

International Scorecards

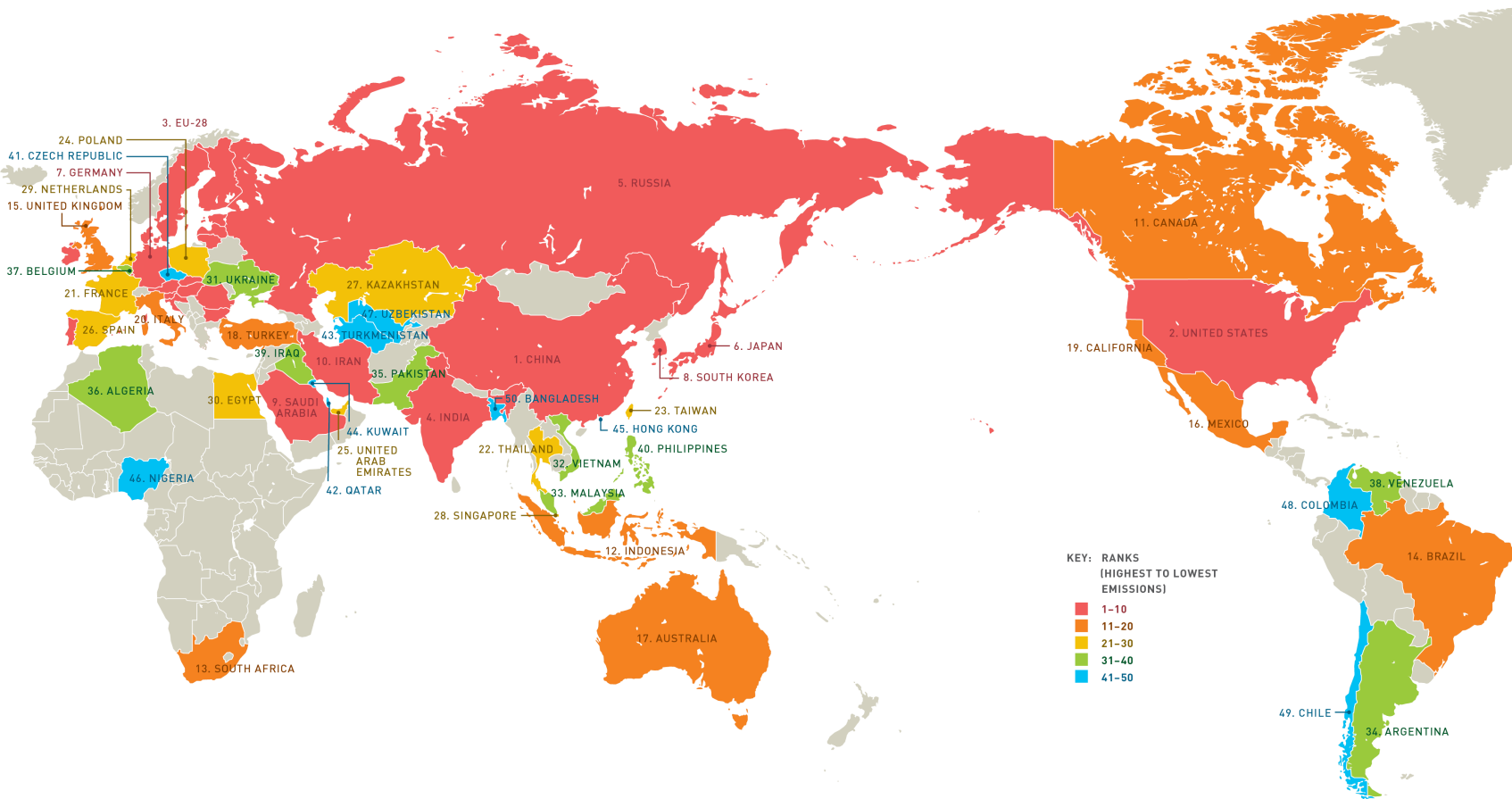
Relative to the other top 50 polluters across the globe, California's carbon economy profile improved in most areas in 2016—the latest year for which internationally comparable data were available. California had the 19th-highest level of energy-related carbon emissions in 2016, down one place from the previous year. However, this shift was due to Turkey leaping three places from 21st to 18th—ahead of California, Italy and France—as a result of the country's carbon emissions increasing by 11.2% from 2015 to 2016. In addition to improving in its emissions ranking, California also improved in terms of energy productivity (GDP relative to energy consumption). The state (\$327.5 USD GDP/million BTU) overtook Japan

(\$311.5 USD GDP/million BTU) to have the 6th-highest energy productivity ranking.

California also improved on a number of indicators at the per capita level. California's energy consumption per capita improved one place from 37th to 36th and the state's electricity consumption per capita (6,550 kWh/person) improved two places from 38th to 36th, surpassing Germany (6,646 kWh/person) and France (6,745 kWh/person). California's ranking on emissions per capita (where one is the lowest) went up four places from 34th to 30th. From 2006 to 2016, the state reduced its emissions per capita by 16 percent while the U.S.

(including California) saw a decrease of 19 percent. Over that same period, both India and China increased their emissions per capita by 50 percent.

Most notably in 2016, California's share of electricity generation from renewable sources excluding hydroelectric (27.90% of total generation) leaped five places—ahead of Spain (26.03%), the United Kingdom (25.97%), Italy (24.66%), EU-28 (20.30%) and Belgium (18.72%)—from the 7th-highest share to 2nd place, trailing closely behind Germany (28.51%).



RANK	REGION	MILLION MTCO ₂ e
1	CHINA	10592.8
2	UNITED STATES*	5172.4
3	EU-28	3752.3
4	INDIA	2154.8
5	RUSSIA	1766.6
6	JAPAN*	1202.5
7	GERMANY*	826.4
8	SOUTH KOREA	771.1
9	SAUDI ARABIA	656.6
10	IRAN	638.5
11	CANADA*	633.4
12	INDONESIA	513.1
13	SOUTH AFRICA	510.8
14	BRAZIL	492.5
15	UNITED KINGDOM*	480.7
16	MEXICO*	452.6
17	AUSTRALIA*	411.7
18	TURKEY*	366.1
19	CALIFORNIA	363.3
20	ITALY*	356.1
21	FRANCE*	354.1
22	THAILAND	342.3
23	TAIWAN	328.3
24	POLAND*	307.4
25	UNITED ARAB EMIRATES	288.9
26	SPAIN*	286.1
27	KAZAKHSTAN	279.3
28	SINGAPORE	255.2
29	NETHERLANDS*	248.7
30	EGYPT	229.4
31	UKRAINE	224.0
32	VIETNAM	218.8
33	MALAYSIA	215.7
34	ARGENTINA	194.1
35	PAKISTAN	175.7
36	ALGERIA	138.7
37	BELGIUM*	137.6
38	VENEZUELA	130.2
39	IRAQ	120.5
40	PHILIPPINES	110.7
41	CZECH REPUBLIC*	106.3
42	QATAR	102.5
43	TURKMENISTAN	99.0
44	KUWAIT	98.4
45	HONG KONG	98.3
46	NIGERIA	97.1
47	UZBEKISTAN	92.9
48	COLOMBIA	87.7
49	CHILE*	83.5
50	BANGLADESH	79.2

NEXT 10 CALIFORNIA GREEN INNOVATION INDEX. Note: *OECD Member Countries. Analysis and data sources the same as in previous sections; rankings are out of the top 50 polluters of GHG emissions from energy consumption. NEXT 10 / 5F - CA - USA

Ranking Summary of the Top 50 Polluters of GHG Emissions From Energy Consumption

RANK	TOTAL GHG EMISSIONS FROM ENERGY CONSUMPTION RANKING		CARBON ECONOMY RANKING	GHG EMISSIONS PER CAPITA RANKING	ENERGY PRODUCTIVITY RANKING
	Highest Total Emissions in 2016 (MMTCO ₂ e)	2016 GDP per Capita, 2016 US \$	Lowest Carbon Intensity (MTCO ₂ e/U.S.\$10,000 GDP) in 2016	Lowest Emissions Per Capita (MTCO ₂ e/person) in 2016	Highest Energy Productivity (GDP in 2016 USD/BTU) in 2016
1	CHINA	\$8,002	VENEZUELA	BANGLADESH	VENEZUELA
2	UNITED STATES*	\$55,135	ARGENTINA	NIGERIA	ARGENTINA
3	EU-28	\$38,038	FRANCE*	PAKISTAN	NIGERIA
4	INDIA	\$2,821	BRAZIL	PHILIPPINES	UNITED KINGDOM*
5	RUSSIA	\$18,904	CALIFORNIA	INDIA	ITALY*
6	JAPAN*	\$48,315	NIGERIA	COLOMBIA	CALIFORNIA
7	GERMANY*	\$51,421	UNITED KINGDOM*	INDONESIA	JAPAN*
8	SOUTH KOREA	\$27,813	ITALY*	VIETNAM	GERMANY*
9	SAUDI ARABIA	\$22,895	EU-28	BRAZIL	FRANCE*
10	IRAN	\$14,334	COLOMBIA	EGYPT	BRAZIL
11	CANADA*	\$55,657	SPAIN*	UZBEKISTAN	EU-28
12	INDONESIA	\$5,284	JAPAN*	IRAQ	TURKEY*
13	SOUTH AFRICA	\$10,909	GERMANY*	ALGERIA	SPAIN*
14	BRAZIL	\$17,307	TURKEY*	MEXICO*	COLOMBIA
15	UNITED KINGDOM*	\$46,516	BELGIUM*	VENEZUELA	AUSTRALIA*
16	MEXICO*	\$12,544	CHILE*	ARGENTINA	HONG KONG
17	AUSTRALIA*	\$66,415	NETHERLANDS*	TURKEY*	NETHERLANDS*
18	TURKEY*	\$20,340	AUSTRALIA*	CHILE*	CHILE*
19	CALIFORNIA	\$65,395	UNITED STATES*	THAILAND	BELGIUM*
20	ITALY*	\$35,722	MEXICO*	UKRAINE	PHILIPPINES
21	FRANCE*	\$44,167	HONG KONG	FRANCE*	MEXICO*
22	THAILAND	\$6,842	BANGLADESH	ITALY*	INDONESIA
23	TAIWAN	\$21,309	CANADA*	SPAIN*	BANGLADESH
24	POLAND*	\$15,937	PHILIPPINES	MALAYSIA	UNITED STATES*
25	UNITED ARAB EMIRATES	\$58,057	INDONESIA	EU-28	CZECH REPUBLIC*
26	SPAIN*	\$30,377	CZECH REPUBLIC*	UNITED KINGDOM*	POLAND*
27	KAZAKHSTAN	\$16,903	EGYPT	CHINA	CANADA*
28	SINGAPORE	\$52,042	POLAND*	IRAN	EGYPT
29	NETHERLANDS*	\$54,237	PAKISTAN	POLAND*	MALAYSIA
30	EGYPT	\$5,033	SOUTH KOREA	CALIFORNIA	INDIA
31	UKRAINE	\$6,793	IRAN	SOUTH AFRICA	PAKISTAN
32	VIETNAM	\$2,539	MALAYSIA	JAPAN*	SOUTH KOREA
33	MALAYSIA	\$12,332	ALGERIA	CZECH REPUBLIC*	TAIWAN
34	ARGENTINA	\$47,112	RUSSIA	GERMANY*	IRAN
35	PAKISTAN	\$1,720	INDIA	BELGIUM*	SOUTH AFRICA
36	ALGERIA	\$5,703	TAIWAN	RUSSIA	ALGERIA
37	BELGIUM*	\$48,943	QATAR	HONG KONG	IRAQ
38	VENEZUELA	\$126,684	IRAQ	TAIWAN	RUSSIA
39	IRAQ	\$4,542	UZBEKISTAN	NETHERLANDS*	KAZAKHSTAN
40	PHILIPPINES	\$3,128	UKRAINE	SOUTH KOREA	SINGAPORE
41	CZECH REPUBLIC*	\$23,158	THAILAND	KAZAKHSTAN	THAILAND
42	QATAR	\$66,554	UNITED ARAB EMIRATES	UNITED STATES*	QATAR
43	TURKMENISTAN	\$8,397	KUWAIT	AUSTRALIA*	CHINA
44	KUWAIT	\$40,944	SINGAPORE	CANADA*	UKRAINE
45	HONG KONG	\$43,167	SOUTH AFRICA	TURKMENISTAN	VIETNAM
46	NIGERIA	\$3,672	KAZAKHSTAN	SAUDI ARABIA	UNITED ARAB EMIRATES
47	UZBEKISTAN	\$4,236	VIETNAM	KUWAIT	KUWAIT
48	COLOMBIA	\$9,622	CHINA	SINGAPORE	UZBEKISTAN
49	CHILE*	\$18,484	SAUDI ARABIA	QATAR	SAUDI ARABIA
50	BANGLADESH	\$1,593	TURKMENISTAN	UNITED ARAB EMIRATES	TURKMENISTAN

NEXT 10 CALIFORNIA GREEN INNOVATION INDEX. Note: *OECD Member Countries. Analysis and data sources the same as in previous sections; rankings are out of the top 50 polluters of GHG emissions from energy consumption. NEXT 10 / SF - CA - USA

RANK	ENERGY PER CAPITA RANKING	ELECTRICITY PER CAPITA RANKING	TOTAL RENEWABLE ELECTRICITY GENERATION RANKING	SHARE OF ELECTRICITY FROM RENEWABLE RANKING
	Least Total Energy Consumption per Capita (BTU/Person) in 2016	Least Total Electricity Consumption per Capita (KWh/Person) in 2016	Most Total Renewable Electricity in 2016	Highest Share of Renewables (Renewable Electricity/Total Electricity) in 2016
1	NIGERIA	NIGERIA	EU-28	GERMANY*
2	BANGLADESH	BANGLADESH	CHINA	CALIFORNIA
3	PAKISTAN	PAKISTAN	UNITED STATES*	SPAIN*
4	PHILIPPINES	PHILIPPINES	GERMANY*	UNITED KINGDOM*
5	INDIA	INDONESIA	JAPAN*	ITALY*
6	INDONESIA	INDIA	INDIA	EU-28
7	VIETNAM	IRAQ	BRAZIL	BELGIUM*
8	COLOMBIA	ALGERIA	UNITED KINGDOM*	PHILIPPINES
9	EGYPT	COLOMBIA	ITALY*	NETHERLANDS*
10	IRAQ	VIETNAM	SPAIN*	BRAZIL
11	ALGERIA	UZBEKISTAN	CALIFORNIA	CHILE*
12	UZBEKISTAN	EGYPT	CANADA*	POLAND*
13	BRAZIL	MEXICO*	FRANCE*	THAILAND
14	MEXICO*	VENEZUELA	TURKEY*	JAPAN*
15	TURKEY*	BRAZIL	AUSTRALIA*	CZECH REPUBLIC*
16	THAILAND	THAILAND	THAILAND	UNITED STATES*
17	CHILE*	ARGENTINA	POLAND*	AUSTRALIA*
18	ARGENTINA	TURKMENISTAN	MEXICO*	TURKEY*
19	UKRAINE	TURKEY*	NETHERLANDS*	FRANCE*
20	VENEZUELA	IRAN	BELGIUM*	INDIA
21	CHINA	UKRAINE	PHILIPPINES	CANADA*
22	MALAYSIA	SOUTH AFRICA	SOUTH KOREA	CHINA
23	POLAND*	POLAND*	INDONESIA	MEXICO*
24	ITALY*	CHINA	CHILE*	INDONESIA
25	SOUTH AFRICA	CHILE*	CZECH REPUBLIC*	SINGAPORE
26	SPAIN*	MALAYSIA	SOUTH AFRICA	SOUTH AFRICA
27	UNITED KINGDOM*	ITALY*	TAIWAN	SOUTH KOREA
28	EU-28	UNITED KINGDOM*	RUSSIA	TAIWAN
29	IRAN	SPAIN*	ARGENTINA	COLOMBIA
30	FRANCE*	KAZAKHSTAN	EGYPT	ARGENTINA
31	JAPAN*	EU-28	COLOMBIA	PAKISTAN
32	CZECH REPUBLIC*	HONG KONG	UKRAINE	EGYPT
33	GERMANY*	CZECH REPUBLIC*	SINGAPORE	UKRAINE
34	HONG KONG	RUSSIA	PAKISTAN	MALAYSIA
35	KAZAKHSTAN	NETHERLANDS*	MALAYSIA	ALGERIA
36	CALIFORNIA	CALIFORNIA	ALGERIA	KAZAKHSTAN
37	TAIWAN	GERMANY*	KAZAKHSTAN	RUSSIA
38	RUSSIA	FRANCE*	UNITED ARAB EMIRATES	UNITED ARAB EMIRATES
39	NETHERLANDS*	BELGIUM*	IRAN	HONG KONG
40	BELGIUM*	JAPAN*	VIETNAM	BANGLADESH
41	SOUTH KOREA	SINGAPORE	BANGLADESH	VIETNAM
42	AUSTRALIA*	SOUTH KOREA	HONG KONG	IRAN
43	UNITED STATES*	AUSTRALIA*	VENEZUELA	KUWAIT
44	TURKMENISTAN	TAIWAN	KUWAIT	NIGERIA
45	SAUDI ARABIA	SAUDI ARABIA	IRAQ	VENEZUELA
46	CANADA*	UNITED STATES*	NIGERIA	IRAQ
47	KUWAIT	CANADA*	QATAR	QATAR
48	SINGAPORE	QATAR	UZBEKISTAN	UZBEKISTAN
49	UNITED ARAB EMIRATES	UNITED ARAB EMIRATES	SAUDI ARABIA	SAUDI ARABIA
50	QATAR	KUWAIT	TURKMENISTAN	TURKMENISTAN