

Table CT3. Total end-use sector energy consumption estimates, selected years, 1960-2022, Michigan

Year	Coal Thousand short tons	Natural gas ^a Billion cubic feet	Petroleum							Hydro-electric power ^{g,h} Million kilowatt-hours	Biomass			Solar ^{h,k}	Electricity ^l Million kilowatt-hours	End use ^{h,m}	Electrical system energy losses ⁿ	Total ^{h,m}
			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	Geo-thermal ^h					
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	--	--	--	
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	12,022	8,583	108,436	476	8,309	164,012	28	--	--	--	103,649	--	--	--	
2011	2,799	664	26,371	11,762	8,797	105,871	644	7,639	161,084	29	--	--	--	105,054	--	--	--	
2012	2,381	609	25,453	10,308	8,656	105,052	461	7,992	157,921	26	--	--	--	104,818	--	--	--	
2013	2,662	704	28,368	13,277	8,751	109,078	378	9,213	169,064	29	--	--	--	103,038	--	--	--	
2014	2,543	750	28,781	13,819	8,760	109,118	258	9,831	170,567	29	--	--	--	103,314	--	--	--	
2015	2,439	679	29,762	10,949	9,796	111,408	235	10,182	172,331	30	--	--	--	102,480	--	--	--	
2016	1,530	648	29,566	11,635	10,013	113,495	484	10,715	175,908	26	--	--	--	104,468	--	--	--	
2017	1,974	657	27,451	11,648	10,289	112,289	696	10,694	173,068	29	--	--	--	101,899	--	--	--	
2018	2,039	711	31,070	13,549	10,049	112,532	815	9,946	177,960	10	--	--	--	104,869	--	--	--	
2019	1,918	722	29,934	13,968	10,017	110,975	912	10,443	176,250	10	--	--	--	101,249	--	--	--	
2020	1,226	647	27,026	12,744	5,405	94,915	652	10,416	151,158	9	--	--	--	97,012	--	--	--	
2021	1,753	647	27,293	12,417	6,833	103,742	833	10,921	162,039	11	--	--	--	99,813	--	--	--	
2022	1,741	709	27,862	12,636	7,710	102,060	854	10,989	162,111	10	--	--	--	100,639	--	--	--	

Trillion Btu

1960	396.8	377.6	175.7	10.8	18.2	345.6	72.2	88.2	710.6	R 0.7	37.3	NA	NA	NA	94.2	R 1,617.2	R 189.9	R 1,807.1
1970	341.8	756.0	216.6	23.7	41.0	508.7	34.8	97.2	921.9	R 0.4	36.4	NA	NA	NA	188.7	R 2,245.3	R 386.4	R 2,631.7
1980	226.9	855.2	156.5	25.0	37.1	509.7	23.1	90.2	841.6	R 0.4	90.6	NA	NA	NA	237.8	R 2,252.4	R 505.8	R 2,758.2
1990	124.5	829.7	139.9	54.5	56.6	524.8	9.9	76.8	862.6	R 0.1	71.2	0.0	0.6	0.2	281.0	R 2,156.2	R 697.7	R 2,853.9
2000	105.1	858.4	177.2	61.4	40.9	614.5	4.2	88.7	986.9	R 0.1	68.9	0.0	1.2	0.2	357.5	R 2,367.3	R 844.3	R 3,211.6
2005	81.2	794.9	174.2	86.4	19.5	620.9	7.0	78.6	986.5	R 0.1	69.9	2.7	2.2	0.3	376.8	R 2,315.0	R 889.0	R 3,203.9
2006	80.2	706.6	171.9	55.9	23.4	612.4	6.1	71.1	940.7	R 0.1	64.9	4.5	2.6	0.3	368.6	R 2,169.4	R 863.7	R 3,033.1
2007	79.8	689.4	168.2	60.4	29.9	596.8	7.9	72.9	936.1	R 0.1	68.2	10.5	3.0	0.4	372.9	R 2,161.6	R 852.1	R 3,013.7
2008	87.6	702.7	152.7	47.6	26.3	568.9	7.9	59.9	863.3	R 0.1	72.1	12.7	3.5	0.4	360.9	R 2,104.2	R 801.6	R 2,905.8
2009	53.4	665.7	146.5	44.9	24.2	558.4	3.1	59.5	836.7	R 0.1	58.5	11.8	4.3	0.4	334.8	R 1,965.7	R 713.9	R 2,679.6
2010	71.7	643.9	151.2	R 46.2	48.7	549.4	3.0	51.5	R 850.0	R 0.1	67.5	15.1	4.9	R 0.4	353.7	R 2,007.2	R 767.0	R 2,774.2
2011	70.8	672.8	152.2	R 45.2	49.9	536.0	4.1	47.2	R 834.4	R 0.1	78.1	15.0	5.1	R 0.5	358.4	R 2,035.2	R 775.3	R 2,810.5
2012	61.9	619.7	146.8	R 39.6	49.1	531.8	2.9	49.3	R 819.5	R 0.1	75.3	14.4	5.2	R 0.6	357.6	R 1,954.2	R 748.7	R 2,702.9
2013	69.3	718.7	163.5	R 51.0	49.6	551.9	2.4	56.0	R 874.5	R 0.1	81.1	14.9	5.2	R 0.6	351.6	R 2,115.8	R 726.9	R 2,842.8
2014	64.3	763.8	165.9	R 53.1	49.7	552.0	1.6	59.9	R 882.2	R 0.1	81.2	15.0	5.2	R 0.6	352.5	R 2,165.0	R 715.1	R 2,880.1
2015	62.3	701.1	171.5	42.1	55.5	563.4	1.5	62.4	896.3	R 0.1	R 98.2	15.0	5.2	R 0.6	349.7	R 2,128.5	R 664.3	R 2,792.8
2016	39.0	675.2	170.2	44.7	56.8	573.7	3.0	66.3	R 914.8	R 0.1	90.6	15.2	5.2	R 0.7	356.4	R 2,097.2	R 674.5	R 2,771.7
2017	53.5	687.3	158.0	44.7	58.3	567.4	4.4	R 66.3	R 899.2	R 0.1	85.2	18.2	5.2	R 0.7	347.7	R 2,097.0	R 663.8	R 2,760.8
2018	53.7	744.9	178.9	52.0	57.0	568.7	5.1	R 61.9	R 923.7	R (s)	R 92.4	19.1	5.2	R 0.8	357.8	R 2,197.7	R 676.8	R 2,874.5
2019	50.0	763.4	172.4	53.7	56.8	560.6	5.7	R 64.8	R 914.0	R (s)	R 89.2	18.1	5.2	R 0.9	345.5	R 2,186.4	R 656.4	R 2,842.8
2020	31.5	R 686.5	155.6	49.0	30.6	479.5	4.1	R 64.8	R 783.5	R (s)	R 72.7	16.3	5.2	R 1.0	331.0	R 1,927.8	R 634.2	R 2,562.0
2021	45.5	R 685.0	R 157.3	47.7	38.7	523.9	5.2	R 67.7	R 840.6	R (s)	R 71.1	16.9	5.2	R 1.2	340.6	R 2,006.0	R 649.6	R 2,655.6
2022	47.1	750.5	160.6	48.5	43.7	515.3	5.4	68.0	841.6	(s)	75.9	17.4	5.2	1.3	343.4	2,082.0	625.6	2,707.6

^a Includes supplemental gaseous fuels that are commingled with natural gas.
^b Beginning in 2009, includes biodiesel blended into distillate fuel oil. Beginning in 2011, includes renewable diesel blended into distillate fuel oil. Excludes biofuels product supplied.
^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 hydroelectric pumped-storage, 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 Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
^m 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 End Use 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. Beginning in 2021, adjusted for the double-counting of biofuels product supplied.
ⁿ 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 sector 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>.
 Data Source: U.S. Energy Information Administration, State Energy Data System. See Technical Notes. <http://www.eia.gov/state/seds/>