

Released: December 2017  
 Next MECS will be fielded in 2019

**Table 1.3 First Use of Energy for All Purposes (Fuel and Nonfuel), 2014;**

Level: National and Regional Data;  
 Row: Values of Shipments and Employment Sizes;  
 Column: Energy Sources and Shipments;  
 Unit: Trillion Btu.

Economic Characteristic(a)	Total(b)	Net Electricity(c)	Residual Fuel Oil	Distillate Fuel Oil(d)	Natural Gas(e)	HGL (excluding natural gasoline)(f)	Coke and Breeze Other(g)			Shipments of Energy Sources Produced Onsite(h)
							Coal	Breeze	Other(g)	
<b>Total United States</b>										
<b>Value of Shipments and Receipts</b>										
<b>(million dollars)</b>										
Under 20	1,163	314	2	30	426	15	15	2	373	13
20-49	948	287	1	14	354	W	W	W	186	2
50-99	1,517	352	W	W	565	78	W	W	344	18
100-249	2,069	464	36	11	941	34	245	30	369	63
250-499	2,251	354	9	13	911	W	W	W	701	23
500 and Over	10,357	829	W	W	3,216	2,273	570	195	3,699	478
Subtotal	18,306	2,600	87	107	6,412	2,446	1,260	318	5,672	597
Not Ascertained(i)	529	0	0	0	0	0	0	0	529	0
Total	18,835	2,600	87	107	6,412	2,446	1,260	318	6,201	597
<b>Employment Size</b>										
Under 50	1,735	298	6	29	708	W	W	1	494	18
50-99	1,315	281	W	11	627	W	W	W	W	52
100-249	3,198	604	18	21	1,238	431	W	W	542	39
250-499	3,775	557	W	14	1,285	710	W	13	1,168	238
500-999	4,442	514	W	20	1,271	W	131	8	W	133
1000 and Over	3,842	347	3	12	1,283	W	369	W	W	118
Subtotal	18,306	2,600	87	107	6,412	2,446	1,260	318	5,672	597
Not Ascertained(i)	529	0	0	0	0	0	0	0	529	0
Total	18,835	2,600	87	107	6,412	2,446	1,260	318	6,201	597
<b>Northeast Census Region</b>										
<b>Value of Shipments and Receipts</b>										
<b>(million dollars)</b>										
Under 20	218	44	*	6	55	3	*	*	110	*
20-49	134	40	Q	2	46	2	W	*	W	1
50-99	147	45	1	2	64	1	W	1	W	0
100-249	194	50	2	2	87	Q	9	2	39	0
250-499	174	31	5	*	66	Q	13	0	57	0
500 and Over	447	53	1	3	109	76	W	*	W	86
Total	1,313	264	11	15	427	84	185	3	412	88
<b>Employment Size</b>										
Under 50	190	39	1	6	52	2	2	*	90	*
50-99	117	35	Q	2	57	1	4	*	18	1
100-249	365	79	3	2	105	77	19	3	77	*
250-499	185	35	*	1	86	2	13	0	48	0
500-999	242	39	6	2	68	*	5	0	122	0
1000 and Over	214	37	1	2	59	1	142	*	59	86
Total	1,313	264	11	15	427	84	185	3	412	88
<b>Midwest Census Region</b>										
<b>Value of Shipments and Receipts</b>										
<b>(million dollars)</b>										
Under 20	361	101	*	6	179	5	3	Q	66	0
20-49	299	91	*	2	138	W	25	W	W	*
50-99	461	112	4	2	199	2	47	W	W	*
100-249	804	155	*	2	418	W	W	24	106	*
250-499	611	94	*	2	286	W	W	W	65	6
500 and Over	1,915	272	1	8	619	124	W	169	W	11
Total	4,451	826	5	22	1,839	164	559	274	779	17
<b>Employment Size</b>										
Under 50	627	95	4	6	306	W	W	*	139	*

50-99	551	109	*	2	336	W	W	W	W	*
100-249	774	158	*	3	317	12	W	W	101	6
250-499	855	183	*	3	302	109	145	3	111	*
500-999	660	159	*	2	205	W	W	7	W	0
1000 and Over	984	122	*	5	374	W	142	W	W	10
Total	4,451	826	5	22	1,839	164	559	274	779	17

**South Census Region**

**Value of Shipments and Receipts  
(million dollars)**

Under 20	408	108	1	11	135	4	5	*	155	9
20-49	363	118	*	8	121	4	32	2	79	1
50-99	662	141	W	W	213	74	34	1	203	17
100-249	824	200	33	4	334	W	W	4	173	63
250-499	1,256	169	3	7	477	W	W	1	535	17
500 and Over	6,962	400	W	W	2,167	2,066	132	25	2,517	380
Total	10,476	1,136	67	50	3,446	2,182	387	33	3,662	488

**Employment Size**

Under 50	680	106	1	10	265	122	3	0	184	12
50-99	515	104	W	5	182	58	W	1	143	51
100-249	1,676	288	13	12	688	335	113	2	257	33
250-499	2,197	255	W	6	718	597	W	4	760	237
500-999	3,169	255	W	13	870	701	W	1	1,369	133
1000 and Over	2,240	128	2	4	722	369	62	25	950	21
Total	10,476	1,136	67	50	3,446	2,182	387	33	3,662	488

**West Census Region**

**Value of Shipments and Receipts  
(million dollars)**

Under 20	175	62	*	7	57	3	7	*	42	4
20-49	152	37	0	1	49	2	17	*	45	0
50-99	248	54	*	3	89	2	34	1	65	1
100-249	248	59	1	4	102	1	30	*	50	0
250-499	210	59	*	3	81	*	16	6	43	0
500 and Over	1,033	104	2	2	322	7	24	0	572	0
Total	2,066	375	4	20	700	16	129	8	819	5

**Employment Size**

Under 50	238	58	1	7	84	3	8	*	82	5
50-99	131	33	0	1	52	2	21	0	23	0
100-249	384	79	2	4	128	7	55	1	108	0
250-499	538	84	1	4	179	2	13	6	249	0
500-999	371	61	*	3	129	1	9	*	167	0
1000 and Over	404	60	0	1	128	2	24	0	189	0
Total	2,066	375	4	20	700	16	129	8	819	5

(a) Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census.

(b) 'Total' is the sum of all of the listed energy sources, including 'Other,' minus the shipments of energy sources produced onsite. It is the total amount of first use of energy for all (fuel and nonfuel) purposes.

(c) 'Net Electricity' is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

(d) 'Distillate Fuel Oil' includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

(e) 'Natural Gas' includes natural gas obtained from utilities, local distribution companies, and any other supplier(s), such as independent gas producers, gas brokers, marketers, and any marketing subsidiaries of utilities.

(f) Hydrocarbon Gas Liquids '(HGL)' include ethane, ethylene, propane, propylene, normal butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw Natural Gas Liquids (NGL).

(g) 'Other' includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote 'i'.

(h) 'Shipments of Energy Sources Produced Onsite' are those shipments produced or transformed onsite from the nonfuel use of other energy sources. For example, at an establishment that processes coal to make coke for later use, the entire quantity of coal is counted as first use. Any onsite consumption of coke is not counted as first use because it would duplicate the coal use. If some of the coke is then sold to another establishment, then that second establishment will consider this coke to be a shipment of an offsite-produced energy source. Hence, the second establishment will count this coke as its first use, thereby resulting in double counting. In order to eliminate the double counting, the energy equivalent of the coke shipment must be subtracted from first use.

(i) Previously, the Manufacturing Energy Consumption Survey (MECS) had accounted for energy consumed in petroleum refineries by measuring their own fuel use, assuming shipments of fuel products would later be counted in the industries that use them, and assigning the heat equivalent of the nonfuel products to the petroleum refinery (for a more detailed explanation see, "Feedstock and Offsite-Produced Fuel at Petroleum Refineries"). Starting with the 2014 MECS, however, EIA began collecting asphalt and petrochemical feedstock data from establishments that use those nonfuel products. These data are included in the 'Other' column. However, other 'Miscellaneous Nonfuel Products (i.e. lubricants, solvents, waxes, and special naphthas) from refineries, and used elsewhere throughout the manufacturing sector as energy are not collected on the MECS. An estimate of 'the Miscellaneous Nonfuel Products used in manufacturing was derived using EIA's "U.S. Product Supplied for Crude Oil and Petroleum Products" data. The Miscellaneous Nonfuel Products are shown as a separate row, 'Not Ascertained,' under the 'Subtotal' for the 'Total United States' and this row is not allocated regionally. Therefore, the sum of the regional totals will equal the United States subtotal in the previous row. Because of the changes made to the 2014 MECS, the quantity in 'Other' for the petroleum refineries in Tables 1 and 2 is now less than it would otherwise be using the previous method. Similarly, the quantities in 'Other' for Chemicals (NAICS 325 and certain subindustries) and the asphalt industries (NAICS 324121 and 324122) are now larger than they would otherwise be under the previous method. The 2014 "Feedstock and Offsite-Produced Fuel at Petroleum Refineries" data may be found on EIA's website:

[https://www.eia.gov/dnav/pet/pet\\_cons\\_psup\\_dc\\_nus\\_mbb1\\_a.htm](https://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbb1_a.htm)

\* Estimate less than 0.5.

W=Withheld to avoid disclosing data for individual establishments.

Q=Withheld because Relative Standard Error is greater than 50 percent.

NA=Not available.

Notes: Totals may not equal sum of components because of independent rounding. The derived estimates presented in this table are for the first use (formerly primary consumption) of energy for heat and power and as feedstocks or raw material inputs. First use is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials, such as wastepaper and packing materials. First use excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Sources: Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey,' and the Bureau of the Census, data files for the '2014 Annual Survey of Manufactures.'

Released: December 2017  
 Next MECS will be fielded in 2019

**RSE Table 1.3 Relative Standard Errors for Table 1.3;**

Unit: Percents.

Economic Characteristic(a)	Total(b)	Net Electricity(c)	Residual Fuel Oil	Distillate Fuel Oil(d)	Natural Gas(e)	HGL (excluding natural gasoline)(f)	Coal	Coke and Breeze	Other(g)	Shipments of Energy Sources Produced Onsite(h)
<b>Total United States</b>										
<b>Value of Shipments and Receipts (million dollars)</b>										
Under 20	5.0	7.1	14.3	13.3	6.0	10.2	2.6	47.3	8.7	0.2
20-49	4.3	5.0	40.5	22.2	6.8	34.8	4.8	15.9	5.9	0.1
50-99	2.0	4.1	0.8	4.8	3.4	0.8	5.2	0.8	1.3	0.0
100-249	2.4	2.8	0.3	7.7	2.3	17.5	1.5	0.0	9.8	0.0
250-499	0.9	2.5	0.3	11.8	1.1	4.7	0.0	0.0	0.6	0.0
500 and Over	0.4	1.0	0.0	3.5	0.3	0.1	0.3	0.0	0.9	0.0
Subtotal	0.5	1.2	0.7	5.0	0.7	0.4	0.7	0.4	1.1	0.0
Not Ascertained(i)	0.0	X	X	X	X	X	X	X	0.0	X
Total	0.5	1.2	0.7	5.0	0.7	0.4	0.7	0.4	1.0	0.0
<b>Employment Size</b>										
Under 50	3.6	6.5	4.5	13.6	4.1	5.2	2.8	2.5	8.4	0.2
50-99	3.8	5.3	2.0	12.5	3.6	8.4	4.7	20.2	12.1	0.0
100-249	1.1	2.8	0.2	13.5	1.6	0.4	1.8	1.6	0.9	0.0
250-499	0.7	2.4	0.9	9.6	1.3	0.2	0.8	0.0	0.4	0.0
500-999	0.9	1.8	0.1	5.5	1.0	0.1	1.8	0.0	1.8	0.0
1000 and Over	0.4	2.3	0.0	7.7	0.6	0.1	0.5	0.0	0.1	0.0
Subtotal	0.5	1.2	0.7	5.0	0.7	0.4	0.7	0.4	1.1	0.0
Not Ascertained(i)	0.0	X	X	X	X	X	X	X	0.0	X
Total	0.5	1.2	0.7	5.0	0.7	0.4	0.7	0.4	1.0	0.0
<b>Northeast Census Region</b>										
<b>Value of Shipments and Receipts (million dollars)</b>										
Under 20	7.9	12.8	16.4	19.3	14.5	18.1	4.3	11.6	6.7	0.0
20-49	6.1	10.7	50.8	43.0	9.6	20.1	0.0	0.0	8.0	0.0
50-99	7.8	13.5	2.1	26.9	10.8	21.5	20.6	0.0	0.5	X
100-249	4.0	6.9	4.4	13.6	4.2	54.9	18.9	0.0	5.1	X
250-499	3.4	7.4	0.0	28.4	5.9	76.0	0.1	X	0.5	X
500 and Over	1.0	4.6	0.0	18.2	1.8	0.0	0.0	0.0	0.0	0.0
Total	1.9	3.9	5.4	11.2	3.0	1.6	1.9	0.6	1.9	0.0
<b>Employment Size</b>										
Under 50	8.9	13.8	11.1	19.9	15.0	20.9	0.2	89.2	7.8	0.0
50-99	7.4	10.6	67.4	42.9	8.8	20.2	0.0	0.0	19.0	0.0
100-249	3.5	8.7	0.5	21.2	6.7	0.4	15.4	0.0	3.1	0.0
250-499	3.6	8.1	31.1	19.2	4.4	49.9	14.2	X	0.0	X
500-999	2.3	6.5	0.2	5.0	4.8	3.5	0.0	X	0.3	X
1000 and Over	2.2	7.0	0.0	28.0	3.3	1.4	0.0	0.0	0.0	0.0
Total	1.9	3.9	5.4	11.2	3.0	1.6	1.9	0.6	1.9	0.0
<b>Midwest Census Region</b>										
<b>Value of Shipments and Receipts (million dollars)</b>										
Under 20	7.9	8.3	26.3	25.0	10.6	21.9	1.6	55.5	12.1	X
20-49	7.7	8.8	76.8	22.5	10.8	54.5	13.5	20.0	11.4	70.4
50-99	4.8	7.4	0.0	9.0	7.1	21.3	13.0	0.8	4.4	0.0
100-249	5.4	5.4	13.3	8.8	4.3	6.4	2.4	0.0	33.8	0.0
250-499	1.9	4.9	21.4	46.6	2.2	1.1	0.0	0.0	4.2	0.0
500 and Over	0.5	1.6	0.2	9.9	0.8	0.1	0.7	0.0	0.3	0.0
Total	1.4	2.0	2.1	9.6	1.7	4.5	1.3	0.4	4.8	0.0
<b>Employment Size</b>										
Under 50	7.3	6.6	2.6	24.7	6.3	52.7	3.3	0.0	26.6	25.4
50-99	4.4	7.5	6.1	26.9	5.0	9.3	11.4	31.1	5.8	0.0
100-249	2.8	5.4	0.0	11.3	4.3	7.0	3.3	1.4	2.5	0.0
250-499	2.6	4.9	0.6	40.2	4.6	0.7	0.4	0.0	1.9	0.0
500-999	2.1	3.9	0.0	14.5	4.0	3.8	0.0	0.0	0.6	X

1000 and Over	0.9	3.2	0.0	12.7	1.0	0.5	1.2	0.0	0.3	0.0
Total	1.4	2.0	2.1	9.6	1.7	4.5	1.3	0.4	4.8	0.0

#### South Census Region

#### Value of Shipments and Receipts

<b>(million dollars)</b>										
Under 20	11.0	12.8	19.9	22.9	10.0	14.6	8.4	79.8	19.5	0.0
20-49	8.7	9.3	6.8	34.4	14.9	15.0	6.6	29.2	11.6	0.0
50-99	2.5	6.4	1.1	3.7	4.1	0.5	0.9	0.0	1.8	0.0
100-249	2.6	4.5	0.0	10.0	3.5	29.6	2.0	0.0	1.8	0.0
250-499	1.1	3.8	0.2	15.8	1.4	6.2	0.1	0.0	0.5	0.0
500 and Over	0.6	1.5	0.0	0.6	0.3	0.1	0.0	0.0	1.4	0.0
Total	0.7	2.0	0.3	7.8	0.8	0.3	0.8	2.1	1.3	0.0

#### Employment Size

Under 50	5.1	9.9	16.1	23.7	6.7	1.1	14.1	X	9.0	0.0
50-99	8.2	11.2	0.1	13.4	7.5	10.0	0.4	11.1	19.0	0.0
100-249	1.3	4.1	0.2	23.0	1.8	0.3	1.9	30.7	1.2	0.0
250-499	0.7	3.6	0.7	5.5	1.0	0.1	0.6	0.0	0.6	0.0
500-999	1.2	2.5	0.0	8.1	1.0	0.1	2.8	0.0	2.5	0.0
1000 and Over	0.5	4.5	0.0	6.4	0.8	0.1	0.0	0.0	0.2	0.0
Total	0.7	2.0	0.3	7.8	0.8	0.3	0.8	2.1	1.3	0.0

#### West Census Region

#### Value of Shipments and Receipts

<b>(million dollars)</b>										
Under 20	10.7	23.5	55.0	35.7	14.8	23.5	0.0	0.0	12.9	0.8
20-49	5.8	8.6	X	17.4	10.4	33.0	0.0	0.0	9.6	X
50-99	4.6	10.7	0.0	4.0	8.9	13.7	0.2	0.0	0.3	0.1
100-249	2.3	5.5	0.0	19.3	3.0	22.7	0.0	0.0	0.1	X
250-499	2.1	5.6	0.0	3.7	2.0	18.3	0.0	0.0	1.9	X
500 and Over	0.3	1.3	0.0	8.4	0.6	0.6	0.0	X	0.0	X
Total	1.2	4.4	4.5	13.3	1.9	6.7	0.0	0.0	0.8	0.6

#### Employment Size

Under 50	8.5	24.8	26.7	35.9	12.7	19.1	0.0	0.0	8.3	0.6
50-99	4.7	8.5	X	10.5	8.5	35.8	0.0	X	3.0	X
100-249	2.7	8.1	0.0	7.4	4.2	9.5	0.0	0.0	0.6	X
250-499	0.8	3.5	0.0	16.6	1.2	16.0	0.5	0.0	0.3	X
500-999	1.1	3.9	0.0	4.5	1.6	26.7	0.0	0.0	0.1	X
1000 and Over	1.0	4.7	X	19.7	1.4	1.1	0.0	X	0.0	X
Total	1.2	4.4	4.5	13.3	1.9	6.7	0.0	0.0	0.8	0.6

(a) Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census.

(b) 'Total' is the sum of all of the listed energy sources, including 'Other,' minus the shipments of energy sources produced onsite. It is the total amount of first use of energy for all (fuel and nonfuel) purposes.

(c) 'Net Electricity' is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

(d) 'Distillate Fuel Oil' includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

(e) 'Natural Gas' includes natural gas obtained from utilities, local distribution companies, and any other supplier(s), such as independent gas producers, gas brokers, marketers, and any marketing subsidiaries of utilities.

(f) Hydrocarbon Gas Liquids '(HGL)' include ethane, ethylene, propane, propylene, normal butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw Natural Gas Liquids (NGL).

(g) 'Other' includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote 'i'.

(h) 'Shipments of Energy Sources Produced Onsite' are those shipments produced or transformed onsite from the nonfuel use of other energy sources. For example, at an establishment that processes coal to make coke for later use, the entire quantity of coal is counted as first use. Any onsite consumption of coke is not counted as first use because it would duplicate the coal use. If some of the coke is then sold to another establishment, then that second establishment will consider this coke to be a shipment of an offsite-produced energy source. Hence, the second establishment will count this coke as its first use, thereby resulting in double counting. In order to eliminate the double counting, the energy equivalent of the coke shipment must be subtracted from first use.

(i) Previously, the Manufacturing Energy Consumption Survey (MECS) had accounted for energy consumed in petroleum refineries by measuring their own fuel use, assuming shipments of fuel products would later be counted in the industries that use them, and assigning the heat equivalent of the nonfuel products to the petroleum refinery (for a more detailed explanation see, "Feedstock and Offsite-Produced Fuel at Petroleum Refineries"). Starting with the 2014 MECS, however, EIA began collecting asphalt and petrochemical feedstock data from establishments that use those nonfuel products. These data are included in the 'Other' column. However, other 'Miscellaneous Nonfuel Products (i.e. lubricants, solvents, waxes, and special naphthas) from refineries, and used elsewhere throughout the manufacturing sector as energy are not collected on the MECS. An estimate of 'the Miscellaneous Nonfuel Products used in manufacturing was derived using EIA's "U.S. Product Supplied for Crude Oil and Petroleum Products" data. The Miscellaneous Nonfuel Products are shown as a separate row, 'Not Ascertained,' under the 'Subtotal' for the 'Total United States' and this row is not allocated regionally. Therefore, the sum of the regional totals will equal the United States subtotal in the previous row. Because of the changes made to the 2014 MECS, the quantity in 'Other' for the petroleum refineries in Tables 1 and 2 is now less than it would otherwise be using the previous method. Similarly, the quantities in 'Other' for Chemicals (NAICS 325 and certain subindustries) and the asphalt industries (NAICS 324121 and 324122) are now larger than they would otherwise be under the previous method. The 2014 "Feedstock and Offsite-Produced Fuel at Petroleum Refineries" data may be found on EIA's website:

[https://www.eia.gov/dnav/pet/pet\\_cons\\_psup\\_dc\\_nus\\_mbb1\\_a.htm](https://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbb1_a.htm)

\* Estimate less than 0.5.

W=Withheld to avoid disclosing data for individual establishments.

Q=Withheld because Relative Standard Error is greater than 50 percent.

NA=Not available.

X=Not defined because RSE corresponds to a value of zero.

-- Estimation is not applicable. Energy source is not included in series.

Notes: Totals may not equal sum of components because of independent rounding. The derived estimates presented in this table are for the first use (formerly primary consumption) of energy for heat and power and as feedstocks or raw material inputs. First use is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials, such as wastepaper and packing materials. First use excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Sources: Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey,' and the Bureau of the Census, data files for the '2014 Annual Survey of Manufactures.'