

Table 7. Energy Consumption Estimates by Source, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum							Nuclear Electric Power	Hydro-electric Power ^e	Biomass		Geo-thermal, Solar/PV, and Wind ^{g,h}	Net Interstate Flow of Electricity/Losses ⁱ	Other ^j	Total ^g
			Distillate Fuel Oil	Jet Fuel	LPG ^b	Motor Gasoline ^c	Residual Fuel Oil	Other ^d	Total			Wood and Waste ^{f,g}	Total ^g				
			Thousand Barrels														
1960	25,930	370	30,235	3,369	2,827	65,782	11,840	14,867	128,920	0	2,030	--	--	--	--	--	
1965	33,132	556	30,287	4,377	3,716	78,044	8,594	21,864	146,882	181	1,813	--	--	--	--	--	
1970	34,065	809	38,141	7,365	6,202	96,831	10,056	20,655	179,250	375	1,704	--	--	--	--	--	
1975	31,198	884	42,170	5,776	7,475	108,255	18,291	18,577	200,545	7,176	1,110	--	--	--	--	--	
1980	31,110	865	27,643	6,646	6,736	97,025	13,289	26,014	177,353	15,891	1,200	--	--	--	--	--	
1985	32,793	709	26,024	6,570	14,225	93,447	3,109	14,727	158,101	13,452	997	--	--	--	--	--	
1990	34,817	879	24,357	10,057	14,901	99,913	2,728	18,745	170,701	21,611	1,628	--	--	--	--	--	
1995	36,037	976	27,444	8,818	14,497	110,546	1,602	22,883	185,790	24,448	1,597	--	--	--	--	--	
1996	36,958	1,027	28,754	9,045	18,306	110,520	1,777	24,118	192,519	26,829	1,784	--	--	--	--	--	
1997	36,116	994	29,692	R 9,487	14,524	112,389	1,553	29,319	R 196,965	21,914	1,712	--	--	--	--	--	
1998	38,255	876	29,895	R 9,033	13,108	114,913	2,113	28,334	R 197,396	12,494	1,397	--	--	--	--	--	
1999	38,510	951	31,573	9,116	15,339	121,027	2,491	28,429	207,974	14,591	1,458	--	--	--	--	--	
2000	37,294	963	30,824	7,214	16,308	118,160	2,358	26,667	201,530	18,882	1,428	--	--	--	--	--	
2001	37,730	906	29,515	6,219	18,876	119,472	1,590	18,346	194,018	26,711	1,562	--	--	--	--	--	
2002	36,413	966	28,994	6,016	21,039	121,745	1,992	18,324	198,111	31,087	1,669	--	--	--	--	--	
2003	36,973	925	29,463	2,695	20,578	119,019	2,153	19,469	193,377	27,954	1,386	--	--	--	--	--	
2004	38,503	917	31,139	3,733	20,826	118,967	2,098	20,621	197,385	30,562	1,540	--	--	--	--	--	
2005	39,442	914	30,315	3,431	23,157	119,584	2,209	19,658	198,354	32,872	1,462	--	--	--	--	--	
2006	37,965	R 803	29,929	4,124	15,036	118,106	1,201	18,594	186,990	29,066	1,520	--	--	--	--	--	
2007	39,618	829	29,371	5,270	16,217	116,059	1,783	18,773	187,473	31,517	1,270	--	--	--	--	--	

Trillion Btu

1960	653.1	383.0	176.1	18.2	11.3	345.6	74.4	88.2	713.9	0.0	21.8	37.3	0.0	38.8	4.3	1,852.2
1965	830.2	563.6	176.4	24.0	14.9	410.0	54.0	125.4	804.7	2.1	19.0	36.9	0.0	36.4	-1.4	2,291.4
1970	828.9	821.3	222.2	41.0	23.4	508.7	63.2	120.7	979.1	4.1	17.9	36.4	0.0	39.7	-1.4	2,726.0
1975	751.0	894.8	245.6	32.1	27.8	568.7	115.0	109.7	1,098.9	79.0	11.6	35.9	0.0	17.2	1.1	2,889.4
1980	759.0	874.7	161.0	24.7	24.7	509.7	83.6	149.2	965.4	173.3	12.5	90.6	0.0	-9.8	19.4	2,885.0
1985	781.9	R 719.9	151.6	36.7	51.3	490.9	19.5	86.0	836.0	142.9	10.4	100.2	0.0	67.9	2.2	2,661.4
1990	788.0	R 898.8	141.9	56.6	54.0	524.8	17.2	110.1	904.5	228.7	16.9	80.2	0.8	-26.5	-52.5	2,839.1
1995	786.7	R 992.7	159.9	50.0	52.5	576.5	10.1	133.6	982.6	256.9	16.5	88.2	1.1	-38.7	-2.1	3,083.8
1996	796.3	R 1,039.2	167.5	51.3	66.1	576.5	11.2	138.4	1,010.9	281.8	18.4	102.9	1.2	-65.0	-15.6	3,170.0
1997	781.1	R 1,010.2	173.0	53.8	52.5	585.9	9.8	172.1	1,047.0	230.0	17.5	95.0	1.2	-0.6	-17.9	3,163.5
1998	826.9	R 894.0	174.1	51.2	47.4	598.9	13.3	165.3	1,050.2	131.1	14.2	90.4	1.3	91.4	-27.6	3,071.9
1999	832.6	R 968.3	183.9	51.7	55.5	630.7	15.7	165.1	1,102.5	152.5	14.9	91.9	1.4	118.4	-22.0	3,260.5
2000	799.8	R 984.3	179.5	40.9	58.8	615.6	14.8	154.3	1,064.0	196.9	14.6	94.8	1.4	103.1	-13.8	3,245.2
2001	789.7	R 928.7	171.9	35.3	68.2	622.4	10.0	108.9	1,016.8	279.1	16.1	76.6	1.5	-15.7	-11.3	3,081.3
2002	739.9	966.4	168.9	34.1	76.0	634.0	12.5	108.4	1,033.9	324.5	17.0	70.7	1.6	-26.0	-7.6	3,120.3
2003	747.9	924.8	171.6	15.3	74.7	619.7	13.5	115.4	1,010.2	291.3	14.2	81.1	2.0	86.2	-12.2	3,145.6
2004	773.8	918.5	181.4	21.2	75.3	620.4	13.2	122.5	1,034.0	318.7	15.4	84.3	2.2	R -15.6	-10.9	R 3,120.3
2005	799.5	928.4	176.6	19.5	83.8	624.0	13.9	116.9	1,034.7	343.0	14.6	R 87.3	2.6	R -31.2	-9.2	R 3,169.6
2006	770.9	R 817.8	174.3	23.4	54.2	616.3	7.6	110.5	986.3	303.3	15.1	R 84.4	3.0	23.2	-7.2	R 2,996.7
2007	799.9	847.8	171.1	29.9	58.2	605.7	11.2	111.2	987.3	330.5	12.6	86.0	3.6	-36.7	-4.1	3,026.9

^a Includes supplemental gaseous fuels.
^b Liquefied petroleum gases.
^c Beginning in 1993, includes fuel ethanol blended into motor gasoline.
^d Includes asphalt and road oil, aviation gasoline, kerosene, lubricants, and 16 other petroleum products as described in the Technical Notes, Section 4, "Other Petroleum Products."
^e Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
^f Wood, wood-derived fuels, and waste. Prior to 2001, includes non-biomass waste.
^g There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.
^h Geothermal, solar thermal, photovoltaic, and wind energy.
ⁱ Net interstate flow of electricity is the difference between the amount of energy in the electricity sold within a State (including associated

losses) and the energy input at the electric utilities within the State. A positive number indicates that more electricity (including associated losses) came into the State than went out of the State during the year.
^j Includes: net imports of electricity; fuel ethanol blended into motor gasoline that is not included in the motor gasoline column, from 1981 through 1992; and beginning in 1980, an adjustment to remove 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.
kWh = Kilowatthours. -- = Not applicable.
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 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 available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."
Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table 8. Residential Sector Energy Consumption Estimates, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum				Biomass Wood ^c Thousand Cords	Geothermal ^d	Solar/PV ^{d,e}	Retail Electricity Sales	Net Energy ^{d,f}	Electrical System Energy Losses ^g	Total ^{d,f}
			Distillate Fuel Oil	Kerosene	LPG ^b	Total				Million Kilowatthours			
										Thousand Barrels			
1960	1,414	202	17,380	765	1,940	20,084	1,103	--	--	8,728	--	--	--
1965	1,007	271	16,334	1,279	2,346	19,959	890	--	--	11,309	--	--	--
1970	481	340	18,839	545	4,493	23,877	829	--	--	17,103	--	--	--
1975	119	335	19,420	302	5,219	24,942	796	--	--	20,886	--	--	--
1980	65	387	9,195	83	3,375	12,653	2,115	--	--	22,260	--	--	--
1985	56	341	6,192	425	4,427	11,045	2,193	--	--	22,302	--	--	--
1990	54	327	4,842	217	6,538	11,597	1,373	--	--	25,319	--	--	--
1995	33	380	3,815	233	8,015	12,062	739	--	--	28,623	--	--	--
1996	32	400	3,859	230	10,758	14,847	768	--	--	28,901	--	--	--
1997	21	380	3,662	254	10,166	14,082	503	--	--	28,726	--	--	--
1998	16	320	2,653	272	9,500	12,426	447	--	--	29,808	--	--	--
1999	2	351	2,994	606	10,763	14,364	471	--	--	30,661	--	--	--
2000	2	368	2,902	356	11,080	14,338	506	--	--	30,707	--	--	--
2001	1	344	2,654	222	13,848	16,724	673	--	--	32,305	--	--	--
2002	32	368	2,212	160	14,789	17,161	683	--	--	34,336	--	--	--
2003	4	386	2,216	264	14,776	17,255	719	--	--	33,669	--	--	--
2004	18	362	2,040	221	13,021	15,283	737	--	--	33,104	--	--	--
2005	12	359	1,945	219	13,915	16,079	R 1,018	--	--	36,095	--	--	--
2006	1	316	1,504	153	R 8,839	R 10,495	R 927	--	--	34,622	--	--	--
2007	16	328	1,371	95	10,052	11,519	1,022	--	--	35,366	--	--	--
Trillion Btu													
1960	35.0	209.0	101.2	4.3	7.8	113.4	22.1	0.0	0.0	29.8	409.2	73.6	482.9
1965	24.8	274.8	95.1	7.3	9.4	111.8	17.8	0.0	0.0	38.6	467.8	92.1	559.9
1970	11.4	345.1	109.7	3.1	17.0	129.8	16.6	0.0	0.0	58.4	561.3	141.2	702.6
1975	2.8	343.0	113.1	1.7	19.4	134.2	15.9	0.0	0.0	71.3	567.2	171.4	738.6
1980	1.6	394.9	53.6	0.5	12.4	66.4	42.3	0.0	0.0	76.0	581.1	183.1	764.2
1985	1.4	R 348.9	36.1	2.4	16.0	54.4	43.9	0.0	0.0	76.1	523.2	175.3	698.5
1990	1.3	R 341.9	28.2	1.2	23.7	53.1	27.5	0.6	0.2	86.4	503.4	199.8	703.1
1995	0.8	R 395.4	22.2	1.3	29.0	52.6	14.8	0.7	0.3	97.7	553.2	221.8	775.0
1996	0.8	R 413.2	22.5	1.3	38.9	62.6	15.4	0.8	0.3	98.6	582.5	224.2	806.8
1997	0.5	R 395.1	21.3	1.4	36.8	59.5	10.1	0.8	0.3	98.0	555.2	222.1	777.2
1998	0.4	R 334.7	15.5	1.5	34.3	51.3	8.9	0.8	0.3	101.7	489.5	230.6	720.2
1999	0.1	R 365.3	17.4	3.4	38.9	59.8	9.4	0.9	0.3	104.6	532.1	239.3	771.4
2000	(s)	R 381.1	16.9	2.0	40.0	58.9	10.1	0.9	0.2	104.8	551.0	238.3	789.3
2001	(s)	R 354.4	15.5	1.3	50.0	66.8	13.5	1.0	0.2	110.2	544.4	245.6	790.1
2002	0.8	367.2	12.9	0.9	53.4	67.2	13.7	1.1	0.2	117.2	567.4	261.2	828.5
2003	0.1	385.0	12.9	1.5	53.6	68.0	14.4	1.4	0.2	114.9	584.0	253.5	837.5
2004	0.4	361.8	11.9	1.3	47.1	60.2	14.7	1.5	0.3	112.9	552.0	249.9	801.9
2005	0.3	364.4	11.3	1.2	50.4	62.9	R 20.4	1.8	0.3	123.2	R 573.3	269.4	R 842.6
2006	(s)	321.8	8.8	0.9	R 31.9	R 41.5	R 18.5	2.1	0.4	118.1	R 502.5	255.4	R 757.9
2007	0.4	336.5	8.0	0.5	36.1	44.6	20.4	2.5	0.6	120.7	525.6	260.4	786.0

^a Includes supplemental gaseous fuels.

^b Liquefied petroleum gases.

^c Wood and wood-derived fuels.

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

^e Solar thermal and photovoltaic energy. Includes small amounts consumed by the commercial sector that cannot be separately identified. See Section 5 of the Technical Notes for an explanation of estimation methodology.

^f 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.

^g Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

-- = 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 changing data sources and estimation methodologies. See the Technical Notes for each type of energy.

Web Page: All data available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."

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

Table 9. Commercial Sector Energy Consumption Estimates, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum						Hydro-electric Power ^{e,f} Million Kilowatthours	Biomass Wood and Waste ^{f,g}	Geothermal ^f	Retail Electricity Sales Million Kilowatthours	Net Energy ^{f,h}	Electrical System Energy Losses ⁱ	Total ^{f,h}
			Distillate Fuel Oil	Kerosene	LPG ^b	Motor Gasoline ^c	Residual Fuel Oil	Total ^d							
			Thousand Barrels												
1960	982	43	3,212	566	342	324	1,175	5,619	0	--	6,381	--	--	--	
1965	760	85	3,019	946	414	536	839	5,754	0	--	9,124	--	--	--	
1970	378	133	3,482	403	793	804	558	6,040	0	--	13,021	--	--	--	
1975	279	182	3,589	224	921	954	390	6,078	0	--	14,596	--	--	--	
1980	243	190	3,123	15	596	823	225	4,781	0	--	16,765	--	--	--	
1985	197	158	2,449	11	781	699	274	4,216	0	--	18,421	--	--	--	
1990	214	159	2,010	18	1,154	770	71	4,023	0	--	21,986	--	--	--	
1995	221	194	1,638	102	1,414	77	5	3,236	0	--	32,153	--	--	--	
1996	238	201	1,766	149	1,899	77	5	3,896	0	--	32,896	--	--	--	
1997	167	192	1,917	56	1,794	76	55	3,897	0	--	33,231	--	--	--	
1998	129	163	1,506	66	1,676	208	2	3,458	0	--	34,710	--	--	--	
1999	18	179	1,401	37	1,899	171	3	3,511	0	--	36,040	--	--	--	
2000	12	187	1,577	33	1,955	159	5	3,728	0	--	36,793	--	--	--	
2001	8	174	1,525	35	2,444	433	17	4,453	0	--	35,925	--	--	--	
2002	234	176	966	28	2,610	247	64	3,915	0	--	36,835	--	--	--	
2003	28	186	1,149	19	2,607	203	90	4,069	0	--	35,391	--	--	--	
2004	161	175	1,063	22	2,298	191	49	3,623	0	--	38,632	--	--	--	
2005	141	175	1,267	28	2,456	207	4	3,963	0	--	39,600	--	--	--	
2006	8	154	1,337	26	R 1,560	91	2	R 3,015	0	--	39,299	--	--	--	
2007	142	164	1,128	8	1,774	82	0	2,992	0	--	40,047	--	--	--	

Trillion Btu

1960	24.3	44.5	18.7	3.2	1.4	1.7	7.4	32.4	0.0	0.4	0.0	21.8	123.4	53.8	177.2
1965	18.7	86.0	17.6	5.4	1.7	2.8	5.3	32.7	0.0	0.3	0.0	31.1	168.9	74.3	243.2
1970	9.0	134.7	20.3	2.3	3.0	4.2	3.5	33.3	0.0	0.3	0.0	44.4	221.7	107.5	329.3
1975	6.5	186.4	20.9	1.3	3.4	5.0	2.4	33.1	0.0	0.3	0.0	49.8	276.0	119.8	395.8
1980	5.9	194.0	18.2	0.1	2.2	4.3	1.4	26.2	0.0	1.0	0.0	57.2	284.4	137.9	422.3
1985	4.8	161.4	14.3	0.1	2.8	3.7	1.7	22.5	0.0	1.0	0.0	62.9	252.0	144.8	396.8
1990	5.3	166.5	11.7	0.1	4.2	4.0	0.4	20.5	0.0	7.3	0.0	75.0	270.9	173.5	444.4
1995	5.4	201.9	9.5	0.6	5.1	0.4	(s)	15.7	0.0	9.0	0.1	109.7	337.3	249.1	586.5
1996	5.9	208.3	10.3	0.8	6.9	0.4	(s)	18.4	0.0	10.8	0.1	112.2	351.2	255.2	606.4
1997	4.1	200.0	11.2	0.3	6.5	0.4	0.3	18.7	0.0	11.0	0.2	113.4	342.7	256.9	599.6
1998	3.2	171.1	8.8	0.4	6.1	1.1	(s)	16.3	0.0	9.4	0.2	118.4	314.2	268.6	582.8
1999	0.4	186.8	8.2	0.2	6.9	0.9	(s)	16.1	0.0	9.4	0.2	123.0	331.8	281.3	613.0
2000	0.3	193.6	9.2	0.2	7.1	0.8	(s)	17.3	0.0	8.6	0.2	125.5	343.0	285.5	628.5
2001	0.2	179.1	8.9	0.2	8.8	2.3	0.1	20.3	0.0	2.6	0.2	122.6	324.2	273.2	597.3
2002	5.5	175.8	5.6	0.2	9.4	1.3	0.4	16.9	0.0	6.5	0.3	125.7	330.6	280.2	610.8
2003	0.7	185.8	6.7	0.1	9.5	1.1	0.6	17.9	0.0	6.5	0.4	120.8	332.0	266.5	598.5
2004	3.9	175.1	6.2	0.1	8.3	1.0	0.3	15.9	0.0	7.0	0.4	131.8	334.2	291.7	R 625.9
2005	3.4	177.4	7.4	0.2	8.9	1.1	(s)	17.5	0.0	R 7.4	0.5	135.1	341.4	295.5	R 636.9
2006	0.2	156.8	7.8	0.1	R 5.6	0.5	(s)	R 14.0	0.0	R 7.6	0.5	134.1	313.2	290.0	R 603.2
2007	3.5	167.7	6.6	(s)	6.4	0.4	0.0	13.4	0.0	7.8	0.5	136.6	329.6	294.8	624.5

^a Includes supplemental gaseous fuels.

^b Liquefied petroleum gases.

^c Beginning in 1993, includes fuel ethanol blended into motor gasoline.

^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 waste. Prior to 2001, includes non-biomass waste.

^h Small amounts of solar thermal and photovoltaic energy consumed in the commercial sector cannot be separately identified and are included in residential consumption. From 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column. 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.

ⁱ Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

-- = 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 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 available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."

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

Table 10. Industrial Sector Energy Consumption Estimates, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum					Hydro-electric Power ^{e,f} Million kWh	Biomass Wood and Waste ^{f,g}	Geo-thermal ^f	Retail Electricity Sales	Net Energy ^{f,h}	Electrical System Energy Losses ⁱ	Total ^{f,h}
			Distillate Fuel Oil	LPG ^b	Motor Gasoline ^c	Residual Fuel Oil	Other ^d				Total			
	Thousand Barrels										Million kWh			
1960	13,011	117	7,091	524	3,151	9,574	10,949	31,288	212	--	--	12,482	--	--
1965	15,193	192	7,518	923	2,694	6,660	15,894	33,689	146	--	--	19,350	--	--
1970	13,061	262	8,502	854	2,758	4,557	17,665	34,336	123	--	--	25,169	--	--
1975	9,885	300	8,749	1,239	1,889	3,343	16,383	31,603	121	--	--	28,866	--	--
1980	8,652	249	4,804	2,637	967	3,213	23,951	35,572	117	--	--	30,656	--	--
1985	6,645	190	4,408	8,725	1,192	2,213	12,744	29,283	117	--	--	33,704	--	--
1990	4,719	290	3,957	6,926	976	1,416	16,782	30,058	23	--	--	35,062	--	--
1995	4,383	254	3,457	4,826	1,310	402	20,874	30,869	27	--	--	33,921	--	--
1996	4,283	260	3,889	5,425	1,418	415	22,120	33,267	29	--	--	34,499	--	--
1997	3,770	255	3,986	2,361	1,271	415	27,333	35,366	26	--	--	35,430	--	--
1998	3,857	224	4,122	1,127	1,097	400	26,178	32,924	25	--	--	35,983	--	--
1999	4,636	248	4,909	2,323	1,017	332	25,870	34,452	26	--	--	37,276	--	--
2000	4,004	247	4,055	3,006	1,060	622	24,523	33,267	27	--	--	37,268	--	--
2001	3,793	233	3,494	2,434	1,835	352	16,595	24,711	26	--	--	34,174	--	--
2002	2,781	250	2,767	3,457	1,931	344	16,499	24,998	29	--	--	33,537	--	--
2003	2,840	222	3,134	2,999	2,018	713	17,746	26,610	75	--	--	39,813	--	--
2004	3,012	219	3,651	5,110	2,308	687	18,974	30,730	30	--	--	34,867	--	--
2005	3,017	222	3,475	6,279	2,237	909	17,856	30,756	29	--	--	34,745	--	--
2006	3,030	R 199	3,020	R 4,407	2,378	736	16,862	R 27,404	32	--	--	34,093	--	--
2007	2,887	187	3,154	4,112	2,218	967	17,033	27,484	26	--	--	33,879	--	--

Trillion Btu															
1960	332.0	121.3	41.3	2.1	16.5	60.2	66.3	186.5	2.3	14.8	0.0	42.6	699.4	105.3	804.7
1965	385.6	195.1	43.8	3.7	14.2	41.9	92.7	196.2	1.5	18.8	0.0	66.0	863.2	157.7	1,020.9
1970	320.9	265.7	49.5	3.2	14.5	28.7	103.6	199.5	1.3	19.5	0.0	85.9	892.8	207.9	1,100.7
1975	246.7	307.7	51.0	4.6	9.9	21.0	97.0	183.5	1.3	19.7	0.0	98.5	857.4	236.9	1,094.2
1980	219.4	253.7	28.0	9.7	5.1	20.2	137.2	200.2	1.2	47.2	0.0	104.6	826.3	252.1	1,078.5
1985	169.9	R 194.2	25.7	31.4	6.3	13.9	74.4	151.7	1.2	55.3	0.0	115.0	686.6	264.9	951.4
1990	117.9	R 302.6	23.1	25.1	5.1	8.9	98.5	160.7	0.2	36.5	0.0	119.6	731.0	276.6	1,007.6
1995	109.2	R 264.4	20.1	17.5	6.8	2.5	121.8	168.8	0.3	44.7	0.0	115.7	697.3	262.8	960.1
1996	107.5	R 268.8	22.7	19.6	7.4	2.6	126.6	178.9	0.3	53.3	0.0	117.7	720.8	267.7	988.5
1997	95.1	R 265.7	23.2	8.5	6.6	2.6	160.4	201.3	0.3	51.4	0.0	120.9	728.8	273.9	1,002.7
1998	97.9	R 234.9	24.0	4.1	5.7	2.5	152.5	188.9	0.3	49.6	0.0	122.8	688.5	278.4	966.9
1999	120.0	R 258.6	28.6	8.4	5.3	2.1	150.1	194.5	0.3	51.4	0.0	127.2	746.2	290.9	1,037.1
2000	104.8	R 256.2	23.6	10.8	5.5	3.9	141.7	185.6	0.3	50.4	0.0	127.2	721.0	289.2	1,010.3
2001	99.0	R 240.5	20.4	8.8	9.6	2.2	98.5	139.4	0.3	35.5	0.0	116.6	630.1	259.8	890.0
2002	72.8	249.1	16.1	12.5	10.1	2.2	97.5	138.4	0.3	25.7	0.0	114.4	600.7	255.1	855.8
2003	74.6	222.0	18.3	10.9	10.5	4.5	105.1	149.2	0.8	35.4	0.0	135.8	617.8	299.8	917.6
2004	78.2	R 218.6	21.3	18.5	12.0	4.3	112.6	168.7	0.3	R 37.3	0.0	119.0	R 622.1	263.2	885.3
2005	77.5	225.7	20.2	22.7	11.7	5.7	106.2	166.6	0.3	36.3	0.0	118.5	624.8	259.3	884.1
2006	77.3	R 202.6	17.6	R 15.9	12.4	4.6	100.2	R 150.7	0.3	R 35.1	0.0	116.3	R 582.3	251.5	R 833.9
2007	74.7	191.5	18.4	14.8	11.6	6.1	100.8	151.6	0.3	35.6	0.0	115.6	569.2	249.4	818.6

^a Includes supplemental gaseous fuels.
^b Liquefied petroleum gases.
^c Beginning in 1993, includes fuel ethanol blended into motor gasoline.
^d Includes asphalt and road oil, kerosene, lubricants, and 16 other petroleum products as described in the Technical Notes, Section 4, "Other Petroleum Products."
^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 waste. Prior to 2001, includes non-biomass waste.
^h From 1981 through 1992, includes fuel ethanol blended into motor gasoline but not shown in the motor gasoline column. 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.
ⁱ Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.
 kWh = Kilowatthours. --- = 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 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 available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."
 Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.

Table 11. Transportation Sector Energy Consumption Estimates, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum								Fuel Ethanol ^d Thousand Barrels	Retail Electricity Sales Million Kilowatthours	Net Energy ^{e,f}	Electrical System Energy Losses ^g	Total ^{e,f}
			Aviation Gasoline	Distillate Fuel Oil	Jet Fuel	LPG ^b	Lubricants	Motor Gasoline ^c	Residual Fuel Oil	Total					
			Thousand Barrels												
1960	223	3	1,312	2,475	3,369	21	1,277	62,307	728	71,489	0	9	--	--	--
1965	50	5	2,619	3,348	4,377	34	1,126	74,814	779	87,097	0	0	--	--	--
1970	21	10	718	6,353	7,365	62	1,324	93,269	427	109,518	0	0	--	--	--
1975	2	10	347	8,949	5,700	95	1,321	105,412	423	122,248	0	0	--	--	--
1980	0	12	488	9,741	6,646	128	1,477	95,235	232	113,946	0	0	--	--	--
1985	0	11	201	12,328	6,570	291	1,344	91,556	99	112,389	1,011	0	--	--	--
1990	0	18	215	13,207	10,057	283	1,513	98,167	92	123,533	1,184	0	--	--	--
1995	0	25	231	18,125	8,818	241	1,443	109,159	94	138,111	1,204	4	--	--	--
1996	0	26	215	18,940	9,045	224	1,401	109,025	123	138,970	507	5	--	--	--
1997	0	24	197	19,815	R 9,487	204	1,480	111,042	52	R 142,276	646	4	--	--	--
1998	0	21	167	21,145	R 9,033	804	1,549	113,608	82	R 146,388	835	5	--	--	--
1999	0	23	286	21,764	9,116	352	1,565	119,839	36	152,958	947	4	--	--	--
2000	0	27	205	21,915	7,214	266	1,542	116,941	48	148,131	2,243	4	--	--	--
2001	0	22	79	21,472	6,219	151	1,412	117,204	71	146,608	1,368	5	--	--	--
2002	0	27	167	22,514	6,016	183	1,396	119,567	47	149,891	2,900	5	--	--	--
2003	0	27	89	22,480	2,695	196	1,290	116,798	198	143,747	3,637	3	--	--	--
2004	0	28	80	23,993	3,733	397	1,307	116,468	251	146,228	3,758	3	--	--	--
2005	0	28	84	23,256	3,431	509	1,300	117,139	197	145,916	R 4,987	5	--	--	--
2006	0	26	67	23,767	4,124	231	1,267	115,637	232	145,325	R 5,246	4	--	--	--
2007	0	26	76	23,422	5,270	278	1,308	113,760	288	144,401	6,442	5	--	--	--
Trillion Btu															
1960	5.5	2.7	6.6	14.4	18.2	0.1	7.7	327.3	4.6	378.9	0.0	(s)	387.2	0.1	387.3
1965	1.2	4.6	13.2	19.5	24.0	0.1	6.8	393.0	4.9	461.5	0.0	0.0	467.4	0.0	467.4
1970	0.5	10.5	3.6	37.0	41.0	0.2	8.0	489.9	2.7	582.5	0.0	0.0	593.5	0.0	593.5
1975	(s)	10.5	1.7	52.1	31.6	0.4	8.0	553.7	2.7	650.3	0.0	0.0	660.8	0.0	660.8
1980	0.0	12.6	2.5	56.7	37.1	0.5	9.0	500.3	1.5	607.5	0.0	0.0	620.1	0.0	620.1
1985	0.0	10.8	1.0	71.8	36.7	1.0	8.2	480.9	0.6	600.3	3.6	0.0	614.7	0.0	614.7
1990	0.0	18.7	1.1	76.9	56.6	1.0	9.2	515.7	0.6	661.0	4.2	0.0	683.9	0.0	683.9
1995	0.0	25.9	1.2	105.6	50.0	0.9	8.8	569.3	0.6	736.2	4.3	(s)	762.2	(s)	762.2
1996	0.0	26.9	1.1	110.3	51.3	0.8	8.5	568.7	0.8	741.4	1.8	(s)	768.3	(s)	768.4
1997	0.0	24.8	1.0	115.4	53.8	0.7	9.0	578.9	0.3	759.1	2.3	(s)	783.9	(s)	783.9
1998	0.0	21.9	0.8	123.2	51.2	2.9	9.4	592.1	0.5	R 780.2	3.0	(s)	R 802.1	(s)	802.1
1999	0.0	23.5	1.4	126.8	51.7	1.3	9.5	624.5	0.2	815.4	3.3	(s)	838.9	(s)	838.9
2000	0.0	27.5	1.0	127.7	40.9	1.0	9.3	609.3	0.3	789.5	7.9	(s)	817.0	(s)	817.1
2001	0.0	23.0	0.4	125.1	35.3	0.5	8.6	610.6	0.4	780.9	4.8	(s)	803.9	(s)	804.0
2002	0.0	26.9	0.8	131.1	34.1	0.7	8.5	622.7	0.3	798.2	10.3	(s)	825.2	(s)	825.2
2003	0.0	27.4	0.5	130.9	15.3	0.7	7.8	608.2	1.2	764.6	12.9	(s)	792.0	(s)	792.1
2004	0.0	27.5	0.4	139.8	21.2	1.4	7.9	607.4	1.6	779.6	13.3	(s)	807.2	(s)	807.2
2005	0.0	28.3	0.4	135.5	19.5	1.8	7.9	611.2	1.2	777.5	R 17.6	(s)	805.9	(s)	805.9
2006	0.0	26.1	0.3	138.4	23.4	0.8	7.7	603.4	1.5	775.5	R 18.6	(s)	801.7	(s)	801.7
2007	0.0	26.7	0.4	136.4	29.9	1.0	7.9	593.7	1.8	771.2	22.8	(s)	797.9	(s)	797.9

^a Transportation use of natural gas is gas consumed in the operation of pipelines, primarily in compressors, and, since 1990, natural gas consumed as vehicle fuel.

^b Liquefied petroleum gases.

^c Beginning in 1993, motor gasoline includes fuel ethanol blended into the product.

^d Beginning in 1981, fuel ethanol is shown separately to display the use of renewable energy by the transportation sector. It is counted only once in the total. There is also a discontinuity in this time series between 2004 and 2005 due to changes in estimation methodology. See Section 5 of the Technical Notes.

^e There is a discontinuity in this time series between 1980 and 1981 due to the expanded coverage of renewable energy sources beginning in 1981.

^f From 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline

column.

^g Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

-- = 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 available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."

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

Table 12. Electric Power Sector Consumption Estimates, Selected Years, 1960-2007, Michigan

Year	Coal Thousand Short Tons	Natural Gas ^a Billion Cubic Feet	Petroleum				Nuclear Electric Power Million Kilowatthours	Hydroelectric Power ^d Million Kilowatthours	Biomass Wood and Waste ^{e,f} Million Kilowatthours	Geothermal ^f Million Kilowatthours	Solar/PV ^{f,g} Million Kilowatthours	Wind ^f Million Kilowatthours	Electricity Net Imports ^h	Total ^{f,i}
			Residual Fuel Oil ^b	Distillate Fuel Oil ^c	Petroleum Coke	Total								
			Thousand Barrels											
1960	10,300	5	362	77	0	440	0	1,817	--	0	0	0	1,250	--
1965	16,123	3	316	68	0	384	181	1,667	--	0	0	0	-413	--
1970	20,124	64	4,514	965	0	5,479	375	1,581	--	0	0	0	-400	--
1975	20,914	57	14,136	1,538	0	15,674	7,176	989	--	0	0	0	320	--
1980	22,150	26	9,621	780	0	10,400	15,891	1,083	--	0	0	0	5,685	--
1985	25,896	10	522	646	0	1,168	13,452	881	--	0	0	0	391	--
1990	29,830	85	1,149	341	0	1,490	21,611	1,605	--	0	0	0	-10,918	--
1995	31,400	123	1,101	410	0	1,512	24,448	1,570	--	0	0	0	5,760	--
1996	32,405	140	1,235	300	3	1,539	26,829	1,755	--	0	0	0	1,907	--
1997	32,158	143	1,031	312	0	1,343	21,914	1,686	--	0	0	0	1,380	--
1998	34,253	148	1,630	468	103	2,201	12,494	1,372	--	0	0	0	-1,534	--
1999	33,854	150	2,120	505	65	2,690	14,591	1,432	--	0	0	0	-219	--
2000	33,277	135	1,683	374	9	2,066	18,882	1,401	--	0	0	0	-327	--
2001	33,928	133	1,150	369	2	1,522	26,711	1,536	--	0	0	(s)	-2,102	--
2002	33,367	146	1,537	535	73	2,145	31,087	1,640	--	0	0	(s)	-2,234	--
2003	34,101	103	1,152	484	60	1,697	27,954	1,310	--	0	0	3	-3,564	--
2004	35,312	133	1,112	393	17	1,522	30,562	1,509	--	0	0	2	-3,204	--
2005	36,273	131	1,099	372	170	1,641	32,872	1,433	--	0	0	2	-2,699	--
2006	34,926	109	231	302	218	751	29,066	1,488	--	0	0	2	-2,117	--
2007	36,574	124	529	295	252	1,076	31,517	1,244	--	0	0	3	-1,206	--

Trillion Btu

1960	256.3	5.4	2.3	0.5	0.0	2.7	0.0	19.6	0.0	0.0	0.0	0.0	4.3	288.2
1965	399.9	3.0	2.0	0.4	0.0	2.4	2.1	17.4	0.0	0.0	0.0	0.0	-1.4	423.5
1970	487.0	65.2	28.4	5.6	0.0	34.0	4.1	16.6	0.0	0.0	0.0	0.0	-1.4	605.6
1975	494.9	47.3	88.9	8.9	0.0	97.8	79.0	10.3	0.0	0.0	0.0	0.0	1.1	730.4
1980	532.2	19.4	60.5	4.5	0.0	65.0	173.3	11.3	0.0	0.0	0.0	0.0	19.4	820.6
1985	605.8	R 4.7	3.3	3.8	0.0	7.0	142.9	9.2	0.0	0.0	0.0	0.0	1.3	770.9
1990	663.5	R 69.1	7.2	2.0	0.0	9.2	228.7	16.7	9.0	0.0	0.0	0.0	-37.3	957.4
1995	671.2	R 105.1	6.9	2.4	0.0	9.3	256.9	16.2	19.7	0.0	0.0	0.0	19.7	1,095.6
1996	682.1	R 122.1	7.8	1.7	(s)	9.5	281.8	18.1	23.4	0.0	0.0	0.0	6.5	1,140.8
1997	681.4	R 124.5	6.5	1.8	0.0	8.3	230.0	17.2	22.6	0.0	0.0	0.0	4.7	1,085.8
1998	725.3	R 131.4	10.2	2.7	0.6	13.6	131.1	14.0	22.5	0.0	0.0	0.0	-5.2	1,029.2
1999	712.2	R 134.1	13.3	2.9	0.4	16.7	152.5	14.6	21.7	0.0	0.0	0.0	-0.7	1,047.9
2000	694.7	R 126.0	10.6	2.2	0.1	12.8	196.9	14.3	25.6	0.0	0.0	0.0	-1.1	1,067.5
2001	690.5	R 131.7	7.2	2.2	(s)	9.4	279.1	15.9	25.0	0.0	0.0	(s)	-7.2	1,143.8
2002	660.8	147.3	9.7	3.1	0.4	13.2	324.5	16.7	24.8	0.0	0.0	(s)	-7.6	1,179.7
2003	672.6	104.6	7.2	2.8	0.4	10.4	291.3	13.4	24.8	0.0	0.0	(s)	-12.2	1,105.0
2004	691.2	135.5	7.0	2.3	0.1	9.4	318.7	15.1	25.3	0.0	0.0	(s)	-10.9	R 1,184.2
2005	718.2	132.6	6.9	2.2	1.0	10.1	343.0	14.3	23.2	0.0	0.0	(s)	-9.2	1,232.3
2006	693.4	110.4	1.5	1.8	1.3	4.5	303.3	14.8	23.2	0.0	0.0	(s)	-7.2	1,142.3
2007	721.3	125.5	3.3	1.7	1.5	6.6	330.5	12.3	22.1	0.0	0.0	(s)	-4.1	1,214.2

^a Includes supplemental gaseous fuels.
^b 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.
^c 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.
^d Conventional hydroelectric power. For 1960 through 1989, includes pumped-storage hydroelectricity, which cannot be separately identified.
^e Wood, wood-derived fuels, and 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.
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.
 -- = Not applicable.
 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 comprises 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 available at http://www.eia.doe.gov/emeu/states/_seds.html under "Complete Data Files."
 Sources: Data sources, estimation procedures, and assumptions are described in the Technical Notes.