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Supplementary Material

Quantitative and distributive measurement of ambient air pollution for global burden of disease

Ning Zhang ^{1*}, Sourangsu Chowdhury ², Huabo Duan ^{3,4}, Hailong Zhao ^{5,6}

¹ Leibniz Institute of Ecological Urban and Regional Development (IOER), 01217 Dresden, Germany

² Center for International Climate and Environmental Research (CICERO), University of Oslo, 0349 Oslo, Norway

³ Underground Polis Academy, College of Civil and Transportation Engineering, Shenzhen University, Shenzhen, 518060, China

⁴ Key Lab of Resilient Coastal City Infrastructure, Ministry of Education, Shenzhen, 518060, China

⁵ College of Energy and Safety Engineering, Tianjin Chengjian University, Tianjin, 300384, China

⁶ Tianjin Key Laboratory of Building Green Functional Materials, Tianjin 300384, China

** Corresponding author*

E-mail: n.zhang@ioer.de (Ning Zhang) and huabo@szu.edu.cn (Huabo Duan)

Table S.1 Global countries divided by income

Groups	Countries / Regions
Low income	Afghanistan, Democratic People's Republic of Korea, Nepal, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Eritrea, Ethiopia, Gambia, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, South Sudan, Togo, Uganda, United Republic of Tanzania, Zimbabwe, Haiti
Lower middle income	Armenia, Bangladesh, Bhutan, Cambodia, Georgia, India, Indonesia, Jordan, Kyrgyzstan, Lao People's Democratic Republic, Mongolia, Myanmar, Pakistan, Philippines, Sri Lanka, Syrian Arab Republic, Tajikistan, Timor-Leste, Uzbekistan, Viet Nam, Yemen, Republic of Moldova, Ukraine, Angola, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, Djibouti, Egypt, Ghana, Guinea, Kenya, Lesotho, Mauritania, Morocco, Nigeria, Sao Tome and Principe, Sudan, Swaziland, Tunisia, Zambia, El Salvador, Guatemala, Honduras, Nicaragua, Bolivia (Plurinational State of), Kiribati, Micronesia (Federated States of), Papua New Guinea, Solomon Islands, Vanuatu
Upper middle income	Azerbaijan, China, Iran (Islamic Republic of), Iraq, Kazakhstan, Lebanon, Malaysia, Maldives, Thailand, Turkey, Turkmenistan, Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Romania, Russian Federation, Serbia, The former Yugoslav Republic of Macedonia, Algeria, Botswana, Equatorial Guinea, Gabon, Libya, Mauritius, Namibia, South Africa, Belize, Costa Rica, Cuba, Dominican Republic, Grenada, Jamaica, Mexico, Panama, Saint Lucia, Saint Vincent and the Grenadines, Argentina, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Venezuela (Bolivarian Republic of), Fiji, Samoa, Tonga
High income	Bahrain, Brunei Darussalam, Cyprus, Israel, Japan, Kuwait, Oman, Qatar, Republic of Korea, Saudi Arabia, Singapore, United Arab Emirates, Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Seychelles, Antigua and Barbuda, Bahamas, Barbados, Canada, Trinidad and Tobago, United States of America, Chile, Uruguay, Australia, New Zealand

Table S.2 Global countries divided by geography

Groups	Countries / Regions
Asia	Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cyprus, Democratic People's Republic of Korea, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Philippines, Qatar, Republic of Korea, Saudi Arabia, Singapore, Sri Lanka, Syrian Arab Republic, Tajikistan, Thailand, Timor-Leste, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Viet Nam, Yemen
Europe	Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Ukraine, United Kingdom
Africa	Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
North America	Antigua and Barbuda, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States of America
South America	Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela (Bolivarian Republic of)
Oceania	Australia, Fiji, Kiribati, Micronesia (Federated States of), New Zealand, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu

Table S.3 Global annual mean levels of PM10 population-weighted concentrations ($\mu\text{g}/\text{m}^3$)

	Low income	Lower middle income	Upper middle income	High income	Asia	Europe	Africa	North America	South America	Oceania
1990	3734.01	3599.14	2166.27	1215.32	2911.14	1220.12	2833.24	1433.37	2374.61	934.72
1991	3543.59	3599.57	2124.15	1180.87	2881.60	1172.55	2711.29	1407.28	2260.67	895.83
1992	3452.23	3579.90	2081.31	1141.82	3119.42	1121.41	2692.93	1448.76	2225.16	895.07
1993	3345.89	3504.43	2026.86	1119.19	2963.07	1092.81	2704.05	1388.32	2158.85	903.85
1994	3213.92	3301.82	1903.05	1093.37	2813.44	1043.45	2571.25	1355.52	2071.96	877.48
1995	3143.53	3206.88	1817.63	1061.89	2625.00	979.47	2436.55	1334.92	2032.68	858.89
1996	3004.41	3075.34	1772.13	1043.57	2534.03	945.96	2303.82	1315.80	2045.87	844.25
1997	2907.01	3030.17	1723.74	1027.53	2481.56	924.27	2186.77	1202.34	1947.75	839.84
1998	2780.18	2986.47	1705.07	1011.67	2440.33	902.64	2091.79	1210.42	1907.69	828.85
1999	2740.17	2967.37	1715.63	989.96	2377.24	881.44	2174.71	1206.33	1923.20	812.36
2000	2730.05	2884.06	1701.98	970.44	2310.10	862.80	2104.47	1182.99	1830.41	794.99
2001	2685.68	2776.90	1658.11	966.66	2254.87	859.23	2069.57	1166.48	1752.50	764.54
2002	2596.41	2708.22	1635.77	943.93	2207.11	835.24	2003.77	1153.18	1775.61	735.16
2003	2300.19	2447.68	1524.60	852.42	2002.43	742.30	1787.92	1006.27	1615.70	681.45
2004	2166.87	2359.32	1495.89	821.27	1905.81	708.85	1674.03	960.64	1625.09	663.00
2005	1941.66	2099.37	1358.41	747.69	1674.80	647.21	1511.09	857.87	1430.94	589.53
2006	1665.45	1795.76	1220.57	646.41	1414.46	562.88	1288.64	757.72	1238.34	503.05
2007	1265.19	1386.83	1014.49	500.22	1081.04	440.68	978.87	602.73	912.00	378.43
2008	1223.64	1352.87	987.21	481.82	1041.48	433.95	934.32	572.98	909.08	365.75
2009	933.38	1065.79	783.76	373.86	795.45	346.64	723.35	440.80	670.74	293.55
2010	593.53	677.76	510.94	227.89	485.95	230.40	439.71	265.68	376.51	182.56
2011	370.27	451.33	323.10	135.49	292.82	157.50	265.66	154.46	207.14	114.60

Table S.4 Global annual mean levels of PM2.5 population-weighted concentrations ($\mu\text{g}/\text{m}^3$)

	Low income	Lower middle income	Upper middle income	High income	Asia	Europe	Africa	North America	South America	Oceania
1990	42.91	60.45	43.12	16.63	39.02	18.99	38.48	21.19	20.72	12.62
1995	43.14	60.95	43.50	16.22	38.92	17.94	37.94	21.38	20.89	12.58
2000	42.80	61.67	44.77	16.20	38.90	17.33	37.79	21.85	21.47	12.93
2005	41.36	64.77	47.64	16.32	39.48	17.24	35.53	21.98	22.22	12.83
2010	41.34	67.29	49.42	16.67	40.62	17.18	34.80	21.71	22.18	12.94
2011	41.94	67.81	49.87	16.96	40.68	17.61	34.95	22.53	22.31	13.16
2012	42.05	63.32	45.98	16.08	39.87	16.26	35.48	21.18	21.27	12.30
2013	41.01	64.02	46.58	15.88	39.40	15.63	34.72	20.70	20.40	11.88
2014	40.05	62.66	42.98	14.99	37.49	15.03	34.40	19.11	19.14	11.27
2015	43.77	64.86	42.71	15.82	39.10	15.19	39.19	18.83	18.60	11.23
2016	42.89	63.91	38.58	14.52	36.73	14.23	38.25	17.72	17.59	10.57
2017	43.22	64.41	38.75	14.68	36.97	14.22	38.48	17.65	17.51	10.55