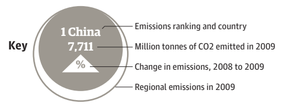
An atlas of pollution: the world in carbon dioxide emissions

Latest data published by the US Energy Information Administration provides a unique picture of economic growth – and decline. China has sped ahead of the US, as shown by this map, which resizes each country according to CO2 emissions. And, for the first time, world emissions have gone down



North America
6,411m tonnes of CO2 in 2009
Down 6.9% on 2008

Central & South America
1,220m tonnes of CO2 in 2009
Down 0.7% on 2008

Europe
4,310m tonnes of CO2 in 2009
Down 6.9% on 2008

Africa
1,122m tonnes of CO2 in 2009
Down 3.1% on 2008

Middle East
1,714m tonnes of CO2 in 2009
Up 3.3% on 2008

Eurasia
2,358m tonnes of CO2 in 2009
Down 9.2% on 2008

Asia & Oceania
13,264m tonnes of CO2 in 2009
Up 7.5% on 2008

2 US 5,425 million tonnes ▼7.0%
US emissions are down for the second year in succession – after almost uninterrupted year on year increases since these records began in 1980. The decline has matched the country's economic woes which have seen it only just emerge from recession.
Since 2000 the country's CO2 emissions have fallen by 7.5%

1 China 7,711 million tonnes ▲13.3%
Only three years earlier, in 2006, China was in second place, and until recently had been very close to US emissions. But from 2008 to 2009, rapid growth has matched the country's 9-10% growth in GDP.
Since 2000 the country's CO2 emissions have risen by 170.6%

3 India 1,602 ▲8.7%
India overtook Russia in 2009

4 Russia 1,572 ▼7.4%

5 Japan 1,098 ▼9.7%

6 Germany 766 ▼7.0%

7 Canada 541 ▼9.6%

8 South Korea 528 ▲1.2%

9 Iran 527 ▲3.2%

10 UK 520 ▼7.8%
UK had been ranked 8th for emissions in 2008

11 Saudi Arabia 470 ▲3.2%

12 South Africa 450 ▼6.7%

13 Mexico 444 ▼1.9%

14 Brazil 420 ▲0.3%

15 Australia 418 ▼1.8%

16 Indonesia 413 ▲2.4%

17 Italy 408 ▼9.3%

18 France 397 ▼7.4%

19 Spain 330 ▼8.4%

20 Taiwan 291 ▲3.7%

21 Poland 286 ▲3.7%

22 Ukraine 255 ▼28.2%
Biggest % drop in emissions

23 Thailand 253 ▲0.1%

24 Turkey 253 ▼7.3%

25 Netherlands 249 ▲0.2%

26 United Arab Emirates 193 ▲1.2%

27 Egypt 192 ▲3.5%

28 Kazakhstan 185 ▼9.8%

29 Argentina 167 ▲3.2%

30 Venezuela 162 ▲1.4%

31 Singapore 161 ▼0.1%

32 Malaysia 148 ▲0.2%

33 Pakistan 140 ▲0.4%

34 Belgium 137 ▼11.2%

35 Uzbekistan 115 ▼9.4%

36 Algeria 114 ▲6.2%

37 Iraq 104 ▲3.7%

38 Greece 100 ▼5.3%

39 Vietnam 98.8 ▲4.9%

40 Czech Rep 95.3 ▲3.8%

41 Hong Kong 86.0

42 Kuwait 84.9

43 Romania 80.5

44 North Korea 79.5

45 Nigeria 77.7

46 Philippines 72.4

47 Israel 70.5

48 Colombia 70.1

49 Austria 69.2

50 Qatar 66.5

51 Chile 65.7

52 Belarus 60.6

53 Syria 56.9

54 Turkmenistan 56.8

55 Portugal 56.5

56 Bangladesh 55.1

57 Libya 55.0

58 Serbia 52.3

59 Finland 52.2

60 Sweden 50.6

61 Hungary 50.0

62 Denmark 49.6

63 Oman 49.0

64 Trinidad & Tobago 47.8

65 Switz. 45.8

66 Bulgaria 44.5

67 Ireland 40.3

68 Norway 39.6

69 New Zealand 39.1

70 Peru 38.2

71 Morocco 36.5

72 Azerbaijan 36.2

73 Slovakia 35.8

74 Puerto Rico 33.3

75 Bahrain 31.1

76 Cuba 30.4

77 Ecuador 28.7

78 Angola 24.0

79 Yemen 22.9

80 Tunisia 22.9

81 58.4

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200 42.7

201 42.6

202 42.5

203 42.4

204 42.3

205 42.2

206 42.1

207 42.0

208 41.9

209 41.8

210 41.7

211 41.6

212 41.5

213 41.4

214 41.3

215 41.2

216 41.1

217 41.0

World
30,398m tonnes of CO2 in 2009
Down 0.3% on 2008

Detailed data
Full list of each country's CO2 emissions and movement in the world emissions league table

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
= 1	China	7711	13.3
= 2	US	5,425	-7.0
▲ 3	India	1,602	8.7
▼ 4	Russia	1,572	-7.4
= 5	Japan	1,098	-9.7
= 6	Germany	766	-7.0
= 7	Canada	541	-9.6
▲ 8	South Korea	528	1.2
▲ 9	Iran	527	3.2
▼ 10	UK	520	-7.8
▲ 11	Saudi Arabia	470	3.2
▼ 12	South Africa	450	-6.7
= 13	Mexico	444	-1.9
▲ 14	Brazil	420	-0.3
▲ 15	Australia	418	-1.8
▲ 16	Indonesia	413	2.4
▼ 17	Italy	408	-9.3
▼ 18	France	397	-7.4
= 19	Spain	330	-8.4
▲ 20	Taiwan	291	-3.7
▲ 21	Poland	286	-3.0
▼ 22	Ukraine	255	-28.2

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▲ 23	Thailand	253	-0.1
▼ 24	Turkey	253	-7.3
= 25	Netherlands	249	-0.2
= 26	United Arab Emirates	193	-1.2
= 27	Egypt	192	3.5
▲ 28	Kazakhstan	185	9.8
▼ 29	Argentina	167	-3.2
= 30	Venezuela	162	-1.4
= 31	Singapore	161	-0.1
▲ 32	Malaysia	148	-0.2
▲ 33	Pakistan	140	0.4
▼ 34	Belgium	137	-11.2
▼ 35	Uzbekistan	115	-9.4
▼ 36	Algeria	114	6.2
▲ 37	Iraq	104	3.7
▼ 38	Greece	100	-5.3
▼ 39	Vietnam	98.8	-4.9
= 40	Czech Republic	95.3	-3.8
▲ 41	Hong Kong	86.0	10.3
= 42	Kuwait	84.9	6.3
▼ 43	Romania	80.5	-16.6
▲ 44	North Korea	79.5	14.3

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▼ 45	Nigeria	77.7	-22.4
▼ 46	Philippines	72.4	-2.9
▲ 47	Israel	70.5	4.8
▲ 48	Colombia	70.1	7.9
▼ 49	Austria	69.2	-2.5
▲ 50	Qatar	66.5	4.8
▼ 51	Chile	65.7	-3.8
▼ 52	Belarus	60.6	-9.5
▲ 53	Syria	56.9	6.1
▼ 54	Turkmenistan	56.8	-1.2
▲ 55	Portugal	56.5	1.5
▲ 56	Bangladesh	55.1	9.4
▼ 57	Libya	55.0	-3.9
▲ 58	Serbia	52.3	-3.2
▼ 59	Finland	52.2	-4.9
▼ 60	Sweden	50.6	-7.7
▼ 61	Hungary	50.0	-10.7
▼ 62	Denmark	49.6	-8.6
▲ 63	Oman	49.0	9.9
= 64	Trinidad and Tobago	47.8	-4.1
▲ 65	Switzerland	45.8	1.0
▼ 66	Bulgaria	44.5	-11.9

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▼ 67	Ireland	40.3	-11.2
= 68	Norway	39.6	-0.3
▲ 69	New Zealand	39.1	-1.1
▲ 70	Peru	38.2	4.0
▲ 71	Morocco	36.5	-2.2
▼ 72	Azerbaijan	36.2	-8.9
▼ 73	Slovakia	35.8	-4.5
= 74	Puerto Rico	33.3	-3.2
= 75	Bahrain	31.1	1.6
= 76	Cuba	30.4	4.7
= 77	Ecuador	28.7	1.7
= 78	Angola	24.0	1.8
▲ 79	Yemen	22.9	13.5
▲ 80	Tunisia	22.9	5.7
▼ 81	Croatia	21.5	-4.7
▲ 82	Jordan	20.0	2.4
▲ 83	Dominican Republic	19.9	2.1
▼ 84	Bosnia and Herzegovina	18.3	-15.9
▼ 85	Estonia	17.5	-11.8
▲ 86	Slovenia	17.4	0.5
▼ 87	Lithuania	15.8	-12.8
= 88	Panama	15.5	1.7

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
= 89	Lebanon	14.8	3.6
= 90	Bolivia	13.9	-2.7
▲ 91	Sudan	13.0	7.0
▲ 92	Sri Lanka	12.8	1.7
▼ 93	Burma	12.5	-9.5
▼ 94	US Virgin Islands	12.5	-3.5
▼ 95	Jamaica	12.1	-4.6
= 96	Netherlands Antilles	11.6	-4.1
▲ 97	Kenya	11.5	2.4
= 98	Guatemala	11.3	-1.4
▲ 99	Armenia	11.2	1.5
▲ 100	Zimbabwe	10.6	18.6
▼ 101	Luxembourg	10.6	-11.2
= 102	Cyprus	9.4	-3.5
▲ 103	Latvia	8.5	8.1
▲ 104	Ghana	8.1	9.6
= 105	Honduras	7.9	-2.4
▼ 106	Brunei	7.6	-27.1
▲ 107	Cameroon	7.5	-1.9
= 108	Mongolia	7.4	-3.8
▼ 109	Macedonia	7.3	-20.1
▼ 110	Uruguay	7.2	-10.2

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
= 111	Moldova	7.1	-4.1
▲ 112	Ethiopia	6.9	7.1
▼ 113	Costa Rica	6.8	-4.4
▲ 114	Tanzania	6.7	7.1
▼ 115	IvoryCoast	6.6	2.2
▲ 116	Congo	6.3	3.8
= 117	Senegal	6.2	1.8
▼ 118	Tajikistan	6.1	-10.4
= 119	El Salvador	5.9	0.0
= 120	Kyrgyzstan	5.7	-0.4
= 121	Georgia	5.3	-4.9
= 122	Bahamas	5.2	3.1
▲ 123	Papua New Guinea	4.8	6.7
▲ 124	Albania	4.6	3.8
▼ 125	Equatorial Guinea	4.6	-2.1
▼ 126	Gabon	4.6	-3.2
▼ 127	Mauritius	4.6	-1.0
▲ 128	Botswana	4.5	7.7
▼ 129	Nicaragua	4.5	-2.9
▼ 130	Gibraltar	4.4	-3.8
▲ 131	Namibia	4.1	3.7
▲ 132	Paraguay	4.0	3.7

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▼ 133	Cambodia	3.9	-6.1
▲ 134	Benin	3.5	4.3
▲ 135	Nepal	3.4	3.8
▼ 136	Iceland	3.4	-7.4
▲ 137	Palestine	3.2	4.3
▲ 138	Madagascar	3.1	13.4
▼ 139	Malta	3.1	-2.5
▼ 140	New Caledonia	3.0	0.0
▲ 141	Togo	2.8	5.6
▼ 142	Reunion	2.8	0.0
▲ 143	Mauritania	2.7	5.3
▲ 144	Zambia	2.7	18.8
▼ 145	Congo, Dem Rep	2.7	-2.6
▼ 146	Martinique	2.6	6.3
▼ 147	Macau	2.4	1.3
▲ 148	Mozambique	2.3	4.6
▼ 149	Guadeloupe	2.2	-5.1
▲ 150	Haiti	2.1	2.9
▲ 151	Suriname	2.0	4.0
= 152	Uganda	1.9	-3.0
▼ 153	Fiji	1.9	-6.2
= 154	Montenegro	1.9	4.3

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▲ 155	Djibouti	1.8	3.4
▼ 156	Guam	1.7	-3.5
= 157	Guyana	1.5	0.0
▲ 158	Burkina Faso	1.4	2.1
▲ 159	Seychelles	1.4	6.1
▼ 160	Barbados	1.4	-4.0
▲ 161	Swaziland	1.4	17.0
= 162	Niger	1.3	3.5
▼ 163	Guinea	1.3	-1.2
▲ 164	Sierra Leone	1.3	5.9
▼ 165	Malawi	1.3	4.6
= 166	Laos	1.2	1.1
▼ 167	Wake Island	1.2	-4.3
▲ 168	French Guiana	1.1	6.1
= 169	Aruba	1.1	4.2
▲ 170	French Polynesia	1.1	7.7
▼ 171	Belize	0.94	-5.4
= 172	Maldives	0.92	3.4
= 173	Somalia	0.90	3.4
= 174	Afghanistan	0.83	-2.9
= 175	Faroe Islands	0.80	6.4
▲ 176	Eritrea	0.77	6.4

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▲ 177	Mali	0.74	6.4
▼ 178	Rwanda	0.74	0.0
= 179	Bermuda	0.71	4.2
= 180	Liberia	0.69	2.2
= 181	Antigua and Barbuda	0.69	4.4
= 182	American Samoa	0.67	2.2
▲ 183	East Timor	0.63	8.7
▼ 184	Greenland	0.61	-4.8
▲ 185	Guinea-Bissau	0.46	0.0
▲ 186	Gambia	0.44	15.4
▼ 187	Cayman Islands	0.43	-11.8
▼ 188	Saint Lucia	0.41	0.0
▲ 189	Burundi	0.37	4.0
▲ 190	Cape Verde	0.34	4.5
▼ 191	Bhutan	0.33	-11.1
▲ 192	Western Sahara	0.32	0.0
▲ 193	Antarctica	0.31	17.6
▲ 194	Saint Kitts and Nevis	0.30	11.1
= 195	Grenada	0.30	4.8
▼ 196	Central African Republic	0.29	-13.0
▲ 197	Solomon Islands	0.29	25.0
▼ 198	US Pacific Islands	0.29	0.0

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
▼ 199	Chad	0.29	11.1
▼ 200	Lesotho	0.27	5.9
= 201	Saint Vincent/Grenadines	0.27	17.6
▲ 202	Nauru	0.20	9.1
▼ 203	Tonga	0.15	-23.1
▲ 204	Cook Islands	0.15	66.7
▲ 205	Comoros	0.15	25.0
▼ 206	Sao Tome and Principe	0.15	11.1
▲ 207	Vanuatu	0.15	25.0
▲ 208	British Virgin Islands	0.15	25.0
▼ 209	Samoa	0.15	-16.7
= 210	Montserrat	0.15	58.7
▼ 211	Dominica	0.14	11.1
▼ 212	Saint Pierre and Miquelon	0.11	16.7
= 213	Turks and Caicos Islands	0.08	0.0
▲ 214	Falkland Islands	0.05	0.0
= 215	Kiribati	0.04	0.0
= 216	Saint Helena	0.01	11.2
= 217	Niue	0.01	2.9

Table shows total carbon dioxide emissions from the consumption of energy

GRAPHIC: MARK McCORMICK, PAUL SCRUTON. SOURCE: EIA