

Table CO2.T1. Total CO2 emissions estimates from energy consumption by source, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	61.6	20.1	48.8	130.4
1965	78.3	29.5	54.6	162.4
1970	78.2	43.1	65.6	186.9
1975	70.8	46.9	74.2	191.9
1980	71.7	45.9	61.8	179.4
1985	74.0	37.7	54.7	166.4
1990	74.8	46.1	58.4	179.4
1995	74.6	51.0	62.1	187.7
1996	75.5	53.5	64.1	193.1
1997	74.1	51.9	64.7	190.7
1998	78.5	45.8	65.8	190.0
1999	79.0	49.8	69.1	197.9
2000	76.0	51.1	66.8	193.9
2001	75.1	48.6	65.8	189.4
2002	70.4	51.8	66.5	188.8
2003	71.3	50.1	65.7	187.1
2004	73.8	49.5	65.5	188.8
2005	76.3	48.9	64.8	190.0
2006	73.7	43.1	62.4	179.2
2007	76.3	43.0	62.5	181.8
2008	76.2	42.1	57.2	175.4
2009	70.2	39.6	54.9	164.7
2010	71.4	40.1	56.2	167.6
2011	65.8	41.6	55.1	162.5
2012	59.2	42.4	53.8	155.5
2013	62.7	43.8	57.4	163.9
2014	58.9	46.3	58.6	163.8
2015	58.9	45.7	59.5	164.1
2016	44.9	48.6	60.4	154.0
2017	47.6	47.7	60.0	155.2
2018	48.3	53.1	61.9	163.3
2019	42.7	55.4	60.6	158.7
2020	31.9	52.8	51.7	136.4
2021	41.6	49.9	55.9	147.4
2022	40.4	57.2	56.5	154.1
2023	27.4	58.0	55.7	141.1

^a Excludes supplemental gaseous fuels.

^b Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption for all sectors, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate electricity, although the electricity might be sold to ultimate customers in other states and 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: Table by the U.S. Energy Information Administration, State Energy Data System. See technical notes. <http://www.eia.gov/state/seds/>

Table CO2.T2. Residential sector CO2 emissions estimates from energy consumption, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal ^a	Natural gas ^b	Petroleum ^c	Total
1960	3.4	11.1	8.3	22.8
1965	2.4	14.6	8.2	25.1
1970	1.1	18.3	9.5	28.9
1975	0.3	18.2	9.9	28.3
1980	0.2	20.9	4.9	26.0
1985	0.1	18.4	4.0	22.6
1990	0.1	17.7	3.9	21.7
1995	0.1	20.5	3.8	24.4
1996	0.1	21.4	4.6	26.1
1997	(s)	20.5	4.3	24.9
1998	(s)	17.3	3.7	21.0
1999	(s)	18.9	4.3	23.3
2000	(s)	19.9	4.3	24.2
2001	(s)	18.7	4.8	23.6
2002	0.1	19.9	4.9	24.9
2003	(s)	21.1	4.9	26.0
2004	(s)	19.7	4.3	24.0
2005	(s)	19.3	4.7	24.0
2006	(s)	17.0	3.0	20.0
2007	(s)	17.8	3.3	21.1
2008	—	18.6	3.0	21.6
2009	—	17.7	2.8	20.5
2010	—	16.4	2.5	18.9
2011	—	17.1	2.4	19.5
2012	—	14.9	1.9	16.8
2013	—	18.1	2.6	20.7
2014	—	19.1	2.8	21.9
2015	—	17.1	2.3	19.4
2016	—	16.2	2.4	18.6
2017	—	16.6	2.4	18.9
2018	—	18.1	2.9	21.0
2019	—	18.6	3.0	21.5
2020	—	17.1	2.5	19.6
2021	—	16.6	2.4	19.0
2022	—	18.4	2.4	20.8
2023	—	15.9	2.3	18.2

^a Beginning in 2008, consumption data not collected and assumed to be zero.

^b Excludes supplemental gaseous fuels.

^c Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate

electricity, although the electricity might be sold to ultimate customers in other states and 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: Table by the U.S. Energy Information Administration, State Energy Data System. See technical notes. <https://www.eia.gov/state/seds/>

Table CO2.T3. Commercial sector CO2 emissions estimates from energy consumption, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	2.3	2.4	2.3	7.0
1965	1.8	4.6	2.3	8.7
1970	0.9	7.1	2.3	10.3
1975	0.6	9.9	2.3	12.8
1980	0.6	10.3	1.8	12.7
1985	0.5	8.5	1.6	10.5
1990	0.5	8.6	1.4	10.5
1995	0.5	10.5	1.0	12.0
1996	0.6	10.8	1.1	12.5
1997	0.4	10.4	1.1	11.9
1998	0.3	8.8	1.0	10.1
1999	(s)	9.7	0.9	10.7
2000	(s)	10.1	1.0	11.2
2001	(s)	9.5	1.2	10.6
2002	0.5	9.5	0.9	11.0
2003	0.1	10.2	1.0	11.2
2004	0.4	9.5	0.9	10.8
2005	0.3	9.4	0.9	10.6
2006	(s)	8.3	0.8	9.2
2007	0.4	8.9	0.7	10.0
2008	0.5	9.3	0.8	10.6
2009	0.6	8.9	0.8	10.3
2010	0.4	8.2	0.7	9.4
2011	0.4	8.8	0.8	10.0
2012	0.2	7.8	0.7	8.7
2013	0.2	9.3	0.8	10.3
2014	0.2	10.1	1.8	12.0
2015	0.1	9.2	1.4	10.7
2016	(s)	8.8	1.4	10.2
2017	—	9.0	1.5	10.5
2018	—	10.0	1.4	11.4
2019	—	10.2	1.6	11.8
2020	—	9.0	1.6	10.6
2021	—	9.0	1.7	10.7
2022	—	10.0	1.7	11.7
2023	—	9.1	1.5	10.6

^a Excludes supplemental gaseous fuels.

^b Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate electricity, although the electricity might be sold to ultimate customers in other states and sectors.

• 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.

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Table CO2.T4. Industrial sector CO2 emissions estimates from energy consumption, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	31.0	6.2	11.1	48.3
1965	36.0	10.0	11.2	57.2
1970	29.9	13.6	9.9	53.4
1975	22.8	15.8	8.5	47.2
1980	20.3	13.0	7.1	40.4
1985	15.8	9.9	5.9	31.7
1990	11.1	15.2	5.5	31.8
1995	10.2	13.2	4.7	28.1
1996	10.1	13.5	5.1	28.7
1997	8.9	13.3	4.9	27.1
1998	9.2	11.7	4.8	25.7
1999	11.2	13.0	5.0	29.1
2000	9.8	13.0	4.6	27.4
2001	9.2	12.3	3.9	25.4
2002	6.8	13.1	3.7	23.5
2003	6.9	11.9	4.6	23.4
2004	7.3	11.6	4.8	23.7
2005	7.2	11.7	4.6	23.5
2006	7.5	10.5	4.3	22.3
2007	7.1	8.2	4.9	20.2
2008	7.7	7.8	4.3	19.9
2009	4.4	7.2	3.6	15.2
2010	6.2	8.0	3.6	17.8
2011	6.2	8.3	3.6	18.1
2012	5.6	8.8	3.6	18.0
2013	6.3	9.4	4.2	20.0
2014	5.9	9.9	4.2	19.9
2015	5.7	9.4	4.5	19.6
2016	3.6	9.4	4.7	17.8
2017	5.0	9.4	4.6	18.9
2018	5.0	9.7	4.4	19.0
2019	4.6	9.6	4.6	18.9
2020	2.9	8.6	4.4	15.9
2021	4.2	8.8	4.6	17.6
2022	4.4	9.3	4.7	18.3
2023	4.4	9.0	4.5	17.9

^a Excludes supplemental gaseous fuels.

^b Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate electricity, although the electricity might be sold to ultimate customers in other states and sectors.

• 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 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>.

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Table CO2.T5. Transportation sector CO2 emissions estimates from energy consumption, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal ^a	Natural gas ^b	Petroleum ^c	Total
1960	0.5	0.1	26.8	27.4
1965	0.1	0.2	32.7	33.0
1970	(s)	0.6	41.3	41.9
1975	(s)	0.6	46.2	46.7
1980	—	0.7	43.1	43.8
1985	—	0.6	42.7	43.2
1990	—	1.0	47.0	48.0
1995	—	1.4	51.9	53.3
1996	—	1.4	52.5	54.0
1997	—	1.3	53.8	55.1
1998	—	1.2	55.2	56.4
1999	—	1.2	57.6	58.8
2000	—	1.5	55.9	57.3
2001	—	1.2	55.2	56.4
2002	—	1.5	56.1	57.6
2003	—	1.5	54.4	55.9
2004	—	1.5	54.7	56.2
2005	—	1.5	53.9	55.4
2006	—	1.4	53.9	55.3
2007	—	1.4	53.1	54.5
2008	—	1.3	48.7	50.0
2009	—	1.3	47.4	48.7
2010	—	1.4	49.0	50.4
2011	—	1.3	48.1	49.4
2012	—	1.1	47.3	48.4
2013	—	1.0	49.2	50.3
2014	—	1.1	48.6	49.7
2015	—	1.1	50.3	51.4
2016	—	0.9	51.0	51.9
2017	—	1.1	50.1	51.1
2018	—	1.2	51.6	52.8
2019	—	1.6	50.4	52.0
2020	—	1.3	41.9	43.3
2021	—	1.5	45.8	47.2
2022	—	1.6	45.7	47.3
2023	—	1.3	45.7	47.0

^a Beginning in 1978, consumption data not collected and assumed to be zero.

^b Transportation use of natural gas to operate pipelines and as vehicle fuel. Excludes supplemental gaseous fuels.

^c Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate

electricity, although the electricity might be sold to ultimate customers in other states and 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.

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Table CO2.T6. Electric power sector CO2 emissions estimates from energy consumption, 1960-2023, Michigan
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	24.4	0.3	0.2	24.9
1965	38.0	0.2	0.2	38.4
1970	46.3	3.5	2.5	52.3
1975	47.1	2.5	7.3	56.9
1980	50.6	1.0	4.9	56.5
1985	57.6	0.2	0.5	58.4
1990	63.1	3.6	0.7	67.4
1995	63.8	5.4	0.7	69.9
1996	64.8	6.3	0.7	71.9
1997	64.7	6.5	0.6	71.8
1998	69.0	6.8	1.0	76.8
1999	67.8	6.9	1.3	76.0
2000	66.2	6.6	1.0	73.7
2001	65.8	7.0	0.7	73.5
2002	63.1	7.8	1.0	71.9
2003	64.3	5.5	0.8	70.7
2004	66.1	7.2	0.7	74.0
2005	68.7	7.0	0.8	76.5
2006	66.2	5.9	0.4	72.4
2007	68.8	6.7	0.5	76.0
2008	68.0	5.0	0.4	73.4
2009	65.2	4.5	0.3	70.0
2010	64.7	6.1	0.3	71.1
2011	59.3	6.1	0.3	65.6
2012	53.5	9.8	0.2	63.5
2013	56.2	6.0	0.5	62.7
2014	52.9	6.1	1.2	60.2
2015	53.1	9.0	1.0	63.0
2016	41.3	13.3	0.9	55.5
2017	42.6	11.7	1.4	55.8
2018	43.3	14.1	1.6	59.0
2019	38.0	15.4	1.1	54.6
2020	29.0	16.8	1.1	47.0
2021	37.4	14.0	1.4	52.9
2022	36.1	17.9	2.1	56.0
2023	22.9	22.9	1.6	47.5

^a Excludes supplemental gaseous fuels.

^b Excludes biofuels.

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

Notes: • Data are carbon dioxide (CO2) emissions estimates from fossil fuels primary energy consumption, excluding renewable energy. The state data do not account for interstate flow of electricity and represent CO2 emissions in the state where fossil fuels are burned to generate electricity, although the electricity might be sold to ultimate customers in other states and sectors.

• 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. • 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>.

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