

# The Carbon Majors Database

## Dataset 1.0



Scope 1 & 3 Emissions from Oil and Gas Extraction Activities by Company, 1988-2015

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Scope 1 Emissions, MtCO<sub>2</sub>e

CDP &amp; Climate Accountability Institute

17-Feb-17

Company	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Abu Dhabi National Oil Co	13.0	17.6	19.4	23.3	22.1	21.7	22.9	22.6	22.6	23.8	25.8
Anadarko Petroleum Corp	2.8	2.8	2.9	2.9	3.0	3.0	3.2	2.7	3.3	3.4	4.6
Apache Corp	0.6	0.9	1.0	1.3	1.4	1.8	2.2	2.8	2.8	3.1	1.5
Bahrain Petroleum Co (BAPCO)	1.5	1.6	1.6	1.3	2.0	2.1	2.1	2.0	2.1	2.2	2.3
BG Group (Acquired <sup>1</sup> )	-	-	-	-	-	-	-	-	-	-	-
BHP Billiton Ltd <sup>2</sup>	11.7	10.6	13.2	13.7	9.9	13.6	10.2	10.4	11.0	11.5	12.1
BP PLC	42.7	43.2	41.6	40.5	39.3	39.4	40.0	39.3	40.7	40.6	44.3
Canadian Natural Resources Ltd	0.0	0.1	0.3	0.6	0.9	1.2	1.4	1.8	3.3	4.7	5.1
Chevron Corp	49.0	44.3	44.5	44.5	42.9	42.3	47.0	45.2	46.9	48.2	49.9
China National Offshore Oil Corp Ltd (CNOOC)	0.4	0.4	0.7	0.9	1.2	1.6	2.2	2.5	3.1	3.9	4.0
China National Petroleum Corp (PetroChina)	5.1	30.9	31.2	31.6	32.0	33.0	33.6	34.1	36.6	36.9	37.0
China Petrochemical Corp (Sinopec)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
ConocoPhillips	39.0	39.9	40.1	40.5	41.2	41.2	41.9	42.7	45.3	48.5	47.7
Devon Energy Corp	0.0	0.0	1.9	2.0	2.3	3.0	3.2	4.2	4.1	4.3	4.8
Ecopetrol SA	2.5	2.6	2.7	2.7	2.7	2.8	2.7	3.6	2.6	4.0	3.0
Egyptian General Petroleum Corp	5.3	5.5	5.6	5.7	5.7	5.9	6.0	6.2	6.3	6.0	5.9
Encana Corp	1.0	1.0	1.1	1.1	1.4	1.6	1.7	1.9	2.2	2.2	2.4
Eni SPA	12.1	13.1	14.1	14.4	14.6	15.7	17.2	17.9	18.0	18.6	18.9
ExxonMobil Corp	59.9	59.9	58.0	60.2	60.5	60.7	63.2	62.6	63.3	63.5	62.7
Gazprom OAO	0.0	206.4	211.4	210.2	201.7	194.5	191.3	190.0	181.1	173.8	181.5
Hess Corp	3.3	3.5	4.2	4.9	5.5	5.2	5.6	5.9	5.1	4.5	4.3
Husky Energy Inc	1.5	2.1	1.8	1.8	2.0	2.0	2.1	2.3	2.3	2.4	2.4
Iraq National Oil Co	17.2	18.8	13.2	2.0	3.0	3.5	3.9	4.0	4.1	7.6	13.7
Kuwait Petroleum Corp	13.6	17.9	11.9	1.5	11.2	19.9	21.3	21.6	21.6	22.6	19.5
Lukoil OAO	0.0	0.0	0.0	14.7	14.7	14.0	12.9	14.4	13.0	13.3	14.2
Marathon Oil Corp	13.7	14.2	13.1	12.5	10.8	10.1	11.0	12.7	12.5	12.4	13.2
Murphy Oil Corp	1.0	1.0	1.0	0.8	0.9	1.0	1.1	1.2	1.1	1.2	1.1
National Iranian Oil Co	26.5	34.4	36.8	38.7	40.6	42.9	42.3	43.3	44.6	54.3	57.6
National Oil Corporation of Libya	9.4	9.3	11.0	11.8	11.5	10.9	11.1	11.1	11.3	11.7	11.3
Nigerian National Petroleum Corp	9.6	11.3	11.8	12.2	12.8	12.9	12.7	13.0	13.0	13.8	13.9
Occidental Petroleum Corp	8.7	7.6	7.8	7.3	7.4	8.3	8.9	10.1	10.5	10.6	11.6
Oil & Natural Gas Corp Ltd	5.3	5.8	5.9	5.8	5.6	5.4	6.2	7.0	6.9	7.0	6.0
OMV AG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.2
Petroleo Brasileiro SA (Petrobras)	6.7	7.1	7.5	7.4	7.6	7.8	8.1	8.4	9.5	10.2	11.7
Petroleos de Venezuela SA (PDVSA)	19.3	20.0	22.4	24.7	24.5	25.7	27.3	29.0	30.9	34.0	33.7
Petroleos Mexicanos (Pemex)	59.7	60.0	62.7	65.2	63.0	63.1	72.2	71.2	76.9	80.1	83.0
Petroleum Development Oman LLC	4.2	4.3	4.8	4.8	5.1	5.4	5.8	6.1	6.3	6.5	6.4
Petrolia Nasional Berhad (Petronas)	8.7	8.7	9.9	10.0	10.9	10.8	10.7	12.4	15.1	16.5	12.2
PT Pertamina	17.8	18.6	19.7	21.6	19.4	19.4	21.9	21.9	23.6	21.0	20.2
Qatar Petroleum Corp	3.1	3.3	3.7	4.0	4.5	4.8	4.8	5.0	5.4	6.3	7.6
Repsol SA	8.2	8.9	9.0	7.5	7.6	8.5	10.7	12.7	13.3	14.8	16.3
Rosneft OAO	0.0	0.0	3.7	3.4	3.1	3.7	3.4	3.4	3.3	3.2	3.4
Royal Dutch Shell PLC <sup>3</sup>	38.7	39.9	43.1	46.4	44.8	45.3	46.5	47.1	51.3	50.3	49.4
Saudi Arabian Oil Company (Aramco)	60.4	60.6	76.5	95.7	98.1	95.2	96.3	96.5	97.7	96.7	99.6
Sonangol EP	2.4	2.4	2.5	2.7	2.8	2.7	2.9	3.4	3.8	3.8	3.9
Sonatrach SPA	15.3	20.6	17.3	17.5	18.5	18.0	17.9	18.4	20.0	20.8	20.3
Statoil ASA	3.1	3.4	3.3	4.1	4.5	4.8	5.3	5.2	5.4	6.0	7.2
Suncor Energy Inc	2.7	2.9	2.7	2.7	2.4	2.5	3.3	3.6	4.9	5.0	5.3
Syrian Petroleum Co	1.7	2.2	2.8	3.5	3.4	3.9	3.9	4.0	4.3	4.2	4.3
Total SA	31.2	33.2	30.4	31.3	30.5	29.7	34.1	34.9	32.0	31.3	29.5
<b>Total</b>	<b>640</b>	<b>903</b>	<b>932</b>	<b>964</b>	<b>961</b>	<b>973</b>	<b>1,006</b>	<b>1,022</b>	<b>1,045</b>	<b>1,073</b>	<b>1,101</b>

<sup>1</sup>BG Group was acquired by Royal Dutch Shell in February 2016.<sup>2</sup>Emissions from BHP Billiton coal production are, as with all other companies that produce coal, excluded.<sup>3</sup>Emissions from BG Group have been attributed to Royal Dutch Shell.

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
24.7	25.3	24.9	24.0	25.9	27.2	30.8	32.7	31.6	32.7	29.2	30.0	32.1	33.7	34.4	36.7	40.7
4.0	3.2	4.2	4.3	4.1	4.0	6.5	6.3	7.0	7.0	7.6	9.1	10.6	12.6	12.0	11.2	5.1
3.7	4.8	6.3	6.3	7.6	8.2	8.3	9.2	10.3	9.8	10.7	9.6	11.4	10.4	8.1	6.8	5.6
2.3	3.3	4.0	4.1	4.2	2.7	3.1	2.6	2.7	2.8	2.9	2.9	2.4	2.5	2.5	2.7	3.5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	12.7	13.0	11.7	10.9	10.5	11.7	12.1	11.0	11.3	11.9	13.7	13.8	19.6	21.4	21.9	19.9
41.1	39.6	41.8	41.2	40.2	42.4	40.5	38.0	35.4	34.0	33.7	31.8	28.9	27.2	26.5	26.7	27.4
5.6	8.2	9.7	11.3	12.4	13.9	14.9	15.6	16.4	15.2	15.4	16.9	14.8	18.2	17.7	19.5	19.8
49.1	47.5	47.7	45.8	44.0	43.2	37.1	38.9	37.7	36.0	37.8	40.1	39.1	37.2	35.9	35.2	35.7
4.0	3.0	3.2	4.1	3.7	3.8	6.0	4.0	4.3	4.7	5.2	5.8	3.9	4.4	7.0	7.4	8.5
34.5	30.3	28.0	28.9	30.6	31.3	34.0	37.5	40.1	42.0	43.3	45.9	38.5	40.2	42.1	43.7	45.1
7.2	7.4	8.4	8.5	8.6	8.8	9.0	9.4	9.8	10.9	10.9	11.7	11.9	12.6	13.1	14.2	14.0
50.4	44.5	45.8	47.7	46.1	47.6	50.8	52.2	51.6	49.5	58.3	55.7	30.5	23.3	24.8	25.0	23.5
4.5	5.3	4.8	5.0	4.7	4.6	4.3	4.1	5.2	5.8	6.7	6.5	6.8	7.1	7.3	7.1	5.6
4.9	2.2	2.4	2.7	3.5	3.2	3.2	2.1	2.1	2.4	2.8	3.3	3.2	3.6	3.6	3.7	4.1
6.1	6.1	6.5	6.5	7.0	7.0	8.0	8.2	8.3	9.8	10.3	10.1	10.1	10.0	9.9	9.0	8.7
2.7	3.1	3.4	3.7	4.2	4.9	5.2	5.6	6.3	7.3	5.3	5.2	5.4	4.2	4.7	4.3	3.6
19.4	21.7	25.0	27.3	29.5	31.2	34.5	36.1	37.6	34.8	33.1	32.2	24.8	29.8	27.0	24.2	22.6
62.3	63.0	62.9	63.0	62.8	63.2	63.2	66.4	64.2	59.7	58.7	59.5	63.5	63.5	65.4	55.6	52.7
181.4	174.8	172.7	178.4	186.5	191.7	190.1	191.4	188.8	187.9	131.2	137.2	133.4	123.8	122.2	110.7	108.0
4.9	5.4	6.3	6.4	5.3	4.9	4.8	5.1	5.4	5.5	5.8	5.1	5.6	6.6	5.8	5.4	4.9
2.4	3.8	5.9	6.5	6.8	7.1	6.8	7.8	8.0	7.5	6.4	6.0	6.5	6.3	6.5	7.1	7.2
15.8	16.2	15.1	12.8	8.2	12.6	11.9	12.7	13.6	15.5	15.7	15.8	17.1	19.2	19.8	21.4	26.2
17.7	23.0	22.2	21.8	22.2	25.7	23.7	21.6	24.1	26.5	23.0	23.1	27.9	29.8	28.0	31.3	32.5
16.7	17.3	16.2	16.9	17.7	19.1	20.1	22.8	23.2	23.5	23.6	24.0	22.8	23.0	23.2	20.4	25.0
14.0	13.6	14.1	13.8	13.0	11.9	10.7	12.1	11.7	13.7	13.4	13.5	2.8	3.3	3.4	3.2	2.3
1.2	1.2	1.3	1.5	1.4	1.4	1.3	1.1	1.2	1.4	1.9	2.2	2.1	2.3	2.4	2.6	2.4
56.3	51.4	51.0	50.4	47.4	55.0	58.0	57.7	57.0	59.9	57.6	65.5	71.1	63.6	62.6	60.6	78.0
10.6	11.4	11.1	10.8	11.4	12.5	13.9	14.8	15.4	15.7	15.1	15.2	4.7	12.3	8.7	5.3	4.9
13.7	13.9	14.5	15.0	15.7	17.3	20.7	19.8	19.3	18.7	19.6	19.8	20.9	20.2	19.3	19.6	23.7
11.4	12.5	10.5	10.4	8.7	7.4	9.0	6.4	7.3	9.1	9.9	10.7	11.7	13.7	12.0	10.0	8.9
5.8	6.4	6.5	6.5	6.7	7.0	6.4	6.7	7.1	7.0	7.8	7.7	8.2	8.1	8.0	7.9	7.7
1.4	1.5	1.5	1.6	2.3	2.4	2.3	6.1	6.0	5.9	5.8	6.1	5.6	4.9	5.2	5.6	4.6
13.1	15.4	16.1	17.9	22.9	26.0	30.3	31.9	32.4	34.3	36.6	28.3	26.3	54.3	28.2	28.2	29.1
30.6	33.6	33.1	29.0	25.5	28.2	28.6	27.1	27.1	26.8	25.5	25.0	25.7	25.8	27.3	27.5	27.8
80.0	81.6	83.1	83.3	87.4	88.4	88.0	88.4	86.8	83.8	71.4	61.8	51.5	41.8	45.5	53.7	50.7
6.1	7.0	7.9	7.9	7.5	7.6	7.5	8.2	8.3	8.3	8.7	9.1	10.4	10.7	10.8	10.6	10.2
16.9	15.4	16.2	19.2	20.6	18.3	18.7	18.4	19.7	20.5	20.6	20.3	24.1	23.6	24.9	25.9	26.5
20.9	20.2	18.8	1.9	3.3	3.6	3.7	3.7	3.8	4.0	4.7	5.0	5.2	5.2	5.2	6.1	6.8
7.9	9.4	9.3	9.5	10.7	12.6	14.0	14.8	16.8	19.2	21.3	26.1	30.1	31.9	32.4	31.8	32.7
14.4	20.1	20.1	20.7	20.8	22.4	23.1	23.9	22.6	21.7	21.4	21.0	15.6	15.8	15.0	18.2	8.8
3.6	3.9	4.3	4.7	5.8	6.3	17.6	19.0	23.8	24.2	24.8	26.1	26.9	28.3	46.5	53.5	54.2
48.3	48.3	48.2	47.8	46.7	44.7	39.8	37.4	34.2	32.3	30.6	35.4	39.6	39.5	42.5	48.0	46.4
91.8	98.5	97.4	91.8	108.1	111.0	121.2	120.2	115.8	121.0	111.0	113.7	127.2	134.3	132.8	135.2	142.3
4.0	4.0	3.9	4.7	4.8	5.6	6.6	7.5	9.2	10.3	9.9	10.0	9.2	9.4	9.6	9.2	9.9
20.1	21.6	21.3	24.0	30.7	29.5	32.1	32.7	32.9	33.0	29.6	29.9	28.8	27.6	27.6	27.2	38.4
9.4	8.5	9.5	10.2	10.4	10.6	10.7	12.7	15.1	14.9	14.4	13.8	13.9	14.9	11.0	15.8	15.8
5.3	5.3	5.1	10.2	11.5	10.4	12.4	15.2	17.8	19.1	16.4	17.0	16.6	12.9	14.6	14.5	14.7
4.3	4.2	3.9	4.1	4.0	3.9	3.7	3.5	3.3	3.2	3.3	3.7	3.3	1.7	1.1	0.8	0.7
27.7	27.1	26.5	25.2	22.2	24.0	24.9	25.0	26.4	27.9	26.5	25.6	21.8	23.1	23.5	22.3	19.5
<b>1,097</b>	<b>1,107</b>	<b>1,116</b>	<b>1,111</b>	<b>1,146</b>	<b>1,187</b>	<b>1,234</b>	<b>1,257</b>	<b>1,266</b>	<b>1,278</b>	<b>1,197</b>	<b>1,214</b>	<b>1,168</b>	<b>1,198</b>	<b>1,189</b>	<b>1,195</b>	<b>1,217</b>

Scope 3 Emissions, MtCO<sub>2</sub>e

CDP &amp; Climate Accountability Institute

17-Feb-17

Company	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Abu Dhabi National Oil Co	170	233	257	310	293	286	301	299	297	313	337	316
Anadarko Petroleum Corp	74	73	75	76	78	78	83	71	85	87	120	104
Apache Corp	4	6	6	9	10	12	15	18	18	21	10	25
Bahrain Petroleum Co (BAPCO)	16	17	17	14	24	25	25	21	21	26	26	26
BG Group (Acquired <sup>1</sup> )	-	-	-	-	-	-	-	-	-	-	-	-
BHP Billiton Ltd <sup>2</sup>	42	38	48	50	35	49	36	37	39	41	43	45
BP PLC	467	467	449	434	421	423	427	419	433	431	469	441
Canadian Natural Resources Ltd	0	0	2	3	4	5	7	8	15	23	24	27
Chevron Corp	435	392	392	392	377	372	416	399	415	427	443	436
China National Offshore Oil Corp Ltd (CNOOC)	8	7	15	21	27	37	51	59	72	88	90	91
China National Petroleum Corp (PetroChina)	70	417	422	427	433	445	453	460	491	496	496	460
China Petrochemical Corp (Sinopec)	0	0	0	0	0	0	0	0	0	0	47	98
ConocoPhillips	225	228	229	231	235	234	237	241	255	274	267	281
Devon Energy Corp	1	1	31	32	37	49	52	66	65	68	75	71
Ecopetrol SA	69	73	77	75	77	79	77	102	74	114	85	140
Egyptian General Petroleum Corp	71	73	74	75	74	77	78	80	81	77	75	78
Encana Corp	22	22	24	24	29	34	37	41	47	47	51	57
Eni SPA	86	93	101	103	106	113	123	128	129	134	136	139
ExxonMobil Corp	534	532	514	534	536	537	560	554	558	561	554	552
Gazprom OAO	0	1,252	1,282	1,275	1,223	1,180	1,160	1,155	1,103	1,060	1,107	1,106
Hess Corp	30	32	37	44	49	47	51	53	46	41	39	45
Husky Energy Inc	10	13	11	11	12	12	13	14	15	15	15	15
Iraq National Oil Co	237	259	181	27	40	48	53	54	55	104	189	219
Kuwait Petroleum Corp	183	242	161	20	154	274	293	296	296	310	267	242
Lukoil OAO	0	0	0	199	199	191	176	196	177	180	193	227
Marathon Oil Corp	52	53	49	47	41	38	41	48	47	46	50	53
Murphy Oil Corp	11	11	10	9	9	10	12	13	12	13	13	14
National Iranian Oil Co	350	457	488	516	538	568	560	570	583	674	708	684
National Oil Corporation of Libya	125	124	146	158	153	146	147	148	150	156	150	142
Nigerian National Petroleum Corp	130	153	161	167	174	176	173	177	178	189	190	188
Occidental Petroleum Corp	47	41	43	40	40	45	49	55	58	58	64	63
Oil & Natural Gas Corp Ltd	102	111	113	110	106	102	116	131	129	132	113	109
OMV AG	0	0	0	0	0	0	0	0	0	8	8	10
Petroleo Brasileiro SA (Petrobras)	93	99	104	104	105	108	113	117	132	142	163	183
Petroleos de Venezuela SA (PDVSA)	256	262	294	325	323	339	360	383	408	450	443	402
Petroleos Mexicanos (Pemex)	420	421	441	459	443	444	510	502	542	564	583	561
Petroleum Development Oman LLC	54	56	61	62	65	69	75	78	81	83	83	80
Petrolia Nasional Berhad (Petronas)	103	105	120	120	130	127	127	144	168	180	144	184
PT Pertamina	229	240	253	277	245	244	276	275	296	260	250	256
Qatar Petroleum Corp	36	38	44	46	52	54	54	56	61	71	86	89
Repsol SA	120	130	132	113	96	99	116	130	134	147	157	116
Rosneft OAO	0	0	51	48	43	48	44	44	43	41	43	46
Royal Dutch Shell PLC <sup>3</sup>	386	399	431	470	459	467	485	498	547	543	540	533
Saudi Arabian Oil Company (Aramco)	767	766	971	1,220	1,249	1,212	1,223	1,224	1,240	1,226	1,262	1,161
Sonangol EP	33	33	35	36	38	37	39	47	51	52	53	54
Sonatrach SPA	168	221	193	196	203	198	197	202	219	228	223	218
Statoil ASA	63	68	68	84	93	98	109	107	110	118	140	186
Suncor Energy Inc	23	24	23	22	20	21	28	30	42	42	45	44
Syrian Petroleum Co	23	30	37	46	45	52	53	54	57	56	57	56
Total SA	202	215	196	210	212	215	259	277	264	271	269	266
<b>Total</b>	<b>6,545</b>	<b>8,531</b>	<b>8,870</b>	<b>9,271</b>	<b>9,356</b>	<b>9,521</b>	<b>9,888</b>	<b>10,086</b>	<b>10,337</b>	<b>10,687</b>	<b>10,999</b>	<b>10,938</b>

<sup>1</sup>BG Group was acquired by Royal Dutch Shell in February 2016.<sup>2</sup>Emissions from BHP Billiton coal production are, as with all other companies that produce coal, excluded.<sup>3</sup>Emissions from BG Group have been attributed to Royal Dutch Shell.

## CDP &amp; Climate Accountability Institute

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2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
325	318	303	328	345	395	419	404	419	373	381	409	431	440	472	527
83	109	113	107	104	95	64	70	67	72	77	82	88	94	101	100
32	43	42	52	56	57	62	70	66	72	82	93	97	95	81	67
36	46	46	47	27	30	26	27	28	28	29	24	25	25	28	35
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	46	41	38	36	40	39	39	44	47	54	54	74	79	82	86
416	437	450	462	517	520	508	494	496	517	493	426	430	417	406	424
41	49	56	61	69	75	79	82	76	78	87	73	81	83	95	109
421	422	407	390	385	333	351	345	332	356	364	352	343	341	337	344
68	74	95	86	87	137	91	99	106	118	152	148	152	148	155	180
407	371	383	403	407	438	479	506	525	535	564	474	494	514	531	546
101	114	115	116	118	121	125	129	145	144	151	153	160	165	179	176
249	259	268	259	268	290	301	296	284	329	308	204	199	195	198	203
84	76	78	73	72	66	64	72	72	75	73	77	80	81	80	83
61	68	74	97	90	90	57	59	66	77	92	101	105	111	104	104
76	79	79	83	83	91	93	94	108	114	111	112	111	109	101	98
65	72	78	74	83	87	84	84	89	58	65	69	62	60	56	48
156	179	193	205	213	231	228	222	229	226	227	191	203	191	189	210
558	557	556	556	563	551	578	576	552	562	567	572	538	531	505	529
1,067	1,056	1,093	1,144	1,177	1,165	1,177	1,162	1,158	988	1,082	1,174	1,129	1,135	1,068	1,042
49	58	59	49	45	44	47	50	50	54	55	49	54	44	43	48
25	38	42	43	45	43	50	53	50	43	40	43	42	44	48	48
224	209	177	114	175	164	175	186	213	215	215	234	264	271	296	362
314	304	296	301	351	322	292	327	357	309	311	379	408	382	424	439
235	221	230	240	260	273	302	307	309	312	314	298	299	302	281	328
51	53	52	49	45	40	47	45	53	54	52	51	61	63	59	45
14	15	17	16	16	16	14	14	18	22	25	23	25	27	30	27
656	646	629	614	694	721	716	712	739	709	782	829	734	722	694	874
152	148	144	153	166	183	195	201	205	196	197	60	161	112	65	60
191	198	199	210	226	267	253	246	235	245	254	266	259	246	251	288
69	66	78	79	83	100	66	74	88	92	96	94	98	98	77	84
117	120	119	124	129	118	125	132	130	144	142	130	130	127	126	122
10	10	11	16	16	16	40	40	39	40	40	36	38	36	38	37
215	224	249	279	276	304	315	316	328	346	354	359	355	331	346	358
444	435	381	335	371	374	356	354	350	332	323	333	334	356	358	358
574	586	588	618	624	620	620	604	577	553	550	540	532	528	515	485
88	97	95	90	89	88	93	93	94	98	101	113	117	118	116	113
173	179	215	232	202	205	201	215	224	225	219	260	250	265	279	286
249	232	21	37	40	41	41	42	44	52	56	57	58	59	70	77
106	104	106	120	140	156	164	184	209	230	279	320	338	343	338	346
169	168	167	177	185	183	183	169	157	151	148	82	80	77	87	67
49	55	59	73	79	233	253	318	326	334	354	363	379	614	694	699
548	553	556	556	543	515	516	495	488	487	507	484	490	478	465	465
1,244	1,226	1,150	1,356	1,404	1,517	1,501	1,445	1,511	1,379	1,408	1,579	1,665	1,644	1,671	1,766
54	54	65	65	76	90	102	126	140	135	137	126	129	131	126	135
234	230	258	343	323	354	359	361	363	326	329	319	304	303	298	407
181	180	195	203	211	215	212	215	219	220	209	201	222	210	213	223
44	43	89	100	91	90	95	98	93	73	98	91	93	90	88	95
55	51	53	52	51	47	45	43	42	42	46	41	21	12	8	7
272	281	309	324	350	343	329	333	336	335	353	289	284	287	266	294
<b>11,096</b>	<b>11,159</b>	<b>11,077</b>	<b>11,548</b>	<b>12,006</b>	<b>12,497</b>	<b>12,531</b>	<b>12,623</b>	<b>12,851</b>	<b>12,522</b>	<b>12,958</b>	<b>12,837</b>	<b>13,028</b>	<b>13,135</b>	<b>13,137</b>	<b>13,851</b>

Cumulative Scope 1+3 Emissions, MtCO<sub>2</sub>e

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Company	1988-2015
Saudi Arabian Oil Company (Aramco)	39,931
Gazprom OAO	35,372
National Iranian Oil Co	19,631
ExxonMobil Corp	17,101
Petroleos Mexicanos (Pemex)	16,988
Royal Dutch Shell PLC <sup>1</sup>	15,117
BP PLC	13,744
China National Petroleum Corp (PetroChina)	13,623
Chevron Corp	11,913
Petroleos de Venezuela SA (PDVSA)	10,804
Abu Dhabi National Oil Co	10,454
Kuwait Petroleum Corp	8,860
Total SA	8,608
Sonatrach SPA	8,268
ConocoPhillips	8,240
Petroleo Brasileiro SA (Petrobras)	6,981
Lukoil OAO	6,716
Nigerian National Petroleum Corp	6,341
Petrolim Nasional Berhad (Petronas)	5,758
Rosneft OAO	5,735
Eni SPA	5,350
Iraq National Oil Co	5,324
Statoil ASA	4,835
PT Pertamina	4,626
Qatar Petroleum Corp	4,551
National Oil Corporation of Libya	4,458
Repsol SA	4,182
Oil & Natural Gas Corp Ltd	3,599
Egyptian General Petroleum Corp	2,662
Petroleum Development Oman LLC	2,655
Anadarko Petroleum Corp	2,583
China National Offshore Oil Corp Ltd (CNOOC)	2,567
China Petrochemical Corp (Sinopec)	2,535
Ecopetrol SA	2,481
Sonangol EP	2,360
Occidental Petroleum Corp	2,211
Suncor Energy Inc	1,993
Devon Energy Corp	1,881
BHP Billiton Ltd <sup>2</sup>	1,716
Marathon Oil Corp	1,693
Encana Corp	1,664
Canadian Natural Resources Ltd	1,578
Hess Corp	1,459
Apache Corp	1,377
Syrian Petroleum Co	1,276
Husky Energy Inc	984
Bahrain Petroleum Co (BAPCO)	836
OMV AG	560
Murphy Oil Corp	497
BG Group (Acquired <sup>3</sup> )	-
<b>Total</b>	<b>344,680</b>

<sup>1</sup>Emissions from BG Group have been attributed to Royal Dutch Shell.

<sup>2</sup>Emissions from BHP Billiton coal production are, as with all other companies that produce coal, excluded.

<sup>3</sup>BG Group was acquired by Royal Dutch Shell in February 2016.

Scope 1+3 Emissions, MtCO<sub>2</sub>e

CDP &amp; Climate Accountability Institute

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Company	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Abu Dhabi National Oil Co	183	251	277	334	315	308	324	321	320	337	363
Anadarko Petroleum Corp	76	76	78	78	81	81	86	74	88	91	124
Apache Corp	4	7	7	10	11	14	17	21	21	24	12
Bahrain Petroleum Co (BAPCO)	18	18	18	15	26	27	27	23	23	28	28
BG Group (Acquired <sup>1</sup> )	-	-	-	-	-	-	-	-	-	-	-
BHP Billiton Ltd <sup>2</sup>	54	49	61	64	45	63	47	47	50	53	55
BP PLC	509	510	490	475	460	462	467	459	474	472	514
Canadian Natural Resources Ltd	0	0	2	3	5	6	8	10	19	27	30
Chevron Corp	484	436	436	436	420	415	463	444	462	475	492
China National Offshore Oil Corp Ltd (CNOOC)	8	8	15	22	28	38	54	62	75	92	94
China National Petroleum Corp (PetroChina)	75	448	453	459	465	478	487	494	527	533	533
China Petrochemical Corp (Sinopec)	0	0	0	0	0	0	0	0	0	0	51
ConocoPhillips	264	268	269	271	276	275	279	284	301	322	315
Devon Energy Corp	1	1	33	34	40	52	55	70	69	73	80
Ecopetrol SA	71	75	79	78	79	82	79	105	77	118	88
Egyptian General Petroleum Corp	76	79	80	81	80	83	84	86	88	83	81
Encana Corp	23	23	25	25	30	35	39	43	49	49	53
Eni SPA	98	106	116	117	120	128	140	146	147	152	155
ExxonMobil Corp	594	592	572	594	597	598	623	617	621	624	617
Gazprom OAO	0	1,459	1,493	1,485	1,425	1,375	1,352	1,345	1,284	1,234	1,289
Hess Corp	33	36	42	49	54	52	57	59	51	46	44
Husky Energy Inc	11	15	13	13	14	14	15	16	17	18	17
Iraq National Oil Co	255	277	195	29	43	52	57	58	59	112	203
Kuwait Petroleum Corp	197	260	173	22	166	294	315	317	317	333	287
Lukoil OAO	0	0	0	214	214	205	189	210	190	193	207
Marathon Oil Corp	66	68	62	60	51	48	52	61	59	58	63
Murphy Oil Corp	12	12	11	9	10	11	13	14	13	15	14
National Iranian Oil Co	377	491	525	554	579	611	602	614	628	728	766
National Oil Corporation of Libya	135	133	157	170	165	157	158	159	162	168	162
Nigerian National Petroleum Corp	140	164	173	179	187	188	186	191	191	203	204
Occidental Petroleum Corp	56	49	51	47	48	53	57	65	69	69	76
Oil & Natural Gas Corp Ltd	108	117	119	116	112	107	123	138	136	139	119
OMV AG	0	0	0	0	0	0	0	0	0	9	10
Petroleo Brasileiro SA (Petrobras)	99	106	112	111	113	116	121	125	141	152	174
Petroleos de Venezuela SA (PDVSA)	275	282	317	350	348	364	387	412	439	484	476
Petroleos Mexicanos (Pemex)	479	481	503	524	506	507	582	573	618	644	666
Petroleum Development Oman LLC	59	60	66	66	70	75	81	84	87	90	89
Petrolim Nasional Berhad (Petronas)	112	114	130	130	141	138	137	157	183	197	156
PT Pertamina	247	259	273	299	264	263	298	297	320	281	271
Qatar Petroleum Corp	39	42	47	50	57	59	58	61	67	77	94
Repsol SA	129	139	141	121	104	107	126	143	147	161	173
Rosneft OAO	0	0	55	51	47	51	47	47	46	44	46
Royal Dutch Shell PLC <sup>3</sup>	425	439	474	516	503	513	531	546	598	594	590
Saudi Arabian Oil Company (Aramco)	827	827	1,048	1,316	1,347	1,307	1,319	1,321	1,337	1,323	1,362
Sonangol EP	35	36	37	39	41	40	42	50	55	55	57
Sonatrach SPA	183	242	211	213	222	216	215	220	239	249	243
Statoil ASA	66	71	71	88	97	102	114	113	115	124	147
Suncor Energy Inc	25	27	26	25	23	23	31	33	46	47	51
Syrian Petroleum Co	25	33	39	50	49	56	57	58	61	60	61
Total SA	233	249	227	241	242	244	293	312	296	302	298
<b>Total</b>	<b>7,185</b>	<b>9,434</b>	<b>9,801</b>	<b>10,235</b>	<b>10,318</b>	<b>10,494</b>	<b>10,894</b>	<b>11,108</b>	<b>11,382</b>	<b>11,760</b>	<b>12,100</b>

<sup>1</sup>BG Group was acquired by Royal Dutch Shell in February 2016.<sup>2</sup>Emissions from BHP Billiton coal production are, as with all other companies that produce coal, excluded.<sup>3</sup>Emissions from BG Group have been attributed to Royal Dutch Shell.

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1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
341	351	343	327	354	372	425	452	435	452	402	411	441	465	474	509	568
108	86	113	117	111	108	102	70	77	74	80	86	92	101	106	112	105
29	37	49	49	60	64	65	71	80	76	83	92	104	107	103	88	73
29	39	50	50	51	30	33	28	29	31	31	32	27	28	28	30	38
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	58	59	53	49	46	52	52	50	55	59	68	68	94	100	104	106
482	456	478	491	503	560	560	546	529	530	551	525	455	457	444	432	451
33	50	58	67	74	83	90	94	98	91	94	104	87	99	101	115	129
485	469	470	453	434	428	370	390	382	368	394	405	391	380	377	373	380
95	71	78	100	89	90	143	95	103	111	124	158	152	156	155	163	188
494	437	399	412	434	439	472	516	546	567	579	610	512	534	556	574	592
105	108	122	123	124	127	130	134	139	156	155	163	165	173	178	193	190
331	293	304	316	305	316	341	353	347	334	387	363	234	222	220	223	226
75	90	81	83	78	77	71	68	78	78	82	80	84	87	89	87	88
145	63	71	76	100	93	93	59	62	69	80	96	104	109	114	108	108
84	82	85	85	90	90	99	102	102	118	124	122	122	121	119	110	107
60	68	75	81	78	88	93	89	90	97	64	70	74	66	65	60	51
159	177	204	220	234	244	266	264	260	264	259	260	216	233	219	213	233
614	621	620	619	618	626	614	644	640	612	620	626	635	602	596	561	582
1,288	1,241	1,229	1,271	1,330	1,369	1,355	1,368	1,351	1,346	1,119	1,219	1,307	1,253	1,257	1,179	1,150
49	55	64	66	54	50	49	52	55	55	60	60	54	60	50	48	53
18	28	44	48	50	52	50	58	61	57	49	46	50	48	50	55	55
235	241	224	190	122	188	176	188	200	228	231	231	251	283	291	317	389
260	337	326	318	323	377	345	314	351	383	332	334	406	438	410	455	471
244	252	237	247	258	279	293	325	330	332	335	338	321	322	326	302	353
67	65	67	66	62	57	51	59	57	66	67	65	54	64	67	62	47
15	15	16	18	17	18	17	15	15	19	24	27	26	28	30	32	29
740	708	698	679	661	749	779	773	769	799	766	847	900	798	785	755	952
152	163	159	154	164	178	197	209	216	220	211	213	64	174	121	71	65
201	205	213	214	226	244	288	273	265	254	265	274	287	279	266	271	312
75	82	77	88	87	90	109	72	81	97	102	106	105	112	110	87	92
114	124	127	126	130	136	125	132	139	137	152	150	138	138	135	133	130
11	12	12	12	18	19	18	46	46	45	45	46	41	43	41	44	42
196	230	241	267	302	302	334	347	348	363	383	383	385	409	359	374	387
433	478	468	410	360	399	403	383	381	376	357	348	359	360	383	385	386
641	656	669	671	705	713	708	708	691	661	624	612	591	574	574	569	536
86	95	105	103	97	97	95	101	101	102	107	110	124	127	129	126	123
201	188	196	234	253	220	224	220	235	245	245	240	284	274	290	305	313
277	269	251	23	40	44	45	44	46	48	57	61	63	63	64	76	84
97	115	113	116	130	153	170	179	200	228	251	305	350	370	376	370	378
130	189	188	188	198	207	206	207	192	179	172	169	97	96	92	105	76
49	53	59	64	79	85	251	272	342	350	359	380	390	408	660	747	753
581	596	601	604	603	588	555	553	529	520	518	542	523	530	520	513	511
1,253	1,343	1,324	1,241	1,464	1,515	1,638	1,621	1,561	1,632	1,490	1,521	1,706	1,799	1,776	1,806	1,908
58	58	58	69	70	82	97	110	135	151	145	147	136	138	140	136	145
238	255	251	281	374	353	386	392	394	396	355	359	348	332	331	325	445
195	189	190	205	213	221	226	224	230	234	234	223	215	237	221	229	238
49	50	48	99	112	101	103	110	115	112	89	116	108	106	105	102	110
60	59	55	57	56	55	51	49	46	45	45	50	45	23	14	9	8
293	299	307	334	346	374	368	354	359	364	362	379	311	307	310	288	314
<b>12,035</b>	<b>12,203</b>	<b>12,275</b>	<b>12,188</b>	<b>12,694</b>	<b>13,192</b>	<b>13,731</b>	<b>13,788</b>	<b>13,889</b>	<b>14,130</b>	<b>13,719</b>	<b>14,171</b>	<b>14,005</b>	<b>14,226</b>	<b>14,324</b>	<b>14,332</b>	<b>15,068</b>



2015 Scope 1+3 Emissions List, MtCO<sub>2</sub>e

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Company	2015	Rank
Saudi Arabian Oil Company (Aramco)	1,908	1
Gazprom OAO	1,150	2
National Iranian Oil Co	952	3
Rosneft OAO	753	4
China National Petroleum Corp (PetroChina)	592	5
ExxonMobil Corp	582	6
Abu Dhabi National Oil Co	568	7
Petroleos Mexicanos (Pemex)	536	8
Royal Dutch Shell PLC <sup>1</sup>	511	9
Kuwait Petroleum Corp	471	10
BP PLC	451	11
Sonatrach SPA	445	12
Iraq National Oil Co	389	13
Petroleo Brasileiro SA (Petrobras)	387	14
Petroleos de Venezuela SA (PDVSA)	386	15
Chevron Corp	380	16
Qatar Petroleum Corp	378	17
Lukoil OAO	353	18
Total SA	314	19
Petrolim Nasional Berhad (Petronas)	313	20
Nigerian National Petroleum Corp	312	21
TurkmenGaz	245	22
Statoil ASA	238	23
Eni SPA	233	24
ConocoPhillips	226	25
Surgutneftegas OAO	200	26
China Petrochemical Corp (Sinopec)	190	27
China National Offshore Oil Corp Ltd (CNOOC)	188	28
Novatek OAO	162	29
Sonangol EP	145	30
Petoro AS <sup>2</sup>	136	31
Oil & Natural Gas Corp Ltd	130	32
Canadian Natural Resources Ltd	129	33
Petroleum Development Oman LLC	123	34
Suncor Energy Inc	110	35
Ecopetrol SA	108	36
Egyptian General Petroleum Corp	107	37
BHP Billiton Ltd <sup>3</sup>	106	38
Anadarko Petroleum Corp	105	39
KazMunayGas	97	40
Occidental Petroleum Corp	92	41
Chesapeake Energy Corporation	90	42
Devon Energy Corp	88	43
PT Pertamina	84	44
Tatneft OAO	83	45
EOG Resources Inc	81	46
Petroleos del Ecuador	81	47
Repsol SA	76	48
YPF SA	75	49
Apache Corp	73	50
<b>Total</b>	<b>15,929</b>	

<sup>1</sup>Emissions from BG Group have been attributed to Royal Dutch Shell.

<sup>2</sup>Petoro AS manages Norway's Government portfolio and does not operate or directly own licences to any oil fields.

They are considered here as representative of production (excluding Statoil) under ownership of the Norwegian Govt.

<sup>3</sup>Emissions from BHP Billiton coal production are, as with all other companies that produce coal, excluded.