

Included Emissions

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1 - Energy	404.8	420.7	416.8	415.5	425.1	415.2	412.5	418.1	412.7	385.2	375.2	367.9	363.5	359.2	354.7	353.9	340.6	335.6	335.3	329.1	293.8	307.2
	397.5	413.3	409.1	408.0	417.5	407.3	404.3	410.1	404.7	377.0	367.0	359.2	354.9	350.6	345.9	344.8	331.5	326.9	326.4	320.2	285.3	298.7
1A1 - Energy Industries	158.3	174.7	162.2	165.1	169.5	161.2	157.1	165.9	170.5	153.0	143.4	137.6	143.4	139.4	137.5	131.9	114.6	108.6	109.2	102.6	97.5	100.9
1A1a - Main Activity Electricity and Heat Production	116.4	132.3	119.1	122.2	127.5	119.4	115.9	124.3	129.7	113.4	102.7	98.4	106.0	100.6	97.0	92.3	76.2	70.0	71.4	65.9	65.2	68.0
1A1ai - Electricity Generation	84.8	103.5	86.5	92.9	98.1	91.2	88.8	98.2	104.6	84.2	75.8	72.6	82.1	75.8	73.5	70.3	55.4	50.2	51.4	47.6	47.9	51.0
1A1aii - Combined Heat and Power Generation (CHP)	31.6	28.8	32.6	29.4	29.4	28.2	27.0	26.1	25.1	29.2	26.8	25.8	24.0	24.8	23.5	22.0	20.8	19.8	19.9	18.3	17.4	17.1
1A1b - Petroleum Refining	23.9	24.6	24.9	25.4	24.1	24.9	24.8	24.4	23.4	23.2	24.9	23.4	23.1	23.0	23.1	22.3	23.4	23.6	23.5	22.3	20.1	20.4
1A1c - Manufacture of Solid Fuels and Other Energy Industries	18.0	17.9	18.2	17.5	17.9	16.9	16.4	17.2	17.5	16.4	15.9	15.8	14.2	15.7	17.4	17.3	15.0	15.0	14.3	14.4	12.2	12.4
1A1cii - Other Energy Industries	18.0	17.9	18.2	17.5	17.9	16.9	16.4	17.2	17.5	16.4	15.9	15.8	14.2	15.7	17.4	17.3	15.0	15.0	14.3	14.4	12.2	12.4
1A2 - Manufacturing Industries and Construction	17.3	17.9	17.5	16.2	17.2	15.2	15.7	14.2	14.5	12.9	13.8	14.1	13.4	13.8	13.8	13.2	13.3	13.2	13.1	13.6	12.5	12.6
1A2d - Pulp, Paper and Print	1.0	1.2	0.8	0.7	0.8	0.7	0.7	0.6	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.4	0.3	0.3
1A2e - Food Processing, Beverages and Tobacco	3.8	3.5	3.2	3.0	3.8	3.1	3.5	3.3	3.2	3.1	3.1	3.2	2.9	2.8	3.1	3.1	3.0	2.9	2.9	3.0	3.0	3.1
1A2f - Non-Metallic Minerals	5.5	5.4	5.4	5.4	5.7	5.4	5.5	4.8	4.3	2.9	2.9	3.2	3.4	3.5	3.6	3.5	3.6	3.6	3.7	3.6	3.6	3.8
1A2g - Transport Equipment	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
1A2h - Machinery	1.3	1.2	1.1	1.0	1.1	1.0	1.1	1.0	0.8	0.7	0.7	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1A2i - Mining (excluding fuels) and Quarrying	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1
1A2j - Wood and Wood Products	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A2k - Construction	0.4	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.4	0.4	0.6	0.5	0.6	1.2	0.7	0.2	0.1	0.1	0.1	0.1	0.4	0.8
1A2l - Textile and Leather	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
1A2m - Non-specified Industry.	2.8	3.6	4.2	3.8	3.5	2.7	3.0	2.6	3.7	4.1	4.8	4.7	4.2	4.2	4.2	4.2	4.3	4.3	4.4	4.8	3.7	2.9
1A3 - Transport	177.1	177.4	184.7	182.0	183.6	185.3	185.3	185.0	173.8	167.1	163.9	160.6	158.2	158.0	158.4	162.0	165.9	167.4	166.7	164.0	136.8	146.8
1A3a - Civil Aviation	4.2	4.0	4.2	4.2	4.5	4.5	4.6	5.0	4.5	4.0	3.8	3.7	3.8	3.9	3.9	4.1	4.4	4.6	4.6	4.4	2.9	3.5
1A3aii - Domestic Aviation	3.9	3.8	3.9	4.0	4.3	4.3	4.4	4.8	4.3	3.9	3.7	3.6	3.6	3.8	3.7	4.0	4.4	4.6	4.6	4.3	2.9	3.5
1A3b - Road Transportation	164.6	165.2	171.4	168.1	169.1	170.0	169.5	169.6	159.7	155.0	151.0	147.9	145.6	145.5	146.2	150.0	154.0	155.4	153.6	151.3	126.4	135.8
1A3bi - Cars	68.8	67.4	68.9	64.6	63.1	61.5	60.7	60.1	56.8	56.6	55.0	53.8	53.4	53.8	54.0	56.5	59.3	56.7	55.6	54.6	43.8	48.1
1A3bii - Light-duty Trucks	55.7	57.7	61.0	62.1	62.9	64.0	63.9	63.8	60.7	59.6	57.8	56.3	55.2	54.7	55.1	56.7	56.5	59.2	59.5	60.0	48.9	54.5
1A3biii - Heavy-duty Trucks and Buses	39.9	39.7	41.1	40.9	42.7	43.6	44.0	44.8	41.2	37.8	37.2	36.8	35.9	36.0	36.0	35.6	37.0	37.9	37.0	35.1	32.3	31.8
1A3biv - Motorcycles	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3
1A3c - Railways	1.9	1.9	2.5	2.9	2.9	3.3	3.5	3.2	2.4	1.9	2.3	2.6	2.4	2.1	1.9	1.7	1.5	1.3	1.9	1.4	1.3	1.3
1A3d - Water-borne Navigation	2.9	2.7	3.0	3.1	3.1	3.3	3.4	3.3	3.2	3.0	3.7	3.6	3.6	3.8	3.9	3.5	3.5	3.6	3.6	3.7	3.8	3.8
1A3di - International Water-borne Navigation (International Bunkers)	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1	0.9	1.4	1.3	1.3	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8
1A3dii - Domestic Water-borne Navigation	2.1	1.8	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.3	2.2	2.3	2.3	2.4	2.0	2.0	2.0	1.9	2.0	2.0	2.0
1A3e - Other Transportation	2.6	2.8	2.8	2.8	3.0	3.2	3.3	3.2	2.8	2.2	2.0	2.1	2.1	2.1	1.7	1.8	1.8	1.9	2.4	2.6	1.9	1.9
1A3eii - Off-road	2.6	2.8	2.8	2.8	3.0	3.2	3.3	3.2	2.8	2.2	2.0	2.1	2.1	2.1	1.7	1.8	1.8	1.9	2.4	2.6	1.9	1.9

Included Emissions	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1A4 - Other Sectors	44.8	43.3	44.7	44.7	47.2	45.6	46.1	45.0	45.9	44.0	45.9	46.9	39.9	39.4	36.2	37.7	37.8	37.8	37.4	40.0	38.5	38.4
1A4a - Commercial/Institutional	11.9	11.4	11.8	12.4	13.2	12.9	12.6	12.8	13.1	12.9	13.6	13.7	12.1	11.6	11.4	12.5	12.4	12.4	12.1	12.8	11.7	12.2
1A4b - Residential	29.3	28.2	28.7	28.0	29.4	28.1	28.4	28.5	28.8	28.5	29.2	29.6	24.2	24.5	21.4	22.0	22.5	23.1	22.5	25.0	24.4	23.9
1A4c - Agriculture/Forestry/Fishing/Fish Farms	3.7	3.8	4.2	4.4	4.6	4.6	5.1	3.7	4.0	2.5	3.1	3.6	3.6	3.3	3.4	3.2	2.8	2.2	2.7	2.2	2.4	2.4
1B - Fugitive Emissions from Fuels	7.3	7.3	7.7	7.5	7.6	7.9	8.2	8.0	8.1	8.3	8.2	8.7	8.6	8.6	8.8	9.1	9.1	8.8	9.0	8.9	8.5	8.5
1B1 - Solid Fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1B2 - Oil and Natural Gas	6.1	6.2	6.5	6.3	6.4	6.8	7.0	6.8	6.9	6.9	7.0	7.5	7.6	7.7	7.8	7.8	7.6	7.8	8.1	8.1	7.6	7.6
1B2a - Oil	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.8	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1B2ai - Venting	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5
1B2aii - Flaring	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1B2aiii - All Other	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
1B2b - Natural Gas	4.4	4.5	4.8	4.6	4.7	4.7	4.9	4.8	4.9	5.0	4.9	4.9	4.8	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.1	5.1
1B3 - Geothermal Energy Production	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.3	1.1	1.2	1.0	0.9	0.9	1.2	1.5	0.9	0.9	0.8	0.9	0.8
1B4 - Pollution control devices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 - Industrial Processes and Product Use	19.6	19.2	20.2	20.8	22.0	22.6	23.4	24.1	24.5	23.7	25.5	27.6	28.7	30.2	31.6	32.2	32.9	33.7	34.2	34.3	33.7	33.8
2A - Mineral Industry	5.6	5.3	5.9	5.9	6.1	6.0	5.9	5.7	5.3	3.6	3.5	3.7	4.3	4.5	4.8	4.8	4.7	4.9	5.0	5.0	4.8	4.7
2A1 - Cement Production	5.5	5.3	5.8	5.9	6.0	6.0	5.8	5.7	5.3	3.6	3.5	3.7	4.2	4.5	4.8	4.7	4.7	4.9	5.0	4.9	4.7	4.7
2A2 - Lime Production	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
2B - Chemical Industry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2B2 - Nitric Acid Production	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2C - Metal Industry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2C5 - Lead Production	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2D - Non-Energy Products from Fuels and Solvent Use	2.5	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.0	1.8	2.2	2.0	1.9	2.0	2.0	2.2	2.1	2.0	2.0	1.9	1.7	1.8
2D1 - Lubricant Use	2.1	1.9	1.9	1.8	1.8	1.8	1.7	1.8	1.7	1.5	1.9	1.7	1.6	1.7	1.7	1.9	1.8	1.7	1.6	1.6	1.4	1.5
2D3 - Solvent Use	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2E - Electronics Industry	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2F - Product Uses as Substitutes for Ozone Depleting Substances	5.6	6.0	6.5	7.2	8.0	8.7	9.6	10.4	11.3	12.0	13.2	14.2	15.2	16.4	17.4	18.3	19.0	19.6	20.1	20.3	20.8	20.8
2G - Other Product Manufacture and Use	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.1	1.3	1.2	1.2	1.1	1.2	1.0	1.2	1.2	1.2
2G1 - Electrical Equipment	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2
2G1b - Use of Electrical Equipment	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2
2G4 - CO2, Limestone or Soda Ash consumption	1.0	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	0.9	0.9	1.0	1.1	1.1	1.0	1.0	0.9	1.0	1.0	1.0
2H - Other	3.7	3.7	3.6	3.7	4.0	4.0	4.0	4.0	4.2	4.7	5.0	6.0	5.7	5.6	5.8	5.3	5.6	5.7	5.8	5.7	5.0	5.0
2H3 - Hydrogen Production	3.7	3.7	3.6	3.7	4.0	4.0	4.0	4.0	4.2	4.7	5.0	6.0	5.7	5.6	5.8	5.3	5.6	5.7	5.8	5.7	5.0	5.0

Included Emissions

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
3 - Agriculture, Forestry and Other Land Use	28.4	28.6	30.1	30.6	29.6	30.4	30.7	32.8	32.3	31.6	32.3	32.1	33.0	31.9	31.7	30.8	30.7	30.8	30.9	30.6	30.6	29.9
3A - Livestock	19.1	19.4	20.6	21.1	20.3	20.9	21.3	23.5	23.6	22.8	23.4	23.3	23.9	23.2	23.4	22.9	22.6	22.8	22.7	22.5	22.4	21.7
3A1 - Enteric Fermentation	9.9	9.8	10.4	10.5	10.3	10.5	10.6	11.7	11.5	11.1	11.6	11.4	11.5	11.2	11.3	11.0	10.9	11.1	11.1	11.0	11.0	11.0
3A1a - Cattle	9.5	9.4	10.0	10.1	9.8	10.1	10.1	11.2	11.0	10.6	11.1	10.9	11.0	10.7	10.8	10.5	10.4	10.7	10.6	10.5	10.5	10.5
3A1ai - Dairy Cows	6.4	6.3	7.0	7.0	6.9	7.0	7.2	8.0	7.9	7.6	8.1	8.0	8.1	7.8	7.8	7.6	7.6	7.7	7.6	7.6	7.6	7.5
3A1aii - Other Cattle	3.1	3.1	3.0	3.0	3.0	3.1	3.0	3.2	3.0	3.0	3.0	2.9	3.0	2.9	3.0	2.8	2.8	3.0	3.0	2.9	3.0	3.0
3A1c - Sheep	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3A1d - Goats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3A1f - Horses	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
3A1h - Swine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3A2 - Manure Management	9.3	9.6	10.3	10.6	10.0	10.4	10.7	11.8	12.1	11.8	11.9	11.9	12.4	12.0	12.1	11.9	11.6	11.7	11.5	11.5	11.4	10.7
3A2a - Cattle	8.9	9.3	9.9	10.2	9.7	10.0	10.3	11.5	11.8	11.4	11.5	11.5	12.0	11.7	11.8	11.6	11.3	11.4	11.2	11.2	11.1	10.4
3A2ai - Dairy Cows	8.5	8.9	9.5	9.8	9.3	9.6	9.9	11.0	11.4	11.0	11.1	11.1	11.6	11.3	11.4	11.2	10.9	11.0	10.8	10.8	10.7	10.0
3A2aii - Other Cattle	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
3A2c - Sheep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3A2d - Goats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3A2f - Horses	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3A2h - Swine	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3A2i - Poultry	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3C - Aggregate Sources and Non-CO2 Emissions Sources on Land	9.3	9.2	9.5	9.5	9.3	9.5	9.5	9.2	8.8	8.7	8.9	8.8	9.1	8.6	8.3	7.9	8.2	8.0	8.2	8.1	8.2	8.2
3C1 - Emissions from Biomass Burning	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3C1b - Biomass Burning in Croplands	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3C2 - Liming	0.3	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
3C4 - Direct N2O Emissions from Managed Soils	6.4	6.5	6.6	6.6	6.4	6.4	6.4	6.1	6.0	5.9	6.0	5.9	6.1	5.7	5.6	5.3	5.4	5.4	5.4	5.3	5.4	5.4
3C5 - Indirect N2O Emissions from Managed Soils	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.0	1.1	1.1	1.1
3C6 - Indirect N2O Emissions from Manure Management	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
3C7 - Rice Cultivations	0.7	0.7	0.8	0.8	0.8	0.9	0.7	0.9	0.7	0.8	0.8	0.9	0.8	0.9	0.8	0.7	0.9	0.6	0.7	0.8	0.8	0.8
4 - Waste	8.9	9.0	9.1	9.2	9.2	9.4	9.5	9.5	9.6	9.7	9.8	10.2	10.4	10.3	10.2	10.1	9.9	10.2	10.3	10.4	10.5	10.4
4A - Solid Waste Disposal	6.6	6.8	6.8	6.9	6.9	7.1	7.2	7.2	7.3	7.4	7.5	7.9	8.1	8.0	7.8	7.8	7.6	7.8	7.9	8.0	8.2	8.0
4A1 - Managed Waste Disposal Sites	6.6	6.8	6.8	6.9	6.9	7.1	7.2	7.2	7.3	7.4	7.5	7.9	8.1	8.0	7.8	7.8	7.6	7.8	7.9	8.0	8.2	8.0
4B - Biological Treatment of Solid Waste	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
4D - Wastewater Treatment and Discharge	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
4D1 - Domestic Wastewater Treatment and Discharge	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
4D2 - Industrial Wastewater Treatment and Discharge	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Included Emissions

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

Summary for Included Emissions

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

California Emissions 461.6 477.5 476.2 476.0 485.9 477.7 476.1 484.5 479.2 450.2 442.7 437.8 435.5 431.6 428.2 426.9 414.2 410.4 410.7 404.4 368.7 381.3

Excluded Emissions	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1 - Energy	54.8	49.1	53.7	48.1	51.7	54.0	56.7	59.6	56.0	54.5	56.0	51.4	49.2	47.8	47.6	52.4	56.6	59.4	59.1	54.3	32.0	35.9
1A - Fuel Combustion Activities	54.4	48.6	53.2	47.5	51.6	53.9	56.1	59.0	55.4	54.4	55.4	50.8	48.6	47.2	47.0	51.8	56.0	58.8	58.5	53.7	31.4	35.3
1A3 - Transport	50.6	44.2	49.1	43.4	47.7	50.5	53.0	56.1	52.6	51.7	52.3	48.1	45.3	44.6	44.0	49.2	53.7	56.4	56.2	51.5	29.2	33.2
1A3a - Civil Aviation	35.1	32.6	35.1	33.8	36.2	35.8	36.8	38.4	34.9	34.2	33.5	34.3	32.7	35.2	37.7	40.4	42.6	43.9	43.2	37.5	19.6	23.6
1A3ai - International Aviation (International Bunkers)	16.8	15.2	15.7	14.6	15.8	16.2	16.8	17.5	16.6	16.5	16.2	17.2	16.4	18.1	19.9	22.0	23.2	23.6	22.6	19.1	8.9	9.4
1A3aii - Domestic Aviation	18.4	17.4	19.4	19.2	20.4	19.6	20.0	20.9	18.3	17.7	17.3	17.1	16.3	17.1	17.8	18.5	19.5	20.2	20.6	18.4	10.7	14.2
1A3d - Water-borne Navigation	15.5	11.7	13.9	9.6	11.5	14.7	16.2	17.6	17.7	17.5	18.8	13.8	12.6	9.4	6.4	8.8	11.1	12.5	13.0	14.0	9.6	9.6
1A3di - International Water-borne Navigation (International Bunkers)	15.5	11.7	13.9	9.6	11.5	14.7	16.2	17.6	17.7	17.5	18.8	13.8	12.6	9.4	6.4	8.8	11.1	12.5	13.0	14.0	9.6	9.6
1A5 - Non-Specified	3.8	4.4	4.1	4.2	3.9	3.4	3.1	2.9	2.8	2.7	3.1	2.7	3.3	2.6	3.0	2.6	2.3	2.4	2.2	2.2	2.2	2.2
1A5b - Mobile	3.7	4.1	3.6	3.7	3.3	3.3	3.0	2.8	2.7	2.6	2.6	2.3	2.9	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1
1A5bi - Mobile (Aviation Component)	3.7	4.1	3.6	3.7	3.3	3.3	3.0	2.8	2.7	2.6	2.6	2.3	2.9	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1
1B - Fugitive Emissions from Fuels	0.4	0.5	0.6	0.6	0.1	0.1	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1B2 - Oil and Natural Gas	0.4	0.5	0.6	0.6	0.1	0.1	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Summary for Excluded Emissions	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Excluded Emissions	54.8	49.1	53.7	48.1	51.7	54.0	56.7	59.6	56.0	54.5	56.0	51.4	49.2	47.8	47.6	52.4	56.6	59.4	59.1	54.3	32.0	35.9

CO2 from biogenic materials

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1 - Energy	16.6	16.9	15.2	18.3	20.0	19.5	19.3	19.1	19.4	21.2	24.5	23.7	24.0	28.5	28.7	26.6	27.1	27.6	28.4	31.2	30.8	35.4
1A - Fuel Combustion Activities	16.6	16.9	15.2	18.3	20.0	19.5	19.3	19.1	19.4	21.2	24.5	23.7	24.0	28.5	28.7	26.6	27.1	27.6	28.4	31.1	30.8	35.4
1A1 - Energy Industries	8.4	8.2	8.0	8.2	8.1	8.5	8.7	8.3	8.3	9.4	9.2	7.6	9.1	10.7	10.4	9.8	8.9	8.7	8.6	8.5	8.0	7.6
1A1a - Main Activity Electricity and Heat Production	8.4	8.2	8.0	8.2	8.1	8.5	8.7	8.3	8.3	9.4	9.2	7.6	9.1	10.7	10.4	9.8	8.9	8.7	8.6	8.5	7.9	7.5
1A1ai - Electricity Generation	5.2	4.8	5.7	5.6	5.4	5.5	5.7	5.3	5.5	7.2	7.1	5.3	6.3	7.9	7.9	7.5	6.4	6.1	6.0	5.7	5.3	5.1
1A1aii - Combined Heat and Power Generation (CHP)	3.1	3.4	2.3	2.6	2.7	3.0	3.0	3.0	2.8	2.3	2.0	2.3	2.8	2.8	2.5	2.3	2.6	2.6	2.6	2.8	2.6	2.5
1A1b - Petroleum Refining	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A1c - Manufacture of Solid Fuels and Other Energy Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A1cii - Other Energy Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A2 - Manufacturing Industries and Construction	3.8	4.3	2.6	2.6	2.7	2.9	2.7	2.7	2.4	2.2	2.6	2.8	2.9	2.9	2.7	2.5	2.6	2.6	2.6	2.6	4.6	4.9
1A2f - Non-Metallic Minerals	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1A2k - Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A2m - Non-specified Industry.	3.7	4.2	2.6	2.5	2.6	2.8	2.6	2.6	2.4	2.2	2.5	2.7	2.7	2.7	2.4	2.3	2.4	2.3	2.3	2.4	4.5	4.7
1A3 - Transport	0.3	0.5	0.6	3.2	4.9	5.3	5.4	5.3	5.6	5.5	8.5	9.1	8.5	10.2	10.9	11.5	12.7	13.6	14.3	16.5	15.0	19.2
1A3a - Civil Aviation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1A3ai - International Aviation (International Bunkers)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A3aii - Domestic Aviation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A3b - Road Transportation	0.3	0.5	0.6	3.2	4.9	5.2	5.3	5.3	5.5	5.5	8.4	9.0	8.4	9.9	10.6	11.0	12.1	12.9	13.4	15.2	13.5	17.2
1A3bi - Cars	0.2	0.2	0.3	1.5	2.2	2.3	2.3	2.3	2.4	2.4	3.7	4.0	3.7	4.0	4.3	4.2	4.4	4.2	4.1	3.9	3.2	3.5
1A3bii - Light-duty Trucks	0.1	0.2	0.2	1.4	2.2	2.4	2.4	2.4	2.6	2.6	3.9	4.2	3.9	4.0	4.4	4.2	4.1	4.3	4.4	4.3	3.6	4.1
1A3biii - Heavy-duty Trucks and Buses	0.0	0.1	0.1	0.3	0.5	0.5	0.6	0.6	0.6	0.5	0.7	0.8	0.8	1.9	1.9	2.6	3.6	4.4	4.8	6.9	6.7	9.6
1A3biv - Motorcycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1A3c - Railways	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.6
1A3d - Water-borne Navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
1A3dii - Domestic Water-borne Navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
1A3e - Other Transportation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.6	0.9
1A3eii - Off-road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.6	0.9
1A4 - Other Sectors	4.1	3.9	4.0	4.2	4.3	2.8	2.6	2.8	3.1	4.0	4.3	4.2	3.5	4.7	4.8	2.8	2.8	2.7	2.9	3.5	3.2	3.7
1A4a - Commercial/Institutional	0.6	0.6	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.7
1A4b - Residential	3.5	3.3	3.4	3.6	3.7	2.4	2.2	2.4	2.7	3.5	3.8	3.6	3.0	4.0	4.0	2.1	1.9	1.9	2.1	2.5	2.0	2.1
1A4c - Agriculture/Forestry/Fishing/Fish Farms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.6	0.8
1B - Fugitive Emissions from Fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1B2 - Oil and Natural Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1B2a - Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1B2aii - Flaring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CO2 from biogenic materials	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1B3 - Geothermal Energy Production	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 - Agriculture, Forestry and Other Land Use	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9
3C - Aggregate Sources and Non-CO2 Emissions Sources on Land	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9
3C1 - Emissions from Biomass Burning	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9
3C1b - Biomass Burning in Croplands	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9
4 - Waste	6.8	7.3	7.6	7.6	7.8	8.0	8.3	8.5	8.7	8.8	9.0	9.1	9.5	9.6	9.6	9.6	9.4	9.6	9.9	9.9	10.2	10.3
4A - Solid Waste Disposal	6.0	6.4	6.6	6.6	6.7	6.8	7.1	7.2	7.2	7.3	7.4	7.5	7.7	7.8	7.7	7.6	7.3	7.5	7.7	7.6	7.9	7.9
4A1 - Managed Waste Disposal Sites	6.0	6.4	6.6	6.6	6.7	6.8	7.1	7.2	7.2	7.3	7.4	7.5	7.7	7.8	7.7	7.6	7.3	7.5	7.7	7.6	7.9	7.9
4B - Biological Treatment of Solid Waste	0.8	0.9	1.0	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.4
Summary for CO2 from biogenic materials	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Carbon dioxide from Biogenic sources	24.8	25.3	24.0	27.1	29.0	28.8	28.8	28.9	29.4	31.5	35.0	34.3	34.9	39.7	39.9	37.7	38.1	38.9	40.0	42.9	42.9	47.7

Other Emissions

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

This section of the inventory is currently under development