

Table A10. World carbon dioxide emissions 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	6,991	6,742	6,164	6,023	6,110	6,152	6,180	-0.4%
United States	4,842	4,547	3,907	3,687	3,660	3,600	3,519	-1.1%
Canada	548	536	523	530	558	588	612	0.4%
Mexico	419	427	444	456	478	497	520	0.8%
Brazil	439	467	487	491	498	497	501	0.5%
Other Americas	744	765	804	859	917	970	1,027	1.2%
Europe and Eurasia	6,362	6,377	6,244	6,259	6,351	6,563	6,791	0.2%
Western Europe	3,804	3,811	3,653	3,581	3,534	3,593	3,672	-0.1%
Russia	1,815	1,829	1,824	1,862	1,930	2,005	2,075	0.5%
Eastern Europe and Eurasia	742	737	767	815	887	966	1,045	1.2%
Asia Pacific	18,703	19,109	20,305	20,868	20,830	20,744	20,426	0.3%
Japan	1,036	1,015	860	818	777	747	728	-1.3%
South Korea	639	647	651	647	640	634	628	-0.1%
Australia and New Zealand	404	395	419	424	433	429	441	0.3%
China	11,498	11,557	11,657	11,520	10,912	10,300	9,446	-0.7%
India	2,446	2,666	3,404	3,793	4,203	4,483	4,836	2.5%
Other Asia Pacific	2,680	2,829	3,315	3,666	3,865	4,152	4,346	1.7%
Africa and Middle East	3,606	3,764	3,880	4,121	4,427	4,690	4,938	1.1%
Africa	1,331	1,374	1,486	1,648	1,863	2,030	2,215	1.8%
Middle East	2,275	2,391	2,394	2,473	2,564	2,660	2,724	0.6%
World	35,662	35,993	36,594	37,270	37,718	38,149	38,335	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/ao

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