GREENHOUSE GAS EMISSIONS FROM GLOBAL CITIES

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Supporting Information

This supporting information provides detailed GHG emissions by sub-sectors: S1 electricity; S2 heating and industrial fuels; S3 road transportation; S4 waste; S5 aviation, marine and industrial processes.

	Electricity consumption (GWh)	Per capita electricity (MWh/cap.)	GHG intensity (t eCO ₂ /GWh) incl. line loss	GHG emissions (t eCO ₂ /cap.)
Bangkok	28,500	5.04	550	2.77
Barcelona	7,479	4.66	143	0.67
Cape Town	12,209	3.49	969	3.38
Denver	6,659	11.49	792	9.10
Geneva	2,793	6.46	54	0.35
London	39,237	5.33	469	2.50
Los Angeles	63,919	6.71	368	2.46
New York City	49,567	6.07	497	3.01
Prague	5,506	4.66	710	3.31
Toronto	55,778	10.04	246	2.47

Table S1. Electricity use, GHG intensity and emissions

	Energy consumption TJ	Fuel types	Per capita consumption GJ/cap.	GHG emissions t eCO ₂ /cap.
Bangkok	160,530	Bagasse (21%); Fuel Oil (20%); Lignite (14%); Coal /coke (13%); Natural Gas (10%); LPG (8%); Rice Husk (5%); Wood (5%); Diesel (4%)	28.4	2.49
Barcelona	24,147	Natural Gas (96%); LPG (4%)	15.0	0.85
Cape Town	54,959	Gasoil (37%); Heavy Furnace Oil (22%); LPG (18%); Paraffin (15%); Coal (7%); Other (1%)	15.7	1.15
Denver	42,622	Natural Gas (~100%)	73.5	4.12
Geneva	22,163	Fuel Oil (58%); Natural Gas (40%); Other (2%)	51.3	3.45
London	330,648	Natural Gas (91%); CHP (6%); Oil (4%)	44.9	2.58
Los Angeles	229,985	Natural Gas (94%); Petroleum (6%)	24.2	1.37
New York City	414,858	Natural Gas (61%); Distillate Fuel Oil (19%); CHP (11%); Residual Fuel Oil (8%); Kerosene (1%)	50.8	3.13
Prague	55,264	Natural Gas (68%); Heat Pipeline (17%); Coal (15%); Fuel Oil (0.4%)	46.8	3.20
Toronto	327,000	Natural Gas (~100%)	58.9	3.30

Table S2. GHG emissions from heating and industrial fuel use

	Gasoline consumption ML	Diesel consumption ML	GHG emissions t eCO ₂ /cap.
Bangkok	2,741	2,094	2.27
Barcelona	209	266	0.77
Cape Town	1,249	724	1.44
Denver	1,234	197	6.31
Geneva	260	51	1.85
London	1,797	1,238	1.22
Los Angeles	14,751	3,212	4.92
New York City	4,179	657	1.53
Prague	357	281	1.44
Toronto	6,691	2,011	4.05

Table S3. Ground Transportation Fuels, consumption and GHG emissions

	Incinerated Waste (t/cap.)	Landfill Waste (t/cap.)	DOC of landfill waste (t C / t waste)	GHG emissions (t eCO ₂ /cap.)
Bangkok	0	0.806	0.18	1.23
Barcelona	0.19	0.17	0.17	0.24
Cape Town	0	0.75	0.28	1.78
Denver	0	1.25	0.22	0.59
Geneva	0.74	0.35	0.01	0.38
London	0	1.40	0.07	0.21
Los Angeles	0	1.20	0.19	0.49
New York City	0	0.971	0.17	0.35
Prague	0.17	0.046	0.19	0.11
Toronto	0.012	0.736	0.21	0.33

Table S4. GHG emissions from Waste. Methane emissions from landfill waste are long-term releases over several years. DOC = degradable organic content

	Air	Marine	Direct industrial
	t eCO ₂ /cap.	t eCO ₂ /cap.	t eCO ₂ /cap.
Bangkok	1.92	unknown	unknown
Barcelona	1.66	unknown	unknown
Cape Town	0.89	2.92	unknown
Denver	1.42	0	unknown
Geneva	1.72	0	unknown
London	3.12	negligible	unknown
Los Angeles	1.86	1.69	0.22
New York City	1.74	0.76	unknown
Prague	0.90	0	0.43
Toronto	0.83	negligible	0.57

Table S5. GHG emissions from other sources