

CARMA Global Power Company Ranking by Carbon Dioxide Emissions for Year 2009

Source: Carbon Monitoring for Action (CARMA) Database (www.carma.org)

Date created: July 11, 2012

Rank	Company	Country	metric tons CO2	net MWh	kg CO2 per MWh	% Fossil Fuels	% Hydroelectric	% Nuclear	% Renewables	URL
1	CHINA HUANENG GROUP CORP	China	416,990,000	440,010,000	948	93.1	5.58	0	1.34	http://carma.org/company/detail/70872
2	CHINA DATANG CORP	China	325,680,000	366,850,000	888	88.3	11.3	0	0.45	http://carma.org/company/detail/3424
3	CHINA GUODIAN CORP	China	312,980,000	339,550,000	922	90.7	8.11	0	1.2	http://carma.org/company/detail/3432
4	CHINA HUADIAN GROUP CORP	China	306,940,000	333,190,000	921	88.8	10.7	0	0.46	http://carma.org/company/detail/3436
5	ESKOM	South Africa	215,910,000	227,770,000	948	94.4	0.55	5.08	0	http://carma.org/company/detail/6555
6	NTPC LTD	India	191,860,000	209,700,000	915	100	0	0	0	http://carma.org/company/detail/14465
7	CHINA POWER INVESTMENT CORP	China	167,630,000	221,530,000	757	73.6	25.9	0	0.55	http://carma.org/company/detail/3450
8	SOUTHERN CO	United States	145,140,000	187,340,000	775	82.6	3.31	14.1	0	http://carma.org/company/detail/18979
9	AMERICAN ELECTRIC POWER CO INC	United States	128,620,000	136,790,000	940	93.4	0.54	6.09	0	http://carma.org/company/detail/784
10	E.ON AG	Germany	120,280,000	238,770,000	504	64.5	7.09	25.6	2.78	http://carma.org/company/detail/5301
11	CHINA RESOURCES POWER HOLDINGS	China	117,380,000	115,680,000	1,010	98.9	0.89	0	0.21	http://carma.org/company/detail/3452
12	GAZPROM	Russia	110,940,000	124,030,000	894	98.8	1.24	0	0	http://carma.org/company/detail/7565
13	SAUDI ELECTRICITY CO	Saudi Arabia	108,590,000	122,880,000	884	100	0	0	0	http://carma.org/company/detail/17757
14	ENEL SPA	Italy	107,290,000	193,910,000	553	65.4	23.8	6.74	4.04	http://carma.org/company/detail/6117
15	RWE AG	Germany	107,290,000	126,420,000	849	92.9	1.66	2	3.43	http://carma.org/company/detail/17285
16	STATE GRID CORP OF CHINA	China	93,441,000	129,140,000	724	64.9	34.2	0	0.93	http://carma.org/company/detail/19482
17	SHENHUA GROUP CORP LTD	China	90,819,000	99,112,000	916	98.5	0	0	1.46	http://carma.org/company/detail/3453
18	VATTENFALL GROUP	Germany	89,762,000	163,230,000	550	60.9	23.8	13.6	1.74	http://carma.org/company/detail/70655
19	AES CORP	United States	86,983,000	135,890,000	640	76.8	21.7	0	1.46	http://carma.org/company/detail/285
20	RAO UES RUSSIA	Russia	78,862,000	157,150,000	502	53.8	46.2	0	0.05	http://carma.org/company/detail/16613
21	DUKE ENERGY CORP	United States	77,832,000	119,760,000	650	69.4	13	17.4	0.18	http://carma.org/company/detail/5213
22	TENNESSEE VALLEY AUTHORITY	United States	75,414,000	145,240,000	519	53	10.7	36.3	0	http://carma.org/company/detail/71040
23	COMISION FEDERAL DE ELEC	Mexico	73,945,000	134,470,000	550	70	17.8	7.52	4.71	http://carma.org/company/detail/3982
24	MINISTRY OF ECONOMIC AFFAIRS	Taiwan (China)	72,756,000	125,280,000	581	65	2.97	31.8	0.16	http://carma.org/company/detail/71179
25	TOKYO ELECTRIC POWER CO	Japan	70,513,000	219,440,000	321	62.4	5.08	32.5	0	http://carma.org/company/detail/20656
26	BERKSHIRE HATHAWAY	United States	63,678,000	70,552,000	903	90.3	4.66	0	5.08	http://carma.org/company/detail/70831
27	FIRSTENERGY CORP	United States	62,789,000	91,732,000	684	68	0.14	31.8	0	http://carma.org/company/detail/7019
28	AMEREN CORP	United States	60,388,000	68,851,000	877	82.4	2.77	14.9	0	http://carma.org/company/detail/769
29	EGYPTIAN ELEC HOLDING CO	Egypt	59,632,000	118,920,000	501	88.4	10.7	0	0.88	http://carma.org/company/detail/70648
30	EDF GROUP	France	59,552,000	610,050,000	97.6	11.8	8.61	78.8	0.72	http://carma.org/company/detail/5473
31	XCEL ENERGY INC	United States	58,929,000	66,543,000	886	91.9	0.82	6.22	1.03	http://carma.org/company/detail/22891
32	GDF SUEZ SA	Belgium	57,732,000	173,110,000	334	52.5	20.1	26	1.48	http://carma.org/company/detail/70635
33	PGE POLSKA GRUPA ENERGETYCZNA	Poland	57,292,000	54,132,000	1,060	97.4	2.55	0	0.01	http://carma.org/company/detail/70954
34	NRG ENERGY INC	United States	57,126,000	57,452,000	994	100	0	0	0	http://carma.org/company/detail/14452
35	PPL CORP	United States	52,240,000	75,983,000	688	68.8	5.45	25.6	0.06	http://carma.org/company/detail/15901
36	EDISON INTERNATIONAL	United States	50,801,000	76,638,000	663	72.6	4.61	20.2	2.57	http://carma.org/company/detail/5483
37	CHUBU ELECTRIC POWER CO	Japan	49,347,000	106,440,000	464	81.5	6.67	11.9	0.01	http://carma.org/company/detail/3518
38	GENON ENERGY INC	United States	48,820,000	51,444,000	949	100	0	0	0	http://carma.org/company/detail/70847
39	KOREA SOUTHEAST POWER CO	South Korea	48,410,000	53,847,000	899	99.8	0.22	0	0	http://carma.org/company/detail/11350
40	MAHARASHTRA STATE POWER GEN CO	India	48,365,000	46,637,000	1,040	91.2	8.77	0	0.01	http://carma.org/company/detail/12387

Notes: Data are a mix of publicly-disclosed information and statistical model estimates. Totals are aggregate of all power plants for which the company is considered the ultimate corporate owner/operator.

'Country' gives the location of most of the company's generating capacity. This may differ from the official headquarter country.

'% Fossil Fuels', '% Hydroelectric', '% Nuclear', and '% Renewables' report the approximate share of total electricity generation attributable to each. Totals may not sum due to rounding. Visit www.carma.org for more details.

CARMA Global Power Company Ranking by Electricity Generation for Year 2009

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Rank	Company	Country	metric tons CO2	net MWh	kg CO2 per MWh	% Fossil Fuels	% Hydroelectric	% Nuclear	% Renewables	URL
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9	TOKYO ELECTRIC POWER CO	Japan	70,513,000	219,440,000	321	62.4	5.08	32.5	0	http://carma.org/company/detail/20656
10	NTPC LTD	India	191,860,000	209,700,000	915	100	0	0	0	http://carma.org/company/detail/14465
11	ENEL SPA	Italy	107,290,000	193,910,000	553	65.4	23.8	6.74	4.04	http://carma.org/company/detail/6117
12	SOUTHERN CO	United States	145,140,000	187,340,000	775	82.6	3.31	14.1	0	http://carma.org/company/detail/18979
13	EXELON CORP	United States	25,128,000	180,200,000	139	18.4	1.04	80.1	0.53	http://carma.org/company/detail/6727
14	GDF SUEZ SA	Belgium	57,732,000	173,110,000	334	52.5	20.1	26	1.48	http://carma.org/company/detail/70635
15	VATTENFALL GROUP	Germany	89,762,000	163,230,000	550	60.9	23.8	13.6	1.74	http://carma.org/company/detail/70655
16	RAO UES RUSSIA	Russia	78,862,000	157,150,000	502	53.8	46.2	0	0.05	http://carma.org/company/detail/16613
17	ROSENERGOATOM OJSC	Russia	6,299.6	152,780,000	0.0412	0	0	100	0	http://carma.org/company/detail/70884
18	TENNESSEE VALLEY AUTHORITY	United States	75,414,000	145,240,000	519	53	10.7	36.3	0	http://carma.org/company/detail/71040
19	KOREA HYDRO & NUCLEAR POWER CO	South Korea	0	142,660,000	0	0	1.07	98.9	0.01	http://carma.org/company/detail/11341
20	HYDRO-QUEBEC	Canada	544,590	141,170,000	3.86	0.43	97	2.56	0	http://carma.org/company/detail/9613
21	AMERICAN ELECTRIC POWER CO INC	United States	128,620,000	136,790,000	940	93.4	0.54	6.09	0	http://carma.org/company/detail/784
22	AES CORP	United States	86,983,000	135,890,000	640	76.8	21.7	0	1.46	http://carma.org/company/detail/285
23	COMISION FEDERAL DE ELEC	Mexico	73,945,000	134,470,000	550	70	17.8	7.52	4.71	http://carma.org/company/detail/3982
24	ENTERGY CORP	United States	46,204,000	132,460,000	349	40.2	0.35	59.2	0.29	http://carma.org/company/detail/6399
25	STATE GRID CORP OF CHINA	China	93,441,000	129,140,000	724	64.9	34.2	0	0.93	http://carma.org/company/detail/19482
26	RWE AG	Germany	107,290,000	126,420,000	849	92.9	1.66	2	3.43	http://carma.org/company/detail/17285
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31	EGYPTIAN ELEC HOLDING CO	Egypt	59,632,000	118,920,000	501	88.4	10.7	0	0.88	http://carma.org/company/detail/70648
32	IBERDROLA SA	Spain	43,780,000	117,510,000	373	68.4	11.1	6.59	13.9	http://carma.org/company/detail/9669
33	CHINA RESOURCES POWER HOLDINGS	China	117,380,000	115,680,000	1,010	98.9	0.89	0	0.21	http://carma.org/company/detail/3452
34	KANSAI ELECTRIC POWER CO	Japan	23,652,000	114,820,000	206	35.7	10.4	53.9	0	http://carma.org/company/detail/10777
35	CHUBU ELECTRIC POWER CO	Japan	49,347,000	106,440,000	464	81.5	6.67	11.9	0.01	http://carma.org/company/detail/3518
36	PROVINCE OF ONTARIO	Canada	10,426,000	104,860,000	99.4	12	43.3	44.6	0	http://carma.org/company/detail/70618
37	SHENHUA GROUP CORP LTD	China	90,819,000	99,112,000	916	98.5	0	0	1.46	http://carma.org/company/detail/3453
38	NEXTERA ENERGY INC	United States	30,257,000	96,945,000	312	59.9	1.38	27.4	11.3	http://carma.org/company/detail/70907
39	CORPOELEC-EMP ELEC SOCIALISTA	Venezuela	21,813,000	94,959,000	230	27.5	72.5	0	0	http://carma.org/company/detail/70718
40	FIRSTENERGY CORP	United States	62,789,000	91,732,000	684	68	0.14	31.8	0	http://carma.org/company/detail/7019

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