

Table S4. CO₂ emissions from 64 fuel sub-types and cement production for the 11 regions in 2007. The emissions (unit: Tg C/yr) are presented for East and South Africa (ESA), North Africa (NAF), West and Central Africa (WC), East Asia (EA), South and Southeast Asia (SSA), West and Central Asia (WCA), Oceania (OCE), Europe (EUR), North America (NA), Caribbean & C. America (CCA), and South America (SA). Emissions of CO₂ from natural gas flaring, aviation and shipping are not obtained by country and thus not shown here.

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Sector	Type	Detailed sub-type	ESA	NAF	WC	EA	SSA	WCA	OCE	EUR	NA	CCA	SA	
Energy production	Coal	Anthracite used	0.00	0.00	0.00	1.84	4.67	0.00	0.00	12.94	2.91	0.00	0.00	
		Coke used	0.00	0.00	0.00	0.33	10.35	0.59	0.00	9.72	0.00	0.00	0.00	
		Bituminous coal used	87.23	5.11	0.00	1023.60	248.27	40.53	40.75	208.10	486.91	1.01	5.76	
		Lignite used	0.00	0.00	0.00	3.11	27.30	40.85	44.73	346.79	48.26	0.00	1.40	
		Peat used	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.21	0.00	0.00	0.00	
	Petroleum	Gas/Diesel used	0.51	2.59	0.59	2.58	11.98	15.24	0.33	3.11	5.56	1.17	6.09	
		Residue fuel oil used	0.40	8.05	0.69	24.08	13.74	31.15	0.13	11.07	34.52	7.37	5.58	
		Natural gas liquids used	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Gas	Dry natural gas used	1.29	25.40	3.12	54.49	55.38	104.93	7.36	253.16	125.04	14.59	17.85	
		Natural gas flaring	-	-	-	-	-	-	-	-	-	-	-	
	Biomass	Solid biomass used	24.44	7.47	33.44	4.92	21.64	0.34	1.21	21.06	13.20	3.90	19.36	
		Biogas used	0.00	0.00	0.00	0.17	0.00	0.01	0.24	3.60	1.55	0.00	0.00	
	Wastes	Municipal waste used	0.00	0.00	0.00	2.62	0.00	0.00	0.00	12.29	6.10	0.00	0.00	
		Industrial waste used	0.00	0.00	0.00	0.08	0.00	0.03	0.00	3.68	0.98	0.00	0.00	
Sub-total			113.87	48.63	37.84	1117.83	393.34	233.68	94.74	894.72	725.04	28.04	56.04	
Industry	Coal	Bituminous coal used in coke production	0.45	0.34	0.00	58.69	2.11	1.17	0.61	16.53	3.20	0.00	1.73	
		Bituminous coal used in brick production	6.01	9.32	7.86	41.93	27.87	14.47	3.61	58.73	33.71	1.82	11.55	
		Anthracite used in aluminum production	0.23	0.30	0.30	8.80	1.49	0.63	0.03	2.98	2.79	0.07	0.87	
		Anthracite used	0.00	0.00	0.00	20.78	6.45	0.00	0.00	0.68	0.51	0.00	0.00	
		Coke used	0.01	0.00	0.00	12.37	2.65	3.14	0.00	0.21	0.00	0.19	0.00	
		Bituminous coal used	7.86	0.30	0.22	234.83	70.25	11.80	3.43	17.95	22.66	0.14	5.30	
		Lignite used	0.00	0.00	0.00	0.04	6.70	6.15	0.15	3.38	0.27	0.00	0.05	
		Peat used	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	
	Petroleum	Gas/diesel used	1.48	3.08	0.57	25.89	20.63	11.56	2.61	16.18	22.17	1.65	5.63	
		Residue fuel oil used	0.45	5.61	0.33	26.47	14.77	22.12	0.81	13.79	9.80	1.86	6.64	
		Crude oil consumed in petroleum refinery	1.59	4.73	0.69	40.20	20.69	21.19	2.09	53.47	53.80	4.83	13.06	
		Natural gas liquids used	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.02	0.00	0.00	0.00	
	Gas	Dry natural gas used	0.53	12.89	1.37	44.04	39.53	86.00	7.52	179.61	170.08	72.14	25.84	
	Biomass	Solid biomass used	5.64	1.79	13.97	2.98	49.79	0.24	3.65	20.69	42.41	3.13	36.51	
		Biogas used	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.08	1.52	0.00	0.00	
	Wastes	Municipal waste used	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.15	0.00	0.00	
		Industrial waste used	0.00	0.00	0.00	1.54	0.00	0.01	0.09	1.64	1.81	0.00	0.00	
	Sub-total			24.24	38.37	25.31	519.52	262.93	178.48	24.61	386.94	364.88	85.82	107.17
Residential/Commercial	Coal	Anthracite	0.00	0.00	0.00	0.00	1.82	0.00	0.00	0.45	0.29	0.00	0.00	
		Coke	0.00	0.00	0.00	0.00	0.07	0.05	0.00	0.00	0.00	0.00	0.00	
		Bituminous coal	7.84	0.04	0.01	43.39	12.05	2.10	0.14	13.38	1.35	0.00	0.07	
		Lignite	0.00	0.00	0.00	1.75	0.10	4.82	0.03	3.25	0.11	0.00	0.00	
		Peat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	
	Petroleum	Liquid petroleum gas	0.58	8.14	0.36	20.04	14.61	7.98	0.38	11.52	14.12	1.77	9.49	
		Natural gas liquids	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Kerosene used	1.03	0.80	1.03	19.50	18.54	9.20	0.01	3.47	1.56	0.56	0.21	
	Gas	Dry natural gas	0.04	3.49	0.18	33.09	5.36	63.64	3.25	145.32	130.68	0.46	7.80	
	Biomass	Biogas	0.00	0.00	0.00	3.49	0.04	0.00	0.00	0.04	0.00	0.00	0.00	
		Firewood	46.79	56.87	74.51	62.42	170.61	2.39	3.30	42.09	24.43	13.51	56.53	
		Straw	23.12	0.85	57.02	129.63	140.11	6.67	0.50	13.47	1.73	2.03	0.75	
		Dung cake	0.00	0.00	0.00	0.00	54.68	0.00	0.00	0.00	0.00	0.00	0.00	
	Wastes	Small-scaled solid waste burning	1.22	1.71	1.79	7.88	13.26	3.96	0.19	7.48	2.26	1.21	7.31	
	Sub-total			80.62	71.92	134.91	321.21	431.24	100.81	7.81	240.98	176.53	19.55	82.16
Transportation	Petroleum	Motor vehicle gasoline	10.20	7.68	8.05	94.17	40.12	53.29	14.76	121.15	366.44	7.35	32.07	
		Aviation gasoline	-	-	-	-	-	-	-	-	-	-	-	
		Jet kerosene	-	-	-	-	-	-	-	-	-	-	-	
		Motor vehicle gas/diesel	8.98	17.09	3.75	94.26	64.14	49.15	9.00	190.99	146.25	6.81	44.56	
		Oil used by ocean tanker	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by ocean container ships	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by bulk and combined carriers	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by general cargo vessels	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by non-cargo vessels	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by auxiliary engines	-	-	-	-	-	-	-	-	-	-	-	
		Oil used by military vessels	-	-	-	-	-	-	-	-	-	-	-	
	Biomass	Liquid biofuels used by vehicles	0.00	0.00	0.00	1.45	0.38	0.01	0.12	8.11	19.97	0.02	12.37	
	Sub-total			19.18	24.78	11.80	189.88	104.65	102.46	23.88	320.25	532.67	14.18	89.00
	Petroleum	Gas/diesel used in agriculture	1.14	2.83	0.26	19.99	10.08	8.74	1.66	18.20	14.19	0.36	7.83	
Wastes	Open burning of agriculture waste	3.19	2.83	1.89	51.98	49.50	7.04	0.33	7.10	5.75	0.82	14.60		
Sub-total			4.33	5.65	2.14	71.97	59.57	15.78	2.00	25.30	19.94	1.17	22.43	
Natural sources	Biomass	Biomass burned in forest fires	24.02	8.60	25.24	2.98	11.46	0.09	7.72	28.13	48.25	0.34	37.08	
		Biomass burned in deforestation fires	20.87	1.14	36.03	3.38	110.91	0.00	1.11	0.00	3.69	2.74	309.64	
		Biomass burned in peat fires	18.60	2.01	11.58	0.15	0.72	0.11	0.35	1.67	0.91	0.04	9.93	
		Biomass burned in woodland fires	115.59	12.50	72.00	0.92	4.48	0.65	2.16	10.39	5.64	0.28	61.72	
		Biomass burned in savanna fires	220.77	142.16	195.96	6.47	17.30	5.45	94.57	6.49	3.45	0.51	108.50	
	Sub-total			399.86	166.42	340.81	13.90	144.87	6.30	105.92	46.68	61.93	3.92	526.88
Fuel total			642.09	355.77	552.81	2234.32	1396.60	637.52	258.95	1914.88	1881.00	152.69	883.68	
Cement production			3.44	12.08	2.25	205.84	50.54	26.03	1.50	51.01	19.13	4.19	12.98	
Total (fuel and cement production)			645.53	367.84	555.06	2440.16	1447.15	663.55	260.44	1965.88	1900.13	156.88	896.67	