

**M I C H I G A N**  
**Table CT2. Primary Energy Consumption Estimates, Selected Years, 1960-2021, Michigan**  
 (Trillion Btu)

Year	Fossil Fuels										Fossil Fuels (as commingled)			
	Coal	Natural Gas excluding Supplemental Gaseous Fuels <sup>a</sup>	Petroleum							Total	Total	Natural Gas including Supplemental Gaseous Fuels <sup>a</sup>	Distillate Fuel Oil including Biofuels <sup>a</sup>	Motor Gasoline including Fuel Ethanol <sup>a</sup>
			Distillate Fuel Oil excluding Biofuels <sup>a</sup>	HGL <sup>b</sup>	Jet Fuel <sup>c</sup>	Motor Gasoline excluding Fuel Ethanol <sup>a</sup>	Residual Fuel Oil	Other <sup>d</sup>	Total					
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	811.4	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	762.1	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	710.1	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	727.5	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	717.0	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	686.6	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	668.7	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	763.3	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	797.3	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	879.3	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	890.0	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	964.2	144.6	532.5	
1993	715.5	924.9	163.8	48.8	54.2	542.2	13.1	77.7	903.7	2,544.1	924.9	163.8	542.2	
1994	801.0	917.0	160.3	53.2	58.2	544.9	13.7	74.1	904.3	2,622.3	917.0	160.3	544.9	
1995	786.7	971.0	159.7	53.9	50.0	571.1	10.1	82.7	927.4	2,685.1	971.0	159.7	571.1	
1996	796.3	1,017.1	167.3	68.1	51.3	574.1	11.2	77.3	949.3	2,762.7	1,017.1	167.3	574.1	
1997	781.1	987.6	172.8	54.9	53.8	582.7	9.8	104.6	978.5	2,747.3	987.6	172.8	582.7	
1998	826.9	871.6	174.0	49.9	51.2	595.0	13.3	99.0	982.3	2,680.8	871.6	174.0	595.0	
1999	832.6	947.0	183.7	58.0	51.7	626.3	15.7	99.5	1,034.8	2,814.5	947.0	183.7	626.3	
2000	799.8	971.7	179.4	61.4	40.9	606.7	14.8	88.7	991.9	2,763.3	971.7	179.4	606.7	
2001	789.7	924.5	171.7	71.5	35.3	616.5	10.0	75.7	980.7	2,694.9	924.5	171.7	616.5	
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	622.7	
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	605.7	
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	604.8	
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	603.2	
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	593.8	
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	574.0	
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	537.6	
2009	735.9	750.8	R 146.7	44.9	24.2	523.1	3.9	60.9	R 803.6	R 2,290.3	750.8	146.7	523.1	
2010	749.3	758.7	R 151.8	42.0	48.7	515.6	3.7	52.8	R 814.5	R 2,322.5	758.7	151.8	515.6	
2011	691.1	787.3	R 151.7	41.0	49.9	501.4	4.3	48.1	R 796.4	R 2,274.9	787.3	151.7	501.4	
2012	621.6	804.1	R 145.6	35.4	49.1	494.9	3.2	50.4	R 778.6	R 2,204.3	804.1	145.6	494.9	
2013	658.2	831.7	R 159.9	46.8	49.6	512.9	2.6	59.6	R 831.5	R 2,321.4	831.7	159.9	512.9	
2014	618.5	878.1	R 162.7	49.3	49.7	513.7	1.7	70.6	R 847.6	R 2,344.2	878.1	162.7	513.7	
2015	617.3	871.8	R 167.6	42.1	55.5	526.9	1.6	70.8	R 864.5	R 2,353.6	871.8	167.6	526.9	
2016	471.2	926.8	R 164.7	44.7	56.8	536.4	3.2	74.4	R 880.3	R 2,278.3	926.8	164.7	536.4	
2017	499.4	908.2	R 153.3	44.7	58.3	529.9	4.6	79.0	R 869.9	R 2,277.5	908.2	153.3	529.9	
2018	506.1	1,010.9	R 174.2	52.0	57.0	531.6	5.2	76.2	R 896.2	R 2,413.2	1,010.9	174.2	531.6	
2019	447.8	1,055.0	R 168.0	53.7	R 56.8	523.3	5.8	74.5	R 882.1	R 2,384.9	1,055.0	168.0	523.3	
2020	334.4	1,003.4	R 151.3	49.0	R 30.6	446.6	4.2	R 74.6	R 756.3	R 2,094.2	1,003.4	151.3	446.6	
2021	436.2	950.1	158.3	47.7	38.7	487.6	5.4	80.3	816.1	2,202.4	950.1	158.3	487.6	

<sup>a</sup> 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."

<sup>b</sup> Hydrocarbon gas liquids, include natural gas liquids and refinery olefins.

<sup>c</sup> 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."

<sup>d</sup> 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>.

Data Source: U.S. Energy Information Administration, State Energy Data System. See Technical Notes. <http://www.eia.gov/state/seds/>

**Table CT2. Primary Energy Consumption Estimates, Selected Years, 1960-2021, Michigan (Continued)**  
(Trillion Btu)

Year	Nuclear Electric Power	Renewable Energy											Net Interstate Flow of Electricity <sup>k</sup>	Electricity Net Imports <sup>l</sup>	Total <sup>f</sup>
		Hydro-electric Power <sup>e,f</sup>	Biomass						Geo-thermal <sup>f</sup>	Solar <sup>f,j</sup>	Wind	Total <sup>f</sup>			
			Wood and Waste <sup>g</sup>	Fuel Ethanol <sup>h</sup>	Biodiesel	Renewable Diesel	Losses and Co-products <sup>i</sup>	Total <sup>f</sup>							
1960	0.0	21.8	37.3	NA	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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)	NA	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	NA	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)	NA	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	NA	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	NA	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	NA	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	NA	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	NA	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	NA	11.8	128.7	4.3	0.4	2.9	R 149.7	2.1	19.2	R 2,690.0
2010	309.6	12.2	89.4	33.8	0.8	NA	15.1	139.1	4.9	0.5	3.5	160.2	-24.6	12.2	R 2,779.9
2011	344.2	13.2	101.1	34.6	2.7	0.0	15.0	153.4	5.1	0.6	4.4	R 176.6	9.4	13.9	R 2,818.9
2012	293.6	11.5	97.6	36.9	2.6	0.0	14.4	151.4	5.2	R 0.7	10.8	R 179.6	22.8	14.6	R 2,714.9
2013	302.2	13.5	104.3	39.0	4.5	0.0	14.9	162.7	5.2	0.8	26.7	R 208.9	12.9	19.9	R 2,865.2
2014	326.8	15.2	105.9	38.3	4.2	0.0	15.0	163.5	5.2	0.8	36.8	221.5	-3.2	19.9	R 2,909.2
2015	306.8	14.0	119.5	36.5	3.8	0.0	15.0	174.8	5.2	0.9	44.7	R 239.5	R -102.4	28.3	R 2,825.7
2016	330.0	14.4	112.4	37.3	5.6	0.0	15.2	170.5	5.2	1.1	R 43.3	R 234.6	R -64.2	26.6	R 2,805.3
2017	338.7	15.5	R 107.9	37.5	4.4	0.0	18.2	168.0	5.2	1.7	47.8	R 238.2	R -76.9	19.5	R 2,797.0
2018	318.7	14.3	114.9	37.2	4.4	0.0	19.1	175.7	5.2	2.3	R 49.7	R 247.1	R -90.6	22.1	R 2,910.6
2019	R 343.6	14.7	111.2	37.4	3.4	0.0	18.1	170.1	5.2	2.8	R 51.8	R 244.6	R -102.9	9.0	R 2,879.3
2020	R 316.9	15.0	R 99.3	32.9	4.1	0.0	16.3	152.7	5.2	3.2	R 59.0	R 235.2	R -40.8	5.8	R 2,611.2
2021	358.7	11.8	99.7	36.3	3.5	0.0	16.9	156.3	5.2	6.0	68.1	247.4	-105.7	7.5	2,710.2

<sup>e</sup> Conventional hydroelectric power. For 1960 through 1989, includes hydroelectric pumped-storage, which cannot be separately identified.

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

<sup>g</sup> Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.

<sup>h</sup> 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.

<sup>i</sup> Losses and co-products from the production of biodiesel and fuel ethanol.

<sup>j</sup> Solar thermal and photovoltaic energy.

<sup>k</sup> 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.

<sup>l</sup> Electricity traded with Canada and Mexico. Calculated by converting net imports in kilowatt-hours by 3,412 Btu per kilowatt-hour.

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>.

Data Source: U.S. Energy Information Administration, State Energy Data System. See Technical Notes. <http://www.eia.gov/state/seds/>