

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
		Emissions	Summary of emissions from identified oil & NGL production																						

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	
1	Summary of emissions from identified oil & NGL production																											
2	Richard Heede Climate Mitigation Services [22-May-13]																											
3	1890s														1900s										1910s			
4	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	
5	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	
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42																												
43	0.4	0.6	0.7	0.8	0.9	0.9	1.1	1.3	1	1	1	2	2	2	3	3	3	4	4	5	5	6	5	5	7	7		
44																												
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99																												
100	0.04	0.09	0.26	0.35	0.48	1.2	1.0	0.3	0.3	0.5	0.5	0.6	0.6	0.5	1.8	2	2	2	3	3	6	10	3	2	13			
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120																												
121	0.4	0.6	0.7	0.9	1	1	2	3	2	2	2	2	3	3	3	5	6	6	6	8	8	14	19	13	13	24		
122																												
123																												
124	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.7	0.7	0.5	0.5	0.6	0.7	0.7	0.8	0.8	1.3	1.6	1.5	1.7	2.1	2	4	5	4	3	7	
125																												
126	29	33	33	37	33	40	44	48	48	51	59	66	70	73	84	84	84	103	110	117	125	132	136	150	154	165	176	
127																												
128	8	9	9	10	9	11	12	13	13	14	16	18	19	20	23	23	23	28	30	32	34	36	37	41	42	45	48	
129																												
130	1.4%	1.7%	2.1%	2.4%	3.5%	3.2%	3.6%	5.3%	5.1%	3.4%	2.9%	3.3%	3.5%	3.6%	3.4%	3.6%	5.6%	5.7%	5.0%	5.4%	6.3%	6.3%	10.4%	12.8%	8.6%	7.6%	13.6%	
131																												
132																												
133																												
134	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	
135																												

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	
1	Summary of emissions from identified oil & NGL production																											
2																												
3																												
4	Richard Heede Climate Mitigation Services 22-May-13																											
5																												
6																												
7	1910s							1920s							1930s							1940s						
8	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	
9	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	
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24	3	3	4	6	10	14	17	20	27	34	41	43	42	44	37	29	25	27	29	34	42	41	39	37	37	45	51	
25																												
26																												
27																												
28	1.2	1.3	1.2	1.5	2	3	6	6	5	20	20	21	24	38	36	37	37	39	45	49	78	89	93	103	103	97	114	
29																												
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44	8	10	12	14	14	16	21	28	28	32	33	36	41	42	41	51	66	80	86	93	107	100	110	102	113	83	112	
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100	13	6	11	16	20	24	40	36	35	39	46	60	66	63	56	57	60	65	72	76	87	81	60	63	66	69	73	
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122	25	21	28	38	47	58	85	90	96	124	148	170	186	200	182	187	200	236	261	284	350	374	371	379	402	383	446	
123																												
124	7	6	8	10	13	16	23	25	26	34	40	46	51	55	50	51	55	64	71	78	95	102	101	103	110	105	122	
125																												
126	198	194	224	286	308	344	407	403	425	436	498	524	586	557	539	517	564	594	645	704	802	784	813	839	865	813	876	
127																												
128	54	53	61	78	84	94	111	110	116	119	136	143	160	152	147	141	154	162	176	192	219	214	222	229	236	222	239	
129																												
130	12.8%	10.6%	12.7%	13.4%	15.1%	16.7%	20.9%	22.3%	22.5%	28.5%	29.8%	32.4%	31.8%	35.9%	33.8%	36.2%	35.5%	39.8%	40.4%	40.4%	43.6%	47.7%	45.6%	45.1%	46.5%	47.1%	50.9%	
131																												
132																												
133																												
134	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	
135																												

	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY		
1	Summary of emissions from identified oil & NGL production																									
2																										
3																										
4	dataset marker																									
5	Richard Heede																									
6	Climate Mitigation Services																									
7	22-May-13																									
8	1940s						1950s						1960s													
9	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967		
10	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371		
11																					0	1	3	4	5	5
12																										
13																										
14	10	11	12	14	12	13	15	16	16	15	17	19	21	23	26	28	30	32	34	36	38	40	42			
15																										
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23																										
24	68	80	94	100	120	119	165	150	131	151	159	200	218	215	247	257	288	304	326	342	387	411	459	499		
25																										
26																										
27																										
28	141	155	167	178	202	202	241	290	309	325	339	377	412	456	477	506	556	607	661	700	737	813	894	980		
29																										
30																										
31																										
32	19	22	43	45	49	45	53	61	63	65	68	73	80	85	84	97	102	104	112	120	128	140	149	153		
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44	146	158	174	193	198	176	214	255	272	284	293	327	361	369	362	381	393	423	466	515	558	606	643	695		
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56	0.22	1	2	4	5	7	9	11	13	15	17	18	20	21	23	24	27	28	31	32	34	34				
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62	12	12	12	12	13	11	12	13	13	14	14	14	15	14	14	15	15	16	18	20	24	28	32	32		
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68	4	5	5	6	7	7	9	31	2	4	10	44	72	96	110	124	145	163	180	202	232	259	289	352		
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86	22	23	24	25	26	27	28	29	30	32	33	34	35	37	38	39	40	43	45	47	48	52	50	56		
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100	77	80	89	109	130	120	136	159	173	179	169	185	204	224	211	238	238	242	264	271	300	325	359	369		
101																										
102	0	1	2	3	5	6	7	10	11	11	13	13	13	13	14	15	17	19	21	24	26	30	36	39		
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118	48	51	55	59	63	66	70	74	77	81	85	88	92	96	99	103	107	110	114	118	121	125	129	133		
119																										
120																										
121																										
122	537	597	677	744	830	823	986	1,135	1,155	1,226	1,277	1,477	1,650	1,820	1,922	2,117	2,350	2,538	2,806	3,042	3,356	3,648	4,073	4,402		
123																										
124	147	163	185	203	227	224	269	310	315	335	349	403	450	497	524	578	641	693	766	830	916	995	1,112	1,201		
125																										
126	1,008	1,008	1,070	1,180	1,334	1,326	1,550	1,755	1,847	1,953	2,041	2,290	2,488	2,616	2,679	2,891	3,111	3,312	3,591	3,855	4,166	4,467	4,848	5,214		
127																										
128	275	275	292	322	364	362	423	479	504	533	557	625	679	714	731	789	849	904	980	1,052	1,137	1,219	1,323	1,423		
129																										
130	53.3%	59.2%	63.2%	63.1%	62.2%	62.0%	63.6%	64.7%	62.6%	62.8%	62.6%	64.5%	66.3%	69.6%	71.7%	73.2%	75.5%	76.6%	78.1%	78.9%	80.5%	81.7%	84.0%	84.4%		
131																										
132																										
133																										
134	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967		
135																										

	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX		
1	Summary of emissions from identified oil & NGL production																										
4	dataset marker					Richard Heede Climate Mitigation Services 22-May-13																					
7	1970s												1980s								1990s						
8	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
10	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371	0.371		
12	7	8	10	13	14	44	112	112	129	134	118	120	109	92	74	69	67	65	106	147	141	199	221	268	250		
14	48	52	50	49	48	47	45	44	43	42	40	39	38	37	35	34	33	49	48	44	44	43	43	44	44		
16	1	1	1	1	1	1	1	5	5	6	6	5	8	7	7	7	7	1	1	1	1	1	1	3	5		
18	1	1	1	1	1	1	1	5	5	6	6	5	8	7	7	7	7	1	1	1	1	1	1	3	5		
20																						0.3	6	8	7		
22			2	13	20	21	26	26	27	28	30	29	29	27	59	67	34	38	35	35	34	30	39	42	26		
24	549	606	692	749	816	818	768	641	647	669	775	678	560	542	534	511	492	467	440	448	369	351	331	313	301		
26																						0.1	0.4	1	1		
28	1,064	1,155	1,263	1,288	1,386	1,454	1,436	1,066	1,102	1,072	990	990	925	878	626	523	390	341	339	324	301	264	255	258	245		
30																						0	0	6	12	18	
32	161	169	186	184	190	187	162	161	160	166	178	176	176	165	163	168	150	147	148	146	155	150	151	149	150		
34																						0.2	0.3	18	20	23	
36																						10	51	55	60	58	59
38	2	3	4	4	3	2	2	3	23	29	35	38	42	43	48	52	59	63	58	64	61	63	63	64	62		
40																						9	11	12	14	15	17
42	19	22	25	32	39	51	40	39	43	42	48	47	45	32	33	34	39	39	38	47	52	59	65	66	70		
44	760	784	854	891	953	941	788	694	567	610	574	601	498	262	266	298	319	338	342	345	348	337	322	335	334		
46	644	685	725	780	820	881	922	1,017	1,098	1,166	1,274	1,342	1,626	1,647	1,658	1,668	1,654	1,618	1,672	1,692	1,695	1,646	1,546	1,412			
48																							32	33	32	31	
50	38	37	36	32	31	29	21	21	23	24	24	26	24	24	23	23	23	21	21	19	20	21	23	27	30		
52																							7	7	6	6	
54	122	124	126	137	120	164	160	184	197	191	208	283	205	82	83	82	99	117	138	170	220	240	168	25	35		
56	35	38	41	43	72	133	277	282	291	267	289	339	237	172	112	112	148	136	164	138	163	216	144	18	142		
58	35	42	85	111	126	132	112	130	150	171	180	189	173	112	113	108	107	103	101	95	114	112	134	145	140		
60																											
62	36	40	46	44	44	42	38	36	39	42	41	41	40	39	38	36	35	34	34	34	30	30	28	27	26	23	
64																	8	7	7	7	7	6	6	5	4	4	
66																						3	3	3	4	5	
68	385	458	519	615	681	794	816	725	797	767	710	430	227	188	301	332	296	306	278	313	304	400	425	455	468		
70	2	7	15	52	62	70	76	60	70	71	64	133	167	117	105	101	113	122	119	109	118	140	147	154	158		
72	74	82	89	79	52	34	23	19	24	34	44	48	40	36	38	57	42	44	44	41	32	27	30	27	27		
74	16	19	20	19	21	21	23	24	27	31	33	25	44	53	65	71	84	86	83	86	92	90	84	76			
76																											
78	42	51	59	62	75	93	95	90	104	117	113	110	114	118	98	99	103	95	98	82	183	191	198	216	182		
80																							62	372	376	380	384
82	22	23	22	23	23	23	24	23	23	22	22	22	25	29	35	45	63	75	80	80	78	84	89	88	89		
84	49	49	50	48	44	46	40	32	310	304	294	320	302	292	265	252	251	236	255	208	258	259	284	322	321		
86	60	63	66	66	68	71	89	109	121	151	180	199	263	313	319	324	329	334	339	344	341	341	358	376	361		
88	3	4	4	4	4	24	24	31	30	28	26	24	23	26	26	31	33	40	45	46	49	50	53	54	56		
90							10	12	20	22	27	35	35	32	37	45	55	55	63	65	71	76	88	88	90		
92																											
94	5	5	5	6	7	19	43	36	41	37	40	42	39	35	29	26	34	27	27	26	31	33	36	36	39		
96	1	1	1	1	1	1	2	2	3	4	5	6	8	9	10	11	12	13	15	15	14	15	16	17	18		
98																											
100	394	447	497	732	759	798	703	472	450	435	406	386	183	171	185	203	218	222	244	239	240	251	269	295	293		
102	43	46	53	67	84	265	679	567	1,159	1,252	1,128	1,296	1,359	1,365	916	638	581	455	677	588	726	716	921	1,169	1,192		
104																											
106	0	1	2	1	2	2	2	2	4	13	9	10	10	9	8	12	14	16	19	25	31	31	33	35	36		
108	43	47	52	41	57	60	57	57	64	70	77	79	73	69	70	69	77	81	86	86	85	97	108	109	105		
110																											
112																											
114	2	4	7	8	10	9	10	14	14	15	14	14	13	14	13	14	14	14	14	16	19	22	28	32	40	39	
116																											
118	136	140	144	147	168	87	96	80	83	79	79	78	69	41	37	32	34	83	87	133	148	161	143	154	154		
120																											
122	4,799	5,212	5,751	6,345	6,801	7,366	7,720	6,820	7,889	8,110	8,080	8,214	7,722	7,080	6,435	6,178	6,045	5,936	6,325	6,400	6,841	7,389	7,823	7,874	6,495		
124	1,310	1,422	1,570	1,732	1,856	2,010	2,107	1,861	2,153	2,213	2,205	2,242	2,108	1,932	1,756	1,686	1,650	1,620	1,726	1,747	1,867	2,016	2,135	2,149	1,772		
126	5,683	6,130	6,738	7,134	7,537	8,211	8,226	7,812	8,479	8,787	8,765	9,322	8,875	8,387	8,047	7,973	8,069	8,017	8,409	8,461	8,845	9,021	9,215	9,615	9,201		
128	1,551	1,673	1,839	1,947	2,057	2,241	2,245	2,132	2,314	2,398	2,392	2,544	2,422	2,289	2,196	2,176	2,202	2,188	2,295	2,309	2,414	2,462	2,515	2,624	2,511		
130	84.4%	85.0%	85.3%	88.9%	90.2%	89.7%	93.8%	87.3%	93.0%	92.3%	92.2%	88.1%	87.0%	84.4%	80.0%	77.5%	74.9%	74.0%	75.2%	75.6%	77.3%	81.9%	84.9%	81.9%	70.6%		
132																											
134	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		

Oil Emissions

	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU							
	Summary of emissions from identified oil & NGL production																	CO2 Coefficient 0.371428 Million tonnes CO2 / million barrels												
	dataset marker																	Richard Heede Climate Mitigation Services 22-May-13			Copyright Climate Mitigation Services			Linked to "Oil Emission Factor Calc" Cumulative emissions						
7	1990s							2000s							Sum to 2010															
8	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Million tonnes CO ₂					Oil & NGL Emissions						
9	0.3714																						CO2 per million bbl produced (MtCO2/Mbb):							
10	0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714 0.3714																													
11	243	252	254	250	263	278	250	258	249	229	251	265	312	332	315	330	289	293	7,559					Abu Dhabi National Oil (ADNOC), UAE						
12																				2,445					Anadarko, USA					
13	45	46	43	44	44	71	57	48	60	62	55	53	49	32	36	30	32	36	412					Apache, USA						
14	5	5	7	7	9	7	13	17	21	22	29	33	33	32	36	36	39	47	323					Bahrain Petroleum Corporation						
15	14	14	5	5	14	14	14	14	24	24	24	5	5	5	5	4	4	4	291					BG Group (British Gas), UK						
16	7	9	8	8	8	9	9	9	10	16	16	17	18	19	24	24	25	24	1,230					BHP Billiton, Australia						
17	41	28	29	29	30	32	33	33	32	28	23	19	23	21	21	26	29	36	25,883					BP, UK						
18	302	301	291	295	293	313	315	261	262	274	287	343	347	336	327	326	344	322	477					Canadian Natural Resources, Canada						
19	1	2	2	5	10	10	12	24	28	29	33	38	42	45	45	43	48	58	36,583					Chevron, USA						
20	245	280	268	282	290	306	301	290	288	280	267	272	246	250	242	227	254	261	897					CNOOC (China National Offshore Oil), China						
21	23	29	35	41	44	45	48	28	31	40	41	43	87	51	50	57	69	98	9,271					ConocoPhillips, USA						
22	148	146	146	152	165	153	153	141	158	158	153	160	193	207	200	193	198	186	596					Devon Energy, USA						
23	28	29	33	32	35	35	35	41	38	34	8	29	26	24	30	25	27	27	1,449					Ecopetrol, Colombia						
24	62	57	79	56	88	66	112	48	54	54	73	72	71	43	44	49	58	70	1,891					Egyptian General Petroleum, Egypt						
25	63	63	65	65	61	59	61	56	52	52	52	49	48	47	47	49	51	50	528					EnCana, Canada						
26	21	24	26	29	27	29	32	33	35	36	31	31	31	23	18	18	4	3	3,236					ENI, Italy						
27	72	78	83	83	88	89	91	101	116	125	133	140	150	146	138	139	137	135	29,587					ExxonMobil, USA						
28	332	350	345	337	344	341	344	348	347	341	344	353	349	371	363	336	335	328	35,462					Former Soviet Union (FSU)						
29																			1,707					Gazprom, Russian Federation						
30	30	30	47	55	63	73	71	73	83	102	117	127	112	124	123	117	114	119	1,486					Hess, USA						
31	29	34	35	32	30	28	32	36	41	44	35	33	33	35	37	36	40	42	407					Husky, Canada						
32	7	8	8	9	9	9	9	16	24	28	29	28	27	34	37	35	29	27	6,567					Iraq National Oil Company, Iraq						
33	43	47	48	49	96	176	205	210	196	166	107	165	154	164	171	194	196	196	9,321					Kuwait Petroleum Corp., Kuwait						
34	253	271	271	271	285	244	221	285	277	266	270	318	289	260	293	315	273	275	5,780					Libya National Oil Corp., Libya						
35	133	135	136	138	143	138	131	140	136	131	141	150	163	172	175	178	170	170	3,352					Lukoil, Russian Federation						
36						160	163	174	206	212	213	217	218	235	245	259	263	259	266	261	1,848					Marathon, USA				
37	21	23	27	25	22	26	28	28	28	28	26	25	22	30	27	33	35	35	256					Murphy Oil, USA						
38	5	7	8	7	8	8	9	9	9	10	11	13	14	12	12	16	18	17	468					Nexen, Canada						
39	7	15	17	19	25	27	26	29	30	30	30	27	27	23	29	29	28	27	23,448					National Iranian Oil Company (NIOC), Iran						
40	493	486	490	491	491	503	466	521	501	468	506	533	527	522	531	529	505	502	5,580					Nigerian National Petroleum, Nigeria						
41	159	157	162	163	173	175	173	176	193	165	188	203	205	194	179	171	174	200	2,446					Occidental, USA						
42	31	35	40	43	43	50	48	54	50	63	67	69	94	53	62	72	75	75	2,729					Oil and Natural Gas Corporation, India						
43	72	85	95	89	90	79	73	71	72	71	75	81	75	80	85	83	92	90	186					OMV Group, Austria						
44						6	6	7	7	7	7	11	10	10	23	22	23	24	4,918					Pertamina, Indonesia						
45	180	205	203	219	185	175	172	163	8	18	18	18	18	19	20	24	26	8,367					PetroChina (CNPC), China							
46	394	401	408	427	435	434	394	355	315	323	336	332	346	370	378	381	377	388	4,784					Petroleo Brasileiro (Petrobras), Brazil						
47	91	94	97	110	118	136	153	187	193	213	252	248	272	260	277	267	276	278	12,673					Petroleos de Venezuela, Venezuela						
48	332	334	317	403	432	448	402	442	443	420	380	419	419	394	394	439	408	403	14,782					Petroleos Mexicanos (PEMEX), Mexico						
49	362	426	416	445	462	475	453	468	483	486	514	519	510	499	471	428	403	400	1,871					Petroleum Development Oman, Oman						
50	60	65	69	71	73	72	72	74	74	69	62	58	56	52	49	51	53	53	2,689					Petronas, Malaysia						
51	87	87	94	88	85	98	85	95	92	116	130	99	100	97	102	105	105	97	320					Polish Oil & Gas, Poland						
52						1	1	1	1	1	20	39	58	51	50	49	48	1	2,015					Qatar Petroleum, Qatar						
53	38	38	40	46	50	63	63	71	70	68	75	84	89	92	90	96	97	115	1,942					Repsol, Spain						
54	65	77	86	86	93	98	61	86	87	79	81	77	72	71	65	60	59	60	2,201					Rosneft, Russian Federation						
55	38	35	35	34	33	32	34	36	41	44	55	59	199	216	275	288	296	315	21,157					Royal Dutch Shell plc, The Netherlands						
56	293	308	319	337	340	341	330	340	328	320	323	305	284	275	257	240	225	229	40,133					Saudi Aramco, Saudi Arabia						
57	1,154	1,158	1,158	1,172	1,155	1,189	1,086	1,163	1,135	1,046	1,242	1,314	1,378	1,355	1,303	1,363	1,225	1,238	1,269					Sinopec, China						
58								90	92	100	100	101	102	104	106	108	123	122	122	1,669					Sonangol, Angola					
59	35	37	45	49	49	51	52	52	51	62	62	73	87	99	122	139	135	137	4,467					Sonatrach, Algeria						
60	102	102	104	111	116	112	104	110	106	115	191	164	183	183	184	186	168	169	2,872					StatOil, Norway						
61	86	97	96	93	85	91	133	146	144	151	154	155	149	143	145	143	142	131	870					Suncor / Petro-Canada, Canada						
62	13	17	18	26	26	29	27	28	27	61	69	62	62	66	69	65	52	70	1,144					Syrian Petroleum, Syria						
63	46	46	48	49	48	47	46	45	42	43	42	40	38	36	34	33	33	33	446					Talisman, Canada						
64	4	7	11	13	17	20	21	33	34	37	29	31	34	36	33	30	29	26	8,796					Total, France						
65	155	194	212	194	200	204	199	195	197	215	225	238	231	219	220	218	226	222	2,645					Yukos, Russian Federation						
66	149	133	127	125	127	122	119	133	157	187	220	219	197																	
67	6,623 6,905 7,006 7,366 7,590 7,813 7,689 7,939 7,950 7,764 8,229 8,595 8,913 8,606 8,631 8,726 8,478 8,550																	365,729					Emissions from identified oil prod'n (MtCO2/yr)							
68	1,808 1,884 1,912 2,010 2,071 2,132 2,098 2,167 2,170 2,119 2,246 2,346 2,433 2,349 2,356 2,382 2,314 2,333																	99,812					Emissions from identified oil prod'n (MtC/yr)							
69	9,311 9,402 9,483 9,626 9,904 10,095 9,904 10,326 10,359 10,296 10,754 11,092 11,253 11,286 11,264 11,341 11,091 11,430																	472,012					CDIAC emissions from annual oil prod'n (MtCO2/yr)							
70	2,541 2,566 2,588 2,627 2,703 2,755 2,703 2,818 2,827 2,810 2,935 3,027 3,071 3,080 3,074 3,095 3,027 3,119																	128,817					CDIAC emissions from annual oil prod'n (MtC/yr)							
71	71.1% 73.4% 73.9% 76.5% 76.6% 77.4% 77.6% 76.9% 76.7% 75.4% 76.5% 77.5% 79.2% 76.3% 76.6% 76.9% 76.4% 74.8%																	77.5%					Percent of CDIAC oil emissions identified							
72	Total emissions from identified oil & NGL production 1884-2010 (million tonnes CO2)																	365,729												
73	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010												

Cell: E02

Comment: Rick Heede:

See worksheet "Oil Emissions Factor Calc" for details.

Cell: ET126

Comment: Rick Heede:

CDIAC data in million tonnes of carbon converted to CO₂, which is 3.664191 times Carbon if carbon and oxygen isotopes are accounted for, per Kevin Baumert May05, then at World resources Institute: CO₂ conversion is, precisely: C=12.0107 + O=15.9994 x 2 = 44.0095/12.0107 = 3.664191.

Cell: EP128

Comment: Rick Heede:

Updated with CDIAC preliminary CO₂ emissions (MtC) to 2010 in Dec11.

Cell: ET128

Comment: Rick Heede:

From the associated "Methods" paper: CDIAC's emissions are estimated for each fuel using the following formula: CO₂ = (P) (FO) (C).

From crude oil and natural gas liquids production in the global-total accounts²

CO₂l = CO₂ emissions in 106 metric tons of carbon

PI = annual production or consumption in 106 tons

FOl = 0.918 ± 3%

Cl = carbon content in tons C per ton fuel = 0.85 ± 1%

From primary and secondary liquid fuel production and trade in the national accounts when non-energy liquid products are specifically subtracted³

CO₂l = CO₂ emissions in 106 metric tons of carbon

PI = annual production or consumption in 106 tons

FOl = 0.985 ± 3%

Cl = carbon content in tons C per ton fuel = 0.85 ± 1%

± 2%.

Boden, T.A., G. Marland, and R.J. Andres. 2009. Global, Regional, and National Fossil-Fuel CO₂ Emissions. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. doi 10.3334/CDIAC/00001.

Jan10: CMS added CDIAC extrapolations for gas emissions from their dataset "Preliminary 2007-08 Global & National Estimates by Extrapolation" (undated) to the main file cited above.vede:

Cell: ET133

Comment: Rick Heede:

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