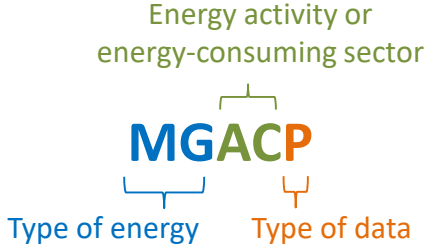
Section 1. Documentation guide

This section describes the common data identification codes used in the State Energy Data System (SEDS). Sections 2 through 7, one for each energy source and total energy, provide: descriptions of all SEDS data series, including all of the intermediate variables codes; the SEDS formulas used to estimate additional data series; and notes on special circumstances for any series.

The energy indicators technical notes provides the degree day data, electric net summer capacity data, resident population data used in per capita calculations, and real gross domestic product (GDP) used to calculate total energy consumption per real dollar of real GDP. Appendix A is an alphabetical listing of all the variable names and formulas used in consumption estimation. Appendix B lists the conversion factors used to convert physical units into British thermal units (Btu) and cites the sources for those factors. Appendix C provides metric and other physical conversion factors for measures used in energy analyses. Appendix D summarizes changes made since the last complete release of SEDS estimates.

There are about 1,000 variables in SEDS, each identified by a unique five-character mnemonic series name, or MSN. All published MSNs are listed in the Codes and Descriptions file on the SEDS website here: https://www.eia.gov/state/seds/CDF/Codes_and_Descriptions.xlsx.

In the following example, MGACP is the identifying code for data on motor gasoline consumption in the transportation sector in physical units:



The first two characters in the SEDS variable names represent energy sources and products:

AB	=	aviation gasoline blending components
AI	=	aluminum ingot
AR	=	asphalt and road oil
AS	=	asphalt
AV	=	aviation gasoline
B1	=	renewable diesel
BD	=	biodiesel
BF	=	biofuels
BM	=	biomass
BO	=	other biofuels
BQ	=	normal butane
BT	=	battery storage
BX	=	total biofuels (excluding fuel ethanol)
BY	=	butylene
CC	=	coal coke
CG	=	corrugated and solid fiber boxes
CL	=	coal
CO	=	crude oil, including lease condensate
CT	=	catalytic cracking
DA	=	distillate fuel oil, biodiesel, and renewable diesel
DF	=	distillate fuel oil
DM	=	distillate fuel oil, excluding biodiesel and renewable diesel
EL	=	electricity
EM	=	fuel ethanol, excluding denaturant
EN	=	fuel ethanol, including denaturant
EQ	=	ethane
ES	=	electricity sales
EY	=	ethylene
FF	=	fossil fuels
FN	=	petrochemical feedstocks, naphtha less than 401˚F
FO	=	petrochemical feedstocks, other oils equal to or greater than 401˚F
FS	=	petrochemical feedstocks, still gas
GE	=	geothermal energy
HL	=	hydrocarbon gas liquids
HP	=	hydroelectric pumped storage
HV	=	conventional hydroelectric power
HY	=	hydroelectric power
IQ	=	isobutane
IY	=	isobutylene
JF	=	jet fuel
JK	=	jet fuel, kerosene-type

JN	=	jet fuel, naphtha-type
KS	=	kerosene
LO	=	electrical system energy losses
LU	=	lubricants
MB	=	motor gasoline blending components
MG	=	motor gasoline
MM	=	motor gasoline excluding fuel ethanol
MS	=	miscellaneous petroleum products
NA	=	natural gasoline (including isopentane) (before 1984)
NG	=	natural gas, including supplemental gaseous fuels
NN	=	natural gas, excluding supplemental gaseous fuels
NU	=	nuclear electric power
OC	=	organic chemicals
OJ	=	other gases
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
PI	=	paints and allied products
PL	=	plant condensate
PM	=	all petroleum products excluding ethanol blended into motor gasoline
PP	=	natural gasoline (previously pentanes plus)
PQ	=	propane
PY	=	propylene
RD	=	road oil
RE	=	renewable energy
RF	=	residual fuel oil
SF	=	supplemental gaseous fuels
SG	=	still gas
SN	=	special naphtha
SO	=	photovoltaic and solar thermal energy
TE	=	total energy
TN	=	end-use energy consumption
UO	=	unfinished oils
US	=	unfractionated streams
WD	=	wood
WS	=	waste
WW	=	wood and waste
WX	=	waxes
WY	=	wind
WZ	=	waste, excluding biodiesel

The third and fourth characters in the SEDS variable names have several meanings and some are specific to only certain energy sources. First, many represent the energy-consuming sectors:

AC	=	transportation sector consumption
CC	=	commercial sector consumption
EG	=	electric power sector generation (also consumption)
EI	=	electric power sector consumption
ET	=	total consumption for electricity generation (nuclear only)
HC	=	residential and commerical sector (coal only)
IC	=	industrial sector consumption
RC	=	residential sector consumption
TC	=	total consumption of all energy-consuming sectors
TX	=	total consumption of all end-use sectors

Second, many of the third and fourth characters represent activities, such as: trade, interstate flow, energy losses, subsectors, as well as sales, deliveries, and distribution data series used in the intermediate calculations to derive the SEDS end-use sector consumption estimates. Examples include:

AB	=	refinery and blender net inputs portion to the transportation sector (biofuels only)
AU	=	product supplied portion to the transportation sector (biofuels only)
CA	=	capacity
CB	=	refinery and blender net inputs portion to the commercial sector (biodiesel only)
CU	=	product supplied portion to the commercial sector (biodiesel only)
EU	=	product supplied portion to the electric power sector (biodiesel only)
EX	=	exports
GB	=	generating units net summer capacity total (all sectors)
IM	=	imports
IN	=	deliveries to the industrial sector
IS	=	interstate flow (electricity only)
KC	=	consumption at coke plants
LC	=	energy losses and co-products (biofuels only)
LP	=	lease and plant fuel
NI	=	net imports
OC	=	other industrial consumption (coal and petroleum only)
PZ	=	pipeline and distribution use (natural gas only)

R7 = residential small-scale electricity generation (solar only)
RB = refinery and blender net inputs portion to the residential sector (biodiesel only)
RI = refinery and blender net inputs (biofuels only)
RU = product supplied portion to the residential sector (biodiesel only)
SA = adjusted consumption, blended portion to the transportation sector (biodiesel only)
SU = product supplied (biofuels only)
VA = value of shipments or value-added in manufacture

The third and fourth positions also represent the per capita SEDS consumption data series, which are equal to SEDS consumption divided by the population. These include:

AP = transportation sector consumption per capita
CP = commercial sector consumption per capita
IP = industrial sector consumption per capita
RP = residential sector consumption per capita (electricity only)
TP = total consumption per capita

Combining the first two components (the first four letters) produces variable names, such as:

NGIC = natural gas consumed by the industrial sector
NGIN = natural gas delivered to the industrial sector
RFAC = residual fuel oil consumed by the transportation sector

The fifth character of the variable names in SEDS identifies the units or type of data:

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 in million dollars

In general, most of the source data entered into SEDS are in physical units, represented by a "P" in the fifth character. For example, coal data are in thousand short tons, petroleum data are in thousand barrels, and natural gas data are in million cubic feet. In some cases, the data source collects information in different units, such as thousand gallons instead of thousand barrels. In these cases, SEDS represents these data with the fifth character "M" until converted in SEDS to the unit that is consistent with other variables. Conversion factors, represented by a "K" in the fifth character, are applied to the physical unit data to convert the data to British thermal units (Btu), a common unit of heat for all forms of energy. The fifth character "B" represents the derived data series in billion Btu. In

Table TN1.1. Geographic area codes used in the State Energy Data System

Code	State	Code	State
AK	Alaska	NC	North Carolina
AL	Alabama	ND	North Dakota
AR	Arkansas	NE	Nebraska
AZ	Arizona	NH	New Hampshire
CA	California	NJ	New Jersey
CO	Colorado	NM	New Mexico
CT	Connecticut	NV	Nevada
DC	District of Columbia	NY	New York
DE	Delaware	OH	Ohio
FL	Florida	OK	Oklahoma
GA	Georgia	OR	Oregon
HI	Hawaii	PA	Pennsylvania
IA	Iowa	RI	Rhode Island
ID	Idaho	SC	South Carolina
IL	Illinois	SD	South Dakota
IN	Indiana	TN	Tennessee
KS	Kansas	TX	Texas
KY	Kentucky	UT	Utah
LA	Louisiana	VA	Virginia
MA	Massachusetts	VT	Vermont
MD	Maryland	WA	Washington
ME	Maine	WI	Wisconsin
MI	Michigan	WV	West Virginia
MN	Minnesota	WY	Wyoming
MO	Missouri	US	United States
MS	Mississippi	48	The contiguous 48 states and the District of Columbia
MT	Montana		

a few cases, SEDS calculates the consumption estimates using shares of aggregated consumption data. The fifth character “S” represents the fractions used to calculate the consumption shares. SEDS calculates the consumption estimates for some petroleum products using the value of shipments for selected manufacturing process in each state. The fifth character “V” represents the data series for those industrial activities, in million dollars.

There are a few variables that do not follow the convention, including most energy indicators variables, such as:

GDPRX	=	real gross domestic product
TETGR	=	total energy consumption per dollar of real gross domestic product (GDP)
TPOPP	=	resident population
ZWCDP	=	cooling degree days (CDD)
ZWHDP	=	heating degree days (HDD)

Throughout the technical notes, SEDS often describes the variables with a two character geographic identification attached to them. Geographic areas used in SEDS are the 50 states and the District of Columbia (represented by the U.S. Postal Service state abbreviations) and the United States as a whole. In SEDS, the term “state” includes the District of Columbia. SEDS calculates some estimates of electricity sales and losses using only the contiguous 48 states and the District of Columbia, and the variables used in those calculations are identified by “48.”

Table TN1.1 shows the geographic area codes used in SEDS consumption variables.