

Table ET1. Primary energy, electricity, and total energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy												Nuclear fuel	Biomass Wood and waste ^{g,h}	Total ^{h,i,j,k}	Electric power sector ^{i,k,l}	Electricity ^m	Total energy ^{h,i,j}
	Coal			Natural gas ^a	Petroleum						Total							
	Coking coal	Steam coal	Total		Distillate fuel oil ^b	HGL ^c	Jet fuel ^d	Motor gasoline ^e	Residual fuel oil	Other ^f		Total						
1970	0.55	0.42	0.44	0.77	1.09	1.91	0.74	2.71	0.59	2.10	2.04	0.36	1.01	1.13	0.39	5.55	1.71	
1975	2.07	1.04	1.23	1.42	2.49	3.89	2.08	4.72	1.96	3.85	3.75	0.28	1.29	2.23	1.04	9.78	3.34	
1980	2.27	1.61	1.71	3.05	6.76	6.85	6.38	10.09	3.90	8.74	8.57	0.49	2.16	4.35	1.71	15.40	6.57	
1985	2.08	1.90	1.92	5.70	7.69	9.29	6.09	9.10	4.45	10.98	8.76	0.80	2.30	5.18	1.74	19.88	8.46	
1990	1.80	1.62	1.63	4.16	7.40	10.78	5.65	8.78	3.00	9.88	8.45	0.79	1.52	4.46	1.45	20.85	8.08	
1995	1.57	1.48	1.48	3.93	6.90	8.98	3.93	8.47	2.61	9.31	7.99	0.65	1.20	4.21	1.40	20.72	7.96	
2000	1.66	1.32	1.35	4.44	9.90	12.00	6.51	11.90	3.41	10.45	11.09	0.61	1.26	5.52	1.56	20.89	9.74	
2005	3.37	1.63	1.70	8.99	16.53	17.69	13.03	17.69	6.78	14.29	17.00	0.43	3.15	8.60	1.80	21.25	14.53	
2006	3.76	1.72	1.81	10.20	18.69	19.67	14.94	19.99	7.67	19.92	19.50	0.40	3.20	9.78	1.79	23.90	16.66	
2007	3.70	1.77	1.85	9.62	20.02	21.71	16.47	22.32	8.16	20.93	21.41	0.47	3.40	10.10	1.99	25.04	17.50	
2008	4.56	2.03	2.17	10.69	26.39	25.63	22.76	25.57	11.84	26.63	25.55	0.51	4.02	11.50	2.42	26.24	19.53	
2009	5.67	2.13	2.26	9.53	16.60	22.98	12.60	18.58	7.79	24.32	18.59	0.66	3.08	9.47	2.20	27.63	16.80	
2010	6.18	2.18	2.39	9.24	21.14	R 23.13	16.23	22.04	9.61	21.04	R 21.50	0.78	3.32	R 10.09	2.25	29.05	R 18.33	
2011	7.32	2.74	3.00	8.76	27.34	R 26.05	22.39	28.03	13.26	25.49	R 27.27	0.76	3.51	R 11.83	2.44	30.57	R 20.77	
2012	6.96	2.85	3.09	7.38	28.00	R 22.65	22.99	28.62	14.67	25.31	R 27.67	0.79	3.31	R 11.88	2.42	32.29	R 21.35	
2013	5.52	2.73	2.89	7.56	27.98	R 22.61	21.97	27.92	13.60	23.45	R 27.00	0.80	3.50	R 11.80	2.51	32.89	R 20.34	
2014	5.10	2.66	2.81	8.27	27.16	R 26.61	20.70	26.69	12.74	19.89	R 25.97	0.70	3.89	R 11.72	2.67	32.38	R 19.87	
2015	4.75	2.43	2.58	6.73	18.50	18.26	11.88	19.16	7.37	18.21	18.45	0.78	3.85	8.90	2.28	31.57	16.43	
2016	3.94	2.29	2.37	5.74	15.73	16.46	9.72	17.04	4.66	R 15.16	16.14	0.73	3.30	8.01	2.06	32.44	15.57	
2017	4.75	2.22	2.40	6.09	18.19	R 19.58	12.27	19.13	6.44	R 14.18	18.12	0.68	3.36	R 8.69	2.04	33.12	R 16.51	
2018	5.14	2.17	2.39	5.95	21.92	R 20.80	15.64	21.21	8.02	R 16.64	R 20.60	0.63	3.48	R 9.49	2.15	33.46	R 17.48	
2019	5.89	2.15	2.46	5.62	20.69	R 17.76	14.37	20.21	7.53	R 17.44	R 19.53	0.58	3.66	R 8.99	1.90	33.93	R 16.90	
2020	5.13	2.07	2.30	5.29	16.75	R 15.83	9.10	16.59	5.54	R 15.12	R 16.11	0.51	R 2.79	R 7.64	1.66	35.85	R 16.01	
2021	5.09	2.09	2.35	6.68	R 22.33	R 21.52	13.82	23.43	8.33	R 16.54	R 22.06	0.56	R 3.30	10.00	R 2.24	37.98	R 19.39	
2022	7.63	2.42	2.91	8.77	34.43	24.13	25.27	30.85	14.24	19.78	29.84	0.54	4.41	13.66	3.54	38.76	23.41	
Expenditures in million dollars																		
1970	73.4	294.1	367.5	620.2	240.6	44.8	30.4	1,378.2	33.7	176.9	1,904.7	1.5	6.3	2,906.9	-230.3	1,041.7	3,718.3	
1975	290.3	634.0	924.3	1,235.6	610.6	109.7	66.8	2,686.4	217.0	273.1	3,963.6	22.2	7.9	6,178.5	-757.9	2,139.6	7,560.3	
1980	250.1	1,047.1	1,297.2	2,596.2	1,087.9	171.3	236.9	5,144.7	315.1	681.2	7,637.1	85.1	33.4	11,787.9	-1,385.2	3,647.5	14,050.2	
1985	149.7	1,348.3	1,498.1	3,954.1	1,164.6	465.9	223.6	4,466.4	56.0	597.7	6,974.3	115.0	39.1	12,628.5	-1,325.6	4,993.3	16,296.2	
1990	51.3	1,233.5	1,284.8	3,569.5	1,050.2	575.4	319.7	4,608.3	43.8	630.7	7,228.1	179.7	58.4	12,358.4	-1,421.6	5,797.5	16,734.2	
1995	59.1	1,107.3	1,166.3	3,708.4	1,101.7	479.3	196.3	4,875.1	23.1	650.9	7,326.3	167.9	70.8	12,562.6	-1,514.3	6,636.2	17,684.5	
2000	91.0	987.1	1,078.1	4,143.6	1,776.1	734.5	266.3	7,310.1	44.9	850.5	10,982.4	119.6	77.7	16,477.5	-1,658.1	7,400.3	22,219.7	
2005	106.9	1,252.6	1,359.5	7,867.7	2,915.6	1,523.0	253.5	10,984.2	93.2	969.4	16,738.9	148.7	198.3	26,406.0	-2,213.4	7,934.7	32,127.3	
2006	133.2	1,268.9	1,402.1	7,832.7	3,246.2	1,096.7	349.4	12,242.4	56.6	1,200.9	18,192.1	122.2	193.5	27,763.6	-2,031.2	8,724.5	34,457.0	
2007	116.9	1,362.5	1,479.5	7,384.5	3,401.4	1,307.5	492.3	13,317.1	89.5	1,307.7	19,915.5	154.0	206.2	29,244.3	-2,407.0	9,251.2	36,088.5	
2008	188.6	1,543.4	1,732.0	8,066.1	4,074.3	1,216.9	598.8	14,543.0	107.3	1,346.0	21,886.3	166.9	254.5	32,499.2	-2,872.4	9,378.2	39,005.0	
2009	144.7	1,515.3	1,660.0	6,736.4	2,456.9	1,029.3	305.0	10,376.1	29.2	1,211.1	15,407.7	150.3	162.1	24,429.4	-2,306.2	9,158.8	31,281.9	
2010	243.3	1,550.0	1,793.3	6,595.8	3,227.9	R 1,063.8	789.8	12,109.9	35.4	859.4	R 18,086.2	242.0	202.2	R 27,197.2	-2,586.7	10,171.9	R 34,782.5	
2011	291.7	1,782.7	2,074.4	6,520.7	4,210.1	R 1,174.1	1,116.9	15,027.2	57.0	916.0	R 22,501.3	260.4	228.9	R 31,763.8	-2,731.9	10,846.5	R 39,878.4	
2012	246.4	1,671.4	1,917.8	5,628.3	4,145.1	R 894.3	1,128.4	15,219.1	46.9	919.3	R 22,353.1	231.8	215.5	R 30,494.9	-2,606.0	11,422.9	R 39,311.8	
2013	209.9	1,691.7	1,901.6	6,047.9	4,609.4	R 1,151.9	1,090.1	15,407.8	34.7	1,075.8	R 23,369.7	243.2	237.4	R 32,036.2	-2,642.6	11,520.6	R 40,914.2	
2014	183.1	1,552.1	1,735.2	6,985.8	4,546.0	R 1,407.8	1,028.3	14,733.8	21.9	1,138.3	R 22,876.1	227.6	268.7	R 32,373.8	-2,815.7	11,364.3	R 40,922.3	
2015	183.1	1,408.5	1,591.6	5,649.7	3,193.1	763.4	659.9	10,794.2	11.8	1,039.1	16,461.6	240.5	R 268.1	R 24,516.4	-2,490.5	10,992.2	R 33,018.2	
2016	84.4	1,030.6	1,115.0	5,157.2	2,697.0	734.7	551.8	9,774.1	15.0	R 907.4	R 14,679.9	241.2	R 223.8	R 21,650.8	-2,211.0	11,512.6	R 30,952.3	
2017	169.0	1,030.7	1,199.7	5,336.7	2,893.4	R 875.0	715.6	10,852.6	29.6	R 904.3	R 16,270.6	231.7	225.3	R 23,443.7	-2,172.1	11,462.3	R 32,733.9	
2018	196.2	1,015.3	1,211.5	5,812.4	3,948.2	R 1,081.6	891.0	12,060.9	41.9	R 1,018.2	R 19,041.7	201.6	249.1	R 26,756.0	-2,359.0	11,921.5	R 36,318.5	
2019	213.5	886.6	1,100.2	5,694.2	3,585.5	R 952.3	816.2	11,332.1	43.8	R 1,032.7	R 17,762.6	200.0	R 247.4	R 25,194.3	-2,062.3	11,670.1	R 34,802.1	
2020	127.3	641.0	768.3	5,124.1	2,622.3	R 774.7	279.0	7,952.8	23.3	R 898.7	R 12,550.7	162.3	R 163.8	R 18,934.7	-1,644.9	11,816.1	R 29,106.0	
2021	195.0	830.8	1,025.7	R 6,092.2	R 3,591.4	R 1,025.5	535.5	12,273.6	44.7	R 1,036.4	R 18,507.1	199.2	R 205.1	R 26,260.3	R -2,396.3	12,876.4	R 36,740.4	
2022	302.0	928.6	1,230.6	9,194.5	5,639.4	1,170.4	1,104.6	15,897.1	77.5	1,390.5	25,279.7	145.5	278.0	36,482.9	-3,700.5	13,250.0	46,032.4	

^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. Beginning in 2021, includes biodiesel and renewable diesel 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 Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
^h There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of the use of wood and biomass waste beginning in 1989.
ⁱ There are no direct fuel costs for hydroelectric, geothermal, solar, or wind energy.
^j For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column.
^k Electricity imports are included in total primary energy and electric power sector but are not shown separately.
^l Expenditures for fuels purchased for electric power generation, included in the expenditure columns for the primary energy sources, are shown as negative expenditures because they need to be removed from total energy expenditures, to avoid double-counting.
^m Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers. Where shown, R = Revised data and (s) = Value less than 0.05 million dollars.
Where shown, — = No consumption, including cases where adjustments were made. See explanation of adjustments in Section 7 of the Technical Notes.
Note: Expenditure totals may not equal sum of components due to independent rounding.
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 ET2. Total end-use energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy										Electricity ^k	Total energy ^{h,i,j}	
	Coal	Natural gas ^a	Petroleum					Total	Biomass	Total ^{h,i,j}			
			Distillate fuel oil ^b	HGL ^c	Jet fuel ^d	Motor gasoline ^e	Residual fuel oil						Other ^f
Prices in dollars per million Btu													
1970	0.57	0.80	1.10	1.91	0.74	2.71	0.56	2.10	2.09	1.01	1.35	5.55	1.71
1975	1.83	1.42	2.50	3.89	2.08	4.72	1.95	3.85	3.93	1.29	2.65	9.78	3.34
1980	2.05	3.05	6.78	6.85	6.38	10.09	3.30	8.74	8.91	2.16	5.47	15.40	6.57
1985	2.05	5.71	7.74	9.29	6.09	9.10	4.39	10.98	8.79	2.30	6.75	19.88	8.46
1990	1.80	4.35	7.44	10.78	5.65	8.78	3.10	9.88	8.51	1.84	6.10	20.85	8.08
1995	1.68	4.17	6.95	8.98	3.93	8.47	2.60	9.31	8.04	1.45	5.81	20.72	7.96
2000	1.64	4.52	9.95	12.00	6.51	11.90	3.64	10.46	11.18	1.68	7.69	20.89	9.74
2005	3.03	9.61	16.59	17.69	13.03	17.69	6.73	14.47	17.10	3.65	13.16	21.25	14.53
2006	3.26	10.92	18.74	19.67	14.94	19.99	7.78	20.31	19.56	3.74	15.11	23.90	16.66
2007	3.26	10.22	20.06	21.71	16.47	22.32	8.43	21.38	21.50	3.96	15.93	25.04	17.57
2008	4.05	10.99	26.41	25.63	22.76	25.57	12.06	27.32	25.61	4.78	18.06	26.24	19.53
2009	5.14	10.22	16.64	22.98	12.60	18.58	7.87	24.94	18.64	3.72	14.45	27.63	16.80
2010	5.23	10.08	21.18	R 23.13	16.23	22.04	9.78	21.66	R 21.55	3.85	R 15.91	29.05	R 18.33
2011	5.97	9.50	27.40	R 26.05	22.39	28.03	13.26	26.07	R 27.31	4.09	R 18.55	30.57	R 20.77
2012	5.84	8.73	28.04	R 22.65	22.99	28.62	14.63	25.92	R 27.71	3.87	R 18.74	32.29	R 21.35
2013	4.83	8.07	28.02	R 22.61	21.97	27.92	13.56	25.31	R 27.11	4.14	R 17.70	32.89	R 20.34
2014	4.57	8.53	27.22	R 26.61	20.70	26.69	12.73	24.11	R 26.28	4.53	R 17.30	32.38	R 19.87
2015	4.27	7.65	18.54	18.26	11.88	19.16	7.43	21.06	18.62	4.38	13.25	31.57	16.43
2016	3.61	6.91	15.77	R 16.46	9.72	17.04	4.60	R 17.34	R 16.28	3.66	R 11.91	32.44	15.57
2017	4.30	7.07	18.22	R 19.58	12.27	19.13	6.38	R 17.44	R 18.38	3.85	R 12.99	33.12	R 16.51
2018	4.66	6.96	21.96	R 20.80	15.64	21.21	8.00	R 21.42	R 20.92	4.05	R 14.17	33.46	R 17.48
2019	5.35	6.84	20.72	R 17.76	14.37	20.21	7.51	R 20.67	R 19.74	R 4.29	R 13.48	33.93	R 16.90
2020	4.90	6.89	16.80	R 15.83	9.10	16.59	5.51	R 18.06	R 16.32	R 3.30	R 11.62	35.85	R 16.01
2021	4.87	7.77	R 22.40	R 21.52	13.82	23.43	8.29	R 20.53	R 22.40	R 3.83	R 15.34	37.98	R 19.39
2022	7.19	9.85	34.48	24.13	25.27	30.85	14.32	27.02	30.53	5.34	20.18	38.76	23.41
Expenditures in million dollars													
1970	194.1	593.0	237.0	44.8	30.4	1,378.2	15.8	176.9	1,883.2	6.3	2,676.6	1,041.7	3,718.3
1975	467.5	1,174.9	593.3	109.7	65.8	2,686.4	42.2	273.1	3,770.4	7.9	5,420.6	2,139.6	7,560.3
1980	464.9	2,543.0	1,063.0	171.3	236.9	5,144.7	66.9	681.2	7,361.3	33.4	10,402.6	3,647.5	14,050.2
1985	359.8	3,933.4	1,143.6	465.9	223.6	4,466.4	40.8	597.7	6,938.0	39.1	11,302.9	4,993.3	16,296.2
1990	223.9	3,423.9	1,041.1	575.4	319.7	4,608.3	22.9	630.7	7,198.1	54.2	10,936.7	5,797.5	16,734.2
1995	193.7	3,498.7	1,092.3	479.3	196.3	4,875.1	4.9	650.9	7,298.9	57.0	11,048.3	6,636.2	17,684.5
2000	172.4	3,652.4	1,763.2	734.5	266.3	7,310.1	9.5	850.5	10,934.1	60.6	14,819.4	7,400.3	22,219.7
2005	245.8	7,136.4	2,890.1	1,523.0	253.5	10,984.2	46.0	968.2	16,665.0	145.3	24,192.6	7,934.7	32,127.3
2006	261.7	7,176.3	3,221.0	1,096.7	349.4	12,242.4	46.1	1,199.2	18,154.8	139.7	25,732.5	8,724.5	34,457.0
2007	260.0	6,564.7	3,373.4	1,307.5	492.3	13,317.1	64.4	1,305.1	19,859.9	152.7	26,837.3	9,251.2	36,088.5
2008	354.7	7,248.4	4,033.9	1,216.9	598.8	14,543.0	93.0	1,344.0	21,829.6	194.0	29,626.8	9,378.2	39,005.0
2009	274.6	6,355.1	2,437.6	1,029.3	305.0	10,376.1	23.2	1,208.6	15,379.9	113.6	22,123.1	9,158.8	31,281.9
2010	375.3	6,033.0	3,203.2	R 1,063.8	789.8	12,109.9	28.8	857.3	R 18,052.7	149.6	R 24,610.6	10,171.9	R 34,782.5
2011	422.3	5,983.8	4,169.1	R 1,174.1	1,116.9	15,027.2	53.3	912.2	R 22,452.9	172.9	R 29,031.9	10,846.5	R 39,878.4
2012	361.2	5,046.5	4,115.9	R 894.3	1,128.4	15,219.1	42.2	915.1	R 22,315.0	166.1	R 27,888.9	11,422.9	R 39,311.8
2013	334.9	5,540.9	4,580.2	R 1,151.9	1,090.1	15,407.8	32.2	1,070.7	R 23,332.9	184.9	R 29,393.6	11,520.6	R 40,914.2
2014	294.1	6,235.5	4,514.0	R 1,407.8	1,028.3	14,733.8	20.6	1,122.9	R 22,827.4	201.1	R 29,558.0	11,364.3	R 40,922.3
2015	265.9	5,116.2	3,178.7	763.4	659.9	10,794.2	10.9	1,024.3	16,431.5	R 212.4	R 22,026.0	10,992.2	R 33,018.2
2016	140.8	4,475.0	2,684.1	734.7	551.8	9,774.1	14.0	R 896.8	R 14,655.4	168.6	R 19,439.7	11,512.6	R 30,952.3
2017	229.9	4,634.4	2,880.1	R 875.0	715.6	10,852.6	27.9	R 885.5	R 16,236.6	R 170.7	R 21,271.6	11,462.3	R 32,733.9
2018	250.1	4,947.7	3,929.2	R 1,081.6	891.0	12,060.9	40.9	R 996.5	R 19,000.0	R 199.2	R 24,397.0	11,921.5	R 36,318.5
2019	267.5	4,935.0	3,572.4	R 952.3	816.2	11,332.1	43.0	R 1,017.3	R 17,733.3	R 196.2	R 23,132.0	11,670.1	R 34,802.1
2020	154.1	4,480.1	2,612.7	R 774.7	279.0	7,952.8	22.6	R 886.4	R 12,528.1	R 127.5	R 17,289.8	11,816.1	R 29,106.0
2021	221.6	5,023.5	R 3,569.1	R 1,025.5	535.5	12,273.6	43.4	R 1,020.8	R 18,467.9	R 150.9	R 23,864.0	12,876.4	R 36,740.4
2022	338.5	6,997.5	5,611.4	1,170.4	1,104.6	15,897.1	76.8	1,367.7	25,228.1	218.4	32,782.4	13,250.0	46,032.4

^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. Beginning in 2021, includes biodiesel and renewable diesel 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 Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.
^h There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of the use of wood and biomass waste beginning in 1989.
ⁱ There are no direct fuel costs for hydroelectric, geothermal, solar, or wind energy.

^j For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column.
^k Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
 Where shown, R = Revised data and (s) = Value less than 0.05 million dollars.
 Where shown, — = No consumption, including cases where adjustments were made. See explanation of adjustments in Section 7 of the Technical Notes.
 Notes: Price estimates are weighted averages of price estimates and expenditure estimates are the sum of expenditure estimates for the residential, commercial, industrial, and transportation sectors. Expenditure totals may not equal sum of components due to independent rounding.
 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 ET3. Residential sector energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy							Electricity ^f	Total energy ^e	
	Coal ^a	Natural gas ^b	Petroleum			Biomass	Total ^e			
			Distillate fuel oil	HGL ^c	Kerosene	Wood ^d				
Prices in dollars per million Btu										
1970	1.43	1.00	1.23	2.04	1.56	1.36	0.57	1.10	6.99	1.73
1975	3.07	1.58	2.51	4.29	3.12	2.80	1.12	1.93	11.32	3.13
1980	3.70	3.13	7.05	8.08	8.43	7.27	2.87	3.72	16.76	5.53
1985	3.86	6.14	7.66	9.63	8.47	8.33	3.24	6.38	21.62	8.74
1990	3.39	4.81	7.57	11.37	9.53	9.43	3.56	5.42	22.95	8.48
1995	3.08	4.53	6.58	9.53	8.79	8.36	2.90	4.99	24.44	8.41
2000	3.06	4.93	9.12	12.07	9.38	11.21	4.41	5.83	24.98	9.46
2005	4.27	10.39	15.71	17.68	15.49	17.33	6.91	11.45	24.63	14.31
2006	4.66	11.76	17.87	19.79	19.69	19.42	7.96	12.63	28.63	16.46
2007	4.31	10.82	19.92	21.70	22.33	21.42	8.79	12.13	29.93	16.30
2008	—	11.65	23.62	25.72	23.47	25.39	10.83	13.21	31.49	17.30
2009	—	11.03	16.15	23.48	23.70	22.61	8.13	12.31	34.01	17.21
2010	—	11.14	20.48	22.90	25.17	22.68	9.60	12.39	36.51	18.42
2011	—	10.33	27.36	25.16	28.49	25.41	11.54	11.89	38.91	18.51
2012	—	9.78	27.27	23.20	29.88	23.58	12.85	11.13	41.43	19.34
2013	—	8.90	28.29	22.56	30.54	23.05	12.58	10.43	42.76	17.87
2014	—	9.16	27.34	27.28	32.87	27.31	12.27	11.14	42.38	17.93
2015	—	8.53	17.90	20.22	16.97	20.02	8.45	9.64	42.27	17.31
2016	—	7.87	15.49	18.27	13.53	18.05	7.22	8.94	44.61	17.85
2017	—	8.01	17.64	21.04	16.92	20.81	8.08	9.35	45.13	17.87
2018	—	7.82	19.24	21.92	26.07	21.76	8.94	9.44	45.27	17.71
2019	—	7.64	18.39	19.15	22.82	19.11	8.60	8.97	46.14	17.08
2020	—	7.78	15.35	17.49	14.82	17.33	7.11	^R 8.78	47.66	^R 18.46
2021	—	8.70	19.73	22.77	23.41	22.53	8.54	^R 10.14	51.39	^R 20.66
2022	—	10.69	28.79	26.28	40.66	26.53	13.21	12.23	52.33	21.58
Expenditures in million dollars										
1970	16.3	345.1	135.5	37.9	4.8	178.2	1.7	541.4	408.1	949.5
1975	8.6	542.8	284.4	92.8	5.3	382.5	3.2	937.2	806.7	1,743.9
1980	5.8	1,236.0	377.7	112.8	4.0	494.5	22.0	1,758.3	1,273.3	3,031.6
1985	5.3	2,143.5	276.2	176.5	20.4	473.0	25.8	2,647.6	1,645.1	4,292.7
1990	4.5	1,644.2	213.4	307.7	11.7	532.9	30.9	2,212.5	1,982.5	4,195.0
1995	2.5	1,792.2	146.1	316.1	11.6	473.7	13.6	2,282.0	2,387.3	4,669.3
2000	0.1	1,879.1	154.0	553.4	18.9	726.3	13.8	2,619.3	2,617.7	5,237.0
2005	1.3	3,783.5	177.8	1,048.1	19.2	1,245.1	55.4	5,085.3	3,032.8	8,118.1
2006	0.1	3,779.8	155.9	720.7	17.1	893.7	56.6	4,730.1	3,381.9	8,112.1
2007	1.8	3,632.5	158.0	909.7	12.1	1,079.8	69.1	4,783.2	3,611.8	8,395.0
2008	—	4,077.1	164.9	1,009.2	6.5	1,180.6	95.3	5,353.0	3,685.4	9,038.4
2009	—	3,686.6	84.8	895.2	9.6	989.5	48.0	4,724.0	3,812.7	8,536.7
2010	—	3,445.0	79.7	804.0	9.1	892.7	60.7	4,398.4	4,320.8	8,719.2
2011	—	3,329.5	105.8	837.7	7.5	951.0	70.8	4,351.3	4,621.2	8,972.4
2012	—	2,753.9	72.2	628.7	2.6	703.5	65.8	3,523.2	4,871.0	8,394.3
2013	—	3,038.0	91.4	831.7	3.9	927.0	84.1	4,049.2	4,962.4	9,011.5
2014	—	3,309.5	110.4	1,078.5	6.6	1,195.5	83.0	4,588.0	4,846.5	9,434.5
2015	—	2,749.6	52.8	666.5	2.8	722.1	^R 100.4	^R 3,572.0	4,810.8	8,382.9
2016	—	2,415.0	41.1	633.9	2.2	677.2	68.5	3,160.7	5,258.1	8,418.8
2017	—	2,506.9	44.0	734.0	1.2	779.1	76.2	3,362.3	5,078.0	8,440.3
2018	—	2,677.8	53.0	935.2	1.7	990.0	^R 102.4	^R 3,770.2	5,426.8	^R 9,197.0
2019	—	2,684.6	56.5	829.9	2.5	888.9	^R 101.1	^R 3,674.6	5,273.1	^R 8,947.7
2020	—	2,509.6	43.8	635.6	1.6	680.9	^R 52.9	^R 3,243.5	5,831.5	^R 9,074.9
2021	—	2,726.5	57.7	781.6	2.4	^R 841.6	^R 57.6	^R 3,625.7	6,289.8	^R 9,915.5
2022	—	3,717.7	89.0	886.3	3.9	979.2	111.1	4,808.0	6,256.0	11,064.0

^a Beginning in 2008, consumption 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 are no direct fuel costs for geothermal or solar energy.
^f Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy

service providers.
 Where shown, R = Revised data, — = No consumption, and (s) = Value less than 0.05 million dollars.
 Note: Expenditure totals may not equal sum of components due to independent rounding.
 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 ET4. Commercial sector energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy									Electricity ⁱ	Total energy ^{f,g,h}	
	Coal	Natural gas ^a	Petroleum					Biomass	Total ^{f,g,h}			
			Distillate fuel oil	HGL ^b	Kerosene	Motor gasoline ^c	Residual fuel oil					Wood and waste ^{e,f}
Prices in dollars per million Btu												
1970	0.53	0.83	1.05	1.37	0.74	2.71	0.64	1.22	0.57	0.88	7.12	2.14
1975	1.49	1.45	2.33	2.42	2.44	4.72	1.97	2.69	1.12	1.62	11.41	3.40
1980	1.82	3.13	6.53	4.94	6.14	10.09	3.97	6.91	2.87	3.52	17.60	6.37
1985	2.00	5.61	6.30	8.12	8.47	9.10	4.39	6.78	3.24	5.65	23.36	10.09
1990	1.77	4.44	5.63	9.19	9.53	8.78	3.15	6.74	2.34	4.57	24.21	10.07
1995	1.71	4.28	4.48	7.78	8.79	8.47	2.57	5.52	1.37	4.25	23.27	10.50
2000	1.61	4.63	7.42	11.06	9.38	11.90	3.70	8.76	1.41	4.86	23.36	11.75
2005	2.80	9.24	14.44	16.32	15.49	17.69	6.70	15.27	3.58	9.38	22.98	14.90
2006	2.87	10.56	16.66	18.12	19.69	19.99	7.89	17.25	3.30	10.81	24.94	16.97
2007	2.96	9.80	18.37	19.57	22.33	22.32	—	18.95	3.80	10.02	25.72	16.65
2008	4.61	10.41	24.66	23.30	23.47	25.57	12.41	23.80	4.38	10.83	26.89	17.30
2009	5.95	9.18	14.68	18.64	23.70	18.58	7.98	15.83	2.67	9.31	27.09	16.52
2010	5.07	8.81	18.49	19.61	25.17	22.04	11.66	18.65	2.95	9.11	28.76	17.50
2011	5.04	9.02	24.65	22.93	28.49	28.03	15.63	23.88	3.26	9.63	30.28	18.20
2012	5.37	8.21	24.51	16.88	29.88	28.62	16.91	22.34	2.77	8.85	32.05	19.11
2013	5.14	7.66	24.68	17.98	30.54	27.92	16.68	22.75	2.99	8.42	32.43	17.99
2014	5.10	8.13	23.28	20.20	32.87	26.69	15.95	24.96	3.18	9.98	31.86	17.92
2015	4.42	7.27	13.83	11.30	16.97	19.16	10.27	16.09	3.23	8.02	30.93	17.02
2016	4.27	6.62	11.25	10.51	13.53	17.04	7.32	14.02	2.19	7.22	31.17	16.97
2017	—	6.71	14.02	R 14.41	16.92	19.13	9.80	R 16.48	2.37	7.64	32.25	R 17.39
2018	—	6.60	17.15	R 15.84	26.07	21.21	11.12	R 18.89	2.78	R 7.68	32.67	R 17.17
2019	—	6.44	15.69	R 12.08	22.82	20.21	—	R 17.09	4.79	R 7.54	33.39	R 17.13
2020	—	6.47	10.60	R 11.25	14.82	16.59	—	R 13.46	4.93	R 7.30	34.32	R 17.59
2021	—	7.43	16.89	R 18.41	23.41	23.43	—	R 20.18	5.60	9.01	36.07	R 19.52
2022	—	9.45	28.57	19.53	40.66	30.85	20.03	27.05	8.70	11.47	36.78	20.79

Expenditures in million dollars												
1970	4.8	111.4	21.4	2.3	1.7	11.4	2.2	39.1	(s)	155.3	316.4	471.7
1975	9.8	269.8	48.7	4.8	3.1	23.7	4.8	85.1	0.1	364.7	568.1	932.8
1980	10.8	606.7	118.8	6.3	0.5	43.6	5.6	174.9	0.5	792.9	1,006.9	1,799.7
1985	9.6	905.1	89.9	13.6	0.6	33.4	7.6	145.1	0.6	1,060.7	1,468.2	2,528.8
1990	9.4	738.5	65.9	22.8	1.0	35.5	1.4	126.6	4.4	879.3	1,815.9	2,695.2
1995	9.3	864.6	42.7	23.7	5.1	3.4	0.1	75.0	4.4	953.3	2,552.9	3,506.2
2000	0.5	896.6	68.1	46.5	1.7	9.8	0.1	126.3	4.7	1,028.1	2,932.2	3,960.2
2005	9.6	1,638.0	106.4	58.5	2.5	19.1	0.2	186.6	16.0	1,850.2	3,104.6	4,954.8
2006	0.5	1,654.4	129.2	63.7	2.9	9.4	0.1	205.3	15.7	1,875.9	3,344.5	5,220.4
2007	11.2	1,640.7	119.9	68.4	1.0	9.4	—	198.7	19.1	1,869.7	3,513.9	5,383.6
2008	22.4	1,834.7	150.3	89.3	1.0	10.9	4.4	255.9	23.6	2,136.6	3,575.2	5,711.8
2009	38.0	1,535.3	115.2	49.4	1.1	12.0	0.6	178.2	12.4	1,763.9	3,500.7	5,264.7
2010	23.3	1,363.5	120.6	51.7	1.9	9.2	5.6	189.0	15.0	1,590.8	3,740.7	5,331.5
2011	20.5	1,495.0	176.4	57.6	1.5	11.3	9.7	256.4	16.7	1,788.5	3,989.0	5,777.5
2012	11.4	1,207.5	165.7	48.7	0.6	11.4	5.0	231.3	17.4	1,467.7	4,211.4	5,679.0
2013	8.9	1,341.3	190.2	65.1	1.2	11.4	0.1	268.0	16.2	1,634.4	4,170.8	5,805.2
2014	8.1	1,543.5	155.8	72.1	1.8	432.0	0.4	662.0	18.2	2,231.8	4,060.0	6,291.8
2015	5.2	1,264.4	106.4	31.8	0.8	193.6	0.2	332.8	R 22.0	1,624.4	4,057.3	5,681.7
2016	1.5	1,094.4	73.3	38.3	0.8	173.7	(s)	286.2	R 16.7	1,398.9	4,146.8	5,545.6
2017	—	1,141.7	108.0	R 59.2	1.0	197.9	(s)	R 366.2	R 17.1	R 1,525.0	4,217.0	R 5,742.0
2018	—	1,246.1	105.8	R 69.9	0.8	223.0	0.5	R 400.0	R 18.7	R 1,664.8	4,339.3	R 6,004.1
2019	—	1,238.2	128.1	R 52.6	1.2	214.0	—	R 396.0	16.6	R 1,650.8	4,313.0	R 5,963.8
2020	—	1,100.9	68.1	R 77.1	0.9	176.9	—	R 323.1	12.9	R 1,436.9	4,156.5	R 5,593.4
2021	—	1,270.2	110.8	R 138.4	1.0	252.4	0.2	R 502.8	13.8	R 1,786.9	4,537.1	R 6,324.0
2022	—	1,792.7	195.6	137.2	1.7	341.4	0.4	676.3	21.5	2,490.6	4,657.6	7,148.1

^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 the expenditure series between 2014 and 2015 because of changes in consumption estimates from the source. See Consumption Technical Notes, Section 4.
^d Includes small amounts of petroleum coke not shown separately.
^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 the use of wood and biomass waste beginning in 1989.
^g There are no direct fuel costs for hydroelectric, geothermal, solar, or wind energy.
^h For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline

column.
ⁱ Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
Where shown, R = Revised data and (s) = Value less than 0.05 million dollars.
Where shown, — = No consumption, including cases where adjustments were made. See explanation of adjustments in Section 7 of the Technical Notes.
Notes: Expenditure 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.
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 ET5. Industrial sector energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy											Electricity ⁱ	Total energy ^{f,g,h}	
	Coal			Natural gas ^a	Petroleum					Biomass	Total ^{f,g,h}			
	Coking coal	Steam coal	Total		Distillate fuel oil	HGL ^b	Motor gasoline ^c	Residual fuel oil	Other ^d	Total				Wood and waste ^{e,f}
Prices in dollars per million Btu														
1970	0.55	0.53	0.54	0.53	0.68	1.44	2.71	0.54	1.81	1.35	1.44	0.71	3.74	1.02
1975	2.07	1.49	1.82	1.22	2.27	2.63	4.72	1.98	3.41	2.90	1.44	1.78	7.83	2.54
1980	2.27	1.82	2.04	2.87	5.56	5.38	10.09	3.23	7.97	6.67	1.43	3.35	13.18	4.81
1985	2.08	2.00	2.03	4.95	6.38	9.12	9.10	4.39	9.78	8.44	1.43	4.65	16.75	6.99
1990	1.80	1.77	1.78	3.72	5.54	10.24	8.78	3.15	8.02	7.71	1.00	4.02	17.15	6.40
1995	1.57	1.71	1.67	3.48	4.67	7.91	8.47	2.57	7.47	7.00	1.24	3.67	15.02	5.81
2000	1.66	1.61	1.64	3.76	9.30	11.76	11.90	3.70	8.75	9.20	1.42	4.41	14.93	6.58
2005	3.37	2.80	3.03	8.50	15.08	17.68	17.69	6.70	11.56	13.68	2.71	8.54	15.61	10.06
2006	3.76	2.87	3.26	9.72	17.22	19.59	19.99	7.89	16.69	17.24	2.65	9.85	17.72	11.64
2007	3.70	2.96	3.27	9.26	18.71	22.05	22.32	8.59	17.43	18.33	2.52	10.12	18.96	12.30
2008	4.56	3.47	4.02	10.02	25.37	26.36	25.57	12.41	22.38	22.92	2.84	11.08	19.71	13.24
2009	5.67	4.27	5.03	9.43	15.02	20.42	18.58	7.98	19.97	18.27	2.66	10.55	20.47	13.11
2010	6.18	3.92	5.24	9.10	18.88	R 25.18	22.04	11.66	17.11	R 18.93	2.69	R 9.90	20.75	R 12.66
2011	7.32	4.10	6.03	8.16	25.50	R 30.11	28.03	15.63	20.26	R 23.75	2.75	R 10.48	21.46	R 13.28
2012	6.96	4.24	5.85	7.26	25.70	R 22.84	28.62	16.91	20.40	R 22.88	2.63	R 9.81	22.34	R 13.02
2013	5.52	3.93	4.82	6.83	25.10	R 24.40	27.92	16.68	20.54	R 22.88	2.60	R 9.53	22.61	R 12.59
2014	5.10	3.83	4.56	7.70	23.42	R 26.27	26.69	15.95	19.63	R 21.83	3.13	R 9.76	22.50	R 12.80
2015	4.75	3.44	4.27	6.39	15.04	10.56	19.16	10.27	16.30	15.79	3.02	7.90	20.59	10.84
2016	3.94	3.17	3.60	5.51	12.10	9.71	17.04	7.32	R 12.91	R 12.85	2.88	6.93	20.25	10.16
2017	4.75	3.40	4.30	5.71	14.63	R 13.62	19.13	9.80	R 13.34	R 14.26	2.79	R 7.29	21.09	R 10.54
2018	5.14	3.48	4.66	5.71	17.76	R 15.04	21.21	11.12	R 16.77	R 17.42	2.52	R 7.89	20.81	R 10.90
2019	5.89	3.92	5.35	5.68	16.73	R 11.25	20.21	11.32	R 16.35	R 16.50	2.58	R 7.92	20.73	R 10.85
2020	5.13	4.03	4.90	5.52	12.33	R 10.42	16.59	8.38	R 14.24	R 13.75	2.16	R 7.30	21.23	R 10.44
2021	5.09	3.71	4.87	6.33	17.42	R 17.52	23.43	12.53	R 16.23	R 17.33	2.63	R 8.56	22.54	R 11.66
2022	7.63	4.88	7.19	8.61	28.51	18.58	30.85	20.03	21.84	24.16	2.86	11.82	24.41	14.63

Year	Expenditures in million dollars													
	Coking coal	Steam coal	Total	Natural gas ^a	Distillate fuel oil	HGL ^b	Motor gasoline ^c	Residual fuel oil	Other ^d	Total	Wood and waste ^{e,f}	Total ^{f,g,h}	Electricity ⁱ	Total energy ^{f,g,h}
1970	73.4	99.3	172.7	136.5	33.3	4.3	39.2	12.0	121.7	210.6	4.5	524.3	317.2	841.5
1975	290.3	158.8	449.1	362.3	115.9	11.2	46.9	32.6	198.7	405.3	4.6	1,221.3	764.8	1,986.1
1980	250.1	198.2	448.3	700.3	155.7	49.7	51.3	56.3	525.9	838.9	10.8	1,998.3	1,367.4	3,365.7
1985	149.7	195.2	344.9	884.9	163.4	264.8	57.0	30.5	418.4	934.1	12.7	2,177.0	1,880.0	4,057.0
1990	51.3	158.6	209.9	1,041.2	127.7	232.9	45.0	20.1	418.8	844.4	18.8	2,114.8	1,999.1	4,113.9
1995	59.1	122.8	181.9	841.7	93.6	128.3	57.8	3.3	434.1	717.1	39.1	1,779.8	1,695.7	3,475.4
2000	91.0	80.8	171.8	875.1	219.3	118.9	65.6	8.4	601.7	1,014.0	42.1	2,102.9	1,850.1	3,953.0
2005	106.9	128.0	234.9	1,713.7	304.6	375.8	205.5	37.3	660.8	1,584.1	73.9	3,606.7	1,796.7	5,403.4
2006	133.2	127.9	261.1	1,741.0	301.6	292.4	246.5	35.1	834.5	1,710.2	67.4	3,779.6	1,997.7	5,777.3
2007	116.9	130.0	246.9	1,291.0	341.0	303.0	254.5	50.1	908.8	1,857.5	64.5	3,459.9	2,125.0	5,584.9
2008	188.6	143.7	332.3	1,335.3	500.4	86.7	245.8	74.3	920.3	1,827.5	75.1	3,570.2	2,117.1	5,687.3
2009	144.7	92.0	236.6	1,132.2	267.9	64.3	136.4	16.2	820.2	1,305.0	53.2	2,727.0	1,844.8	4,571.9
2010	243.3	108.8	352.0	1,223.1	351.3	R 204.0	140.0	10.8	588.8	R 1,294.9	73.8	R 2,943.8	2,109.9	R 5,053.8
2011	291.7	110.1	401.8	1,154.9	472.1	R 274.2	171.1	20.9	611.5	R 1,549.8	85.4	R 3,192.0	2,235.9	R 5,427.9
2012	246.4	103.3	349.8	1,081.0	418.1	R 214.1	190.6	19.8	633.9	R 1,476.4	82.9	R 2,990.1	2,340.0	R 5,330.1
2013	209.9	116.1	326.0	1,158.9	480.2	R 250.8	195.6	14.3	774.0	R 1,714.9	84.6	R 3,284.5	2,386.9	R 5,671.4
2014	183.1	102.8	286.0	1,378.8	428.2	R 252.2	129.5	7.2	823.5	R 1,640.6	99.9	R 3,405.3	2,457.3	R 5,862.6
2015	183.1	77.6	260.7	1,099.9	329.3	60.8	151.0	4.6	710.3	1,256.0	90.0	2,706.6	2,123.7	4,830.3
2016	84.4	54.9	139.3	963.4	272.5	57.6	137.6	1.1	R 604.5	R 1,073.4	83.3	R 2,259.4	2,107.2	R 4,366.6
2017	169.0	60.8	229.8	985.8	294.7	R 68.2	155.8	1.1	R 619.9	R 1,139.6	77.4	R 2,432.6	2,166.6	R 4,599.2
2018	196.2	54.0	250.1	1,023.7	383.9	R 66.1	176.1	1.8	R 707.7	R 1,335.6	78.1	R 2,687.5	2,154.6	R 4,842.1
2019	213.5	54.0	267.5	1,012.1	359.9	R 60.5	166.0	1.6	R 736.8	R 1,324.9	78.5	R 2,683.0	2,083.3	R 4,766.4
2020	127.3	26.9	154.1	869.6	236.0	R 55.2	136.8	1.3	R 648.0	R 1,077.3	61.7	R 2,162.7	1,827.7	R 3,990.4
2021	195.0	26.7	221.6	1,026.8	371.8	R 93.1	185.5	1.8	R 745.7	R 1,398.0	79.6	R 2,725.9	2,049.1	R 4,775.1
2022	302.0	36.5	338.5	1,476.3	615.1	135.3	257.9	2.9	1,019.2	2,030.5	85.8	3,931.1	2,335.9	6,266.9

^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 the expenditure series between 2014 and 2015 because of changes in consumption estimates from the source. See Consumption 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 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 the use of wood and biomass waste beginning in 1989.
^g There are no direct fuel costs for hydroelectric, geothermal, solar, or wind energy.

^h For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column.
ⁱ Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers. Where shown, R = Revised data and (s) = Value less than 0.05 million dollars.
Where shown, — = No consumption, including cases where adjustments were made. See explanation of adjustments in Section 7 of the Technical Notes.
Notes: · Expenditure 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.
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 ET6. Transportation sector energy price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Primary energy											Electricity ^g	Total energy ^f
	Coal	Natural gas ^a	Petroleum								Total ^f		
			Aviation gasoline	Distillate fuel oil ^b	HGL ^c	Jet fuel ^d	Lubricants	Motor gasoline ^e	Residual fuel oil	Total			
Prices in dollars per million Btu													
1970	0.53	—	2.17	1.27	1.37	0.74	5.08	2.71	0.57	2.50	2.50	—	2.50
1975	1.49	—	3.45	2.77	2.42	2.08	7.48	4.72	1.76	4.46	4.46	—	4.46
1980	—	—	9.02	7.19	4.94	6.38	14.36	10.09	3.49	9.63	9.63	—	9.63
1985	—	—	9.99	8.55	9.88	6.09	18.18	9.10	4.38	8.97	8.97	—	8.97
1990	—	1.94	9.32	8.24	11.00	5.65	20.61	8.78	2.42	8.61	8.61	—	8.61
1995	—	2.96	8.36	7.68	12.14	3.93	21.75	8.47	2.66	8.21	8.21	21.13	8.21
2000	—	6.82	10.87	10.36	15.36	6.51	23.20	11.90	3.23	11.50	11.50	19.41	11.50
2005	—	11.48	18.56	17.01	20.79	13.03	35.22	17.69	6.89	17.62	17.62	38.32	17.62
2006	—	10.80	22.31	19.10	22.43	14.94	43.88	19.99	7.46	19.90	19.90	29.48	19.90
2007	—	5.96	23.70	20.33	24.62	16.47	47.16	22.32	7.90	21.96	21.96	28.60	21.96
2008	—	7.75	27.23	26.83	28.57	22.76	55.12	25.57	10.46	25.96	25.96	34.66	25.96
2009	—	3.99	20.32	17.04	23.40	12.60	56.07	18.58	7.59	18.47	18.46	31.62	18.46
2010	—	5.11	25.19	21.70	25.72	16.23	58.80	22.04	8.07	21.77	21.77	31.20	21.77
2011	—	13.06	31.64	27.85	28.95	22.39	69.54	28.03	11.02	27.79	27.78	25.00	27.78
2012	—	12.09	33.04	28.57	21.78	22.99	72.11	28.62	12.27	28.41	28.40	23.69	28.40
2013	—	7.66	32.71	28.62	23.09	21.97	69.42	27.92	11.78	27.84	27.83	25.69	27.83
2014	—	8.13	33.16	27.91	25.71	20.70	69.44	26.69	11.38	26.73	26.72	27.62	26.72
2015	—	7.27	24.86	19.36	15.17	11.88	67.28	19.16	6.13	18.93	18.92	33.53	18.92
2016	—	5.20	21.62	16.58	14.24	9.72	65.78	17.04	4.45	16.63	16.63	34.10	16.63
2017	—	—	24.13	19.06	19.73	12.27	67.25	19.13	6.29	18.75	18.75	35.14	18.75
2018	—	—	27.04	22.82	20.35	15.64	72.37	21.21	7.86	21.28	21.28	31.53	21.28
2019	—	6.44	25.57	21.69	16.82	14.37	74.92	20.21	7.41	20.21	20.21	30.94	20.21
2020	—	6.47	22.34	17.81	15.78	9.10	75.34	16.59	5.40	16.68	16.68	33.37	16.68
2021	—	R 7.43	28.86	23.57	24.66	13.82	81.25	23.43	R 8.16	R 23.07	R 23.07	36.06	R 23.07
2022	—	9.45	36.02	35.91	24.65	25.27	97.37	30.85	14.14	31.67	31.63	36.21	31.63

Expenditures in million dollars													
1970	0.3	—	7.9	46.9	0.3	30.4	40.8	1,327.5	1.5	1,455.3	1,455.6	—	1,455.6
1975	0.1	—	6.0	144.2	0.9	65.8	60.0	2,615.8	4.7	2,897.4	2,897.5	—	2,897.5
1980	—	—	22.2	408.1	2.4	236.9	128.6	5,049.8	5.1	5,853.1	5,853.1	—	5,853.1
1985	—	—	10.1	614.1	11.0	223.6	148.2	4,376.0	2.7	5,385.8	5,417.7	—	5,417.7
1990	—	(s)	10.1	634.1	12.0	319.7	189.1	4,527.8	1.4	5,694.1	5,730.2	—	5,730.2
1995	—	0.2	9.8	809.9	11.2	196.3	190.4	4,813.9	1.6	6,033.0	6,033.3	0.3	6,033.6
2000	—	1.6	11.2	1,321.7	15.7	266.3	216.9	7,234.7	1.0	9,067.5	9,069.1	0.3	9,069.4
2005	—	1.2	7.9	2,301.2	40.6	253.5	277.8	10,759.7	8.5	13,649.1	13,650.4	0.7	13,651.0
2006	—	1.2	7.6	2,634.3	19.9	349.4	337.2	11,986.5	10.9	15,345.7	15,346.8	0.4	15,347.2
2007	—	0.6	9.0	2,754.5	26.3	492.3	374.2	13,053.2	14.3	16,723.8	16,724.4	0.5	16,724.9
2008	—	1.3	10.1	3,218.2	31.7	598.8	406.1	14,286.3	14.4	18,565.7	18,566.9	0.6	18,567.5
2009	—	1.0	6.4	1,969.8	20.4	305.0	371.4	10,227.8	6.4	12,907.1	12,908.1	0.6	12,908.7
2010	—	1.3	15.0	2,651.6	4.2	789.8	242.5	11,960.6	12.5	15,676.2	15,677.5	0.5	15,678.0
2011	—	4.4	17.7	3,414.9	4.7	1,116.9	274.0	14,844.8	22.7	19,695.7	19,700.1	0.5	19,700.6
2012	—	4.1	17.1	3,459.9	2.9	1,128.4	261.0	15,017.2	17.4	19,903.8	19,907.9	0.6	19,908.4
2013	—	2.7	15.3	3,818.5	4.2	1,090.1	276.2	15,200.8	17.8	20,422.9	20,425.6	0.5	20,426.1
2014	—	3.7	11.0	3,819.6	5.0	1,028.3	280.1	14,172.3	13.0	19,329.3	19,333.4	0.4	19,333.4
2015	—	2.3	9.3	2,690.2	4.3	659.9	301.1	10,449.6	6.2	14,120.6	14,122.9	0.5	14,123.4
2016	—	2.2	8.1	2,297.2	4.8	551.8	R 281.2	9,462.8	12.8	R 12,618.6	R 12,620.8	0.5	R 12,621.3
2017	—	—	9.1	2,433.4	13.6	715.6	R 254.4	10,498.9	26.8	R 13,951.8	R 13,951.8	0.7	R 13,952.4
2018	—	—	11.4	3,386.4	10.4	891.0	R 274.9	11,661.8	38.6	R 16,274.5	R 16,274.5	0.7	R 16,275.2
2019	—	(s)	11.3	3,028.0	9.2	816.2	R 265.5	10,952.0	41.4	R 15,123.6	R 15,123.6	0.7	R 15,124.3
2020	—	(s)	8.6	2,264.8	6.9	279.0	R 227.2	7,639.1	21.2	R 10,446.8	R 10,446.8	0.5	R 10,447.3
2021	—	(s)	13.0	R 3,028.8	12.5	535.5	R 258.6	11,835.6	41.4	R 15,725.4	R 15,725.5	0.4	R 15,725.9
2022	—	10.7	16.8	4,711.7	11.6	1,104.6	326.1	15,297.8	73.5	21,542.1	21,552.8	0.5	21,553.3

^a Transportation use of natural gas as vehicle fuel only.
^b Beginning in 2009, includes biodiesel blended into distillate fuel oil. Beginning in 2011, includes renewable diesel blended into distillate fuel oil. Beginning in 2021, includes biodiesel and renewable diesel product supplied.
^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 For 1981 through 1992, includes fuel ethanol blended into motor gasoline that is not included in the motor gasoline column.

^g Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers. Sales to public railroads and railway systems only. Excludes electric vehicles.
 Where shown, R = Revised data and (s) = Value less than 0.05 million dollars.
 Where shown, — = No consumption, including cases where adjustments were made. See explanation of adjustments in Section 7 of the Technical Notes.
 Note: Expenditure totals may not equal sum of components due to independent rounding.
 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 ET7. Electric power sector price and expenditure estimates, selected years, 1970-2022, Michigan

Year	Coal	Natural gas ^a	Petroleum				Nuclear fuel	Biomass	Electricity imports ^c	Total energy ^d
			Distillate fuel oil	Petroleum coke	Residual fuel oil	Total		Wood and waste ^b		
Prices in dollars per million Btu										
1970	0.36	0.42	0.65	—	0.63	0.63	0.36	—	1.92	0.39
1975	0.92	1.28	2.05	—	1.97	1.98	0.28	—	3.89	1.04
1980	1.56	2.74	6.07	—	4.10	4.24	0.49	—	6.94	1.71
1985	1.88	4.43	5.60	—	4.64	5.15	0.80	—	9.34	1.74
1990	1.60	2.11	4.60	—	2.89	3.26	0.79	0.46	8.37	1.45
1995	1.45	2.00	3.90	—	2.62	2.94	0.65	0.70	6.21	1.40
2000	1.30	3.90	5.91	0.65	3.35	3.77	0.61	0.67	16.78	1.56
2005	1.55	5.51	11.78	1.21	6.83	7.35	0.43	2.28	16.53	1.80
2006	1.64	5.95	14.40	1.31	7.20	8.38	0.40	2.32	17.32	1.79
2007	1.69	6.53	16.41	1.78	7.55	8.60	0.47	2.42	18.25	1.99
2008	1.93	8.62	24.38	1.46	10.59	13.01	0.51	2.66	18.28	2.42
2009	2.03	4.48	12.98	1.91	7.50	7.68	0.66	2.20	12.10	2.20
2010	2.09	4.90	16.76	1.70	8.93	9.63	0.78	2.40	13.31	2.25
2011	2.66	4.69	22.17	4.01	13.28	15.80	0.76	2.44	11.53	2.44
2012	2.78	3.16	22.67	4.10	15.06	14.55	0.79	2.21	9.51	2.42
2013	2.66	4.49	22.75	1.43	14.07	7.32	0.80	2.26	11.49	2.51
2014	2.60	6.57	21.30	1.45	12.93	3.98	0.70	2.73	13.31	2.67
2015	2.39	3.12	12.86	1.76	6.72	3.11	0.78	2.62	10.54	2.28
2016	2.25	2.71	10.50	1.30	5.76	2.57	0.73	2.54	8.74	2.06
2017	2.17	3.18	13.01	1.44	7.56	2.38	0.68	2.40	9.18	2.04
2018	2.12	3.25	15.72	1.48	9.07	2.61	0.63	2.22	10.74	2.15
2019	2.09	2.60	13.95	1.54	8.71	2.65	0.58	2.33	9.20	1.90
2020	2.03	2.03	9.67	1.19	6.42	1.97	0.51	1.80	8.38	1.66
2021	2.06	R 4.03	15.39	1.20	9.67	2.70	0.56	2.39	12.82	R 2.24
2022	2.37	6.51	25.93	1.16	9.01	2.47	0.54	2.69	19.84	3.54
Expenditures in million dollars										
1970	173.4	27.2	3.6	—	17.9	21.5	1.5	—	6.7	230.3
1975	456.8	60.7	18.4	—	174.9	193.2	22.2	—	24.9	757.9
1980	832.3	53.2	27.5	—	248.2	275.7	85.1	—	138.9	1,385.2
1985	1,138.3	20.6	21.1	—	15.2	36.3	115.0	—	15.5	1,325.6
1990	1,061.0	145.6	9.1	—	20.9	30.0	179.7	4.2	1.1	1,421.6
1995	972.6	209.6	9.3	—	18.1	27.4	167.9	13.8	122.9	1,514.3
2000	905.7	491.2	12.9	(s)	35.4	48.3	119.6	17.1	76.1	1,658.1
2005	1,113.7	731.4	25.5	1.2	47.2	73.9	146.7	53.0	94.8	2,213.4
2006	1,140.4	656.5	25.2	1.6	10.5	37.3	122.2	53.8	21.1	2,031.2
2007	1,219.5	819.7	28.0	2.6	25.1	55.6	154.0	53.5	104.7	2,407.0
2008	1,377.3	817.7	40.5	2.0	14.3	56.7	166.9	60.5	393.2	2,872.4
2009	1,385.4	381.3	19.3	2.6	6.0	27.8	150.3	48.5	312.9	2,306.2
2010	1,418.0	562.8	24.7	2.1	6.6	33.4	242.0	52.6	277.8	2,586.7
2011	1,652.1	536.8	41.0	3.8	3.7	48.5	260.4	56.0	178.0	2,731.9
2012	1,556.6	581.8	29.1	4.2	4.8	38.1	231.8	49.4	148.4	2,606.0
2013	1,566.7	507.0	29.2	5.1	2.5	36.8	243.2	52.5	236.4	2,642.6
2014	1,441.1	750.3	32.0	15.4	1.3	48.7	227.6	67.6	280.4	2,815.7
2015	1,325.7	533.5	14.4	14.8	0.9	30.1	240.5	55.6	305.0	2,490.5
2016	974.2	682.2	12.9	10.6	1.0	24.5	241.2	55.3	233.6	2,211.0
2017	969.8	702.3	13.4	18.8	1.7	33.9	231.7	54.5	179.7	2,172.1
2018	961.4	864.7	19.1	21.7	1.0	41.7	201.6	49.9	239.6	2,359.0
2019	832.7	759.2	13.1	15.4	0.8	29.3	200.0	51.2	189.9	2,062.3
2020	614.1	644.0	9.6	12.3	0.7	22.6	162.3	36.3	165.6	1,644.9
2021	804.1	R 1,068.7	22.4	15.5	1.3	39.2	199.2	54.2	231.0	R 2,396.3
2022	892.2	2,197.0	28.0	22.8	0.8	51.6	145.5	59.7	354.6	3,700.5

^a Includes supplemental gaseous fuels that are commingled with natural gas.

^b Wood, wood-derived fuels, and biomass waste. Prior to 2001, includes non-biomass waste.

^c Electricity imported from Canada and Mexico.

^d There are no direct fuel costs for hydroelectric, geothermal, solar, or wind energy.

Where shown, R = Revised data, — = No consumption, and (s) = Value less than 0.05 million dollars.

Notes: Expenditure 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.

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/>