

Table A14. World carbon dioxide emissions from power generation by region and fossil fuel type, Low Oil Price case

million metric tons of carbon dioxide

Region and fuel	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Liquid fuels	92	110	56	23	11	4	4	-10.5%
Natural gas	852	712	567	546	575	607	632	-1.1%
Coal	907	850	448	473	474	491	474	-2.3%
Total	1,851	1,671	1,071	1,043	1,060	1,102	1,111	-1.8%
United States								
Liquid fuels	8	8	5	5	5	4	4	-3.0%
Natural gas	646	493	351	338	364	396	422	-1.5%
Coal	842	797	383	374	329	332	315	-3.4%
Total	1,496	1,298	739	717	698	731	741	-2.5%
Canada								
Liquid fuels	2	2	0	0	0	0	0	-10.3%
Natural gas	27	29	8	3	3	3	3	-7.9%
Coal	33	16	0	0	0	0	0	-100.0%
Total	61	47	9	3	3	3	3	-10.5%
Mexico								
Liquid fuels	28	36	19	9	3	0	0	-18.2%
Natural gas	70	73	77	82	92	95	96	1.1%
Coal	7	8	19	21	21	21	21	4.1%
Total	105	117	116	112	117	117	117	0.4%
Brazil								
Liquid fuels	10	14	6	1	0	0	0	-14.7%
Natural gas	28	36	46	37	29	27	25	-0.4%
Coal	9	10	8	9	17	9	9	0.1%
Total	47	60	60	46	46	36	34	-1.2%
Other Americas								
Liquid fuels	44	50	25	8	3	0	0	-17.3%
Natural gas	81	80	84	86	86	86	86	0.3%
Coal	17	19	38	69	107	129	129	7.5%
Total	142	149	147	164	196	216	216	1.5%
Europe and Eurasia								
Liquid fuels	58	80	81	56	43	41	40	-1.3%
Natural gas	701	706	749	770	817	864	919	1.0%
Coal	848	812	663	650	630	699	715	-0.6%
Total	1,607	1,599	1,493	1,476	1,491	1,604	1,673	0.1%
Western Europe								
Liquid fuels	40	57	62	47	35	35	35	-0.5%
Natural gas	263	297	365	353	346	341	339	0.9%
Coal	481	454	324	327	308	377	392	-0.7%
Total	784	809	751	727	690	753	765	-0.1%
Russia								
Liquid fuels	13	19	16	5	4	3	2	-6.7%
Natural gas	315	295	289	322	349	370	389	0.8%
Coal	179	190	166	142	142	142	142	-0.8%
Total	508	505	470	470	494	514	533	0.2%
Eastern Europe and Eurasia								
Liquid fuels	4	4	3	3	3	3	3	-1.0%
Natural gas	123	113	95	94	123	153	191	1.6%
Coal	187	168	174	181	181	181	181	-0.1%
Total	315	284	272	279	307	337	375	0.6%
Asia Pacific								
Liquid fuels	49	55	33	18	10	7	6	-7.5%
Natural gas	618	657	665	652	692	769	840	1.1%
Coal	7,386	7,461	8,209	8,524	8,407	8,259	8,256	0.4%
Total	8,052	8,173	8,906	9,194	9,109	9,034	9,101	0.4%
Japan								
Liquid fuels	9	13	9	5	3	3	3	-4.1%
Natural gas	145	145	134	117	104	105	101	-1.3%
Coal	251	249	147	165	165	165	165	-1.5%
Total	406	406	290	287	272	272	268	-1.5%

South Korea								
Liquid fuels	2	3	4	3	2	2	2	0.5%
Natural gas	69	65	61	55	50	47	47	-1.4%
Coal	130	131	134	143	147	151	151	0.5%
Total	202	200	199	200	200	200	200	0.0%
Australia and New Zealand								
Liquid fuels	1	1	0	0	0	0	0	-7.2%
Natural gas	22	21	23	18	14	15	15	-1.4%
Coal	123	112	129	138	139	140	140	0.5%
Total	145	134	151	157	153	155	155	0.2%
China								
Liquid fuels	2	2	1	0	0	0	0	-10.9%
Natural gas	121	148	160	205	283	361	436	4.7%
Coal	5,206	5,202	5,418	5,490	5,204	4,983	4,937	-0.2%
Total	5,328	5,352	5,580	5,695	5,487	5,344	5,373	0.0%
India								
Liquid fuels	3	2	1	0	0	0	0	-14.2%
Natural gas	24	24	38	37	37	37	37	1.6%
Coal	1,077	1,158	1,492	1,542	1,572	1,522	1,401	0.9%
Total	1,104	1,184	1,531	1,579	1,609	1,560	1,439	1.0%
Other Asia Pacific								
Liquid fuels	33	34	18	10	5	2	0	-14.4%
Natural gas	237	254	249	219	204	204	204	-0.5%
Coal	598	609	889	1,047	1,180	1,299	1,462	3.2%
Total	867	897	1,156	1,276	1,388	1,504	1,667	2.4%
Africa and Middle East								
Liquid fuels	205	230	119	50	21	8	2	-15.2%
Natural gas	587	612	630	684	719	752	784	1.0%
Coal	212	182	197	239	260	269	269	0.9%
Total	1,004	1,025	946	973	1,000	1,029	1,055	0.2%
Africa								
Liquid fuels	31	31	12	2	0	0	0	-16.3%
Natural gas	166	167	171	185	201	212	228	1.1%
Coal	212	182	197	239	260	269	269	0.9%
Total	409	379	380	427	460	481	498	0.7%
Middle East								
Liquid fuels	174	200	107	48	21	8	2	-15.0%
Natural gas	421	445	458	499	519	540	555	1.0%
Coal	0	0	0	0	0	0	0	-6.1%
Total	595	645	566	547	540	548	557	-0.2%
World								
Liquid fuels	404	475	289	147	84	60	51	-7.1%
Natural gas	2,757	2,686	2,610	2,652	2,804	2,991	3,175	0.5%
Coal	9,353	9,306	9,518	9,887	9,771	9,718	9,714	0.1%
Total	12,514	12,468	12,416	12,685	12,659	12,769	12,940	0.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Ip_230823.090253 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. Net carbon dioxide emissions represent gross emissions less CCS (carbon captured and sequestered) emissions from CCS capable units during the power generation.