

# CARMA Global Country Ranking by Change in CO2 Emissions (2004 to 2009)

Source: Carbon Monitoring for Action (CARMA) Database ([www.carma.org](http://www.carma.org))

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Rank	Country	net MWh (2004)	net MWh (2009)	metric tons CO2 (2004)	metric tons CO2 (2009)	kg CO2 per MWh (2004)	kg CO2 per MWh (2009)	Increase in CO2 emissions (2004-2009)	URL
1	China	2,044,000,000	3,494,700,000	1,837,300,000	2,838,100,000	899	812	1,000,800,000	<a href="http://carma.org/region/detail/1814991">http://carma.org/region/detail/1814991</a>
2	India	615,830,000	836,370,000	571,380,000	699,440,000	928	836	128,060,000	<a href="http://carma.org/region/detail/11269750">http://carma.org/region/detail/11269750</a>
3	South Korea	326,190,000	410,130,000	174,480,000	233,180,000	535	569	58,700,000	<a href="http://carma.org/region/detail/1835841">http://carma.org/region/detail/1835841</a>
4	Saudi Arabia	143,510,000	197,320,000	118,880,000	160,850,000	828	815	41,970,000	<a href="http://carma.org/region/detail/1102358">http://carma.org/region/detail/1102358</a>
5	Turkey	141,780,000	182,470,000	63,547,000	96,613,000	448	529	33,066,000	<a href="http://carma.org/region/detail/298795">http://carma.org/region/detail/298795</a>
6	Iran	152,620,000	187,880,000	89,255,000	121,190,000	585	645	31,935,000	<a href="http://carma.org/region/detail/1130758">http://carma.org/region/detail/1130758</a>
7	Indonesia	108,860,000	139,100,000	83,835,000	110,890,000	770	797	27,055,000	<a href="http://carma.org/region/detail/11643084">http://carma.org/region/detail/11643084</a>
8	Malaysia	75,497,000	96,642,000	43,705,000	65,452,000	579	677	21,747,000	<a href="http://carma.org/region/detail/11733045">http://carma.org/region/detail/11733045</a>
9	United Arab Emirates	48,256,000	83,030,000	31,607,000	51,343,000	655	618	19,736,000	<a href="http://carma.org/region/detail/290557">http://carma.org/region/detail/290557</a>
10	South Africa	228,360,000	235,600,000	205,340,000	224,930,000	899	955	19,590,000	<a href="http://carma.org/region/detail/953987">http://carma.org/region/detail/953987</a>
11	Egypt	91,445,000	126,550,000	47,587,000	64,614,000	520	511	17,027,000	<a href="http://carma.org/region/detail/357994">http://carma.org/region/detail/357994</a>
12	Kuwait	36,953,000	39,001,000	29,327,000	44,954,000	794	1,150	15,627,000	<a href="http://carma.org/region/detail/285570">http://carma.org/region/detail/285570</a>
13	Vietnam	43,698,000	79,035,000	17,587,000	32,294,000	402	409	14,707,000	<a href="http://carma.org/region/detail/11562822">http://carma.org/region/detail/11562822</a>
14	Kazakhstan	62,601,000	73,384,000	64,803,000	78,006,000	1,040	1,060	13,203,000	<a href="http://carma.org/region/detail/11522867">http://carma.org/region/detail/11522867</a>
15	Australia	216,410,000	240,050,000	207,210,000	219,440,000	957	914	12,230,000	<a href="http://carma.org/region/detail/2077456">http://carma.org/region/detail/2077456</a>
16	Argentina	91,493,000	111,150,000	30,036,000	41,626,000	328	374	11,590,000	<a href="http://carma.org/region/detail/3865483">http://carma.org/region/detail/3865483</a>
17	Bangladesh	22,952,000	35,135,000	13,376,000	21,529,000	583	613	8,153,000	<a href="http://carma.org/region/detail/11210997">http://carma.org/region/detail/11210997</a>
18	Thailand	113,270,000	136,700,000	68,583,000	76,621,000	605	561	8,038,000	<a href="http://carma.org/region/detail/11605651">http://carma.org/region/detail/11605651</a>
19	Pakistan	77,158,000	79,690,000	33,572,000	41,094,000	435	516	7,522,000	<a href="http://carma.org/region/detail/11168579">http://carma.org/region/detail/11168579</a>
20	Libya	18,489,000	24,192,000	16,660,000	23,415,000	901	968	6,755,000	<a href="http://carma.org/region/detail/2215636">http://carma.org/region/detail/2215636</a>
21	Taiwan	187,030,000	201,330,000	132,300,000	138,730,000	707	689	6,430,000	<a href="http://carma.org/region/detail/11668284">http://carma.org/region/detail/11668284</a>
22	Chile	43,904,000	52,385,000	16,551,000	22,722,000	377	434	6,171,000	<a href="http://carma.org/region/detail/3895114">http://carma.org/region/detail/3895114</a>
23	Russia	872,440,000	923,710,000	536,050,000	542,210,000	614	587	6,160,000	<a href="http://carma.org/region/detail/2017370">http://carma.org/region/detail/2017370</a>
24	Mexico	206,570,000	234,150,000	112,590,000	117,810,000	545	503	5,220,000	<a href="http://carma.org/region/detail/3996063">http://carma.org/region/detail/3996063</a>
25	Iraq	29,859,000	42,651,000	25,392,000	30,336,000	850	711	4,944,000	<a href="http://carma.org/region/detail/99237">http://carma.org/region/detail/99237</a>
26	Algeria	28,947,000	39,460,000	19,879,000	24,568,000	687	623	4,689,000	<a href="http://carma.org/region/detail/2589581">http://carma.org/region/detail/2589581</a>
27	Colombia	48,322,000	55,715,000	5,465,900	9,901,700	113	178	4,435,800	<a href="http://carma.org/region/detail/3686110">http://carma.org/region/detail/3686110</a>
28	Jordan	4,710,900	13,277,000	3,588,000	7,870,500	762	593	4,282,500	<a href="http://carma.org/region/detail/248816">http://carma.org/region/detail/248816</a>
29	Qatar	12,307,000	23,060,000	8,535,900	12,444,000	694	540	3,908,100	<a href="http://carma.org/region/detail/289688">http://carma.org/region/detail/289688</a>
30	Ukraine	168,300,000	161,010,000	71,133,000	74,943,000	423	465	3,810,000	<a href="http://carma.org/region/detail/690791">http://carma.org/region/detail/690791</a>
31	Philippines	51,931,000	57,416,000	25,221,000	28,913,000	486	504	3,692,000	<a href="http://carma.org/region/detail/11694008">http://carma.org/region/detail/11694008</a>
32	Slovak Republic	19,482,000	24,326,000	3,756,000	7,300,700	193	300	3,544,700	<a href="http://carma.org/region/detail/3057568">http://carma.org/region/detail/3057568</a>
33	Bosnia and Herzegovina	12,196,000	14,920,000	8,101,300	11,510,000	664	771	3,408,700	<a href="http://carma.org/region/detail/3277605">http://carma.org/region/detail/3277605</a>
34	Poland	136,690,000	146,320,000	146,390,000	149,640,000	1,070	1,020	3,250,000	<a href="http://carma.org/region/detail/798544">http://carma.org/region/detail/798544</a>
35	Peru	22,582,000	33,208,000	5,078,100	8,273,700	225	249	3,195,600	<a href="http://carma.org/region/detail/3932488">http://carma.org/region/detail/3932488</a>
36	Turkmenistan	11,086,000	14,862,000	9,827,100	12,875,000	886	866	3,047,900	<a href="http://carma.org/region/detail/11218197">http://carma.org/region/detail/11218197</a>
37	Dominican Republic	9,144,800	12,371,000	5,967,100	8,778,200	653	710	2,811,100	<a href="http://carma.org/region/detail/3508796">http://carma.org/region/detail/3508796</a>
38	Oman	10,231,000	16,445,000	8,878,800	11,665,000	868	709	2,786,200	<a href="http://carma.org/region/detail/286963">http://carma.org/region/detail/286963</a>
39	Venezuela	93,964,000	98,640,000	21,510,000	24,274,000	229	246	2,764,000	<a href="http://carma.org/region/detail/3625428">http://carma.org/region/detail/3625428</a>
40	Lebanon	11,662,000	12,665,000	7,159,500	9,192,400	614	726	2,032,900	<a href="http://carma.org/region/detail/272103">http://carma.org/region/detail/272103</a>

Notes: Data are a mix of publicly-disclosed information and statistical model estimates. Totals are aggregate of all power plants located within the state or province and reflect the production (not consumption) of electricity.

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