial CHP and electricity-only facilities.	Billion Btu	WYI5BZZ = WYI5PZZ * FFETKUS WYI5BUS = $\Sigma$ WYI5BZZ
WYI5P	Wind electricity net generation at utility scale industrial CHP and electricity-only facilities.	Million kilowatthours	WYI5PZZ is independent. WYI5PUS = $\Sigma$ WYI5PZZ

**Table A1. Consumption Variables (cont.)**

<b>MSN</b>	<b>Description</b>	<b>Unit</b>	<b>Formula</b>
WYICB	Wind energy consumed by the industrial sector.	Billion Btu	WYICBZZ = WYI5BZZ WYICBUS = $\Sigma$ WYICBZZ
WYICP	Wind electricity net generation in the industrial sector.	Million kilowatthours	WYICPZZ = WYI5PZZ WYICPUS = $\Sigma$ WYICPZZ
WYTCB	Wind energy, total consumed.	Billion Btu	WYTCBZZ = WYCCBZZ + WYEGBZZ + WYICBZZ WYTCBUS = $\Sigma$ WYTCBZZ
WYTCP	Wind electricity, total net generation.	Million kilowatthours	WYTCPZZ = WYCCPZZ + WYEGPZZ + WYICPZZ WYTCPUS = $\Sigma$ WYTCPZZ
WYTXB	Wind energy, total end-use consumption.	Billion Btu	WYTXBZZ = WYCCBZZ + WYICBZZ WYTXBUS = $\Sigma$ WYTXBZZ
WYTXP	Wind energy, total end-use net generation.	Million kilowatthours	WYTXPZZ = WYCCPZZ + WYICPZZ WYTXPUS = $\Sigma$ WYTXPZZ