

Released: October 2017

Next MECS will be fielded in 2019

Table 5.6 End Uses of Fuel Consumption, 2014;

Level: National and Regional Data;

Row: End Uses;

Column: Energy Sources, including Net Electricity;

Unit: Trillion Btu.

End Use	Total	Net Electricity(a)	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel(b)	Natural Gas(c)	HGL (excluding natural gasoline)(d)	Coal (excluding Coke and Breeze)	Other(e)
Total United States								
TOTAL FUEL CONSUMPTION	14,903	2,600	30	99	5,858	84	776	5,455
Indirect Uses-Boiler Fuel	--	33	21	12	2,305	8	393	--
Conventional Boiler Use	--	33	11	4	756	4	48	--
CHP and/or Cogeneration Process	--	--	10	9	1,549	3	344	--
Direct Uses-Total Process	--	2,028	8	26	2,953	43	298	--
Process Heating	--	342	7	5	2,590	37	280	--
Process Cooling and Refrigeration	--	189	*	*	27	*	0	--
Machine Drive	--	1,253	*	13	162	3	1	--
Electro-Chemical Processes	--	176	--	--	--	--	--	--
Other Process Use	--	66	*	8	173	3	17	--
Direct Uses-Total Nonprocess	--	492	1	58	433	27	4	--
Facility HVAC (f)	--	247	*	4	369	7	3	--
Facility Lighting	--	170	--	--	--	--	--	--
Other Facility Support	--	52	*	2	41	*	*	--
Onsite Transportation	--	13	--	39	2	20	--	--
Conventional Electricity Generation	--	--	*	3	12	*	2	--
Other Nonprocess Use	--	11	*	11	8	*	*	--
End Use Not Reported	5,761	48	*	3	168	5	81	5,455
Northeast Census Region								
TOTAL FUEL CONSUMPTION	1,156	264	11	15	423	8	47	388
Indirect Uses-Boiler Fuel	--	4	8	2	144	1	25	--
Conventional Boiler Use	--	4	6	1	54	*	4	--
CHP and/or Cogeneration Process	--	--	2	1	90	*	22	--
Direct Uses-Total Process	--	196	2	5	206	3	18	--
Process Heating	--	34	2	2	179	2	18	--
Process Cooling and Refrigeration	--	17	*	*	3	*	0	--
Machine Drive	--	121	*	3	17	*	0	--
Electro-Chemical Processes	--	17	--	--	--	--	--	--
Other Process Use	--	7	*	Q	7	*	*	--
Direct Uses-Total Nonprocess	--	59	1	7	57	4	*	--
Facility HVAC (f)	--	30	*	2	51	2	*	--
Facility Lighting	--	20	--	--	--	--	--	--
Other Facility Support	--	6	*	*	2	*	0	--
Onsite Transportation	--	1	--	4	*	2	--	--
Conventional Electricity Generation	--	--	*	*	Q	*	0	--
Other Nonprocess Use	--	1	*	Q	1	*	0	--
End Use Not Reported	414	5	*	1	16	1	3	388
Midwest Census Region								
TOTAL FUEL CONSUMPTION	4,048	826	1	20	1,760	33	323	1,085
Indirect Uses-Boiler Fuel	--	11	1	1	588	2	146	--
Conventional Boiler Use	--	11	*	*	286	1	24	--
CHP and/or Cogeneration Process	--	--	*	1	302	1	122	--
Direct Uses-Total Process	--	646	1	7	917	21	95	--
Process Heating	--	112	*	1	813	19	87	--
Process Cooling and Refrigeration	--	62	0	*	8	*	0	--
Machine Drive	--	413	*	2	18	Q	*	--
Electro-Chemical Processes	--	42	--	--	--	--	--	--

Other Process Use	--	16	*	4	78	*	8	--
Direct Uses-Total Nonprocess	--	153	*	12	215	9	3	--
Facility HVAC (f)	--	73	*	*	188	2	2	--
Facility Lighting	--	58	--	--	--	--	--	--
Other Facility Support	--	14	0	Q	22	*	*	--
Onsite Transportation	--	4	--	8	*	7	--	--
Conventional Electricity Generation	--	--	0	1	*	*	1	--
Other Nonprocess Use	--	4	0	2	Q	*	0	--
End Use Not Reported	1,221	16	0	*	40	1	78	1,085

South Census Region

TOTAL FUEL CONSUMPTION	7,726	1,136	13	45	2,988	27	277	3,240
Indirect Uses-Boiler Fuel	--	15	10	7	1,278	4	161	--
Conventional Boiler Use	--	15	3	1	319	3	15	--
CHP and/or Cogeneration Process	--	--	7	6	959	1	146	--
Direct Uses-Total Process	--	902	3	9	1,494	11	115	--
Process Heating	--	150	3	2	1,298	9	113	--
Process Cooling and Refrigeration	--	79	0	*	16	*	0	--
Machine Drive	--	558	*	6	114	1	1	--
Electro-Chemical Processes	--	89	--	--	--	--	--	--
Other Process Use	--	27	*	1	67	1	1	--
Direct Uses-Total Nonprocess	--	198	*	27	117	10	1	--
Facility HVAC (f)	--	102	*	1	96	2	1	--
Facility Lighting	--	64	--	--	--	--	--	--
Other Facility Support	--	22	*	*	11	*	0	--
Onsite Transportation	--	6	--	19	1	8	--	--
Conventional Electricity Generation	--	--	*	*	7	*	*	--
Other Nonprocess Use	--	4	*	6	3	*	0	--
End Use Not Reported	3,363	20	*	2	98	3	0	3,240

West Census Region

TOTAL FUEL CONSUMPTION	1,973	375	4	19	688	15	129	743
Indirect Uses-Boiler Fuel	--	3	2	1	295	1	60	--
Conventional Boiler Use	--	3	1	1	97	*	5	--
CHP and/or Cogeneration Process	--	--	1	Q	198	1	55	--
Direct Uses-Total Process	--	283	2	5	335	8	69	--
Process Heating	--	46	2	*	300	7	62	--
Process Cooling and Refrigeration	--	31	0	*	1	*	0	--
Machine Drive	--	162	0	2	14	1	0	--
Electro-Chemical Processes	--	28	--	--	--	--	--	--
Other Process Use	--	17	*	Q	21	1	7	--
Direct Uses-Total Nonprocess	--	82	0	12	44	5	*	--
Facility HVAC (f)	--	42	0	1	34	1	0	--
Facility Lighting	--	27	--	--	--	--	--	--
Other Facility Support	--	10	0	1	6	*	0	--
Onsite Transportation	--	2	--	8	*	4	--	--
Conventional Electricity Generation	--	--	0	Q	3	*	0	--
Other Nonprocess Use	--	2	0	1	1	*	*	--
End Use Not Reported	763	6	0	*	14	1	0	743

(a) '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).

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

(c) '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.

(d) 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).

(e) '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.

(f) Facility Heating, Ventilation, and Air Conditioning '(Facility HVAC)' excludes steam and hot water.

* 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.

-- Estimation is not applicable.

S=Negative value

Notes: Totals may not equal sum of components because of independent rounding. The estimates presented in this table are for the total consumption of energy (formerly total inputs of energy) for the production of heat, power, and electricity generation, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey.'

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RSE Table 5.6 Relative Standard Errors for Table 5.6;

Unit: Percents.

End Use	Total	Net Electricity(a)	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel(b)	Natural Gas(c)	HGL (excluding natural gasoline)(d)	Coal		
							(excluding Coal Coke and Breeze)	Other(e)	
Total United States									
TOTAL FUEL CONSUMPTION	0.6	1.2	2.2	5.4	0.8	2.8	1.1	1.1	
Indirect Uses-Boiler Fuel	--	4.2	2.9	7.3	1.0	3.7	1.3	--	
Conventional Boiler Use	--	4.2	0.4	6.3	2.1	4.7	1.6	--	
CHP and/or Cogeneration Process	--	--	6.1	10.0	1.1	5.9	1.5	--	
Direct Uses-Total Process	--	1.1	2.7	10.6	1.0	3.0	1.8	--	
Process Heating	--	2.2	1.6	7.5	1.1	2.2	2.0	--	
Process Cooling and Refrigeration	--	2.0	73.1	10.3	5.7	27.2	X	--	
Machine Drive	--	1.5	0.1	13.7	3.8	26.2	23.0	--	
Electro-Chemical Processes	--	1.4	--	--	--	--	--	--	
Other Process Use	--	4.6	42.3	25.7	3.3	17.0	0.1	--	
Direct Uses-Total Nonprocess	--	2.2	2.3	6.7	2.5	6.0	12.2	--	
Facility HVAC (f)	--	2.6	4.0	16.4	2.7	17.0	20.2	--	
Facility Lighting	--	2.5	--	--	--	--	--	--	
Other Facility Support	--	4.0	40.2	44.8	3.0	14.7	0.1	--	
Onsite Transportation	--	4.8	--	4.5	9.0	5.3	--	--	
Conventional Electricity Generation	--	--	0.1	38.1	17.4	14.5	0.1	--	
Other Nonprocess Use	--	15.3	63.0	28.4	27.9	30.0	0.1	--	
End Use Not Reported	1.1	10.8	0.1	23.2	7.3	13.0	4.2	1.1	
Northeast Census Region									
TOTAL FUEL CONSUMPTION	2.0	3.9	5.3	11.4	3.0	13.2	7.3	1.4	
Indirect Uses-Boiler Fuel	--	22.3	7.3	6.7	3.2	20.8	13.6	--	
Conventional Boiler Use	--	22.3	0.2	10.0	5.5	42.2	0.1	--	
CHP and/or Cogeneration Process	--	--	28.9	8.0	3.8	9.3	16.0	--	
Direct Uses-Total Process	--	4.1	2.6	18.2	4.7	17.9	0.1	--	
Process Heating	--	4.3	2.6	15.3	4.5	19.6	0.1	--	
Process Cooling and Refrigeration	--	6.5	73.1	0.1	11.0	59.8	X	--	
Machine Drive	--	5.9	0.1	26.5	30.4	29.0	X	--	
Electro-Chemical Processes	--	1.2	--	--	--	--	--	--	
Other Process Use	--	12.9	0.1	63.8	11.2	68.7	0.1	--	
Direct Uses-Total Nonprocess	--	6.3	2.3	17.5	6.5	16.2	29.2	--	
Facility HVAC (f)	--	8.0	3.8	32.2	6.2	29.1	29.2	--	
Facility Lighting	--	6.4	--	--	--	--	--	--	
Other Facility Support	--	6.7	46.5	38.5	12.0	34.5	X	--	
Onsite Transportation	--	9.9	--	12.5	33.8	9.9	--	--	
Conventional Electricity Generation	--	--	0.1	8.9	66.5	56.1	X	--	
Other Nonprocess Use	--	22.4	0.1	57.7	17.9	19.8	X	--	
End Use Not Reported	1.4	26.3	0.1	36.2	1.2	40.3	0.1	1.4	
Midwest Census Region									
TOTAL FUEL CONSUMPTION	1.5	2.0	7.2	10.1	1.8	4.6	2.3	3.4	
Indirect Uses-Boiler Fuel	--	5.4	1.3	20.0	3.0	6.8	2.1	--	
Conventional Boiler Use	--	5.4	0.5	13.5	4.8	6.5	2.4	--	
CHP and/or Cogeneration Process	--	--	2.1	26.4	4.2	10.6	2.4	--	
Direct Uses-Total Process	--	2.0	18.1	20.3	2.1	3.9	5.3	--	
Process Heating	--	3.8	24.8	15.0	2.3	1.4	5.8	--	
Process Cooling and Refrigeration	--	3.3	X	42.6	2.9	2.7	X	--	
Machine Drive	--	2.4	0.1	20.7	11.9	50.3	12.9	--	
Electro-Chemical Processes	--	4.4	--	--	--	--	--	--	
Other Process Use	--	12.8	0.1	35.1	5.2	25.9	0.1	--	
Direct Uses-Total Nonprocess	--	3.5	34.7	11.3	4.2	12.4	16.1	--	

Facility HVAC (f)	--	3.9	34.7	39.3	4.5	39.2	26.7	--
Facility Lighting	--	3.5	--	--	--	--	--	--
Other Facility Support	--	4.7	X	96.8	4.6	22.8	0.1	--
Onsite Transportation	--	7.7	--	4.2	17.0	10.3	--	--
Conventional Electricity Generation	--	--	X	44.2	7.3	10.3	0.1	--
Other Nonprocess Use	--	37.5	X	34.3	52.2	75.7	X	--
End Use Not Reported	3.0	8.4	X	18.2	9.0	29.3	4.3	3.4

South Census Region

TOTAL FUEL CONSUMPTION	0.9	2.0	1.4	8.7	0.9	4.4	1.2	1.4
Indirect Uses-Boiler Fuel	--	6.0	1.8	10.0	1.0	4.0	1.5	--
Conventional Boiler Use	--	6.0	1.1	10.0	2.1	3.7	3.4	--
CHP and/or Cogeneration Process	--	--	2.6	11.8	1.1	11.9	1.6	--
Direct Uses-Total Process	--	1.9	1.4	13.3	1.1	6.0	1.8	--
Process Heating	--	3.6	1.4	6.1	1.3	6.0	1.9	--
Process Cooling and Refrigeration	--	3.6	X	7.2	9.6	58.6	X	--
Machine Drive	--	2.4	0.1	20.6	2.3	27.1	30.3	--
Electro-Chemical Processes	--	1.6	--	--	--	--	--	--
Other Process Use	--	7.8	89.5	9.6	5.8	21.2	0.1	--
Direct Uses-Total Nonprocess	--	3.6	26.5	11.9	4.4	8.1	9.3	--
Facility HVAC (f)	--	4.3	39.2	36.9	5.1	23.2	14.6	--
Facility Lighting	--	4.5	--	--	--	--	--	--
Other Facility Support	--	7.0	19.2	8.1	4.7	30.6	X	--
Onsite Transportation	--	7.3	--	7.5	9.1	8.0	--	--
Conventional Electricity Generation	--	--	0.1	14.6	2.4	17.4	0.1	--
Other Nonprocess Use	--	11.0	99.0	45.5	24.9	30.3	X	--
End Use Not Reported	1.4	23.4	0.1	37.4	11.7	15.4	X	1.4

West Census Region

TOTAL FUEL CONSUMPTION	1.2	4.4	4.5	13.9	1.9	6.3	0.1	0.2
Indirect Uses-Boiler Fuel	--	8.1	0.1	28.9	1.8	7.2	0.1	--
Conventional Boiler Use	--	8.1	0.1	16.3	3.6	5.2	0.1	--
CHP and/or Cogeneration Process	--	--	0.1	54.3	2.0	11.7	0.1	--
Direct Uses-Total Process	--	3.7	7.9	39.2	3.0	6.3	0.1	--
Process Heating	--	7.4	0.1	54.7	3.4	3.6	0.1	--
Process Cooling and Refrigeration	--	3.9	X	9.6	7.9	64.5	X	--
Machine Drive	--	4.6	X	46.4	3.0	41.4	X	--
Electro-Chemical Processes	--	1.7	--	--	--	--	--	--
Other Process Use	--	3.1	61.5	75.3	2.1	44.0	0.1	--
Direct Uses-Total Nonprocess	--	8.1	X	11.0	4.8	14.8	0.1	--
Facility HVAC (f)	--	7.6	X	1.5	4.0	33.6	X	--
Facility Lighting	--	8.9	--	--	--	--	--	--
Other Facility Support	--	12.4	X	0.1	7.0	23.3	X	--
Onsite Transportation	--	16.8	--	10.6	19.7	14.0	--	--
Conventional Electricity Generation	--	--	X	61.7	47.1	49.7	X	--
Other Nonprocess Use	--	10.9	X	23.5	27.7	10.7	0.1	--
End Use Not Reported	0.4	14.3	X	28.9	17.0	40.9	X	0.2

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

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Notes: Totals may not equal sum of components because of independent rounding. The estimates presented in this table are for the total consumption of energy (formerly total inputs of energy) for the production of heat, power, and electricity generation, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-846, '2014 Manufacturing Energy Consumption Survey.'