

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

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	143.2	28.3	78.3	249.7
1965	163.4	34.1	86.4	284.0
1970	158.6	41.7	106.7	307.0
1975	154.1	35.1	102.3	291.5
1980	153.6	41.3	99.7	294.6
1985	132.9	33.9	84.4	251.2
1990	139.0	35.7	89.9	264.5
1995	140.1	39.9	89.8	269.8
1996	145.7	40.4	89.1	275.3
1997	148.2	38.3	90.5	276.9
1998	138.8	34.9	92.6	266.3
1999	134.1	37.4	93.4	264.9
2000	143.0	38.2	97.4	278.6
2001	132.0	35.1	98.1	265.2
2002	138.2	36.8	96.9	271.9
2003	138.8	37.8	99.8	276.3
2004	140.0	38.1	101.1	279.2
2005	141.7	37.9	102.0	281.6
2006	142.5	36.1	97.2	275.8
2007	141.8	41.1	95.9	278.7
2008	135.1	41.0	94.0	270.1
2009	116.5	44.3	84.4	245.2
2010	124.6	47.9	83.5	256.1
2011	115.3	52.8	81.6	249.6
2012	103.8	56.9	79.0	239.7
2013	106.8	61.8	80.7	249.3
2014	98.5	68.5	82.2	249.2
2015	83.4	68.6	80.5	232.4
2016	69.7	70.8	76.8	217.3
2017	63.5	73.4	77.8	214.7
2018	61.0	79.2	79.4	219.6
2019	53.8	87.8	76.7	218.3
2020	35.4	93.3	64.0	192.8
2021	45.9	97.7	70.3	213.9
2022	41.1	101.3	71.4	213.8
2023	28.9	101.4	70.6	200.9

^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 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, Pennsylvania
(million metric tons of carbon dioxide (CO2))

Year	Coal ^a	Natural gas ^b	Petroleum ^c	Total
1960	12.4	12.7	12.2	37.4
1965	7.5	14.1	13.7	35.2
1970	4.6	16.3	15.2	36.1
1975	1.2	14.8	14.9	30.9
1980	0.7	15.6	13.3	29.6
1985	0.6	13.4	12.1	26.1
1990	0.6	13.2	9.8	23.7
1995	0.4	14.4	10.2	25.0
1996	0.3	15.3	10.6	26.2
1997	0.3	14.4	10.0	24.7
1998	0.2	12.0	8.9	21.1
1999	0.2	13.3	10.1	23.5
2000	0.2	14.4	11.2	25.8
2001	0.2	13.4	11.0	24.5
2002	0.2	13.2	10.6	23.9
2003	0.2	14.6	11.7	26.5
2004	0.2	13.7	11.6	25.4
2005	0.1	13.5	10.4	24.0
2006	0.1	11.3	8.8	20.3
2007	0.2	12.7	8.8	21.7
2008	—	12.6	12.8	25.5
2009	—	12.6	7.3	19.9
2010	—	12.3	8.0	20.3
2011	—	12.1	7.4	19.5
2012	—	10.9	6.4	17.3
2013	—	12.9	7.2	20.1
2014	—	14.2	8.2	22.4
2015	—	13.1	7.7	20.8
2016	—	11.9	6.6	18.5
2017	—	12.1	6.5	18.5
2018	—	13.9	7.8	21.7
2019	—	13.0	6.5	19.5
2020	—	12.2	5.7	17.8
2021	—	12.4	6.8	19.3
2022	—	13.0	7.1	20.1
2023	—	11.3	6.7	18.0

^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, Pennsylvania
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	8.6	3.1	5.5	17.2
1965	5.6	3.7	6.1	15.4
1970	3.6	5.4	6.0	15.1
1975	2.8	5.4	4.8	13.0
1980	2.8	6.4	3.6	12.7
1985	2.3	6.3	3.5	12.1
1990	2.5	6.9	3.8	13.2
1995	2.5	7.9	3.8	14.1
1996	2.1	8.5	3.8	14.3
1997	2.6	7.9	3.1	13.6
1998	1.8	7.2	3.0	12.0
1999	1.5	7.9	2.8	12.1
2000	1.7	8.0	3.3	12.9
2001	1.7	7.6	3.4	12.7
2002	1.2	7.5	3.9	12.7
2003	1.5	8.2	3.7	13.4
2004	1.5	7.9	3.6	12.9
2005	1.4	8.0	3.5	12.9
2006	1.4	7.2	3.2	11.7
2007	1.5	8.0	2.8	12.4
2008	0.5	8.0	3.2	11.7
2009	0.5	7.9	2.4	10.8
2010	0.4	7.8	2.3	10.6
2011	0.4	7.8	2.1	10.3
2012	0.3	7.0	1.7	9.1
2013	0.3	8.3	1.9	10.5
2014	0.3	8.9	2.0	11.2
2015	0.2	8.4	2.8	11.4
2016	0.1	7.9	2.6	10.6
2017	0.1	8.1	2.7	10.9
2018	(s)	9.1	3.0	12.1
2019	(s)	8.9	3.0	11.9
2020	(s)	8.2	2.5	10.7
2021	(s)	8.5	2.9	11.4
2022	(s)	9.2	2.9	12.1
2023	(s)	8.6	2.8	11.4

^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, Pennsylvania
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	80.5	11.3	23.4	115.2
1965	96.9	15.2	26.0	138.2
1970	85.6	18.0	24.1	127.7
1975	68.1	13.8	22.8	104.8
1980	52.5	17.6	17.4	87.5
1985	33.0	12.2	10.4	55.7
1990	35.5	12.9	14.3	62.7
1995	36.3	13.4	11.2	60.9
1996	36.8	13.0	10.5	60.4
1997	36.1	12.7	11.2	60.0
1998	26.4	12.3	10.9	49.6
1999	25.1	12.5	11.4	49.0
2000	25.8	12.5	11.0	49.3
2001	24.7	11.0	12.3	48.0
2002	24.6	11.3	11.4	47.3
2003	25.2	10.8	12.3	48.3
2004	25.1	10.8	12.6	48.5
2005	23.0	10.2	13.2	46.4
2006	22.3	10.5	13.8	46.6
2007	21.6	10.5	13.7	45.8
2008	21.1	10.6	13.2	44.9
2009	13.7	10.0	11.4	35.1
2010	17.2	11.8	11.1	40.1
2011	16.6	13.3	10.7	40.6
2012	17.1	15.2	9.8	42.2
2013	20.0	18.5	11.0	49.4
2014	20.5	21.7	11.4	53.6
2015	19.2	20.6	11.0	50.8
2016	14.8	21.2	9.9	46.0
2017	15.4	22.0	10.6	48.0
2018	16.2	24.1	10.3	50.6
2019	15.7	26.2	8.6	50.5
2020	10.9	24.9	6.3	42.1
2021	15.2	27.2	7.0	49.4
2022	15.4	27.5	7.7	50.7
2023	14.3	26.8	7.7	48.8

^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.

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

Year	Coal ^a	Natural gas ^b	Petroleum ^c	Total
1960	1.4	0.8	35.7	37.9
1965	0.3	1.1	38.8	40.2
1970	0.1	1.5	49.0	50.6
1975	(s)	1.0	53.5	54.5
1980	—	1.6	56.1	57.7
1985	—	1.8	51.7	53.6
1990	—	1.9	57.4	59.3
1995	—	2.1	60.8	62.9
1996	—	2.2	60.4	62.6
1997	—	2.2	63.2	65.4
1998	—	1.8	65.7	67.5
1999	—	2.0	66.0	68.1
2000	—	2.1	68.6	70.7
2001	—	1.9	68.4	70.3
2002	—	2.1	68.5	70.6
2003	—	1.9	68.2	70.1
2004	—	1.6	69.7	71.4
2005	—	1.7	70.8	72.5
2006	—	1.5	70.6	72.1
2007	—	1.9	69.4	71.3
2008	—	2.1	64.0	66.0
2009	—	2.3	62.6	64.9
2010	—	2.6	61.6	64.2
2011	—	2.8	61.0	63.8
2012	—	2.1	60.8	62.9
2013	—	2.1	60.3	62.4
2014	—	2.4	60.0	62.4
2015	—	2.4	58.5	60.9
2016	—	2.3	57.4	59.7
2017	—	2.4	57.8	60.3
2018	—	2.6	57.7	60.3
2019	—	2.8	58.5	61.3
2020	—	2.6	49.5	52.2
2021	—	2.9	53.5	56.4
2022	—	3.2	53.5	56.7
2023	—	2.9	53.4	56.2

^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, Pennsylvania
(million metric tons of carbon dioxide (CO2))

Year	Coal	Natural gas ^a	Petroleum ^b	Total
1960	40.3	0.3	1.5	42.1
1965	53.1	0.1	1.8	55.0
1970	64.7	0.5	12.3	77.5
1975	81.9	0.1	6.3	88.3
1980	97.7	0.2	9.3	107.1
1985	97.0	0.1	6.6	103.6
1990	100.3	0.7	4.7	105.7
1995	101.0	2.2	3.7	106.8
1996	106.5	1.4	3.9	111.8
1997	109.2	1.1	3.0	113.3
1998	110.3	1.6	4.1	116.1
1999	107.3	1.7	3.1	112.2
2000	115.3	1.1	3.4	119.8
2001	105.4	1.2	3.0	109.6
2002	112.2	2.7	2.5	117.4
2003	111.9	2.3	3.9	118.0
2004	113.2	4.2	3.6	121.0
2005	117.1	4.4	4.2	125.8
2006	118.6	5.5	0.8	125.0
2007	118.5	7.9	1.1	127.4
2008	113.5	7.7	0.8	122.0
2009	102.3	11.5	0.7	114.5
2010	107.0	13.4	0.5	120.9
2011	98.2	16.7	0.4	115.3
2012	86.4	21.6	0.3	108.3
2013	86.5	20.0	0.3	106.9
2014	77.7	21.4	0.5	99.7
2015	64.0	24.1	0.4	88.6
2016	54.9	27.5	0.3	82.6
2017	48.0	28.8	0.2	77.0
2018	44.8	29.5	0.6	74.9
2019	38.1	36.9	0.2	75.1
2020	24.5	45.5	0.1	70.1
2021	30.7	46.7	0.1	77.5
2022	25.7	48.4	0.2	74.3
2023	14.6	51.8	0.1	66.5

^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.

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