

Table M1. World coal production by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	781	732	594	600	595	614	606	-0.9%
United States	626	577	432	418	406	403	384	-1.7%
Canada	61	55	50	52	53	63	66	0.3%
Mexico	8	8	12	13	13	13	14	1.9%
Brazil	4	5	4	5	7	5	5	0.2%
Other Americas	81	87	96	112	116	130	137	1.9%
Europe and Eurasia	1,015	983	910	943	942	1,042	1,051	0.1%
Western Europe	486	476	376	389	379	463	461	-0.2%
Russia	399	382	403	414	421	432	441	0.4%
Eastern Europe and Eurasia	129	125	131	140	142	147	149	0.5%
Asia Pacific	6,455	6,428	6,753	6,948	6,985	6,946	7,045	0.3%
Japan	1	1	1	1	1	1	1	1.6%
South Korea	1	1	1	2	2	2	2	1.7%
Australia and New Zealand	412	483	514	557	579	599	621	1.5%
China	4,366	4,197	4,051	3,900	3,746	3,577	3,535	-0.8%
India	805	890	1,131	1,279	1,399	1,431	1,506	2.3%
Other Asia Pacific	870	856	1,056	1,210	1,259	1,337	1,380	1.7%
Africa and Middle East	214	223	275	310	327	355	362	1.9%
Africa	212	221	272	307	324	352	360	1.9%
Middle East	2	2	2	2	2	2	3	1.0%
World	8,464	8,366	8,533	8,800	8,849	8,957	9,065	0.2%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M2. World thermal coal production by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	656	593	450	458	455	466	455	-1.3%
United States	548	485	335	324	313	312	294	-2.2%
Canada	26	19	14	16	17	19	20	-0.9%
Mexico	3	3	7	7	7	7	7	3.8%
Brazil	4	5	4	5	7	5	5	0.2%
Other Americas	75	81	90	106	110	124	129	2.0%
Europe and Eurasia	863	830	751	778	775	872	881	0.1%
Western Europe	468	457	357	369	359	443	441	-0.2%
Russia	284	265	282	288	292	302	311	0.3%
Eastern Europe and Eurasia	111	107	112	121	123	127	130	0.6%
Asia Pacific	5,694	5,707	6,104	6,352	6,435	6,439	6,567	0.5%
Japan	1	1	1	1	1	1	1	1.6%
South Korea	1	1	1	2	2	2	2	1.7%
Australia and New Zealand	236	276	306	342	353	371	394	1.8%
China	3,874	3,779	3,707	3,619	3,521	3,397	3,398	-0.5%
India	757	841	1,082	1,230	1,350	1,382	1,444	2.3%
Other Asia Pacific	825	808	1,007	1,159	1,208	1,285	1,328	1.7%
Africa and Middle East	205	214	265	300	317	345	351	1.9%
Africa	204	214	265	300	317	344	351	1.9%
Middle East	0	0	0	0	0	0	0	2.4%
World	7,418	7,343	7,571	7,889	7,982	8,122	8,254	0.4%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M3. World metallurgical coal production by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	125	139	144	142	140	147	152	0.7%
United States	78	92	97	94	93	91	90	0.5%
Canada	36	36	36	36	36	44	47	1.0%
Mexico	6	5	6	6	6	6	6	0.6%
Brazil	0	0	0	0	0	0	0	0.0%
Other Americas	6	6	6	6	6	6	8	1.1%
Europe and Eurasia	151	153	159	165	168	170	170	0.4%
Western Europe	18	18	19	20	20	20	20	0.4%
Russia	116	117	121	126	129	130	130	0.4%
Eastern Europe and Eurasia	17	18	18	19	19	19	20	0.4%
Asia Pacific	761	721	649	595	550	508	478	-1.6%
Japan	0	0	0	0	0	0	0	0.0%
South Korea	0	0	0	0	0	0	0	0.0%
Australia and New Zealand	175	207	208	215	225	227	227	0.9%
China	491	418	344	281	225	180	136	-4.5%
India	49	49	49	49	49	49	62	0.9%
Other Asia Pacific	45	47	49	50	51	52	53	0.5%
Africa and Middle East	9	9	10	10	10	10	11	0.7%
Africa	7	7	8	8	8	8	9	0.6%
Middle East	2	2	2	2	2	2	2	0.8%
World	1,046	1,023	962	911	867	835	810	-0.9%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M4. World coal consumption by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	574	521	386	399	400	404	394	-1.3%
United States	499	454	312	303	279	269	252	-2.4%
Canada	25	15	5	6	6	6	6	-5.2%
Mexico	7	7	13	14	15	15	15	2.7%
Brazil	25	26	26	28	31	29	29	0.6%
Other Americas	17	19	29	49	70	85	92	6.1%
Europe and Eurasia	1,019	995	854	855	849	953	960	-0.2%
Western Europe	642	614	481	487	472	565	560	-0.5%
Russia	238	248	232	219	222	225	228	-0.2%
Eastern Europe and Eurasia	138	133	140	149	156	164	172	0.8%
Asia Pacific	6,694	6,679	7,093	7,321	7,351	7,317	7,405	0.4%
Japan	193	191	134	135	130	125	121	-1.7%
South Korea	110	108	113	117	119	121	121	0.3%
Australia and New Zealand	100	92	104	109	113	114	113	0.4%
China	4,676	4,574	4,527	4,441	4,196	3,951	3,847	-0.7%
India	1,063	1,146	1,461	1,633	1,776	1,851	1,906	2.1%
Other Asia Pacific	551	569	756	886	1,017	1,156	1,298	3.1%
Africa and Middle East	177	171	199	224	247	282	306	2.0%
Africa	165	159	188	213	235	270	294	2.1%
Middle East	12	11	11	12	12	12	12	0.1%
World	8,464	8,366	8,533	8,800	8,849	8,957	9,065	0.2%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M5. World thermal coal consumption by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	536	481	344	357	358	362	352	-1.5%
United States	483	436	294	285	262	253	236	-2.5%
Canada	22	12	2	3	3	3	3	-7.1%
Mexico	3	4	9	10	10	10	10	4.1%
Brazil	12	13	12	14	17	14	14	0.7%
Other Americas	15	16	26	46	67	82	88	6.5%
Europe and Eurasia	852	828	685	682	671	769	771	-0.4%
Western Europe	582	557	427	435	421	517	514	-0.4%
Russia	155	163	145	128	127	126	126	-0.7%
Eastern Europe and Eurasia	114	108	114	119	123	126	131	0.5%
Asia Pacific	5,860	5,871	6,352	6,638	6,721	6,728	6,849	0.6%
Japan	152	152	99	104	103	102	101	-1.5%
South Korea	72	71	74	78	80	81	81	0.4%
Australia and New Zealand	96	88	99	104	107	108	107	0.4%
China	4,067	3,989	4,016	4,010	3,843	3,668	3,629	-0.4%
India	948	1,032	1,339	1,491	1,610	1,657	1,683	2.1%
Other Asia Pacific	524	540	724	851	978	1,112	1,248	3.1%
Africa and Middle East	170	163	190	212	232	263	282	1.8%
Africa	163	155	182	204	224	255	275	1.9%
Middle East	8	7	7	7	8	8	8	0.1%
World	7,418	7,343	7,571	7,889	7,982	8,122	8,254	0.4%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M6. World metallurgical coal consumption by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	38	40	42	42	42	42	42	0.3%
United States	16	18	18	18	17	16	16	-0.2%
Canada	3	3	3	3	3	3	3	-0.1%
Mexico	4	4	4	4	5	5	5	0.8%
Brazil	13	13	14	14	14	15	15	0.5%
Other Americas	2	3	3	3	3	4	4	1.9%
Europe and Eurasia	167	167	169	173	178	183	189	0.4%
Western Europe	59	57	54	53	51	48	46	-0.9%
Russia	83	85	88	91	95	98	102	0.7%
Eastern Europe and Eurasia	24	25	27	30	33	37	42	2.0%
Asia Pacific	834	808	742	683	631	589	555	-1.4%
Japan	41	39	35	31	27	23	20	-2.5%
South Korea	38	38	39	40	40	40	40	0.2%
Australia and New Zealand	4	5	5	5	5	5	6	1.0%
China	609	585	511	431	353	283	218	-3.6%
India	115	113	121	142	166	194	223	2.4%
Other Asia Pacific	27	29	31	35	39	44	50	2.2%
Africa and Middle East	7	8	10	12	16	19	24	4.7%
Africa	3	4	6	8	11	15	20	7.5%
Middle East	4	4	4	4	4	4	4	0.2%
World	1,046	1,023	962	911	867	835	810	-0.9%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table M7. World coal imports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	31	31	33	34	33	33	34	0.3%
United States	5	5	5	4	2	2	3	-2.7%
Canada	5	4	4	4	4	4	4	-0.8%
Mexico	1	1	3	3	3	3	3	5.0%
Brazil	20	21	22	23	24	24	25	0.7%
Other Americas	0	0	0	0	0	1	1	7.3%
Europe and Eurasia	168	149	117	112	109	120	122	-1.1%
Western Europe	155	138	105	98	93	101	99	-1.6%
Russia	0	0	0	0	0	0	0	0.0%
Eastern Europe and Eurasia	13	11	12	14	16	19	23	2.1%
Asia Pacific	1,113	1,177	1,382	1,533	1,529	1,562	1,562	1.2%
Japan	192	190	133	134	129	124	119	-1.7%
South Korea	109	107	111	116	118	119	119	0.3%
Australia and New Zealand	0	0	0	0	0	0	0	0.0%
China	311	377	477	541	450	374	312	0.0%
India	258	256	330	354	377	420	400	1.6%
Other Asia Pacific	243	247	332	388	454	525	611	3.3%
Africa and Middle East	24	24	27	32	36	37	42	1.9%
Africa	15	15	18	22	26	27	32	2.8%
Middle East	10	9	9	9	10	10	9	-0.1%
World	1,337	1,381	1,560	1,711	1,707	1,752	1,760	1.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M8. World thermal coal imports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	12	12	13	14	15	15	15	0.8%
United States	2	2	1	1	1	1	1	-2.4%
Canada	2	1	1	1	1	1	1	-2.2%
Mexico	1	1	3	3	3	3	3	5.0%
Brazil	8	8	8	9	10	10	10	0.9%
Other Americas	0	0	0	0	0	1	1	7.3%
Europe and Eurasia	117	100	71	66	63	75	74	-1.6%
Western Europe	114	99	70	65	62	73	73	-1.6%
Russia	0	0	0	0	0	0	0	0.0%
Eastern Europe and Eurasia	3	1	1	1	1	1	1	-3.6%
Asia Pacific	829	846	1,044	1,192	1,185	1,215	1,220	1.4%
Japan	151	151	98	103	102	100	99	-1.5%
South Korea	71	69	72	76	78	79	79	0.4%
Australia and New Zealand	0	0	0	0	0	0	0	0.0%
China	193	210	310	391	322	271	231	0.6%
India	192	191	257	261	260	275	239	0.8%
Other Asia Pacific	222	225	307	360	423	490	571	3.4%
Africa and Middle East	20	19	21	22	24	27	29	1.3%
Africa	13	12	14	15	17	20	21	1.9%
Middle East	7	7	7	7	7	7	7	0.0%
World	978	977	1,149	1,295	1,287	1,332	1,338	1.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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Table M9. World metallurgical coal imports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	19	20	20	20	18	18	19	0.0%
United States	3	4	3	3	1	1	2	-2.8%
Canada	3	3	3	3	3	3	3	-0.1%
Mexico	0	0	0	0	0	0	0	0.0%
Brazil	13	13	14	14	14	15	15	0.5%
Other Americas	0	0	0	0	0	0	0	0.0%
Europe and Eurasia	51	49	46	46	46	46	47	-0.3%
Western Europe	41	39	35	33	31	28	26	-1.7%
Russia	0	0	0	0	0	0	0	0.0%
Eastern Europe and Eurasia	10	10	11	13	15	18	22	2.9%
Asia Pacific	284	331	338	341	344	347	342	0.7%
Japan	41	39	35	31	27	23	20	-2.5%
South Korea	38	38	39	40	40	40	40	0.2%
Australia and New Zealand	0	0	0	0	0	0	0	0.0%
China	118	167	167	150	128	103	81	-1.3%
India	66	64	72	93	117	145	161	3.2%
Other Asia Pacific	22	23	25	28	31	35	40	2.2%
Africa and Middle East	4	5	7	9	12	10	13	3.9%
Africa	2	3	5	7	9	8	11	6.0%
Middle East	2	2	2	2	2	2	2	-0.3%
World	359	404	411	416	420	421	422	0.6%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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Table M10. World coal exports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	238	242	242	235	228	242	246	0.1%
United States	132	129	125	120	129	135	134	0.1%
Canada	41	43	48	50	51	61	64	1.7%
Mexico	2	2	1	1	1	1	2	-0.2%
Brazil	0	0	0	0	0	0	0	0.0%
Other Americas	64	68	67	63	46	45	46	-1.2%
Europe and Eurasia	164	138	174	200	202	209	213	0.9%
Western Europe	0	0	0	0	0	0	0	-0.2%
Russia	161	135	171	195	199	207	213	1.0%
Eastern Europe and Eurasia	3	3	3	5	3	2	0	-8.0%
Asia Pacific	874	925	1,042	1,160	1,162	1,191	1,202	1.1%
Japan	0	0	0	0	0	0	0	0.0%
South Korea	0	0	0	0	0	0	0	0.0%
Australia and New Zealand	311	391	410	448	466	485	509	1.8%
China	0	0	0	0	0	0	0	0.0%
India	0	0	0	0	0	0	0	0.0%
Other Asia Pacific	563	534	632	712	696	706	694	0.8%
Africa and Middle East	61	77	103	117	115	110	98	1.7%
Africa	61	77	103	117	115	110	98	1.7%
Middle East	0	0	0	0	0	0	0	0.0%
World	1,337	1,381	1,560	1,711	1,707	1,752	1,760	1.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M11. World thermal coal exports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	132	123	119	115	112	119	118	-0.4%
United States	67	50	43	40	52	60	58	-0.5%
Canada	5	8	12	15	16	17	18	4.6%
Mexico	0	0	0	0	0	0	0	7.6%
Brazil	0	0	0	0	0	0	0	0.0%
Other Americas	60	65	64	60	44	43	42	-1.3%
Europe and Eurasia	129	103	137	163	167	177	185	1.3%
Western Europe	0	0	0	0	0	0	0	-0.2%
Russia	129	103	137	160	165	176	185	1.3%
Eastern Europe and Eurasia	0	0	0	2	1	2	0	--
Asia Pacific	663	681	796	906	899	926	937	1.2%
Japan	0	0	0	0	0	0	0	0.0%
South Korea	0	0	0	0	0	0	0	0.0%
Australia and New Zealand	140	188	206	238	246	263	287	2.6%
China	0	0	0	0	0	0	0	0.0%
India	0	0	0	0	0	0	0	0.0%
Other Asia Pacific	523	493	590	668	653	663	650	0.8%
Africa and Middle East	54	70	96	111	110	109	98	2.1%
Africa	54	70	96	111	110	109	98	2.1%
Middle East	0	0	0	0	0	0	0	0.0%
World	978	977	1,149	1,295	1,287	1,332	1,338	1.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M12. World metallurgical coal exports by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	106	119	122	119	116	123	128	0.7%
United States	65	78	82	80	77	76	76	0.6%
Canada	36	36	36	36	36	44	47	1.0%
Mexico	2	2	1	1	1	1	2	-0.2%
Brazil	0	0	0	0	0	0	0	0.0%
Other Americas	3	3	3	3	2	3	4	0.4%
Europe and Eurasia	36	35	36	37	35	32	28	-0.8%
Western Europe	0	0	0	0	0	0	0	0.0%
Russia	32	32	34	35	34	32	28	-0.5%
Eastern Europe and Eurasia	3	3	3	2	1	0	0	-100.0%
Asia Pacific	211	244	246	253	263	265	265	0.8%
Japan	0	0	0	0	0	0	0	0.0%
South Korea	0	0	0	0	0	0	0	0.0%
Australia and New Zealand	171	203	204	210	220	222	222	0.9%
China	0	0	0	0	0	0	0	0.0%
India	0	0	0	0	0	0	0	0.0%
Other Asia Pacific	40	41	42	43	43	43	43	0.3%
Africa and Middle East	7	7	7	6	6	1	0	-100.0%
Africa	7	7	7	6	6	1	0	-100.0%
Middle East	0	0	0	0	0	0	0	0.0%
World	359	404	411	416	420	421	422	0.6%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M13. World coal net trade by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	-207	-210	-208	-201	-194	-209	-212	--
United States	-127	-123	-121	-116	-127	-134	-132	--
Canada	-36	-39	-44	-47	-47	-57	-61	--
Mexico	-1	-1	1	1	2	2	1	--
Brazil	20	21	22	23	24	24	25	0.7%
Other Americas	-64	-68	-67	-63	-46	-45	-45	--
Europe and Eurasia	4	12	-57	-88	-93	-89	-92	--
Western Europe	155	138	105	98	93	101	99	-1.6%
Russia	-161	-135	-171	-195	-199	-207	-213	--
Eastern Europe and Eurasia	10	8	9	9	13	17	23	3.1%
Asia Pacific	240	252	340	374	367	371	360	1.5%
Japan	192	190	133	134	129	124	119	-1.7%
South Korea	109	107	111	116	118	119	119	0.3%
Australia and New Zealand	-311	-391	-410	-448	-466	-485	-509	--
China	311	377	477	541	450	374	312	0.0%
India	258	256	330	354	377	420	400	1.6%
Other Asia Pacific	-319	-287	-300	-323	-242	-181	-83	--
Africa and Middle East	-37	-53	-75	-85	-79	-73	-56	--
Africa	-47	-62	-84	-95	-89	-82	-65	--
Middle East	10	9	9	9	10	10	9	-0.1%
World	0	0	0	0	0	0	0	--

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M14. World thermal coal net trade by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	-120	-111	-106	-101	-97	-105	-103	--
United States	-65	-48	-42	-39	-51	-59	-57	--
Canada	-3	-7	-12	-14	-15	-16	-17	--
Mexico	1	1	3	3	3	3	3	5.0%
Brazil	8	8	8	9	10	10	10	0.9%
Other Americas	-60	-65	-64	-60	-44	-42	-41	--
Europe and Eurasia	-12	-2	-66	-96	-103	-103	-110	--
Western Europe	114	99	70	65	62	73	73	-1.6%
Russia	-129	-103	-137	-160	-165	-176	-185	--
Eastern Europe and Eurasia	3	1	1	-1	0	-1	1	-4.7%
Asia Pacific	166	165	248	286	286	289	282	1.9%
Japan	151	151	98	103	102	100	99	-1.5%
South Korea	71	69	72	76	78	79	79	0.4%
Australia and New Zealand	-140	-188	-206	-238	-246	-263	-287	--
China	193	210	310	391	322	271	231	0.6%
India	192	191	257	261	260	275	239	0.8%
Other Asia Pacific	-301	-268	-283	-308	-230	-173	-80	--
Africa and Middle East	-34	-51	-75	-88	-85	-82	-69	--
Africa	-42	-58	-82	-95	-93	-89	-76	--
Middle East	7	7	7	7	7	7	7	0.0%
World	0	0	0	0	0	0	0	--

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.

Table M15. World metallurgical coal net trade by region, High Zero-carbon Technology Cost case

million short tons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	-87	-99	-102	-99	-97	-105	-109	--
United States	-62	-75	-79	-77	-76	-75	-75	--
Canada	-33	-33	-33	-33	-33	-41	-44	--
Mexico	-2	-2	-1	-1	-1	-1	-2	--
Brazil	13	13	14	14	14	15	15	0.5%
Other Americas	-3	-3	-3	-3	-2	-3	-4	--
Europe and Eurasia	16	14	10	9	10	14	19	0.7%
Western Europe	41	39	35	33	31	28	26	-1.7%
Russia	-32	-32	-34	-35	-34	-32	-28	--
Eastern Europe and Eurasia	7	7	8	11	14	18	22	4.3%
Asia Pacific	73	87	92	88	81	82	77	0.2%
Japan	41	39	35	31	27	23	20	-2.5%
South Korea	38	38	39	40	40	40	40	0.2%
Australia and New Zealand	-171	-203	-204	-210	-220	-222	-222	--
China	118	167	167	150	128	103	81	-1.3%
India	66	64	72	93	117	145	161	3.2%
Other Asia Pacific	-18	-19	-17	-15	-12	-8	-3	--
Africa and Middle East	-2	-2	0	3	6	9	13	--
Africa	-5	-4	-2	0	4	7	11	--
Middle East	2	2	2	2	2	2	2	-0.3%
World	0	0	0	0	0	0	0	--

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. "--" means not applicable. Imports, exports, and net trade coal movements do not include coal trade between countries in the same IEO region. As a result, modeled trade might be lower than published historical coal trade when aggregating all imports or exports within an IEO region.