

Oil & Gas emissions, sorted and ranked by MtCO2

Richard Heede
Table 1 Climate Accountability Institute
4-Oct-21

Emissions
Combined oil & gas MtCO2
2000-2018

Percent
% of global oil, gas & coal emissions
2000-2018

Assessable person

Global Carbon Project / CDIAC data			
1	32,751	5.74%	Saudi Aramco, Saudi Arabia
2	21,313	3.73%	Gazprom, Russian Federation
3	16,857	2.95%	National Iranian Oil Company (NIOC), Iran
4	11,440	2.00%	ExxonMobil, USA
5	10,946	1.92%	Petroleos Mexicanos (PEMEX), Mexico
6	10,855	1.90%	PetroChina (CNPC), China
7	10,332	1.81%	Royal Dutch Shell plc, The Netherlands
8	9,624	1.69%	BP, UK
9	8,930	1.56%	Abu Dhabi National Oil (ADNOC), UAE
10	7,878	1.38%	Petroleos de Venezuela, Venezuela
11	7,856	1.38%	Rosneft, Russian Federation
12	7,622	1.34%	Chevron, USA
13	7,550	1.32%	Kuwait Petroleum Corp., Kuwait
14	6,928	1.21%	Iraq National Oil Company, Iraq
15	6,708	1.18%	Petroleo Brasileiro (Petrobras), Brazil
16	6,626	1.16%	Sonatrach, Algeria
17	6,504	1.14%	TotalEnergies, France
18	5,968	1.05%	Lukoil, Russian Federation
19	5,113	0.90%	Qatar Petroleum, Qatar
20	5,086	0.89%	ConocoPhillips, USA
21	5,058	0.89%	Nigerian National Petroleum, Nigeria
22	4,544	0.80%	Equinor, Norway
23	4,454	0.78%	Petronas, Malaysia
24	4,295	0.75%	ENI, Italy
25	3,489	0.61%	Sinopec, China
26	3,096	0.54%	Petoro, Norway
27	3,062	0.54%	Libya National Oil Corp., Libya
28	2,981	0.52%	Repsol, Spain
29	2,686	0.47%	CNOOC (China National Offshore Oil), China
30	2,622	0.46%	Oil and Natural Gas Corporation, India
31	2,324	0.41%	Sonangol, Angola
32	2,180	0.38%	TurkmenGaz, Turkmenistan
33	2,060	0.36%	Petroleum Development Oman, Oman
34	1,988	0.35%	Suncor, Canada
35	1,955	0.34%	Egyptian General Petroleum, Egypt
36	1,931	0.34%	Anadarko, USA
37	1,835	0.32%	Occidental, USA
38	1,702	0.30%	Canadian Natural Resources, Canada
39	1,697	0.30%	Ecopetrol, Colombia
40	1,688	0.30%	Novatek, Russian Federation
41	1,620	0.28%	Devon Energy, USA
42	1,564	0.27%	Pertamina, Indonesia
43	1,400	0.25%	EnCana, Canada
44	1,400	0.25%	Apache, USA
45	1,337	0.23%	Yukos, Russian Federation
46	1,279	0.22%	PetroEcuador
47	1,196	0.21%	BHP Billiton, Australia
48	1,100	0.19%	Marathon, USA
49	1,026	0.18%	Hess, USA
50	988	0.17%	EOG Resources, USA
51	956	0.17%	Chesapeake, USA
52	867	0.15%	Husky, Canada
53	865	0.15%	Inpex, Japan
54	865	0.15%	Wintershall, Germany
55	853	0.15%	YPF, Argentina
56	696	0.12%	Syrian Petroleum, Syria
57	662	0.12%	Bahrain Petroleum Corporation
58	652	0.11%	OMV Group, Austria
59	575	0.10%	PTTEP, Thailand
60	569	0.10%	Noble Energy, USA
61	556	0.10%	Polish Oil & Gas, Poland
62	514	0.09%	Woodside, Australia
63	423	0.07%	Murphy Oil, USA
64	418	0.07%	Southwestern, USA
65	411	0.07%	Pioneer, USA
66	373	0.07%	Santos, Australia
67	332	0.06%	EQT Corporation, USA
68	289	0.05%	Obsidian / PennWest, Canada
69	215	0.04%	Antero, USA
70	163	0.03%	CONSOL Energy, USA
71	73	0.01%	Sasol, South Africa
72		0.00%	BG Group (British Gas), UK
73		0.00%	Talisman, Canada

286,774

50.25%

Sum of Carbon Majors

Global Oil, Gas, Coal emissions

Global Carbon Project / CDIAC	
214,073	Oil
113,649	Gas
242,918	Coal
570,639	Sum FF

excludes cement and flaring

Coal emissions, sorted and ranked by MtCO2

Richard Heede
Table 2 Climate Accountability Institute
4-Oct-21

Emissions
coal MtCO2
2000-2018

Percent
% of global oil, gas & coal emissions
2000-2018

Assessable person

1	14,949	2.62%	Coal India, India
2	7,084	1.24%	Peabody Energy, USA
3	4,326	0.76%	Arch Coal Company, USA
4	3,774	0.66%	BHP Billiton, Australia
5	3,427	0.60%	RWE, Germany
6	3,396	0.60%	Rio Tinto, Australia
7	3,304	0.58%	Glencore, Switzerland
8	3,191	0.56%	Contura Energy / ANR, USA
9	3,087	0.54%	Anglo American, UK
10	1,660	0.29%	Singareni Collieries, India
11	1,594	0.28%	CONSOL Energy, USA
12	1,552	0.27%	Sasol, South Africa
13	1,340	0.23%	Cloud Peak, USA
14	1,265	0.22%	Exaro, South Africa
15	1,072	0.19%	North American Coal Corp., USA
16	1,050	0.18%	Murray Coal Corporation, USA
17	1,048	0.18%	Westmoreland Coal, USA
18	924	0.16%	Alliance Resource Partners, USA
19	817	0.14%	Vistra Energy, USA
20	747	0.13%	Kiewit Mining Group, USA
21	627	0.11%	Teck Resources, Canada
22	232	0.04%	Chevron Mining / Pittsburgh & Midway
23	193	0.03%	Whitehaven Coal, Australia
24	174	0.03%	Vale, Brazil
25	55	0.01%	Exxon Mobil
26	25	0.00%	BP Coal, UK

includes BG

includes Talisman
includes Nexen

60,911 MtCO2

245,164 MtCO2 Global coal emissions 2000-2018 (GCP / CDIAC)

Global Carbon Project / CDIAC	
214,073	Oil
113,649	Gas
242,918	Coal
570,639	Sum FF

excludes cement and flaring

Occidental, USA
Shell Coal, The Netherlands

Oil, Gas, & Coal emissions, sorted and ranked by MtCO2

Table 3

Richard Heede
Climate Accountability Institute
4-Oct-21

			Emissions	Percent	Assessable person
			Oil Gas Coal MtCO2	% of global oil, gas & coal emissions	
			2000-2018	2000-2018	
Oil & Gas	Coal	Sum			
1	32,751	32,751	32,751	5.739%	Saudi Aramco, Saudi Arabia
2	21,313	21,313	21,313	3.735%	Gazprom, Russian Federation
3	16,857	16,857	16,857	2.954%	National Iranian Oil Company (NIOC), Iran
4		14,949	14,949	2.620%	Coal India, India
5	11,440	55	11,495	2.014%	ExxonMobil, USA
6	10,946		10,946	1.918%	Petroleos Mexicanos (PEMEX), Mexico
7	10,855		10,855	1.902%	PetroChina (CNPC), China
8	10,332		10,332	1.811%	Royal Dutch Shell plc, The Netherlands
9	9,624	25	9,649	1.691%	BP, UK
10	8,930		8,930	1.565%	Abu Dhabi National Oil (ADNOC), UAE
11	7,878		7,878	1.381%	Petroleos de Venezuela, Venezuela
12	7,856		7,856	1.377%	Rosneft, Russian Federation
13	7,622	232	7,853	1.376%	Chevron, USA
14	7,550		7,550	1.323%	Kuwait Petroleum Corp., Kuwait
15		7,084	7,084	1.241%	Peabody Energy, USA
16	6,928		6,928	1.214%	Iraq National Oil Company, Iraq
17	6,708		6,708	1.176%	Petroleo Brasileiro (Petrobras), Brazil
18	6,626		6,626	1.161%	Sonatrach, Algeria
19	6,504		6,504	1.140%	TotalEnergies, France
20	5,968		5,968	1.046%	Lukoil, Russian Federation
21	5,113		5,113	0.896%	Qatar Petroleum, Qatar
22	5,086		5,086	0.891%	ConocoPhillips, USA
23	5,058		5,058	0.886%	Nigerian National Petroleum, Nigeria
24	1,196	3,774	4,971	0.871%	BHP Billiton, Australia
25	4,544		4,544	0.796%	Equinor, Norway
26	4,454		4,454	0.780%	Petronas, Malaysia
27		4,326	4,326	0.758%	Arch Coal Company, USA
28	4,295		4,295	0.753%	ENI, Italy
29	3,489		3,489	0.611%	Sinopec, China
30		3,427	3,427	0.601%	RWE, Germany
31		3,396	3,396	0.595%	Rio Tinto, Australia
32		3,304	3,304	0.579%	Glencore, Switzerland
33		3,191	3,191	0.559%	Contura Energy / ANR, USA
34	3,096		3,096	0.543%	Petoro, Norway
35		3,087	3,087	0.541%	Anglo American, UK
36	3,062		3,062	0.537%	Libya National Oil Corp., Libya
37	4,295		4,295	0.753%	Repsol, Spain
38	2,686		2,686	0.471%	CNOOC (China National Offshore Oil), China
39	2,622		2,622	0.459%	Oil and Natural Gas Corporation, India
40	2,324		2,324	0.407%	Sonangol, Angola
41	2,180		2,180	0.382%	TurkmenGaz, Turkmenistan
42	2,060		2,060	0.361%	Petroleum Development Oman, Oman
43	1,988		1,988	0.348%	Suncor, Canada
44	1,955		1,955	0.343%	Egyptian General Petroleum, Egypt
45	1,931		1,931	0.338%	Anadarko, USA
46	1,835		1,835	0.322%	Occidental, USA
47	163	1,594	1,757	0.308%	CONSOL Energy, USA
48	1,702		1,702	0.298%	Canadian Natural Resources, Canada
49	1,697		1,697	0.297%	Ecopetrol, Colombia
50	1,688		1,688	0.296%	Novatek, Russian Federation
51		1,660	1,660	0.291%	Singareni Collieries, India
52	73	1,552	1,624	0.285%	Sasol, South Africa
53	1,620		1,620	0.284%	Devon Energy, USA
54	1,564		1,564	0.274%	Pertamina, Indonesia
55	1,400		1,400	0.245%	EnCana, Canada
56	1,400		1,400	0.245%	Apache, USA
57		1,340	1,340	0.235%	Cloud Peak, USA
58	1,337		1,337	0.234%	Yukos, Russian Federation
59	1,279		1,279	0.224%	PetroEcuador
60		1,265	1,265	0.222%	Exxaro, South Africa
61	1,100		1,100	0.193%	Marathon, USA
62		1,072	1,072	0.188%	North American Coal Corp., USA
63		1,050	1,050	0.184%	Murray Coal Corporation, USA
64		1,048	1,048	0.184%	Westmoreland Coal, USA
65	1,026		1,026	0.180%	Hess, USA
66	988		988	0.173%	EOG Resources, USA
67	956		956	0.167%	Chesapeake, USA
68		924	924	0.162%	Alliance Resource Partners, USA
69	867		867	0.152%	Husky, Canada
70	865		865	0.152%	Inpex, Japan
71	865		865	0.152%	Wintershall, Germany
72	853		853	0.149%	YPF, Argentina
73		817	817	0.143%	Vistra Energy, USA
74		747	747	0.131%	Kiewit Mining Group, USA
75	696		696	0.122%	Syrian Petroleum, Syria
76	662		662	0.116%	Bahrain Petroleum Corporation
77	652		652	0.114%	OMV Group, Austria
78		627	627	0.110%	Teck Resources, Canada
79	575		575	0.101%	PTTEP, Thailand
80	569		569	0.100%	Noble Energy, USA
81	556		556	0.097%	Polish Oil & Gas, Poland
82	514		514	0.090%	Woodside, Australia
83	423		423	0.074%	Murphy Oil, USA
84	418		418	0.073%	Southwestern, USA
85	411		411	0.072%	Pioneer, USA
86	373		373	0.065%	Santos, Australia
87	332		332	0.058%	EQT Corporation, USA
88	289		289	0.051%	Obidian / PennWest, Canada
89	215		215	0.038%	Antero, USA
90		193	193	0.034%	Whitehaven Coal, Australia
91		174	174	0.030%	Vale, Brazil
288,088	60,911	349,000	349,000	61.159%	Sum of Carbon Majors

Global Carbon Project / CDIAC	
214,073	Oil
113,649	Gas
242,918	Coal
570,639	Sum FF

excludes cement and flaring

Crude oil emissions using EPA crude oil combustion factor		
Richard Heede		
Table 4	Climate Accountability Institute	
4-Oct-21		

2000-2018	Emissions	Assessable person
	EPA Emissions Factor	
	0.43218	
	MtCO2/Mb	
	MtCO2	

Mb		
1	68,838	29,750
2	27,526	11,896
3	21,562	9,319
4	18,449	8,017
5	16,897	7,302
6	16,867	7,289
7	16,371	7,075
8	16,101	6,959
9	15,929	6,884
10	15,561	6,725
11	15,327	6,624
12	14,271	6,168
13	13,433	5,806
14	12,861	5,558
15	12,475	5,391
16	10,153	4,388
17	9,508	4,109
18	8,073	3,489
19	7,747	3,348
20	7,208	3,115
21	6,837	2,955
22	6,836	2,954
23	6,568	2,838
24	6,455	2,790
25	6,446	2,786
26	5,359	2,316
27	5,333	2,305
28	5,031	2,175
29	4,464	1,929
30	4,115	1,778
31	3,954	1,709
32	3,282	1,682
33	3,451	1,492
34	3,446	1,489
35	2,996	1,295
36	2,940	1,270
37	2,914	1,259
38	2,742	1,185
39	2,508	1,082
40	2,489	1,076
41	2,159	933
42	1,961	847
43	1,844	797
44	1,829	791
45	1,710	739
46	1,578	682
47	1,500	648
48	1,339	579
49	1,298	561
50	1,279	553
51	1,169	505
52	1,071	463
53	979	423
54	922	399
55	920	398
56	910	393
57	730	315
58	667	288
59	637	275
60	635	275
61	556	240
62	540	233
63	491	212
64	451	195
65	448	194
66	421	182
67	142	61
68	84	36
69	74	32
462,368		199,826
		Sum of Carbon Majors

Global Carbon Project / CDIAC	
214,073	Oil
113,649	Gas
242,918	Coal
570,639	Sum FF

excludes cement and flaring

Natural Gas emissions using EPA natural gas combustion factor		
Richard Heede		
Table 5	Climate Accountability Institute	
4-Oct-21		

2000-2018	Emission factor	Assessable person
	EPA Emissions Hub	
	0.05444	
	MtCO2/Bcf	
	MtCO2	

Bcf		
1	339,358	18,475
2	91,130	4,961
3	76,495	4,164
4	76,237	4,150
5	57,620	3,137
6	55,113	3,000
7	55,110	3,000
8	52,141	2,839
9	41,866	2,279
10	39,648	2,158
11	38,870	2,116
12	37,906	2,064
13	32,832	1,787
14	31,920	1,738
15	29,901	1,628
16	29,885	1,627
17	27,654	1,505
18	26,255	1,429
19	25,955	1,413
20	23,857	1,239
21	21,438	1,167
22	17,947	977
23	17,844	971
24	17,433	949
25	16,894	920
26	16,777	913
27	16,578	903
28	16,031	873
29	15,714	855
30	15,119	823
31	14,701	800
32	13,271	722
33	11,593	631
34	10,586	576
35	10,142	552
36	9,819	535
37	9,498	517
38	9,448	514
39	8,869	483
40	8,723	475
41	8,569	467
42	7,384	402
43	7,099	386
44	6,790	370
45	6,671	363
46	6,619	360
47	6,316	344
48	5,514	300
49	5,439	296
50	5,269	287
51	5,156	281
52	5,081	277
53	5,035	274
54	4,680	255
55	4,322	235
56	4,017	219
57	3,856	210
58	3,825	208
59	3,730	203
60	3,303	180
61	2,994	163
62	2,889	157
63	2,826	154
64	2,515	137
65	2,477	135
66	1,978	108
67	1,975	108
68	1,336	73
69	774	42
70	347	19
71	163	9
1,597,124		86,947
		Sum of Carbon Majors

Coal emissions, sorted and ranked by MtCO2

Table 6

Richard Heede
Climate Accountability Institute
4-Oct-21

2000-2018

Emissions

Percent

EPA Emissions Factor
1.885% of global oil, gas
& coal emissionsMt
million metric tonnesMtCO2/Mt
MtCO2

2000-2018

1	7,930	14,949	2.62%	Coal India, India
2	3,758	7,084	1.24%	Peabody Energy, USA
3	2,295	4,326	0.76%	Arch Coal Company, USA
4	2,002	3,774	0.66%	BHP Billiton, Australia
5	1,818	3,427	0.60%	RWE, Germany
6	1,802	3,396	0.60%	Rio Tinto, Australia
7	1,753	3,304	0.58%	Glencore, Switzerland
8	1,693	3,191	0.56%	Contura Energy / ANR, USA
9	1,638	3,087	0.54%	Anglo American, UK
10	881	1,660	0.29%	Singareni Collieries, India
11	846	1,594	0.28%	CONSOL Energy, USA
12	823	1,552	0.27%	Sasol, South Africa
13	711	1,340	0.23%	Cloud Peak, USA
14	671	1,265	0.22%	Exxaro, South Africa
15	569	1,072	0.19%	North American Coal Corp., USA
16	557	1,050	0.18%	Murray Coal Corporation, USA
17	556	1,048	0.18%	Westmoreland Coal, USA
18	490	924	0.16%	Alliance Resource Partners, USA
19	434	817	0.14%	Vistra Energy, USA
20	396	747	0.13%	Kiewit Mining Group, USA
21	333	627	0.11%	Tecik Resources, Canada
22	173	326	0.06%	UK Coal, UK (defunct Dec2015)
23	123	232	0.04%	Chevron Mining / Pittsburgh & Midway
24	103	193	0.03%	Whitehaven Coal, Australia
25	92	174	0.03%	Vale, Brazil
26	29	55	0.01%	Exxon Mobil
				Shell Coal, The Netherlands
32,474		61,213	Sum of Carbon Majors	

Global Carbon Project / CDIAC	
214,073	Oil
113,649	Gas
242,918	Coal
570,639	Sum FF

excludes cement and flaring