Table CT1. Energy Consumption Estimates for Selected Energy Sources in Physical Units, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum							Nuclear Electric Power	Hydro-electric Power [g]	Fuel Ethanol [h]	Biodiesel
			Distillate Fuel Oil [b]	HGL [c]	Jet Fuel [d]	Motor Gasoline [e]	Residual Fuel Oil	Other [f]	Total				
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels							Million Kilowatthours		Thousand Barrels	
1960	25,930	370	30,235	2,827	3,369	65,782	11,840	14,867	128,920	0	2,030	NA	NA
1965	33,132	556	30,287	3,716	4,377	78,044	8,594	19,635	144,653	181	1,813	NA	NA
1970	34,065	809	38,141	6,202	7,365	96,831	10,056	16,357	174,952	375	1,704	NA	NA
1971	34,556	851	41,724	6,755	7,195	99,540	11,173	15,051	181,438	388	1,776	NA	NA
1972	34,666	865	47,365	7,993	6,905	105,198	13,078	15,855	196,393	2,125	1,793	NA	NA
1973	32,632	920	46,932	8,092	6,959	110,100	15,822	16,879	204,784	2,980	1,054	NA	NA
1974	29,804	936	43,673	7,845	6,460	107,057	16,692	15,629	197,356	416	1,182	NA	NA
1975	31,198	884	42,170	7,475	5,776	108,255	18,291	14,433	196,401	7,176	1,110	NA	NA
1976	29,763	888	44,130	8,748	5,735	113,506	21,102	15,547	208,766	9,901	1,050	NA	NA
1977	28,926	741	44,829	8,793	6,290	114,812	22,126	16,669	213,518	10,231	931	NA	NA
1978	28,519	790	45,149	9,051	6,499	117,526	25,452	17,534	221,211	13,104	1,085	NA	NA
1979	31,570	876	31,268	7,515	6,639	108,261	19,046	17,226	189,955	15,139	1,306	NA	NA
1980	31,110	865	27,643	6,736	6,646	97,025	13,289	15,192	166,531	15,891	1,200	NA	NA
1981	31,610	801	26,630	5,572	6,131	92,783	7,825	11,720	150,661	17,066	1,240	184	NA
1982	29,280	748	22,943	7,107	5,706	88,179	4,891	9,969	138,795	15,003	1,211	491	NA
1983	29,647	696	22,176	7,150	5,892	88,646	4,464	10,797	139,125	16,383	1,229	1,316	NA
1984	31,412	718	24,913	7,523	5,983	92,952	3,116	11,298	145,785	14,078	1,071	1,295	NA
1985	32,793	709	26,024	14,225	6,570	93,447	3,109	10,387	153,761	13,452	997	1,032	NA
1986	33,999	671	26,989	15,690	7,129	96,015	3,761	10,886	160,470	12,257	721	830	NA
1987	35,865	657	26,614	17,656	8,371	99,154	3,316	11,802	166,913	14,389	481	1,176	NA
1988	35,332	749	28,392	17,302	8,585	102,367	4,793	11,118	172,559	17,808	600	1,214	NA
1989	34,885	777	26,202	19,053	9,235	101,143	4,497	12,757	172,888	21,312	749	1,164	NA
1990	34,817	879	24,357	14,901	10,057	99,913	2,728	12,598	164,553	21,611	1,628	1,205	NA
1991	34,086	888	24,820	16,017	10,234	101,375	1,745	11,413	165,604	27,021	1,752	1,582	NA
1992	31,781	960	24,830	16,666	10,125	101,370	1,696	11,637	166,325	18,849	1,782	1,367	NA
1993	32,445	919	28,123	13,077	10,305	105,003	2,081	12,647	171,235	28,525	1,762	1,609	NA
1994	35,902	912	27,536	14,287	10,281	105,744	2,172	12,125	172,145	14,144	1,660	1,859	NA
1995	36,037	976	27,444	14,497	8,818	110,546	1,602	13,400	176,308	24,448	1,597	1,219	NA
1996	36,958	1,027	28,754	18,306	9,045	110,520	1,777	12,651	181,052	26,829	1,784	514	NA
1997	36,116	994	29,692	14,524	9,487	112,389	1,553	16,765	184,411	21,914	1,712	654	NA
1998	38,255	876	29,895	13,108	9,033	114,913	2,113	16,007	185,069	12,494	1,397	845	NA
1999	38,510	951	31,573	15,339	9,116	121,027	2,491	16,161	195,707	14,591	1,458	956	NA
2000	37,294	963	30,824	16,308	7,214	118,160	2,358	14,351	189,214	18,882	1,428	2,267	NA
2001	37,730	906	29,515	18,876	6,219	119,472	1,590	12,139	187,811	26,711	1,562	1,394	6
2002	36,413	966	28,994	21,039	6,016	121,745	1,992	12,019	191,806	31,087	1,669	2,953	9
2003	36,973	925	30,344	20,578	2,695	119,019	2,153	12,800	187,589	27,954	1,386	3,706	8
2004	38,503	917	31,139	20,826	3,733	118,967	2,098	13,051	189,815	30,562	1,540	3,838	15
2005	39,442	914	30,315	23,157	3,431	119,584	2,209	12,715	191,411	32,872	1,462	5,091	52
2006	38,067	803	29,929	15,036	4,124	118,106	1,201	11,595	179,992	29,066	1,520	5,358	149
2007	39,669	798	29,371	16,217	5,270	116,059	1,783	12,056	180,757	31,517	1,270	6,573	202
2008	39,870	780	26,713	12,506	4,641	111,410	1,471	9,975	166,715	31,484	1,364	9,010	174
2009	37,425	735	25,622	11,829	4,270	109,703	615	9,839	161,879	21,851	1,372	10,205	184
2010	37,775	747	26,443	10,936	R 8,583	108,436	593	8,529	R 163,518	29,625	1,251	9,763	149
2011	35,134	776	26,691	10,675	R 8,797	105,871	688	7,804	R 160,527	32,889	1,357	9,987	507
2012	32,050	791	25,676	9,221	R 8,656	105,052	511	R 8,170	R 157,285	28,020	1,207	10,628	478
2013	34,315	815	28,591	12,190	R 8,751	109,078	406	R 9,837	R 168,853	28,921	1,419	11,235	848
2014	31,944	862	29,042	12,823	R 8,760	109,118	274	R 11,693	R 171,710	31,246	1,600	11,035	783
2015	31,925	845	29,956	10,949	R 9,796	111,408	256	R 11,655	R 174,019	29,334	1,499	10,507	714
2016	24,656	890	29,780	11,635	R 10,013	113,495	512	R 12,130	R 177,565	31,552	1,564	10,738	1,052
2017	26,032	871	27,630	11,648	R 10,289	112,289	733	R 12,912	R 175,501	32,381	1,679	10,781	826
2018	26,277	966	31,280	13,549	R 10,049	112,532	832	R 12,459	R 180,701	30,479	1,569	10,666	830
2019	23,196	998	30,097	13,968	R 9,992	R 110,975	927	R 12,141	R 178,100	32,909	1,650	10,729	636
2020	17,145	948	27,199	12,744	5,204	94,915	669	12,164	152,894	30,333	1,713	9,476	768

[a] Includes supplemental gaseous fuels that are commingled with natural gas.
[b] Beginning in 2009, includes biodiesel blended into distillate fuel oil.
[c] Hydrocarbon gas liquids, include natural gas liquids and refinery olefins.
[d] Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other Petroleum."
[e] Beginning in 1993, includes fuel ethanol blended into motor gasoline.
[f] Includes asphalt and road oil, aviation gasoline, kerosene, lubricants, petroleum coke, and the "other petroleum products" category. See Technical Notes, Section 4.
[g] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
[h] Includes denaturant. Because of differences in data sources and estimation methods, the ratio of fuel ethanol consumption and motor gasoline consumption should not be interpreted as the average ethanol blend rate.

NA = Not available.
Where shown, R = Revised data and (s) = Value less than 0.5.
Notes: Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.
Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.
Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT2. Primary Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

(Trillion Btu)

Year	Fossil Fuels										*Fossil Fuels (as commingled)*		
			Petroleum										
	Coal	Natural Gas excluding Supplemental Gaseous Fuels [a]	Distillate Fuel Oil excluding Biodiesel [a]	HGL [b]	Jet Fuel [c]	Motor Gasoline excluding Fuel Ethanol [a]	Residual Fuel Oil	Other [d]	Total	Total	*Natural Gas including Supplemental Gaseous Fuels* [a]	*Distillate Fuel Oil including Biodiesel* [a]	*Motor Gasoline including Fuel Ethanol* [a]
1960	653.1	383.0	176.1	10.8	18.2	345.6	74.4	88.2	713.4	1,749.5	*383.0*	*176.1*	*345.6*
1965	830.2	563.6	176.4	14.2	24.0	410.0	54.0	113.1	791.6	2,185.4	*563.6*	*176.4*	*410.0*
1970	828.9	821.3	222.2	23.7	41.0	508.7	63.2	97.2	955.9	2,606.0	*821.3*	*222.2*	*508.7*
1971	837.6	863.3	243.0	25.8	40.0	522.9	70.2	90.1	992.0	2,693.0	*863.3*	*243.0*	*522.9*
1972	843.7	877.7	275.9	30.5	38.4	552.6	82.2	95.3	1,074.9	2,796.3	*877.7*	*275.9*	*552.6*
1973	791.3	929.6	273.4	30.8	38.8	578.4	99.5	102.0	1,122.7	2,843.6	*929.6*	*273.4*	*578.4*
1974	710.0	942.6	254.4	29.8	35.9	562.4	104.9	94.6	1,082.0	2,734.6	*942.6*	*254.4*	*562.4*
1975	751.0	894.8	245.6	28.3	32.1	568.7	115.0	86.9	1,076.6	2,722.4	*894.8*	*245.6*	*568.7*
1976	717.7	895.1	257.1	33.0	31.9	596.2	132.7	92.6	1,143.5	2,756.4	*895.1*	*257.1*	*596.2*
1977	693.0	745.7	261.1	33.0	35.0	603.1	139.1	99.7	1,171.0	2,609.7	*745.7*	*261.1*	*603.1*
1978	671.3	793.9	263.0	33.7	36.3	617.4	160.0	104.7	1,215.1	2,680.3	*793.9*	*263.0*	*617.4*
1979	758.9	880.4	182.1	27.9	37.1	568.7	119.7	102.8	1,038.3	2,677.6	*880.4*	*182.1*	*568.7*
1980	759.0	874.7	161.0	25.0	37.1	509.7	83.6	90.2	906.7	2,540.3	*874.7*	*161.0*	*509.7*
1981	757.5	811.4	155.1	20.8	34.3	487.4	49.2	71.1	817.8	2,386.7	*814.5*	*155.1*	*487.4*
1982	711.4	762.1	133.6	26.1	31.8	463.2	30.7	60.2	745.8	2,219.2	*764.6*	*133.6*	*463.2*
1983	706.6	710.1	129.2	26.5	32.9	465.7	28.1	64.9	747.2	2,164.0	*713.2*	*129.2*	*465.7*
1984	747.6	727.5	145.1	28.1	33.4	488.3	19.6	67.7	782.1	2,257.3	*730.3*	*145.1*	*488.3*
1985	781.9	717.0	151.6	51.0	36.7	490.9	19.5	62.7	812.4	2,311.3	*719.9*	*151.6*	*490.9*
1986	811.9	686.6	157.2	56.8	39.9	504.4	23.6	66.2	848.2	2,346.7	*689.4*	*157.2*	*504.4*
1987	840.2	668.7	155.0	64.5	46.9	520.9	20.8	71.5	879.7	2,388.6	*671.2*	*155.0*	*520.9*
1988	830.9	763.3	165.4	63.3	48.1	537.7	30.1	67.2	911.8	2,506.0	*765.7*	*165.4*	*537.7*
1989	790.2	797.3	152.6	70.1	51.8	531.3	28.3	77.6	911.7	2,499.3	*799.8*	*152.6*	*531.3*
1990	788.0	879.3	141.9	54.5	56.6	524.8	17.2	76.8	871.8	2,539.2	*898.8*	*141.9*	*524.8*
1991	764.1	890.0	144.6	58.6	57.5	532.5	11.0	69.8	873.9	2,528.0	*905.3*	*144.6*	*532.5*
1992	707.5	964.2	144.6	61.0	57.0	532.5	10.7	71.0	876.8	2,548.5	*979.2*	*144.6*	*532.5*
1993	715.5	924.9	163.8	48.8	58.1	542.2	13.1	77.7	903.7	2,544.1	*938.0*	*163.8*	*547.8*
1994	801.0	917.0	160.3	53.2	58.2	544.9	13.7	74.1	904.3	2,622.3	*931.0*	*160.3*	*551.3*
1995	786.7	971.0	159.7	53.9	50.0	571.1	10.1	82.7	927.4	2,685.1	*992.7*	*159.7*	*575.3*
1996	796.3	1,017.1	167.3	68.1	51.3	574.1	11.2	77.3	949.3	2,762.7	*1,039.2*	*167.3*	*575.9*
1997	781.1	987.6	172.8	54.9	53.8	582.7	9.8	104.6	978.5	2,747.3	*1,010.2*	*172.8*	*585.0*
1998	826.9	871.6	174.0	49.9	51.2	595.0	13.3	99.0	982.3	2,680.8	*894.0*	*174.0*	*597.9*
1999	832.6	947.0	183.7	58.0	51.7	626.3	15.7	99.5	1,034.8	2,814.5	*968.3*	*183.7*	*629.6*
2000	799.8	971.7	179.4	61.4	40.9	606.7	14.8	88.7	991.9	2,763.3	*984.3*	*179.4*	*614.5*
2001	789.7	924.5	171.7	71.5	35.3	616.5	10.0	75.7	980.7	2,694.9	*928.7*	*171.7*	*621.4*
2002	739.9	984.7	168.7	79.4	34.1	622.7	12.5	74.5	992.0	2,716.6	*984.7*	*168.7*	*633.0*
2003	747.9	950.7	176.6	77.9	15.3	605.7	13.5	79.5	968.4	2,667.1	*950.7*	*176.6*	*618.5*
2004	773.8	938.6	181.2	77.9	21.2	604.8	13.2	81.4	979.7	2,692.1	*938.6*	*181.2*	*618.2*
2005	799.5	927.5	176.4	86.4	19.5	603.2	13.9	79.6	978.9	2,705.9	*927.5*	*176.4*	*620.9*
2006	773.6	817.0	173.7	55.9	23.4	593.8	7.6	72.3	926.6	2,517.2	*817.0*	*173.7*	*612.4*
2007	801.2	814.9	169.9	60.4	29.9	574.0	11.2	74.4	919.8	2,535.8	*814.9*	*169.9*	*596.8*
2008	800.0	797.5	154.4	47.6	26.3	537.6	9.2	61.2	836.4	2,433.9	*797.5*	*154.4*	*568.9*
2009	735.9	750.8	147.0	44.9	24.2	523.1	3.9	60.9	804.0	2,290.6	*750.8*	*148.0*	*558.4*
2010	749.3	758.7	151.9	42.0	R 48.7	515.6	3.7	52.8	R 814.7	R 2,322.6	*758.7*	*152.7*	*549.4*
2011	691.1	787.3	151.3	41.0	R 49.9	501.4	4.3	48.1	R 796.0	R 2,274.5	*787.3*	*154.0*	*536.0*
2012	621.6	804.1	145.5	35.4	R 49.1	494.9	3.2	50.4	R 778.5	R 2,204.2	*804.1*	*148.1*	*531.8*
2013	658.2	831.7	160.2	46.8	R 49.6	512.9	2.6	59.6	R 831.8	R 2,321.7	*831.7*	*164.8*	*551.9*
2014	618.5	878.1	163.2	49.3	R 49.7	513.7	1.7	70.6	R 848.1	R 2,344.7	*878.1*	*167.4*	*552.0*
2015	617.3	871.8	168.8	42.1	R 55.5	526.9	1.6	R 70.8	R 865.7	R 2,354.8	*871.8*	*172.6*	*563.4*
2016	471.2	926.8	165.8	44.7	R 56.8	536.4	3.2	R 74.4	R 881.3	R 2,279.4	*926.8*	*171.4*	*573.7*
2017	499.4	908.2	154.6	44.7	R 58.3	529.9	4.6	R 79.0	R 871.2	R 2,278.9	*908.2*	*159.1*	*567.4*
2018	506.1	1,010.9	175.7	52.0	R 57.0	531.6	5.2	R 76.2	R 897.8	R 2,414.8	*1,010.9*	*180.1*	*568.7*
2019	447.8	R 1,055.0	169.9	53.7	R 56.7	523.3	5.8	R 74.5	R 883.8	R 2,386.6	R *1,055.0*	*173.3*	*560.6*
2020	334.4	1,003.4	152.4	49.0	29.5	446.6	4.2	74.7	756.4	2,094.3	*1,003.4*	*156.6*	*479.5*

[a] Supplemental gaseous fuels (SGF) and biofuels are consumed with natural gas and petroleum products. In this table, SGF and biofuels are removed from natural gas and petroleum so that a fossil fuel total can be calculated without double-counting. Biofuels are included in "Renewable Energy."

[b] Hydrocarbon gas liquids, include natural gas liquids and refinery olefins.

[c] Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other Petroleum."

[d] Includes asphalt and road oil, aviation gasoline, kerosene, lubricants, petroleum coke, and the "other petroleum products" category. See Technical Notes, Section 4.

Where shown, R = Revised data and (s) = Value less than +0.05 and greater than -0.05 trillion Btu.

Notes: Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.

Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT2. Primary Energy Consumption Estimates, Selected Years, 1960-2020, Michigan (Continued)

(Trillion Btu)

Year	Nuclear Electric Power	Renewable Energy										Net Interstate Flow of Electricity [k]	Electricity Net Imports [l]	Total [f]
		Hydro-electric Power [e,f]	Biomass					Geo-thermal [f]	Solar [f,j]	Wind	Total [f]			
			Wood and Waste [f,g]	Fuel Ethanol [h]	Biodiesel	Losses and Co-products [i]	Total [f]							
1960	0.0	21.8	37.3	NA	NA	NA	37.3	0.0	NA	NA	59.1	38.8	4.3	1,851.6
1965	2.1	19.0	36.9	NA	NA	NA	36.9	0.0	NA	NA	55.9	36.3	-1.4	2,278.3
1970	4.1	17.9	36.4	NA	NA	NA	36.4	0.0	NA	NA	54.3	39.4	-1.4	2,702.5
1971	4.2	18.6	35.3	NA	NA	NA	35.3	0.0	NA	NA	54.0	45.3	1.8	2,798.2
1972	22.9	18.6	37.6	NA	NA	NA	37.6	0.0	NA	NA	56.2	86.4	8.5	2,970.3
1973	32.5	10.9	36.3	NA	NA	NA	36.3	0.0	NA	NA	47.2	124.9	12.2	3,060.4
1974	4.6	12.3	38.2	NA	NA	NA	38.2	0.0	NA	NA	50.6	114.1	12.4	2,916.3
1975	79.0	11.6	35.9	NA	NA	NA	35.9	0.0	NA	NA	47.5	15.8	1.1	2,865.7
1976	109.4	10.9	41.6	NA	NA	NA	41.6	0.0	NA	NA	52.5	56.3	9.5	2,984.0
1977	110.2	9.7	45.0	NA	NA	NA	45.0	0.0	NA	NA	54.7	77.7	20.9	2,873.2
1978	143.4	11.2	55.0	NA	NA	NA	55.0	0.0	NA	NA	66.3	29.4	23.0	2,942.4
1979	164.7	13.5	60.4	NA	NA	NA	60.4	0.0	NA	NA	73.9	7.2	(s)	2,923.4
1980	173.3	12.5	90.6	NA	NA	NA	90.6	0.0	NA	NA	103.0	-11.7	19.4	2,824.4
1981	188.2	13.0	95.3	0.6	NA	0.0	95.9	0.0	NA	NA	108.9	-25.9	15.2	2,673.1
1982	166.1	12.7	94.8	1.7	NA	0.0	96.5	0.0	NA	NA	109.1	23.3	7.3	2,525.0
1983	178.7	12.9	104.8	4.6	NA	0.0	109.4	0.0	NA	0.0	122.3	52.1	4.3	2,521.4
1984	152.7	11.2	99.1	4.5	NA	0.0	103.6	0.0	0.0	0.0	114.8	70.6	1.9	2,597.2
1985	142.9	10.4	100.2	3.6	NA	0.0	103.8	0.0	0.0	0.0	114.2	64.7	1.3	2,634.5
1986	129.7	7.5	105.6	2.9	NA	0.0	108.5	0.0	0.0	0.0	116.0	57.1	2.3	2,651.9
1987	150.3	5.0	107.1	4.1	NA	0.0	111.1	0.0	0.0	0.0	116.2	-18.1	2.6	2,639.6
1988	188.8	6.2	112.2	4.2	NA	0.0	116.4	0.0	0.0	0.0	122.6	-5.9	0.6	2,812.0
1989	225.5	7.8	103.3	4.0	NA	0.0	107.3	0.5	0.2	0.0	115.9	23.4	-18.5	2,845.5
1990	228.7	16.9	80.2	4.2	NA	0.0	84.4	0.6	0.2	0.0	102.2	33.8	-37.3	2,866.6
1991	283.3	18.3	86.2	5.5	NA	0.0	91.7	0.6	0.2	0.0	110.8	-120.0	-1.5	2,800.6
1992	197.4	18.4	89.1	4.7	NA	0.0	93.9	0.7	0.2	0.0	113.2	-8.2	-0.8	2,850.1
1993	299.6	18.2	81.4	5.6	NA	0.0	86.9	0.7	0.2	0.0	106.1	-110.2	8.2	2,847.7
1994	147.8	17.1	84.3	6.4	NA	0.0	90.8	0.8	0.3	0.0	108.9	-31.3	23.6	2,871.3
1995	256.9	16.5	88.2	4.2	NA	0.0	92.4	0.8	0.3	0.0	109.9	-71.4	19.7	3,000.2
1996	281.8	18.4	102.9	1.8	NA	0.0	104.6	0.9	0.3	0.0	124.2	-69.5	6.5	3,105.7
1997	230.0	17.5	95.0	2.3	NA	0.0	97.3	1.0	0.3	0.0	116.0	8.7	4.7	3,106.6
1998	131.1	14.2	90.4	2.9	NA	0.0	93.3	1.0	0.3	0.0	108.9	143.1	-5.2	3,058.6
1999	152.5	14.9	91.6	3.3	NA	0.0	94.9	1.2	0.3	0.0	111.3	149.9	-0.7	3,227.4
2000	196.9	14.6	94.6	7.9	NA	0.0	102.4	1.2	0.2	0.0	118.4	147.5	-1.1	3,225.0
2001	278.9	16.1	76.6	4.8	(s)	0.0	81.4	1.2	0.2	(s)	99.0	38.6	-7.2	3,104.3
2002	324.6	17.0	70.7	10.2	0.1	0.0	81.0	1.4	0.2	(s)	99.5	28.3	-7.6	3,161.4
2003	291.3	14.0	81.1	12.9	(s)	2.6	96.6	1.8	0.2	(s)	112.6	143.4	-12.2	3,202.2
2004	318.7	15.4	84.3	13.3	0.1	2.9	100.5	1.9	0.2	(s)	118.2	46.9	-10.9	3,165.0
2005	343.0	14.6	93.1	17.7	0.3	2.7	113.8	2.2	0.3	(s)	130.9	44.6	-9.3	3,215.2
2006	303.3	15.1	88.2	18.6	0.8	4.5	112.0	2.6	0.3	(s)	130.0	103.3	-7.2	3,046.6
2007	330.6	12.6	90.3	22.8	1.1	10.5	124.7	3.0	0.4	(s)	140.7	19.8	-4.1	3,022.7
2008	329.1	13.4	94.8	31.2	0.9	12.7	139.6	3.5	0.4	1.4	158.4	-13.8	7.9	2,915.4
2009	228.5	13.4	80.5	35.3	1.0	11.8	128.7	4.3	0.4	2.9	R 149.8	2.1	19.2	2,690.3
2010	309.6	12.2	89.4	33.8	0.8	15.1	139.1	4.9	0.5	3.5	160.2	-24.6	12.2	R 2,780.1
2011	344.2	13.2	101.1	34.6	2.7	15.0	153.4	5.1	0.6	4.4	176.6	9.4	13.9	R 2,818.5
2012	293.6	11.5	97.6	36.9	2.6	14.4	151.4	5.2	0.8	10.8	179.6	22.8	14.6	R 2,714.8
2013	302.2	13.5	104.3	39.0	4.5	R 14.9	R 162.7	5.2	0.8	26.7	R 208.9	12.9	19.9	R 2,865.5
2014	326.8	15.2	105.9	38.3	4.2	R 15.0	R 163.5	5.2	0.8	36.8	R 221.5	-3.2	19.9	R 2,909.8
2015	306.8	14.0	119.5	36.5	3.8	R 15.0	R 174.8	5.2	0.9	44.7	R 239.5	-102.7	28.3	R 2,826.7
2016	330.0	14.4	112.4	37.3	5.6	R 15.2	R 170.5	5.2	1.1	43.4	R 234.6	-64.5	26.6	R 2,806.2
2017	338.7	15.5	R 108.0	37.5	4.4	R 18.2	R 168.0	5.2	1.7	47.8	R 238.2	-77.2	19.5	R 2,798.1
2018	318.7	14.3	114.9	37.2	4.4	R 19.1	R 175.7	5.2	2.3	49.7	R 247.2	-91.3	22.1	R 2,911.4
2019	343.6	14.7	R 111.2	37.4	3.4	R 18.1	R 170.1	5.2	2.8	51.9	R 244.6	-103.8	9.0	R 2,880.2
2020	316.7	15.0	99.4	32.9	4.1	16.3	152.7	5.2	3.2	59.1	235.3	-41.5	5.8	2,610.6

[e] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.

[f] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.

[g] Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.

[h] Excludes denaturant. Because of differences in data sources and estimation methods, the ratio of fuel ethanol consumption and motor gasoline consumption should not be interpreted as the average ethanol blend rate. Pre-2005 estimates are not comparable to those for later years. See Section 5 of Technical Notes.

[i] Losses and co-products from the production of biodiesel and fuel ethanol.

[j] Solar thermal and photovoltaic energy.

[k] Includes the energy losses associated with the generation, transmission, and distribution of the electricity flowing across state lines. A positive number indicates that more electricity came into the state than went out of the state during the year. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

[l] Electricity traded with Canada and Mexico. Calculated by converting net imports in kilowatthours by 3,412 Btu per kilowatthour.

NA = Not available.

Where shown, R = Revised data and (s) = Value less than +0.05 and greater than -0.05 trillion Btu.

Notes: Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.

Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT3. Total End-Use Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum							Hydro-electric Power [g,h]	Biomass		Geo-thermal [h]	Solar [h,k]	Electricity Retail Sales	Net Energy [h,l]	Electrical System Energy Losses [m]	Total [h,l]
			Distillate Fuel Oil [b]	HGL [c]	Jet Fuel [d]	Motor Gasoline [e]	Residual Fuel Oil	Other [f]	Total		Wood and Waste [h,i]	Losses and Co-products [j]						
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels							Million Kilowatt-hours					Million Kilowatt-hours			
1960	15,631	365	30,158	2,827	3,369	65,782	11,477	14,867	128,481	212	– –	– –	– –	– –	27,599	– –	– –	– –
1970	13,942	745	37,176	6,202	7,365	96,831	5,543	16,357	169,473	123	– –	– –	– –	– –	55,292	– –	– –	– –
1980	8,960	839	26,864	6,736	6,646	97,025	3,669	15,192	156,130	117	– –	– –	– –	– –	69,681	– –	– –	– –
1990	4,987	794	24,016	14,901	10,057	99,913	1,579	12,598	163,063	23	– –	– –	– –	– –	82,367	– –	– –	– –
2000	4,018	828	30,450	16,308	7,214	118,160	675	14,343	187,148	27	– –	– –	– –	– –	104,772	– –	– –	– –
2001	3,802	773	29,145	18,876	6,219	119,472	440	12,137	186,290	26	– –	– –	– –	– –	102,409	– –	– –	– –
2002	3,047	820	28,460	21,039	6,016	121,745	455	11,946	189,661	29	– –	– –	– –	– –	104,714	– –	– –	– –
2003	2,872	822	29,859	20,578	2,695	119,019	1,001	12,740	185,892	75	– –	– –	– –	– –	108,877	– –	– –	– –
2004	3,191	783	30,746	20,826	3,733	118,967	987	13,034	188,293	30	– –	– –	– –	– –	106,606	– –	– –	– –
2005	3,170	783	29,943	23,157	3,431	119,584	1,110	12,545	189,770	29	– –	– –	– –	– –	110,445	– –	– –	– –
2006	3,141	694	29,627	15,036	4,124	118,106	970	11,377	179,240	32	– –	– –	– –	– –	108,018	– –	– –	– –
2007	3,095	674	29,076	16,217	5,270	116,059	1,255	11,804	179,681	26	– –	– –	– –	– –	109,297	– –	– –	– –
2008	3,394	686	26,426	12,506	4,641	111,410	1,256	9,739	165,978	26	– –	– –	– –	– –	105,781	– –	– –	– –
2009	2,095	652	25,366	11,829	4,270	109,703	488	9,605	161,260	25	– –	– –	– –	– –	98,121	– –	– –	– –
2010	2,799	634	26,187	10,936	R 8,583	108,436	476	R 8,309	R 162,925	28	– –	– –	– –	– –	103,649	– –	– –	– –
2011	2,799	664	26,371	10,675	R 8,797	105,871	644	7,639	R 159,997	29	– –	– –	– –	– –	105,054	– –	– –	– –
2012	2,381	609	25,453	9,221	R 8,656	105,052	461	7,992	R 156,834	26	– –	– –	– –	– –	104,818	– –	– –	– –
2013	2,662	704	28,368	12,190	R 8,751	109,078	378	R 9,213	R 167,978	29	– –	– –	– –	– –	103,038	– –	– –	– –
2014	2,543	750	28,781	12,823	R 8,760	109,118	258	R 9,831	R 169,571	29	– –	– –	– –	– –	103,314	– –	– –	– –
2015	2,439	679	29,762	10,949	R 9,796	111,408	235	R 10,182	R 172,331	30	– –	– –	– –	– –	102,480	– –	– –	– –
2016	1,530	648	29,566	11,635	R 10,013	113,495	484	R 10,710	R 175,902	26	– –	– –	– –	– –	104,468	– –	– –	– –
2017	1,974	657	27,451	11,648	R 10,289	112,289	696	R 10,634	R 173,007	29	– –	– –	– –	– –	101,899	– –	– –	– –
2018	2,039	711	31,070	13,549	R 10,049	112,532	815	R 9,894	R 177,908	10	– –	– –	– –	– –	104,869	– –	– –	– –
2019	1,918	R 722	29,934	13,968	R 9,992	R 110,975	912	R 10,390	R 176,171	10	– –	– –	– –	– –	101,249	– –	– –	– –
2020	1,226	647	27,026	12,744	5,204	94,915	652	10,352	150,893	9	– –	– –	– –	– –	97,012	– –	– –	– –
			Trillion Btu															
1960	396.8	377.6	175.7	10.8	18.2	345.6	72.2	88.2	710.6	2.3	37.3	NA	NA	NA	94.2	1,618.8	232.9	1,851.6
1970	341.8	756.0	216.6	23.7	41.0	508.7	34.8	97.2	921.9	1.3	36.4	NA	NA	NA	188.7	2,246.1	456.4	2,702.5
1980	226.9	855.2	156.5	25.0	37.1	509.7	23.1	90.2	841.6	1.2	90.6	NA	NA	NA	237.8	2,253.3	571.2	2,824.4
1990	124.5	829.7	139.9	54.5	56.6	524.8	9.9	76.8	862.6	0.2	71.2	0.0	0.6	0.2	281.0	2,156.3	710.3	2,866.6
2000	105.1	858.4	177.2	61.4	40.9	614.5	4.2	88.7	986.9	0.3	68.9	0.0	1.2	0.2	357.5	2,367.5	857.5	3,225.0
2001	99.2	796.9	169.6	71.5	35.3	621.4	2.8	75.7	976.2	0.3	51.5	0.0	1.2	0.2	349.4	2,271.4	832.9	3,104.3
2002	79.1	837.4	165.6	79.4	34.1	633.0	2.9	74.1	989.0	0.3	45.8	0.0	1.4	0.2	357.3	2,310.6	850.8	3,161.4
2003	75.4	846.1	173.8	77.9	15.3	618.5	6.3	79.1	970.8	0.8	56.3	2.6	1.8	0.2	371.5	2,325.5	876.8	3,202.2
2004	82.6	803.2	178.9	77.9	21.2	618.2	6.2	81.3	983.6	0.3	59.0	2.9	1.9	0.2	363.7	2,297.6	867.4	3,165.0
2005	81.2	794.9	174.2	86.4	19.5	620.9	7.0	78.6	986.5	0.3	69.9	2.7	2.2	0.3	376.8	2,315.2	900.0	3,215.2
2006	80.2	706.6	171.9	55.9	23.4	612.4	6.1	71.1	940.7	0.3	64.9	4.5	2.6	0.3	368.6	2,169.6	877.0	3,046.6
2007	79.8	689.4	168.2	60.4	29.9	596.8	7.9	72.9	936.1	0.3	68.2	10.5	3.0	0.4	372.9	2,161.8	861.0	3,022.8
2008	87.6	702.7	152.7	47.6	26.3	568.9	7.9	59.9	863.3	0.3	72.1	12.7	3.5	0.4	360.9	2,104.4	811.0	2,915.4
2009	53.4	665.7	146.5	44.9	24.2	558.4	3.1	59.5	836.7	0.2	58.5	11.8	4.3	0.4	334.8	1,965.9	724.5	2,690.3
2010	71.7	643.9	151.2	42.0	R 48.7	549.4	3.0	51.5	R 845.8	0.3	67.5	15.1	4.9	0.5	353.7	R 2,003.3	776.8	R 2,780.1
2011	70.8	672.8	152.2	41.0	R 49.9	536.0	4.1	47.2	R 830.3	0.3	78.1	15.0	5.1	0.6	358.4	R 2,031.3	787.2	R 2,818.5
2012	61.9	619.7	146.8	35.4	R 49.1	531.8	2.9	49.3	R 815.3	0.2	75.3	14.4	5.2	0.8	357.6	R 1,950.4	764.5	R 2,714.8
2013	69.3	718.7	163.5	46.8	R 49.6	551.9	2.4	R 56.0	R 870.3	0.3	81.1	R 14.9	5.2	0.8	351.6	R 2,112.0	753.5	R 2,865.5
2014	64.3	763.8	165.9	49.3	R 49.7	552.0	1.6	59.9	R 878.3	0.3	81.2	R 15.0	5.2	0.8	352.5	R 2,161.5	748.2	R 2,909.8
2015	62.3	701.1	171.5	42.1	R 55.5	563.4	1.5	62.4	R 896.3	0.3	98.3	R 15.0	5.2	0.8	349.7	R 2,129.0	697.7	R 2,826.7
2016	39.0	675.2	170.2	44.7	R 56.8	573.7	3.0	R 66.3	R 914.7	0.2	90.6	R 15.2	5.2	1.0	356.4	R 2,097.7	708.5	R 2,806.2
2017	53.5	687.3	158.0	44.7	R 58.3	567.4	4.4	R 66.0	R 898.9	0.3	85.2	R 18.2	5.2	1.1	347.7	R 2,097.2	700.8	R 2,798.1
2018	53.7	744.9	178.9	52.0	R 57.0	568.7	5.1	R 61.6	R 923.4	0.1	R 92.5	R 19.1	5.2	1.2	357.8	R 2,197.9	713.5	R 2,911.4
2019	50.0	R 763.4	172.4	53.7	R 56.7	560.6	5.7	R 64.5	R 913.6	0.1	R 89.3	R 18.1	5.2	1.5	345.5	R 2,186.6	693.5	R 2,880.2
2020	31.5	685.8	155.6	49.0	29.5	479.5	4.1	64.4	782.0	0.1	79.3	16.3	5.2	1.9	331.0	1,932.9	677.7	2,610.6

[a] Includes supplemental gaseous fuels that are commingled with natural gas.
[b] Beginning in 2009, includes biodiesel blended into distillate fuel oil.
[c] Hydrocarbon gas liquids, include natural gas liquids and refinery olefins.
[d] Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other Petroleum."
[e] Beginning in 1993, includes fuel ethanol blended into motor gasoline.
[f] Includes asphalt and road oil, aviation gasoline, kerosene, lubricants, petroleum coke, and the "other petroleum products" category. See Technical Notes, Section 4.
[g] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
[h] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
[i] Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
[j] Losses and co-products from the production of biodiesel and fuel ethanol.
[k] Solar thermal and photovoltaic energy.
[l] Beginning in 1980, adjusted for the double-counting of supplemental gaseous fuels, which are included in both natural gas and the other fossil fuels from which they are mostly derived, but should be counted only once in net energy and total. For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column. Beginning in 2009, includes a small amount of wind energy consumed by the commercial and industrial sectors.
[m] Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

– – = Not applicable. NA = Not available.

Where shown, R = Revised data and (s) = Physical unit value less than 0.5 or Btu value less than 0.05.

Notes: Total end-use consumption estimates are the sum of the consumption estimates for the residential, commercial, industrial, and transportation sectors. · Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.

Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT4. Residential Sector Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal [a]	Natural Gas [b]	Petroleum				Biomass	Geothermal [e]	Solar [e,f]	Electricity Retail Sales	Net Energy [e,g]	Electrical System Energy Losses [h]	Total [e,g]
			Distillate Fuel Oil	HGL [c]	Kerosene	Total							
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels				Wood [d]			Million Kilowatthours			
1960	1,414	202	17,380	2,090	765	20,234	--	--	--	8,728	--	--	--
1965	1,007	271	16,334	2,528	1,279	20,141	--	--	--	11,309	--	--	--
1970	481	340	18,839	4,842	545	24,226	--	--	--	17,103	--	--	--
1975	119	335	19,420	5,625	302	25,347	--	--	--	20,886	--	--	--
1980	65	387	9,195	3,637	83	12,915	--	--	--	22,260	--	--	--
1985	56	341	6,192	4,771	425	11,389	--	--	--	22,302	--	--	--
1990	54	327	4,842	7,045	217	12,104	--	--	--	25,319	--	--	--
1995	33	380	3,815	8,637	233	12,685	--	--	--	28,623	--	--	--
2000	2	368	2,902	11,940	356	15,199	--	--	--	30,707	--	--	--
2005	12	359	1,945	15,437	219	17,601	--	--	--	36,095	--	--	--
2006	1	316	1,504	9,483	153	11,140	--	--	--	34,622	--	--	--
2007	17	328	1,371	10,916	95	12,383	--	--	--	35,366	--	--	--
2008	0	342	1,208	10,215	49	11,472	--	--	--	34,297	--	--	--
2009	0	327	909	9,925	71	10,904	--	--	--	32,854	--	--	--
2010	0	304	673	9,139	64	9,876	--	--	--	34,681	--	--	--
2011	0	318	670	8,667	46	9,384	--	--	--	34,811	--	--	--
2012	0	277	459	7,056	15	7,531	--	--	--	34,461	--	--	--
2013	0	334	561	9,598	23	10,181	--	--	--	34,013	--	--	--
2014	0	355	701	10,292	35	11,028	--	--	--	33,515	--	--	--
2015	0	312	511	8,582	29	9,122	--	--	--	33,358	--	--	--
2016	0	294	461	9,036	29	9,525	--	--	--	34,543	--	--	--
2017	0	299	433	9,082	12	9,527	--	--	--	32,977	--	--	--
2018	0	327	478	11,109	12	11,599	--	--	--	35,131	--	--	--
2019	0	332	533	11,281	19	11,833	--	--	--	33,496	--	--	--
2020	0	304	496	9,461	19	9,976	--	--	--	35,863	--	--	--
			Trillion Btu										
1960	35.0	209.0	101.2	8.0	4.3	113.6	22.1	NA	NA	29.8	409.5	73.6	483.1
1965	24.8	274.8	95.1	9.7	7.3	112.1	17.8	NA	NA	38.6	468.1	92.1	560.2
1970	11.4	345.1	109.7	18.6	3.1	131.4	16.6	NA	NA	58.4	562.9	141.2	704.1
1975	2.8	343.0	113.1	21.6	1.7	136.4	15.9	NA	NA	71.3	569.4	170.9	740.3
1980	1.6	394.9	53.6	14.0	0.5	68.0	42.3	NA	NA	76.0	582.7	182.5	765.2
1985	1.4	348.9	36.1	18.3	2.4	56.8	43.9	NA	NA	76.1	525.6	174.3	699.9
1990	1.3	341.9	28.2	27.1	1.2	56.5	27.5	0.6	0.2	86.4	506.7	218.3	725.1
1995	0.8	395.4	22.2	33.2	1.3	56.7	14.8	0.7	0.3	97.7	557.3	211.9	769.2
2000	(s)	381.1	16.9	45.9	2.0	64.8	9.9	0.9	0.2	104.8	556.6	251.3	807.9
2005	0.3	364.0	11.3	59.3	1.2	71.9	25.4	1.8	0.3	123.2	586.7	294.1	880.9
2006	(s)	321.5	8.7	36.4	0.9	46.0	22.5	2.1	0.3	118.1	510.5	281.1	791.6
2007	0.4	335.7	7.9	41.9	0.5	50.4	24.9	2.5	0.4	120.7	535.0	278.6	813.6
2008	0.0	350.0	7.0	39.2	0.3	46.5	27.9	3.0	0.4	117.0	544.8	263.0	807.7
2009	0.0	334.2	5.2	38.1	0.4	43.8	18.7	3.7	0.4	112.1	512.8	242.6	755.4
2010	0.0	309.3	3.9	35.1	0.4	39.4	20.0	4.2	0.4	118.3	491.6	259.9	751.5
2011	0.0	322.4	3.9	33.3	0.3	37.4	19.4	4.0	0.5	118.8	502.5	260.9	763.4
2012	0.0	281.5	2.6	27.1	0.1	29.8	16.2	4.3	0.5	117.6	449.9	251.3	701.3
2013	0.0	341.2	3.2	36.9	0.1	40.2	21.2	4.3	0.5	116.1	523.5	248.7	772.2
2014	0.0	361.3	4.0	39.5	0.2	43.8	21.4	4.3	0.6	114.4	545.7	242.7	788.4
2015	0.0	322.4	2.9	33.0	0.2	36.1	37.6	4.3	0.6	113.8	514.9	227.1	742.0
2016	0.0	306.7	2.7	34.7	0.2	37.5	30.0	4.3	0.7	117.9	497.2	234.3	731.4
2017	0.0	312.8	2.5	34.9	0.1	37.4	R 29.9	4.3	0.8	112.5	497.7	226.8	724.5
2018	0.0	342.5	2.8	42.7	0.1	45.5	R 36.3	4.3	0.8	119.9	549.2	239.0	R 788.3
2019	0.0	351.3	3.1	43.3	0.1	46.5	R 37.2	4.3	1.0	114.3	554.6	229.4	R 784.1
2020	0.0	322.6	2.9	36.3	0.1	39.3	30.1	4.3	1.3	122.4	519.9	250.5	770.5

[a] Beginning in 2008, data are no longer collected and are assumed to be zero.
[b] Includes supplemental gaseous fuels that are commingled with natural gas.
[c] Hydrocarbon gas liquids, assumed to be propane only.
[d] Wood and wood-derived fuels.
[e] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
[f] Solar thermal and photovoltaic energy. Includes solar thermal energy consumed as heat by the commercial and industrial sectors.
[g] Beginning in 1980, adjusted for the double-counting of supplemental gaseous fuels, which are included in both natural gas and the other fossil fuels from which they are mostly derived, but should be counted only once in net energy and total.
[h] Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

-- = Not applicable. NA = Not available.
Where shown, R = Revised data and (s) = Physical unit value less than 0.5 or Btu value less than 0.05.
Notes: Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.
Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.
Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT5. Commercial Sector Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum						Hydro-electric Power [e,f]	Biomass		Solar [f,h]	Electricity Retail Sales	Net Energy [f,i]	Electrical System Energy Losses [j]	Total [f,i]
			Distillate Fuel Oil	HGL [b]	Kerosene	Motor Gasoline [c]	Residual Fuel Oil	Total [d]		Wood and Waste [f,g]	Geothermal [f]					
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels						Million Kilowatthours			Million Kilowatthours				
1960	982	43	3,212	192	566	324	1,175	5,468	NA	– –	– –	NA	6,381	– –	– –	– –
1965	760	85	3,019	232	946	536	839	5,572	NA	– –	– –	NA	9,124	– –	– –	– –
1970	378	133	3,482	444	403	804	558	5,691	NA	– –	– –	NA	13,021	– –	– –	– –
1975	279	182	3,589	516	224	954	390	5,672	NA	– –	– –	NA	14,596	– –	– –	– –
1980	243	190	3,123	333	15	823	225	4,519	NA	– –	– –	NA	16,765	– –	– –	– –
1985	197	158	2,449	438	11	699	274	3,872	NA	– –	– –	NA	18,421	– –	– –	– –
1990	214	159	2,010	646	18	770	71	3,516	0	– –	– –	0	21,986	– –	– –	– –
1995	221	194	1,638	792	102	77	5	2,614	0	– –	– –	0	32,153	– –	– –	– –
2000	12	187	1,577	1,095	33	159	5	2,868	0	– –	– –	0	36,793	– –	– –	– –
2005	141	175	1,267	933	28	207	4	2,440	0	– –	– –	0	39,600	– –	– –	– –
2006	8	154	1,337	915	26	91	2	2,370	0	– –	– –	0	39,299	– –	– –	– –
2007	155	164	1,128	911	8	82	0	2,129	0	– –	– –	0	40,047	– –	– –	– –
2008	190	172	1,055	998	7	84	56	2,200	0	– –	– –	0	38,974	– –	– –	– –
2009	246	164	1,358	690	8	127	12	2,195	0	– –	– –	1	37,870	– –	– –	– –
2010	177	152	1,130	687	13	82	76	1,988	0	– –	– –	2	38,123	– –	– –	– –
2011	163	164	1,240	654	9	79	98	2,080	0	– –	– –	R 10	38,613	– –	– –	– –
2012	90	145	1,172	751	3	78	47	2,052	0	– –	– –	R 27	38,514	– –	– –	– –
2013	73	172	1,337	943	7	81	1	2,369	0	– –	– –	24	37,698	– –	– –	– –
2014	68	186	1,161	929	9	3,199	4	5,303	0	– –	– –	26	37,349	– –	– –	– –
2015	47	168	1,335	732	9	1,998	3	4,078	0	– –	– –	27	38,441	– –	– –	– –
2016	14	159	1,132	949	11	2,017	(s)	4,109	0	– –	– –	30	38,986	– –	– –	– –
2017	0	163	1,338	1,070	10	2,048	1	4,467	0	– –	– –	34	38,325	– –	– –	– –
2018	0	180	1,071	1,148	5	2,081	7	4,313	0	– –	– –	45	38,925	– –	– –	– –
2019	0	182	1,418	1,135	9	2,096	0	4,657	0	– –	– –	54	37,861	– –	– –	– –
2020	0	160	1,116	1,785	11	2,112	0	5,023	0	– –	– –	68	35,491	– –	– –	– –
			Trillion Btu													
1960	24.3	44.5	18.7	0.7	3.2	1.7	7.4	31.7	NA	0.4	NA	NA	21.8	122.8	53.8	176.6
1965	18.7	86.0	17.6	0.9	5.4	2.8	5.3	31.9	NA	0.3	NA	NA	31.1	168.1	74.3	242.4
1970	9.0	134.7	20.3	1.7	2.3	4.2	3.5	32.0	NA	0.3	NA	NA	44.4	220.4	107.5	327.9
1975	6.5	186.4	20.9	2.0	1.3	5.0	2.4	31.6	NA	0.3	NA	NA	49.8	274.6	119.5	394.1
1980	5.9	194.0	18.2	1.3	0.1	4.3	1.4	25.3	NA	1.0	NA	NA	57.2	283.5	137.4	420.9
1985	4.8	161.4	14.3	1.7	0.1	3.7	1.7	21.4	NA	1.0	NA	NA	62.9	250.9	144.0	394.9
1990	5.3	166.5	11.7	2.5	0.1	4.0	0.4	18.8	0.0	7.3	0.0	0.0	75.0	269.2	189.6	458.8
1995	5.4	201.9	9.5	3.0	0.6	0.4	(s)	13.6	0.0	9.0	0.1	0.0	109.7	335.2	238.0	573.3
2000	0.3	193.6	9.2	4.2	0.2	0.8	(s)	14.4	0.0	8.6	0.2	0.0	125.5	340.1	301.1	641.3
2005	3.4	177.2	7.4	3.6	0.2	1.1	(s)	12.2	0.0	8.3	0.5	0.0	135.1	336.7	322.7	659.4
2006	0.2	156.7	7.8	3.5	0.1	0.5	(s)	11.9	0.0	8.3	0.5	0.0	134.1	311.7	319.1	630.8
2007	3.8	167.4	6.5	3.5	(s)	0.4	0.0	10.5	0.0	8.7	0.5	0.0	136.6	327.5	315.5	642.9
2008	4.9	176.3	6.1	3.8	(s)	0.4	0.4	10.8	0.0	9.1	0.6	0.0	133.0	334.5	298.8	633.3
2009	6.4	167.2	7.8	2.7	(s)	0.6	0.1	11.3	0.0	7.3	0.7	(s)	129.2	322.1	279.6	601.7
2010	4.6	154.8	6.5	2.6	0.1	0.4	0.5	10.1	0.0	7.5	0.7	(s)	130.1	307.8	285.7	593.6
2011	4.1	165.8	7.2	2.5	0.1	0.4	0.6	10.7	0.0	7.5	1.1	0.1	131.7	321.0	289.3	610.4
2012	2.1	147.1	6.8	2.9	(s)	0.4	0.3	10.4	0.0	7.8	0.9	R 0.3	131.4	R 299.9	280.9	580.7
2013	1.7	175.1	7.7	3.6	(s)	0.4	(s)	11.8	0.0	7.2	0.9	0.2	128.6	325.5	275.7	601.2
2014	1.6	189.9	6.7	3.6	0.1	16.2	(s)	26.5	0.0	7.5	0.9	0.2	127.4	354.1	270.5	624.6
2015	1.2	173.9	7.7	2.8	(s)	10.1	(s)	20.7	0.0	10.6	0.9	0.3	131.2	338.7	261.7	600.4
2016	0.3	165.4	6.5	3.6	0.1	10.2	(s)	20.4	0.0	11.3	0.9	0.3	133.0	331.6	264.4	596.0
2017	0.0	170.1	7.7	4.1	0.1	10.3	(s)	22.2	0.0	11.0	0.9	0.3	130.8	335.2	263.6	598.8
2018	0.0	188.9	6.2	4.4	(s)	10.5	(s)	21.2	0.0	10.5	0.9	0.4	132.8	354.6	264.8	619.4
2019	0.0	192.3	8.2	4.4	0.1	10.6	0.0	23.2	0.0	7.1	0.9	0.5	129.2	353.1	259.3	612.4
2020	0.0	170.2	6.4	6.9	0.1	10.7	0.0	24.0	0.0	6.3	0.9	0.6	121.1	323.1	247.9	571.0

[a] Includes supplemental gaseous fuels that are commingled with natural gas.
[b] Hydrocarbon gas liquids, assumed to be propane only.
[c] Beginning in 1993, includes fuel ethanol blended into motor gasoline. There is a discontinuity in this time series between 2014 and 2015 because of coverage. See Technical Notes, Section 4.
[d] Includes small amounts of petroleum coke not shown separately.
[e] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
[f] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
[g] Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
[h] Solar thermal and photovoltaic energy. Excludes a small amount of solar thermal energy consumed as heat that is included in the residential sector.
[i] Beginning in 1980, adjusted for the double-counting of supplemental gaseous fuels, which are included in both natural gas and the other fossil fuels from which they are mostly derived, but should be counted only once in net energy and total. For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column. Beginning in 2009, includes a small amount of wind energy consumed by commercial utility-scale facilities.
[j] Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

– – = Not applicable. NA = Not available.
Where shown, R = Revised data and (s) = Physical unit value less than 0.5 or Btu value less than 0.05.
Notes: Totals may not equal sum of components due to independent rounding. · The commercial sector includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants. · The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the Technical Notes for each type of energy.
Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.
Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT6. Industrial Sector Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum						Hydro-electric Power [e,f]	Biomass		Geo-thermal [f]	Solar [f,i]	Electricity Retail Sales	Net Energy [f,j]	Electrical System Energy Losses [k]	Total [f,j]
			Distillate Fuel Oil	HGL [b]	Motor Gasoline [c]	Residual Fuel Oil	Other [d]	Total		Wood and Waste [f,g]	Losses and Co-products [h]						
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels						Million kWh				Million kWh				
1960	13,011	117	7,091	524	3,151	9,574	10,949	31,288	212	--	--	--	NA	12,482	--	--	--
1965	15,193	192	7,518	923	2,694	6,660	13,665	31,460	146	--	--	--	NA	19,350	--	--	--
1970	13,061	262	8,502	854	2,758	4,557	13,367	30,038	123	--	--	--	NA	25,169	--	--	--
1975	9,885	300	8,749	1,239	1,889	3,343	12,239	27,460	121	--	--	--	NA	28,866	--	--	--
1980	8,652	249	4,804	2,637	967	3,213	13,129	24,750	117	--	--	--	NA	30,656	--	--	--
1985	6,645	190	4,408	8,725	1,192	2,213	8,405	24,944	117	--	--	--	NA	33,704	--	--	--
1990	4,719	290	3,957	6,926	976	1,416	10,635	23,911	23	--	--	--	0	35,062	--	--	--
1995	4,383	254	3,457	4,826	1,310	402	11,392	21,387	27	--	--	--	0	33,921	--	--	--
2000	4,004	247	4,055	3,006	1,060	622	12,207	20,951	27	--	--	--	0	37,268	--	--	--
2001	3,793	233	3,494	2,434	1,835	352	10,388	18,504	26	--	--	--	0	34,174	--	--	--
2002	2,781	250	2,767	3,457	1,931	344	10,194	18,693	29	--	--	--	0	33,537	--	--	--
2003	2,840	222	3,229	2,984	2,018	713	11,077	20,020	75	--	--	--	0	39,813	--	--	--
2004	3,012	219	3,651	5,110	2,308	687	11,404	23,160	30	--	--	--	0	34,867	--	--	--
2005	3,017	222	3,475	6,279	2,237	909	10,913	23,813	29	--	--	--	0	34,745	--	--	--
2006	3,132	199	3,020	4,407	2,378	736	9,864	20,405	32	--	--	--	0	34,093	--	--	--
2007	2,922	156	3,154	4,112	2,218	967	10,317	20,768	26	--	--	--	0	33,879	--	--	--
2008	3,204	149	3,415	1,003	1,883	982	8,394	15,677	26	--	--	--	0	32,505	--	--	--
2009	1,850	137	3,091	988	1,442	342	8,371	14,234	25	--	--	--	(s)	27,391	--	--	--
2010	2,621	152	3,224	R 1,068	1,254	154	R 7,434	R 13,134	28	--	--	--	(s)	30,841	--	--	--
2011	2,636	158	3,208	R 1,313	1,206	218	6,823	R 12,768	29	--	--	--	(s)	31,624	--	--	--
2012	2,291	167	2,825	R 1,380	1,316	188	7,274	R 12,984	26	--	--	--	1	31,836	--	--	--
2013	2,588	179	3,322	R 1,608	1,385	138	R 8,435	R 14,886	29	--	--	--	1	31,322	--	--	--
2014	2,474	188	3,173	R 1,562	959	73	R 9,055	R 14,823	29	--	--	--	1	32,446	--	--	--
2015	2,391	178	3,803	R 1,578	1,559	72	R 9,332	R 16,344	30	--	--	--	1	30,677	--	--	--
2016	1,516	178	3,912	R 1,584	1,598	26	R 9,893	R 17,013	26	--	--	--	1	30,934	--	--	--
2017	1,974	176	3,500	R 1,364	1,612	18	R 9,915	R 16,409	29	--	--	--	1	30,591	--	--	--
2018	2,039	182	3,756	R 1,196	1,643	26	R 9,167	R 15,789	10	--	--	--	2	30,806	--	--	--
2019	1,918	179	3,737	R 1,453	1,626	24	R 9,692	R 16,533	10	--	--	--	3	29,886	--	--	--
2020	1,226	159	3,326	1,439	1,632	26	9,750	16,174	9	--	--	--	3	25,654	--	--	--
			Trillion Btu														
1960	332.0	121.3	41.3	2.0	16.5	60.2	66.3	186.3	2.3	14.8	NA	NA	NA	42.6	699.3	105.3	804.6
1965	385.6	195.1	43.8	3.5	14.2	41.9	80.4	183.7	1.5	18.8	NA	NA	NA	66.0	850.7	157.6	1,008.3
1970	320.9	265.7	49.5	3.1	14.5	28.7	80.2	176.0	1.3	19.5	NA	NA	NA	85.9	869.3	207.7	1,077.0
1975	246.7	307.7	51.0	4.4	9.9	21.0	74.1	160.4	1.3	19.7	NA	NA	NA	98.5	834.3	236.2	1,070.5
1980	219.4	253.7	28.0	9.3	5.1	20.2	78.2	140.8	1.2	47.2	NA	NA	NA	104.6	766.9	251.3	1,018.2
1985	169.9	194.2	25.7	29.8	6.3	13.9	51.1	126.8	1.2	55.3	0.0	NA	NA	115.0	661.7	263.4	925.1
1990	117.9	302.6	23.1	23.9	5.1	8.9	65.2	126.2	0.2	36.5	0.0	0.0	0.0	119.6	696.5	302.3	998.8
1995	109.2	264.4	20.1	16.7	6.8	2.5	70.9	117.1	0.3	44.7	0.0	0.0	0.0	115.7	645.6	251.1	896.7
2000	104.8	256.2	23.6	10.3	5.5	3.9	76.1	119.4	0.3	50.4	0.0	0.0	0.0	127.2	654.8	305.0	959.9
2001	99.0	240.5	20.3	8.3	9.5	2.2	65.2	105.7	0.3	35.5	0.0	0.0	0.0	116.6	596.4	277.9	874.3
2002	72.8	254.7	16.1	11.9	10.0	2.2	63.7	103.9	0.3	25.7	0.0	0.0	0.0	114.4	571.9	272.5	844.4
2003	74.6	229.0	18.8	10.3	10.5	4.5	69.2	113.3	0.8	35.4	2.6	0.0	0.0	135.8	591.5	320.6	912.1
2004	78.2	224.2	21.2	17.5	12.0	4.3	71.6	126.7	0.3	37.3	2.9	0.0	0.0	119.0	588.5	283.7	872.2
2005	77.5	225.4	20.2	21.6	11.6	5.7	68.9	128.0	0.3	36.3	2.7	0.0	0.0	118.5	588.7	283.1	871.9
2006	80.0	202.4	17.5	15.1	12.3	4.6	62.0	111.6	0.3	34.1	4.5	0.0	0.0	116.3	549.2	276.8	826.0
2007	75.6	159.7	18.2	13.9	11.4	6.1	64.0	113.7	0.3	34.7	10.5	0.0	0.0	115.6	510.1	266.9	776.9
2008	82.7	152.2	19.7	3.4	9.6	6.2	51.8	90.7	0.3	35.2	12.7	0.0	0.0	110.9	484.6	249.2	733.9
2009	47.1	140.0	17.9	3.3	7.3	2.1	52.1	82.8	0.2	32.5	11.8	0.0	(s)	93.5	407.8	202.2	610.1
2010	67.1	154.1	18.6	R 4.1	6.4	1.0	46.3	R 76.4	0.3	40.0	15.1	0.0	(s)	105.2	R 458.3	231.1	R 689.4
2011	66.7	160.4	18.5	R 5.0	6.1	1.4	42.3	R 73.4	0.3	51.2	15.0	0.0	(s)	107.9	R 474.8	237.0	R 711.8
2012	59.8	170.0	16.3	R 5.3	6.7	1.2	45.1	74.5	0.2	51.2	14.4	0.0	(s)	108.6	478.8	232.2	R 711.0
2013	67.6	182.9	19.1	R 6.2	7.0	0.9	51.4	84.6	0.3	52.7	R 14.9	0.0	(s)	106.9	R 509.9	229.0	R 738.9
2014	62.7	191.3	18.3	6.0	4.9	0.5	55.3	84.9	0.3	52.3	R 15.0	0.0	(s)	110.7	R 517.2	235.0	R 752.2
2015	61.1	184.3	21.9	6.1	7.9	0.5	R 57.3	R 93.6	0.3	50.1	R 15.0	0.0	(s)	104.7	R 509.0	208.9	R 717.9
2016	38.7	186.1	22.5	6.1	8.1	0.2	R 61.4	R 98.3	0.2	49.3	R 15.2	0.0	(s)	105.5	R 493.4	209.8	R 703.2
2017	53.5	184.3	20.2	R 5.2	8.1	0.1	R 61.7	R 95.3	0.3	44.4	R 18.2	0.0	(s)	104.4	R 500.3	210.4	R 710.7
2018	53.7	191.0	21.6	R 4.6	8.3	0.2	R 57.3	R 92.0	0.1	45.7	R 19.1	0.0	(s)	105.1	R 506.7	209.6	R 716.3
2019	50.0	R 189.5	21.5	R 5.6	8.2	0.2	R 60.3	R 95.8	0.1	44.9	R 18.1	0.0	(s)	102.0	R 500.5	204.7	R 705.2
2020	31.5	168.2	19.1	5.5	8.2	0.2	60.8	93.9	0.1	42.9	16.3	0.0	(s)	87.5	440.4	179.2	619.6

[a] Includes supplemental gaseous fuels that are commingled with natural gas.
[b] Hydrocarbon gas liquids, include natural gas liquids and refinery olefins.
[c] Beginning in 1993, includes fuel ethanol blended into motor gasoline. There is a discontinuity in this time series between 2014 and 2015 because of coverage. See Technical Notes, Section 4.
[d] Includes asphalt and road oil, kerosene, lubricants, petroleum coke, and the "other petroleum products" category. See Technical Notes, Section 4.
[e] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
[f] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
[g] Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
[h] Losses and co-products from the production of biodiesel and fuel ethanol.
[i] Solar thermal and photovoltaic energy. Excludes a small amount of solar thermal energy consumed as heat that is included in the residential sector.
[j] Beginning in 1980, adjusted for the double-counting of supplemental gaseous fuels, which are included in both natural gas and the other fossil fuels from which they are mostly derived, but should be counted only once in net energy and total. For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column. Beginning in 2009, includes a small amount of wind energy consumed by industrial utility-scale facilities.
[k] Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

kWh = Kilowatthours. -- = Not applicable. NA = Not available.
Where shown, R = Revised data and (s) = Physical unit value less than 0.5 or Btu value less than 0.05.
Notes: Totals may not equal sum of components due to independent rounding. · The industrial sector includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants. · The continuity of these data series estimates may be affected by the changing data sources and estimation methodologies. See the Technical Notes for each type of energy.
Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.
Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT7. Transportation Sector Energy Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum								Electricity Retail Sales	Net Energy [f,g]	Electrical System Energy Losses [h]	Total [f,g]
			Aviation Gasoline	Distillate Fuel Oil [b]	HGL [c]	Jet Fuel [d]	Lubricants	Motor Gasoline [e]	Residual Fuel Oil	Total				
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels								Million Kilowatthours			
1960	223	3	1,312	2,475	21	3,369	1,277	62,307	728	71,489	9	--	--	--
1965	50	5	2,619	3,348	34	4,377	1,126	74,814	779	87,097	0	--	--	--
1970	21	10	718	6,353	62	7,365	1,324	93,269	427	109,518	0	--	--	--
1975	2	10	347	8,949	95	5,700	1,321	105,412	423	122,248	0	--	--	--
1980	0	12	488	9,741	128	6,646	1,477	95,235	232	113,946	0	--	--	--
1985	0	11	201	12,328	291	6,570	1,344	91,556	99	112,389	0	--	--	--
1990	0	18	215	13,207	283	10,057	1,513	98,167	92	123,533	0	--	--	--
1995	0	25	231	18,125	241	8,818	1,443	109,159	94	138,111	4	--	--	--
2000	0	27	205	21,915	266	7,214	1,542	116,941	48	148,131	4	--	--	--
2005	0	28	84	23,256	509	3,431	1,300	117,139	197	145,916	5	--	--	--
2006	0	26	67	23,767	231	4,124	1,267	115,637	232	145,325	4	--	--	--
2007	0	26	76	23,422	278	5,270	1,308	113,760	288	144,401	5	--	--	--
2008	0	24	74	20,749	289	4,641	1,215	109,444	218	136,629	5	--	--	--
2009	0	24	62	20,008	227	4,270	1,092	108,134	134	133,927	5	--	--	--
2010	0	25	118	21,161	R 42	R 8,583	680	107,099	246	R 137,927	5	--	--	--
2011	0	24	111	21,252	R 41	R 8,797	650	104,587	328	R 135,765	5	--	--	--
2012	0	21	102	20,997	R 33	R 8,656	597	103,658	225	R 134,268	7	--	--	--
2013	0	19	92	23,149	R 41	R 8,751	656	107,612	240	R 140,541	6	--	--	--
2014	0	21	66	23,746	R 40	R 8,760	665	104,960	181	R 138,417	4	--	--	--
2015	0	20	74	24,111	R 56	R 9,796	738	107,851	160	R 142,787	4	--	--	--
2016	0	16	74	24,061	R 66	R 10,013	703	109,880	458	R 145,255	4	--	--	--
2017	0	19	75	22,179	R 133	R 10,289	622	108,630	677	R 142,604	6	--	--	--
2018	0	22	84	25,764	R 95	R 10,049	626	108,808	781	R 146,207	7	--	--	--
2019	0	R 29	88	24,246	R 99	R 9,992	582	R 107,253	888	R 143,148	6	--	--	--
2020	0	23	76	22,089	60	5,204	495	91,171	625	119,720	4	--	--	--
			Trillion Btu											
1960	5.5	2.7	6.6	14.4	0.1	18.2	7.7	327.3	4.6	378.9	(s)	387.2	0.1	387.3
1965	1.2	4.6	13.2	19.5	0.1	24.0	6.8	393.0	4.9	461.5	0.0	467.4	0.0	467.4
1970	0.5	10.5	3.6	37.0	0.2	41.0	8.0	489.9	2.7	582.5	0.0	593.5	0.0	593.5
1975	(s)	10.5	1.7	52.1	0.4	31.6	8.0	553.7	2.7	650.3	0.0	660.8	0.0	660.8
1980	0.0	12.6	2.5	56.7	0.5	37.1	9.0	500.3	1.5	607.5	0.0	620.1	0.0	620.1
1985	0.0	10.8	1.0	71.8	1.1	36.7	8.2	480.9	0.6	600.4	0.0	614.7	0.0	614.7
1990	0.0	18.7	1.1	76.9	1.1	56.6	9.2	515.7	0.6	661.1	0.0	683.9	0.0	683.9
1995	0.0	25.9	1.2	105.5	0.9	50.0	8.8	568.1	0.6	735.0	(s)	760.9	(s)	761.0
2000	0.0	27.5	1.0	127.5	1.0	40.9	9.3	608.2	0.3	788.3	(s)	815.9	(s)	815.9
2005	0.0	28.3	0.4	135.3	2.0	19.5	7.9	608.2	1.2	774.4	(s)	803.0	(s)	803.0
2006	0.0	26.1	0.3	137.9	0.9	23.4	7.7	599.6	1.5	771.3	(s)	798.2	(s)	798.2
2007	0.0	26.6	0.4	135.5	1.1	29.9	7.9	585.0	1.8	761.5	(s)	789.2	(s)	789.3
2008	0.0	24.2	0.4	119.9	1.1	26.3	7.4	558.8	1.4	715.3	(s)	740.5	(s)	740.5
2009	0.0	24.2	0.3	115.6	0.9	24.2	6.6	550.4	0.8	698.9	(s)	723.1	(s)	723.1
2010	0.0	25.6	0.6	122.2	R 0.2	R 48.7	4.1	542.7	1.5	R 720.0	(s)	R 745.6	(s)	R 745.6
2011	0.0	24.2	0.6	122.6	R 0.2	R 49.9	3.9	529.5	2.1	R 708.7	(s)	R 733.0	(s)	R 733.0
2012	0.0	21.2	0.5	121.1	R 0.1	R 49.1	3.6	524.7	1.4	R 700.6	(s)	R 721.8	0.1	R 721.8
2013	0.0	19.5	0.5	133.4	0.2	R 49.6	4.0	544.5	1.5	R 733.7	(s)	R 753.1	(s)	R 753.2
2014	0.0	21.4	0.3	136.8	0.2	R 49.7	4.0	531.0	1.1	R 723.2	(s)	R 744.5	(s)	R 744.6
2015	0.0	20.5	0.4	138.9	0.2	R 55.5	4.5	545.4	1.0	R 745.9	(s)	R 766.4	(s)	R 766.4
2016	0.0	17.0	0.4	138.5	R 0.3	R 56.8	4.3	555.4	2.9	R 758.5	(s)	R 775.5	(s)	R 775.5
2017	0.0	20.1	0.4	127.7	R 0.5	R 58.3	3.8	548.9	4.3	R 743.8	(s)	R 764.0	(s)	R 764.0
2018	0.0	22.6	0.4	148.4	R 0.4	R 57.0	3.8	549.9	4.9	R 764.8	(s)	R 787.4	(s)	R 787.4
2019	0.0	R 30.3	0.4	139.6	R 0.4	R 56.7	3.5	541.8	5.6	R 748.1	(s)	R 778.4	(s)	R 778.4
2020	0.0	24.7	0.4	127.1	0.2	29.5	3.0	460.6	3.9	624.8	(s)	649.5	(s)	649.5

[a] Transportation use of natural gas to operate pipelines and, since 1990, also includes vehicle fuel.
[b] Beginning in 2009, includes biodiesel blended into distillate fuel oil.
[c] Hydrocarbon gas liquids, assumed to be propane only.
[d] Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Industrial sector, Other Petroleum."
[e] Beginning in 1993, includes fuel ethanol blended into motor gasoline.
[f] There is a discontinuity in this time series between 1980 and 1981 due to the expanded coverage of fuel ethanol beginning in 1981.
[g] For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column.
[h] Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses. Pre-1990 estimates are not comparable to those for later years. See Section 6 of Technical Notes for an explanation of changes in methodology.

-- = Not applicable.

Where shown, R = Revised data and (s) = Physical unit value less than 0.5 or Btu value less than 0.05.

Notes: Totals may not equal sum of components due to independent rounding. · The continuity of these data series estimates may be affected by the changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.

Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table CT8. Electric Power Sector Consumption Estimates, Selected Years, 1960-2020, Michigan

Year	Coal	Natural Gas [a]	Petroleum				Nuclear Electric Power	Hydroelectric Power [d]	Biomass	Geothermal [f]	Solar [f,g]	Wind [f]	Electricity Net Imports [h]	Total [f,i]
			Distillate Fuel Oil [b]	Petroleum Coke	Residual Fuel Oil [c]	Total			Wood and Waste [e,f]					
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels				Million Kilowatthours			Million Kilowatthours				
1960	10,300	5	77	0	362	440	0	1,817	– –	0	NA	NA	1,250	– –
1965	16,123	3	68	0	316	384	181	1,667	– –	0	NA	NA	-413	– –
1970	20,124	64	965	0	4,514	5,479	375	1,581	– –	0	NA	NA	-400	– –
1975	20,914	57	1,538	0	14,136	15,674	7,176	989	– –	0	NA	NA	320	– –
1980	22,150	26	780	0	9,621	10,400	15,891	1,083	– –	0	NA	NA	5,685	– –
1985	25,896	10	646	0	522	1,168	13,452	881	– –	0	0	0	391	– –
1990	29,830	85	341	0	1,149	1,490	21,611	1,605	– –	0	0	0	-10,918	– –
1995	31,400	123	410	0	1,101	1,512	24,448	1,570	– –	0	0	0	5,760	– –
2000	33,277	135	374	9	1,683	2,066	18,882	1,401	– –	0	0	0	-327	– –
2005	36,273	131	372	170	1,099	1,641	32,872	1,433	– –	0	0	2	-2,730	– –
2006	34,926	109	302	218	231	751	29,066	1,488	– –	0	0	2	-2,117	– –
2007	36,574	124	295	252	529	1,076	31,517	1,244	– –	0	0	3	-1,206	– –
2008	36,476	93	287	236	214	738	31,484	1,339	– –	0	0	141	2,305	– –
2009	35,330	84	257	234	127	618	21,851	1,347	– –	0	0	300	5,637	– –
2010	34,976	113	255	220	117	593	29,625	1,222	– –	0	0	360	3,564	– –
2011	32,335	113	321	165	44	530	32,889	1,328	– –	0	0	456	4,069	– –
2012	29,669	181	223	178	50	451	28,020	1,181	– –	0	0	1,132	4,270	– –
2013	31,653	111	223	624	28	875	28,921	1,390	– –	0	0	2,800	5,818	– –
2014	29,401	112	261	1,862	16	2,139	31,246	1,571	– –	0	0	3,868	5,844	– –
2015	29,487	166	195	1,473	21	1,688	29,334	1,469	– –	0	1	4,797	8,291	– –
2016	23,126	243	214	1,421	28	1,662	31,552	1,539	– –	0	9	4,696	7,807	– –
2017	24,058	213	179	2,278	37	2,493	32,381	1,650	– –	0	63	5,191	5,705	– –
2018	24,238	254	211	2,565	17	2,793	30,479	1,559	– –	0	116	5,457	6,487	– –
2019	21,278	276	163	1,751	15	1,929	32,909	1,640	– –	0	142	5,826	2,645	– –
2020	15,919	301	172	1,812	18	2,002	30,333	1,704	– –	0	154	6,735	1,707	– –
							Trillion Btu							
1960	256.3	5.4	0.5	0.0	2.3	2.7	0.0	19.6	0.0	0.0	NA	NA	4.3	288.2
1965	399.9	3.0	0.4	0.0	2.0	2.4	2.1	17.4	0.0	0.0	NA	NA	-1.4	423.5
1970	487.0	65.2	5.6	0.0	28.4	34.0	4.1	16.6	0.0	0.0	NA	NA	-1.4	605.6
1975	494.9	47.3	8.9	0.0	88.9	97.8	79.0	10.3	0.0	0.0	NA	NA	1.1	730.4
1980	532.2	19.4	4.5	0.0	60.5	65.0	173.3	11.3	0.0	0.0	NA	NA	19.4	820.6
1985	605.8	4.7	3.8	0.0	3.3	7.0	142.9	9.2	0.0	0.0	0.0	0.0	1.3	770.9
1990	663.5	69.1	2.0	0.0	7.2	9.2	228.7	16.7	9.0	0.0	0.0	0.0	-37.3	957.4
1995	671.2	105.1	2.4	0.0	6.9	9.3	256.9	16.2	19.7	0.0	0.0	0.0	19.7	1,095.6
2000	694.7	126.0	2.2	0.1	10.6	12.8	196.9	14.3	25.6	0.0	0.0	0.0	-1.1	1,067.5
2005	718.2	132.6	2.2	1.0	6.9	10.0	343.0	14.3	23.2	0.0	0.0	(s)	-9.3	1,232.2
2006	693.4	110.4	1.8	1.2	1.5	4.5	303.3	14.8	23.2	0.0	0.0	(s)	-7.2	1,142.3
2007	721.3	125.5	1.7	1.4	3.3	6.5	330.6	12.3	22.1	0.0	0.0	(s)	-4.1	1,214.1
2008	712.4	94.8	1.7	1.4	1.3	4.4	329.1	13.2	22.7	0.0	0.0	1.4	7.9	1,185.8
2009	682.5	85.1	1.5	1.3	0.8	3.6	228.5	13.2	22.0	0.0	0.0	2.9	19.2	1,057.1
2010	677.6	114.8	1.5	1.3	0.7	3.5	309.6	11.9	21.9	0.0	0.0	3.5	12.2	1,155.0
2011	620.4	114.5	1.9	0.9	0.3	3.1	344.2	12.9	22.9	0.0	0.0	4.4	13.9	1,136.3
2012	559.7	184.4	1.3	1.0	0.3	2.6	293.6	11.2	22.3	0.0	0.0	10.8	14.6	1,099.3
2013	588.9	113.0	1.3	3.6	0.2	5.0	302.2	13.3	23.2	0.0	0.0	26.7	19.9	1,092.2
2014	554.2	114.3	1.5	10.7	0.1	12.3	326.8	14.9	24.7	0.0	0.0	36.8	19.9	1,103.9
2015	555.0	170.7	1.1	8.4	0.1	9.7	306.8	13.7	21.2	0.0	(s)	44.7	28.3	1,150.1
2016	432.2	251.6	1.2	8.1	0.2	9.5	330.0	14.2	21.8	0.0	0.1	43.4	26.6	1,129.4
2017	446.0	220.9	1.0	13.0	0.2	14.3	338.7	15.2	22.7	0.0	0.6	47.8	19.5	1,125.7
2018	452.4	266.0	1.2	14.7	0.1	16.0	318.7	14.2	22.5	0.0	1.1	49.7	22.1	1,162.6
2019	397.8	291.6	0.9	10.0	0.1	11.0	343.6	14.6	21.9	0.0	1.3	51.9	9.0	1,142.8
2020	303.0	317.7	1.0	10.4	0.1	11.5	316.7	15.0	20.1	0.0	1.4	59.1	5.8	1,050.2

[a] Includes supplemental gaseous fuels that are commingled with natural gas.
[b] Prior to 1980, based on oil used in internal combustion and gas turbine engine plants. For 1980 through 2000, distillate fuel oil includes fuel oil Nos. 1 and 2, and small amounts of kerosene and jet fuel.
[c] Prior to 1980, based on oil used in steam plants. For 1980 through 2000, residual fuel oil includes fuel oil Nos. 4, 5, and 6.
[d] Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
[e] Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
[f] There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
[g] Solar thermal and photovoltaic energy.
[h] Electricity traded with Canada and Mexico. Btu value calculated by converting net imports in kilowatthours by 3,412 Btu per kilowatthour.
[i] Beginning in 1980, adjusted for the double-counting of supplemental gaseous fuels, which are included in both natural gas and the other fossil fuels from which they are mostly derived, but should be counted only once in the total.

– – = Not applicable. NA = Not available.

Where shown, R = Revised data and (s) = Physical unit value less than +0.5 and greater than -0.5 or Btu value less than +0.05 and greater than -0.05.

Notes: Totals may not equal sum of components due to independent rounding. · The electric power sector consists of electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. · Through 1988, data are for electric utilities only. Beginning in 1989, data include independent power producers. · The continuity of these data series estimates may be affected by the changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data are available at https://www.eia.gov/state/seds/seds-data-complete.php.

Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.