

Summary of Carbon Majors' 2010 CO2 & methane emissions

Copyright Climate Mitigation Services

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Climate Mitigation Services
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957
6.9 UNs
7.66 2010 UNs/sec

CDIAC fuel flaring cement
33,486
92
1,062

ExxonMobil
655
21

Carbon Majors
27,946
77
886

CDIAC
36,026
99
1,142

Rank	Entity	Oil & NGL MtCO2e	Nat gas MtCO2e	Coal MtCO2e	Total fuels MtCO2e	Cement MtCO2e	Flaring MtCO2e	Vented MtCO2e	Own fuel MtCO2e	Methane MtCO2e	All direct MtCO2e	Total 2010 MtCO2e	% global percent	% CMEs percent
1	China, Peoples Republic (coal & cement only)			6,461	6,461	890	-	-	-	547.4	547.4	7,898	21.9%	28.3%
2	Saudi Aramco, Saudi Arabia	1,238	183		1,421	20.1	10.0	10.8	88.0	128.8	1,550	4.3%	5.5%	
3	Gazprom, Russia	119	960		1,079	3.6	27.8	56.9	203.9	292.1	1,371	3.8%	4.9%	
4	National Iranian Oil Company, Iran	502	259		760	8.4	9.3	15.3	73.9	107.0	867	2.4%	3.1%	
5	Coal India, India			765	765	-	-	-	64.8	64.8	830	2.3%	3.0%	
6	Russian Federation (not incl. FSU)			641	641	-	-	-	54.3	54.3	695	1.9%	2.5%	
7	ExxonMobil, USA	328	237	-	565	5.6	8.0	14.0	62.4	90.1	655	1.8%	2.3%	
8	PetroChina, China	388	156		545	6.5	6.0	9.3	48.1	69.8	614	1.7%	2.2%	
9	Pemex, Mexico	400	137		537	6.6	5.4	8.1	44.6	64.7	602	1.7%	2.2%	
10	BP, UK	322	164	-	486	5.4	5.9	9.7	47.0	68.0	554	1.5%	2.0%	
11	Peabody Coal Group			479	479	-	-	-	40.6	40.6	519	1.4%	1.9%	
12	Petroleos de Venezuela, Venezuela	403	44		448	6.5	2.8	2.6	25.5	37.4	485	1.3%	1.7%	
13	Royal Dutch Shell, The Netherlands	229	181		411	4.0	6.1	10.8	46.9	67.7	478	1.3%	1.7%	
14	ChevronTexaco, USA	261	98	17	376	4.3	3.8	5.8	32.4	46.3	423	1.2%	1.5%	
15	Total, France	222	125		348	3.8	4.4	7.4	35.0	50.6	398	1.1%	1.4%	
16	Abu Dhabi, United Arab Emirates	293	59		352	4.8	2.8	3.5	24.1	35.2	387	1.1%	1.4%	
17	Sonatrach, Algeria	169	159		329	3.0	5.2	9.4	39.9	57.5	386	1.1%	1.4%	
18	Rosneft, Russian Federation	315	23		338	5.1	1.9	1.4	17.5	25.9	364	1.0%	1.3%	
19	ConocoPhillips, USA	186	124	-	311	3.2	4.3	7.4	33.3	48.2	359	1.0%	1.3%	
20	Petroleo Brasileiro (Petrobras), Brazil	278	48		326	4.5	2.4	2.8	21.1	30.9	356	1.0%	1.3%	
21	Arch Coal Company, USA			314	314	-	-	-	26.6	26.6	341	0.9%	1.2%	
22	Lukoil, Russia	261	35		296	4.2	2.0	2.1	17.8	26.1	322	0.9%	1.2%	
23	Kuwait Petroleum Corp., Kuwait	275	22		298	4.4	1.7	1.3	15.8	23.2	321	0.9%	1.1%	
24	BHP Billiton, Australia	36	20	236	292	0.6	0.7	1.2	25.6	28.0	320	0.9%	1.1%	
25	Poland			271	271	-	-	-	23.0	23.0	294	0.8%	1.1%	
26	Kazakhstan			265	265	-	-	-	22.4	22.4	287	0.8%	1.0%	
27	Qatar Petroleum, Qatar	115	115		230	2.0	3.7	6.8	28.6	41.1	271	0.8%	1.0%	
28	Nigerian National Petroleum, Nigeria	200	45		245	3.3	2.0	2.7	17.4	25.3	270	0.7%	1.0%	
29	Petronas, Malaysia	97	121		218	1.8	3.8	7.2	29.1	41.9	260	0.7%	0.9%	
30	ENI, Italy	135	89		224	2.3	3.0	5.2	23.8	34.4	258	0.7%	0.9%	
31	Statoil, Norway	131	81		211	2.2	2.8	4.8	22.0	31.8	243	0.7%	0.9%	
32	Anglo American, UK			223	223	-	-	-	18.9	18.9	242	0.7%	0.9%	
33	Iraq National Oil Company, Iraq	196	10		206	3.1	1.0	0.6	9.9	14.7	220	0.6%	0.8%	
34	Libya National Oil Corp., Libya	170	30		200	2.8	1.5	1.8	13.0	19.0	219	0.6%	0.8%	
35	Xstrata, Switzerland			198	198	-	-	-	16.7	16.7	214	0.6%	0.8%	
36	Alpha Natural Resources, USA			168	168	-	-	-	14.2	14.2	182	0.5%	0.7%	
37	Oil and Gas Corp India, India	90	53		143	1.5	1.9	3.1	14.6	21.1	164	0.5%	0.6%	
38	Rio Tinto, UK			148	148	-	-	-	12.6	12.6	161	0.4%	0.6%	
39	CONSOL Energy, USA		7	140	147	0.0	0.2	0.4	13.3	13.9	161	0.4%	0.6%	
40	Sinopec, China	122	24		145	2.0	1.1	1.4	9.8	14.3	160	0.4%	0.6%	
41	RWE, Germany			136	136	-	-	-	11.6	11.6	148	0.4%	0.5%	
42	Sonangol, Angola	137	1		138	2.2	0.6	0.1	5.7	8.5	147	0.4%	0.5%	
43	Ukraine			134	134	-	-	-	11.3	11.3	145	0.4%	0.5%	
44	CNOOC (China National Offshore Oil), China	98	20		118	1.6	1.0	1.2	8.2	11.9	130	0.4%	0.5%	
45	Egyptian General Petroleum, Egypt	50	59		109	0.9	1.9	3.5	14.3	20.5	129	0.4%	0.5%	
46	Repsol, Spain	60	49		108	1.0	1.6	2.9	12.5	18.1	126	0.4%	0.5%	
47	Petroleum Development Oman, Oman	53	52		105	0.9	1.7	3.1	13.0	18.7	124	0.3%	0.4%	
48	Sasol, South Africa			104	104	-	-	-	8.8	8.8	113	0.3%	0.4%	
49	Occidental, USA	75	23		98	1.2	0.9	1.4	7.8	11.4	109	0.3%	0.4%	
50	Singareni Collieries Company, India			91	91	-	-	-	7.7	7.7	99	0.3%	0.4%	
51	Apache, USA	47	37		83	0.8	1.2	2.2	9.5	13.7	97	0.3%	0.3%	
52	BG Group (British Gas) UK	24	55		79	0.5	1.7	3.3	12.4	17.8	97	0.3%	0.3%	
53	Anadarko, USA	36	44		80	0.7	1.4	2.6	10.6	15.3	96	0.3%	0.3%	
54	Devon Energy, USA	27	50		77	0.5	1.5	2.9	11.4	16.4	93	0.3%	0.3%	
55	Czech Republic			85	85	-	-	-	7.2	7.2	92	0.3%	0.3%	
56	Canadian Natural Resources, Canada	58	24		82	1.0	0.9	1.4	7.4	10.7	93	0.3%	0.3%	
57	Massey Energy Corporation, USA			84	84	-	-	-	7.1	7.1	91	0.3%	0.3%	
58	Suncor / Petro-Canada, Canada	70	11		81	1.1	0.6	0.7	5.2	7.6	89	0.2%	0.3%	
59	Ecopetrol, Colombia	70	11		81	1.1	0.6	0.7	5.1	7.5	89	0.2%	0.3%	
60	North Korea			81	81	-	-	-	6.8	6.8	88	0.2%	0.3%	
61	EnCana, Canada	3	62		65	0.2	1.8	3.7	13.0	18.6	84	0.2%	0.3%	
62	Pertamina, Indonesia	26	28		54	0.5	0.9	1.7	7.0	10.0	64	0.2%	0.2%	
63	Holcim, Switzerland			62	62	-	-	-	-	-	62	0.2%	0.2%	
64	Talisman, Canada	26	27		52	0.5	0.9	1.6	6.6	9.5	62	0.2%	0.2%	
65	Lafarge, France			61	61	-	-	-	-	-	61	0.2%	0.2%	
66	Hess, USA	42	13		55	0.7	0.5	0.8	4.4	6.4	61	0.2%	0.2%	
67	Murray Coal Corporation, USA			55	55	-	-	-	4.6	4.6	59	0.2%	0.2%	
68	Marathon, USA	35	17		52	0.6	0.6	1.0	5.0	7.2	59	0.2%	0.2%	
69	Kiewit Mining Group, USA			54	54	-	-	-	4.6	4.6	59	0.2%	0.2%	
70	Syrian Petroleum, Syria	33	10		43	0.5	0.4	0.6	3.5	5.1	48	0.1%	0.2%	
71	Westmoreland Mining, USA			43	43	-	-	-	3.6	3.6	46	0.1%	0.2%	
72	OMV Group, Austria	24	16		39	0.4	0.5	0.9	4.2	6.1	45	0.1%	0.2%	
73	Husky, Canada	27	10		37	0.5	0.4	0.6	3.2	4.6	42	0.1%	0.2%	
74	North American Coal, USA			37	37	-	-	-	3.2	3.2	40	0.1%	0.1%	
75	Nexen, Canada	27	5		33	0.4	0.3	0.3	2.2	3.2	36	0.1%	0.1%	
76	Bahrain Petroleum Corporation	4	24		28	0.1	0.7	1.4	5.2	7.4	36	0.1%	0.1%	
77	Luminant, USA			30	30	-	-	-	2.6	2.6	33	0.1%	0.1%	
78	HeidelbergCement, Germany			-	-	31	-	-	-	-	31	0.1%	0.1%	
79	Cemex, Mexico			-	-	27	-	-	-	-	27	0.1%	0.1%	
80	Murphy Oil, USA	17	7		24	0.3	0.3	0.4	2.1	3.1	27	0.1%	0.1%	
81	Italcementi, Italy			-	-	24	-	-	-	-	24	0.1%	0.1%	
82	UK Coal, UK			18	18	-	-	-	1.5	1.5	19	0.1%	0.1%	
83	Polish Oil & Gas, Poland	1	8		9	0.0	0.2	0.5	1.7	2.5	12	0.0%	0.0%	
84	Taiheyo, Japan			-	-	10	-	-	-	-	10	0.0%	0.0%	
85	Yukos, Russia			-	-	-	-	-	-	-	-	0.0%	0.0%	
86	Ruhrkohle AG (RAG), Germany			-	-	-	-	-	-	-	-	0.0%	0.0%	
87	FSU (Former Soviet Union)			-	-	-	-	-	-	-	-	0.0%	0.0%	
88	Czechoslovakia			-	-	-	-	-	-	-	-	0.0%	0.0%	
89	Cyprus Amax, USA			-	-	-	-	-	-	-	-	0.0%	0.0%	
90	British Coal Corporation, UK			-	-	-	-	-	-	-	-	0.0%	0.0%	
91	sum above	8,550	4,274	11,278	24,101	1,106	144	155	253	2,187	2,739	27,946	77.6%	100.0%
92	Total CO2 & methane emissions	8,550	4,274	11,278	24,101	1,106	144	155	253	2,187	2,739	27,946	77.6%	100.0%
93	This study, MtCO2	8,550	4,274											

	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
1	Carbon Majors' 2010 CO₂ & methane emissions											
2	Richard Heede Climate Mitigation Services 9-Jul-13											
3	by ownership category and rank											
4	Pasted values 9-Jul-13											
5	1	IOC	ExxonMobil, USA	655								
6	2	IOC	BP, UK	554								
7	3	IOC	Peabody Coal Group	519								
8	4	IOC	Royal Dutch Shell, The Netherlands	478								
9	5	IOC	ChevronTexaco, USA	423								
10	6	IOC	Total, France	398								
11	7	IOC	ConocoPhillips, USA	359								
12	8	IOC	Arch Coal Company, USA	341								
13	9	IOC	Lukoil, Russia	322								
14	10	IOC	BHP Billiton, Australia	320								
15	11	IOC	ENI, Italy	258								
16	12	IOC	Anglo American, UK	242								
17	13	IOC	Xstrata, Switzerland	214								
18	14	IOC	Alpha Natural Resources, USA	182								
19	15	IOC	Rio Tinto, UK	161								
20	16	IOC	CONSOL Energy, USA	161								
21	17	IOC	RWE, Germany	148								
22	18	IOC	Repsol, Spain	126								
23	19	IOC	Sasol, South Africa	113								
24	20	IOC	Occidental, USA	109								
25	21	IOC	Apache, USA	97								
26	22	IOC	BG Group (British Gas) UK	97								
27	23	IOC	Anadarko, USA	96								
28	24	IOC	Devon Energy, USA	93								
29	25	IOC	Canadian Natural Resources, Canada	93								
30	26	IOC	Massey Energy Corporation, USA	91								
31	27	IOC	Suncor / Petro-Canada, Canada	89								
32	28	IOC	EnCana, Canada	84								
33	29	IOC	Holcim, Switzerland	62								
34	30	IOC	Talisman, Canada	62								
35	31	IOC	Hess, USA	61								
36	32	IOC	Lafarge, France	61								
37	33	IOC	Murray Coal Corporation, USA	59								
38	34	IOC	Marathon, USA	59								
39	35	IOC	Kiewit Mining Group, USA	59								
40	36	IOC	Westmoreland Mining, USA	46								
41	37	IOC	OMV Group, Austria	45								
42	38	IOC	Husky, Canada	42								
43	39	IOC	North American Coal, USA	40								
44	40	IOC	Nexen, Canada	36								
45	41	IOC	Luminant, USA	33								
46	42	IOC	HeidelbergCement, Germany	31								
47	43	IOC	Murphy Oil, USA	27								
48	44	IOC	Cemex, Mexico	27								
49	45	IOC	Italcementi, Italy	24								
50	46	IOC	UK Coal, UK	19								
51	47	IOC	Taiheyo, Japan	10								
52	48	IOC	Cyprus Amax, USA	-								
53	49	IOC	Ruhrkohle AG (RAG), Germany	-								
54	50	IOC	Yuko, Russia	-								
55	1	SDE	Saudi Aramco, Saudi Arabia	1,550								
56	2	SDE	Gasprom, Russia	1,371								
57	3	SDE	National Iranian Oil Company, Iran	867								
58	4	SDE	Coal India, India	830								
59	5	SDE	PetroChina, China	614								
60	6	SDE	Pemex, Mexico	602								
61	7	SDE	Petroleos de Venezuela, Venezuela	485								
62	8	SDE	Abu Dhabi, United Arab Emirates	387								
63	9	SDE	Sonatrach, Algeria	386								
64	10	SDE	Rosneft, Russian Federation	364								
65	11	SDE	Petroleo Brasileiro (Petrobras), Brazil	356								
66	12	SDE	Kuwait Petroleum Corp., Kuwait	321								
67	13	SDE	Qatar Petroleum, Qatar	271								
68	14	SDE	Nigerian National Petroleum, Nigeria	270								
69	15	SDE	Petronas, Malaysia	260								
70	16	SDE	Statoli, Norway	243								
71	17	SDE	Iraq National Oil Company, Iraq	220								
72	18	SDE	Libya National Oil Corp., Libya	219								
73	19	SDE	Oil and Gas Corp India, India	164								
74	20	SDE	Sinopec, China	160								
75	21	SDE	Sonangol, Angola	147								
76	22	SDE	CNOOC (China National Offshore Oil), China	130								
77	23	SDE	Egyptian General Petroleum, Egypt	129								
78	24	SDE	Petroleum Development Oman, Oman	124								
79	25	SDE	Singaren Collieries Company, India	99								
80	26	SDE	Ecopetrol, Colombia	89								
81	27	SDE	Pertamina, Indonesia	64								
82	28	SDE	Syrian Petroleum, Syria	48								
83	29	SDE	Bahrain Petroleum Corporation	36								
84	30	SDE	Polish Oil & Gas, Poland	12								
85	31	SDE	British Coal Corporation, UK	-								
86	1	State	China, Peoples Republic (coal & cement only)	7,898								
87	2	State	Russian Federation (not including FSU)	695								
88	3	State	Poland	294								
89	4	State	Kazakhstan	287								
90	5	State	Ukraine	145								
91	6	State	Czech Republic	92								
92	7	State	North Korea	88								
93	8	State	Czechoslovakia	-								
94	9	State	FSU (Former Soviet Union)	-								
95	90	Total		27,946								

Carbon Majors 2010 rank

Cell: B9

Comment: Rick Heede:
Alphabetical rank.

Cell: D9

Comment: Rick Heede:
CMS has identified a total of 86 company, multinational, and state entities that produce, in aggregate, 84 percent of global carbon dioxide emissions from fossil fuel and cement manufacturing in 2004. (Note: See worksheet "SumSum.xls" for the CMS emissions from identified entities by year from 1886 through 2004. Historically, the emissions from the 86 identified entities represent ~61.5 percent of the global total since 1750, if compared to the ORNL/CDIAC industrial emissions for the anthropocene.

Cell: V111

Comment: Rick Heede:
EDGAR data 1970-2008 extrapolated to 2010 by CMS on the basis of EDGAR published data on CO2 emissions through 2010. See workbook "AncillaryCH4&CO2.xls" worksheet on "General Non-CO2 data" rows 336-376. Total estimated EDGAR for 2010 is 120.9 TgCH4 (*21); CMS excludes EDGAR estimate for "Energy manufacturing and transformation" of 6.5 TgCH4.