International Energy Outlook 2023

Release date: October 2023

Table A13. World carbon dioxide emissions from coal use by region, Low Zero-carbon Technology Cost case

million metric tons of carbon dioxide

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	**1,085**	**978**	**530**	**480**	**464**	**402**	**342**	**-4.0%**
United States	929	833	365	281	241	178	114	-7.2%
Canada	45	29	13	14	14	14	14	-4.2%
Mexico	19	19	31	34	35	35	36	2.4%
Brazil	57	60	61	65	71	68	69	0.6%
Other Americas	35	38	59	87	104	107	110	4.1%
Europe and Eurasia	**1,570**	**1,530**	**1,391**	**1,407**	**1,414**	**1,486**	**1,556**	**0.0%**
Western Europe	813	780	641	646	630	676	719	-0.4%
Russia	449	465	444	427	433	441	448	0.0%
Eastern Europe and Eurasia	308	285	307	334	351	369	390	0.8%
Asia Pacific	**12,719**	**12,651**	**13,337**	**13,460**	**12,993**	**12,471**	**11,736**	**-0.3%**
Japan	409	402	287	285	274	263	253	-1.7%
South Korea	240	236	245	255	261	265	265	0.4%
Australia and New Zealand	145	135	150	156	163	154	159	0.3%
China	9,181	9,008	8,969	8,722	8,043	7,388	6,507	-1.2%
India	1,699	1,812	2,317	2,445	2,587	2,601	2,703	1.7%
Other Asia Pacific	1,045	1,058	1,368	1,596	1,666	1,800	1,849	2.1%
Africa and Middle East	**429**	**419**	**466**	**531**	**620**	**655**	**693**	**1.7%**
Africa	403	394	441	505	593	627	666	1.8%
Middle East	26	26	25	26	27	27	27	0.1%
World	**15,804**	**15,579**	**15,724**	**15,878**	**15,492**	**15,014**	**14,328**	**-0.3%**

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run lz_230821.151531 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding.